THE OTHER SIDE OF PARADISE

THE OTHER SIDE OF PARADISE: HOW ARCHITECTURAL DESIGN CAN IMPACT THE RECOVERY OF SUICIDAL INDIVIDUALS, SURVIVORS AND BEREAVED FAMILIES

A Design Thesis Submitted to the
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By

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Master of Architecture

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THE OTHER SIDE OF PARADISE
SUICIDE ACCEPTANCE CENTER

MARY NYARONGA | DESIGN THESIS | 2022

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THESIS PROPOSAL


SUICIDE

ABSTRACT:

This thesis explores how architectural design can impact the recovery process in individuals with suicidal thoughts, survivors of suicide, and the bereaved.

Research on precedents, writings, and studies on psychological and biophilic elements will guide in creating a design that bridges the disconnect between human beings and nature. This disconnect has been created by mental illness and isolation despite networking and digital connection through social media.

NARRATIVE:

SUICIDE IS THE HUMAN ACT OF SELF- INFLICTED, SELF-INTENTIONED CESSATION.
-EDWIN SHNEIDMAN.

In my third year of Architecture, I had an opportunity to study Death and Dying from a sociological perspective. I began thinking about the repercussions of mental illnesses that ranged from homelessness, damaged relationships, and suicide for some individuals.

As a person who didn't have suicidal thoughts before, the pandemic brought the feeling of isolation and loneliness. My surroundings felt restrictive. Due to the increase of terminally ill patients, help centers were not accepting new patients due to the severity of the Covid-19 Pandemic.

This feeling of being trapped inspired the need to design a center focused on discouraging suicidal thoughts and encouraging ways to cope, heal, and provide support to the survivors and the bereaved.

Therapy spaces, an outpatient clinic, medical staff, and inpatient spaces will include biophilic pattenrs that emphasize a visual connection to nature, presence of water, dynamic light, and refuge.

These patterns are proven to improve cognitive, psychological, and physiological functions. Strong connections to nature will provide a mental restoration that will allow higher cognitive functions to take a break, hence a higher capacity for performing task such as interaction and communication, to allow the users to form connections and motivate recovery.

These spaces will create openness, freedom and bridge the gap between architecture, nature and mental well-being by providing natural remedies for recovery through improving emotion, mood and preference.

PROJECT TYPOLOGY:

The typology of this project will include:

- Clinic spaces (Nurse Station, Intake,Triage, Physical, Exam Bay, Xray, Treatment Room, Waiting Area, Restrooms, Consult Rooms, Pharmacy, Medical Diagnostics and Lab Room)
- Medical support spaces (Clean Utility, Soiled Utility, Storage, Equipment) and
- medical staff support spaces (Medical Assistant Workstations, Doctor Workstation, Nurse Workstation, Shared work area/ supplies, Private Offices, Shared Offices,
- Healthcare Navigators and Social Workers offices, Phone Room and Conference Room
- Therapy spaces (Patients, family therapy)

- Inpatient spaces (bedrooms with kitchenettes)
- Shared spaces (Library, dining, religious and gathering spaces,
- Educational Spaces (Class rooms, art therapy rooms, music therapy rooms)
- Interactive fitness rooms (Sound therapy, VR Therapy rooms, meditation therapy rooms)
- Fitness Spaces (Gym, Tennis Court)
- Nurse workstations to ensure safety of patients around the clock.

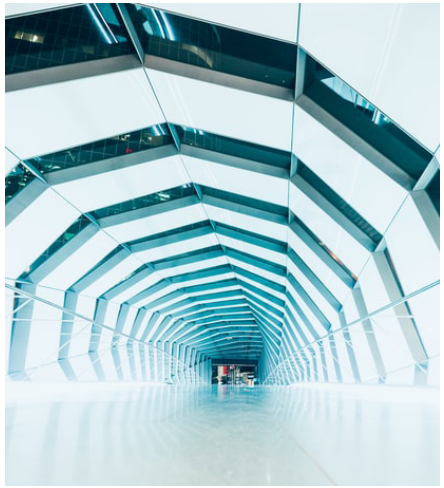

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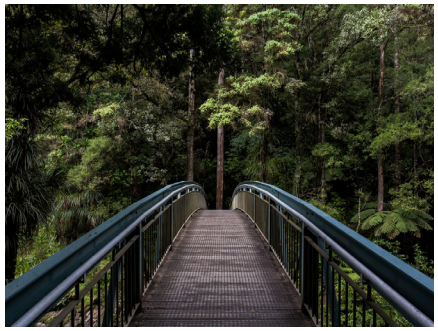
Fig. 03, 04



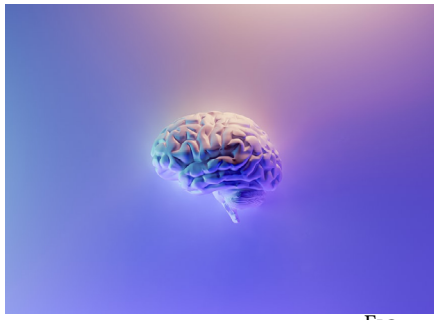


Fig. 05

FOR MENTAL WELLNESS:

- Social Connection
- Staying Active
- Managing Stress
- Brain- Healthy Diet
- Quality Sleep
- Meaning and Purpose

SPACES

- Medical clinic for drug prescription and health checks
- Social Gathering Areas for connection
- Dwelling and Dining Areas integrating Biophilic Desig
- Places for visitation
- Counselling rooms and Treatment Pods
- Spiritual Area
- Classrooms

MAJOR PROJECT ELEMENTS:

Elements of this project will emphasize mental and physical wellbeing. They will include:

Social spaces that start a social connection between survivors and families of individuals that have lost their lives to suicide:

- Open space dining room
- Community lounge area
- Open kitchen
- Public seminar/ informational areas
- Open spaces that provide a connection between individuals and nature.

Structures that will encourage active living, learning, and empathy:

- Gym
- Educational rooms
- Library
- Spaces designed to establish a sense of meaning and purpose.
- Mini-gardens within dwelling units
- Resting areas for staff members
- Offices for doctors, nurses and assistants
- Mechanical room
- Patient rooms, consultation rooms
- Mental Health exam rooms

These spaces will foster:

- Techniques to manage present stresses and improve quality of sleep.
- Comfort provided from airy spaces with sufficient light.

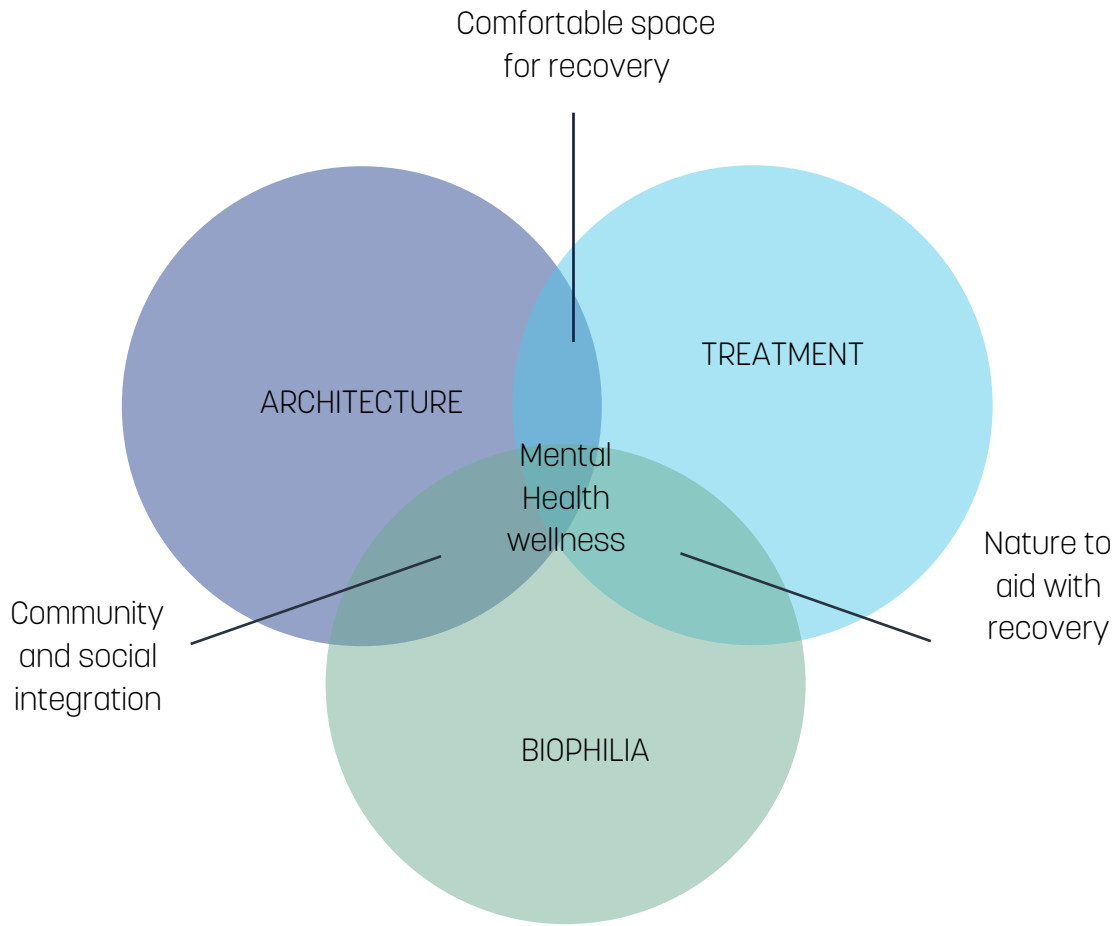


Fig. 06

USER DESCRIPTION:

Fig. 07

Mark is a 19-year-old college student with alternating episodes of highs and lows. During low episodes, Mark feels like he is a burden.

As a college student, the stress he experiences is considered normal, and the people around him say that once school is out, stress levels will subside.

Mark doesn't express his feelings since he is afraid of ridicule and be seen as weak since he is a man. Despite going to the student counseling center, he fears going to a mental institution in case of extreme suicidal thoughts.

Mark does not want to feel trapped hence doesn't seek help in fear of detainment.

Fig. 08

Rose is a 78-year-old woman diagnosed with Cancer. She experiences chronic pain in her body, given that she has a few months left to live.

She feels like she can not continue living in pain and has requested the doctors to assist her with putting an end to the pain. Her family insists that she still has so much life left to live, but she feels that every day is getting harder to endure the pain.

Fig. 09

Kristi and John are at their son Jamie's funeral after he secretly purchased a gun and took his life. He had attempted suicide before by slitting his wrists three years ago, but he was getting help.

He left a suicide note saying that it was too much to handle, and he didn't want his parents to blame him. Jamie asked for forgiveness multiple times, hoping that his parents wouldn't be upset that he took his life.

Fig. 10

Shayne is a suicide survivor that tried taking his life multiple times a year ago. He has been in and out of the hospital for routine visits and talks to his therapist every week.

He has been lying about feeling suicidal since he does not want to go back to being medically detained held at the mental health institute. He remembers the pain he felt. This time he is planning so that he succeeds in taking his life.

Fig. 11

Sarah is a nurse that has witnessed numerous patients come in over the years, and the most heartbreaking scene is when friends and families realize that their loved ones have passed due to suicide. She recalls the terrifying screeches that haunt the halls of the emergency room from grief and disbelief.

She hopes that people can seek help and not take their lives. She understands that mental health is an issue that isn't an open conversation, and she hopes that people can be more open to talking to avoid the heartbreak that accompanies the bereaved.

SITE:

According to the Centers for Disease Control and Prevention, in 2019, the top three states with leading rates of suicide were Wyoming, Alaska, and Montana, respectively.

The justification for picking the site in Santa Barbara, California, is because a conducive environment for a retreat center due to the presence of sunshine throughout the year, in comparison to other states, which is imperative to the treatment process.
It is geographically central to the three locations, and the travel is accessible for the three states.

The warmest month is August with an average temperature of 84°F. The coldest month is December with an average temperature of 67°F.

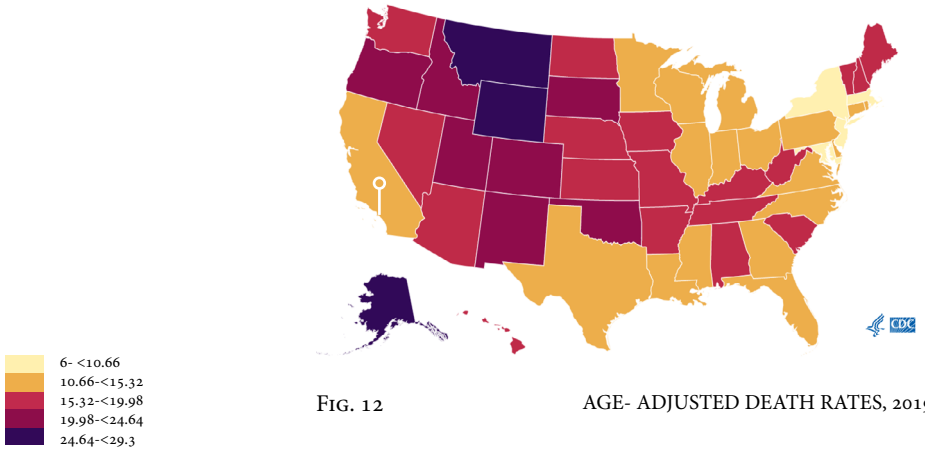


FIG. 12 AGE- ADJUSTED DEATH RATES, 2019

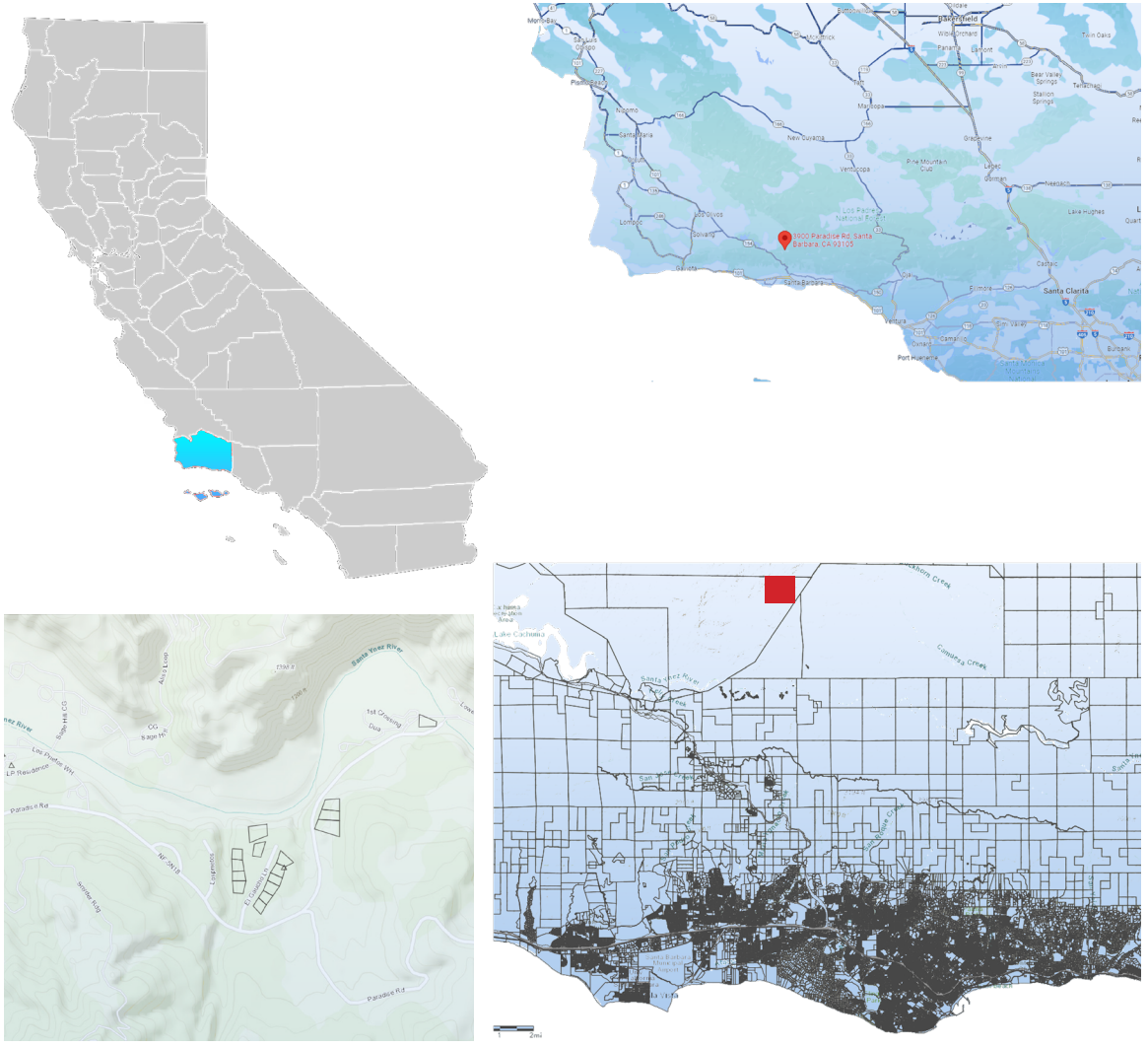

1900 Paradise Rd, Santa Barbara, CA 93105
Santa Clarita
Lake Cachuma
Paradise Rd
Santa Ynez River

Fig. 13-16

PROJECT EMPHASIS:

The focus of this project is to design a space that provides a haven for individuals with suicidal ideation. Spaces that encourage healthy living and wellness practices (community support, activity sports, and connection to nature) shall nurture positive coping skills and hopefully recovery.

This space is designed for bereaved families to deal with grief and improve their mood, provide stress reduction, improve cognitive performance, and emotions through both, visual and non-visual connection to nature.

Designing a sustainable space through appropriate light, material, color, and green properties of architecture will amplify behavioral measures of attention and exploration in patients, which is an integral component in the healing process.

This project will focus on how Architecture can foster relationships between people by sharing living spaces in the community. These spaces can give people new experiences and create stronger ties to the community by battling loneliness and isolation together.

Having suicidal individuals, survivors, and the bereaved in a remote community of their own, provides them with a chance of understanding and healing in a haven free of judgment and stigma prevalent in our society.

GOALS OF THE THESIS PROJECT:

Start a conversation around the stigma that suicidal people have mental health issues.

Identify the differences between suicidal individuals and people with mental disorders to provide a suitable treatment plan for varying needs.

Outline spaces that make suicidal people feel trapped and create a design that is open, free and safe

Use architecture to improve physical and mental health by designing a biophilic design that creates a sustainable environment for the users.

Explore groundbreaking technologies that can improve well-being and connects people to the natural elements and gives appropriate control to the user.

Help suicide survivors cope with feelings of entrapment and loneliness and provide community support to encourage healing.

Start talking about how spaces can make a difference in the healing process and change as a designer.

ACADEMIC GOALS

In terms of academic goals, I want to use the knowledge gained over the past four years and apply this knowledge to this project. Designing residential dwellings, a welcome center in Fargo, a museum of African American history, and a high rise for low-income individuals are projects I have worked on throughout my schooling.

These projects have built my skills in understanding human needs and strategies that attribute to the wellness of individuals. Through this understanding, I want to provide a pleasurable experience in understanding the past, present, and future of Architecture.

PROFESSIONAL GOALS

Professionally, my priority lies in working on projects that make a necessary change in society. Architecture is a profession that should help people with the necessities: Food and shelter.
When these elements are satisfied, the aesthetic and beauty of architecture can be appreciated, by appealing to emotions and logic.

PERSONAL GOALS

This project is the beginning of what I hope to be doing professionally. By helping society, every individual plays an active role in improving the world, for our families and friends.
Tackling mental health issues and being open and designing these centers can help cut down on the number of suicides that fluctuate at different times unexpectedly, due to not addressing overall health.

A PLAN FOR PROCEEDING:

DESIGN METHODOLOGY
QUALITATIVE RESEARCH:
SURVEY:

To conduct successful research, a survey will be conducted to collect data that shows correlation between mental health and the spaces and elements that the surveyed interact with.

INTERVIEWS:

Interviewing Bill Burns from the NDSU counseling center regarding a treatment plan and different counseling techniques will aid in identifying the needs of suicidal individuals and survivors.
Having casual conversations with bereaved individuals and asking open ended questions will aid in obtaining detailed descriptions to create a design that inspires empathy and encourages healing

CASE STUDIES:

Observing layouts, floor plans, and the use of light in spaces has framed and informed design decisions in areas to make improvements.

Analysing articles and books that focus on biophilia and sensory design can define the past and inform the future of treating suicidal individuals and elaborate how architectural spaces can improve mood. A safe community for suicidal individuals can be created successfully.

A PLAN FOR DOCUMENTING THE DESIGN PROCESS:

COMPILATION OF FINAL DOCUMENT

Recorded interviews with encrypted audio logs and creation of profiles.

Public documents and artifactual site documentation and creating a thorough site analysis.

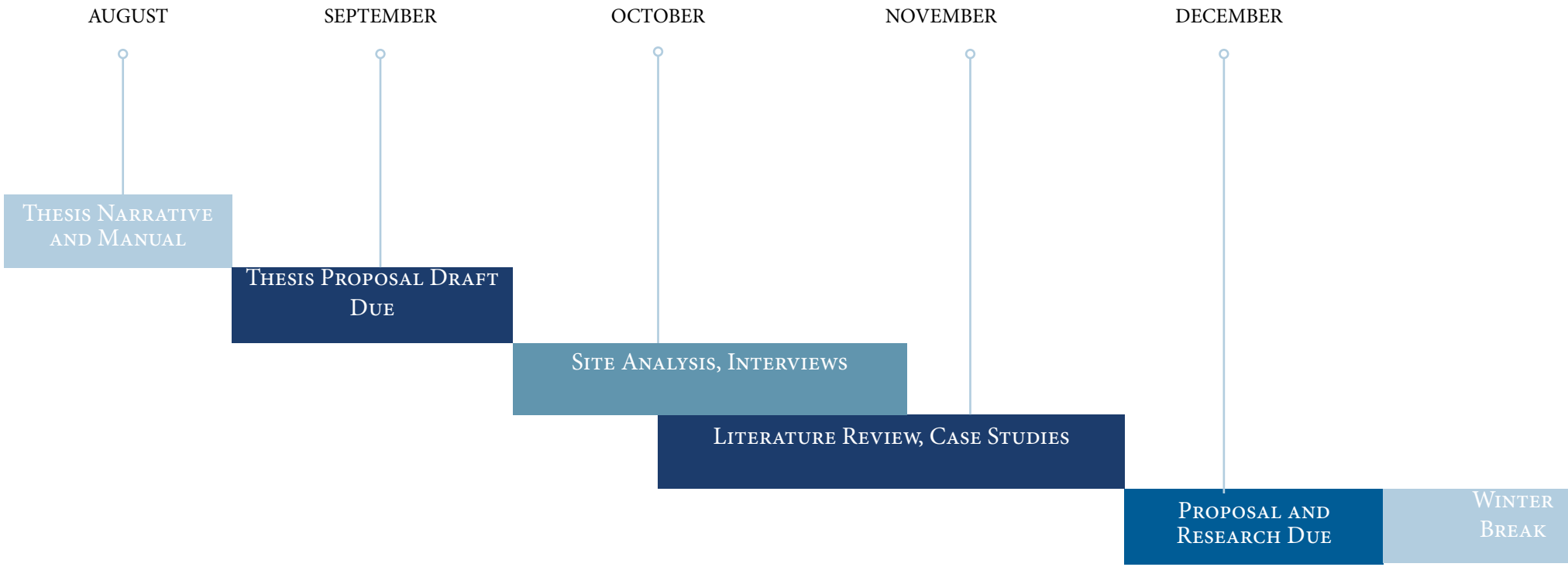
Creating article formats that describe a problem statement, cover literary reviews, methods and generates effective results.

Using multiple sources of evidence to ensure accuracy and consistency of information and data collected.

Posting the final thesis document on the Architecture Thesis Repository will allow the project to be available to future scholars

This compilation will continue through mid-April to include the design solution to answer the thesis premise.

PROJECT SCHEDULE:



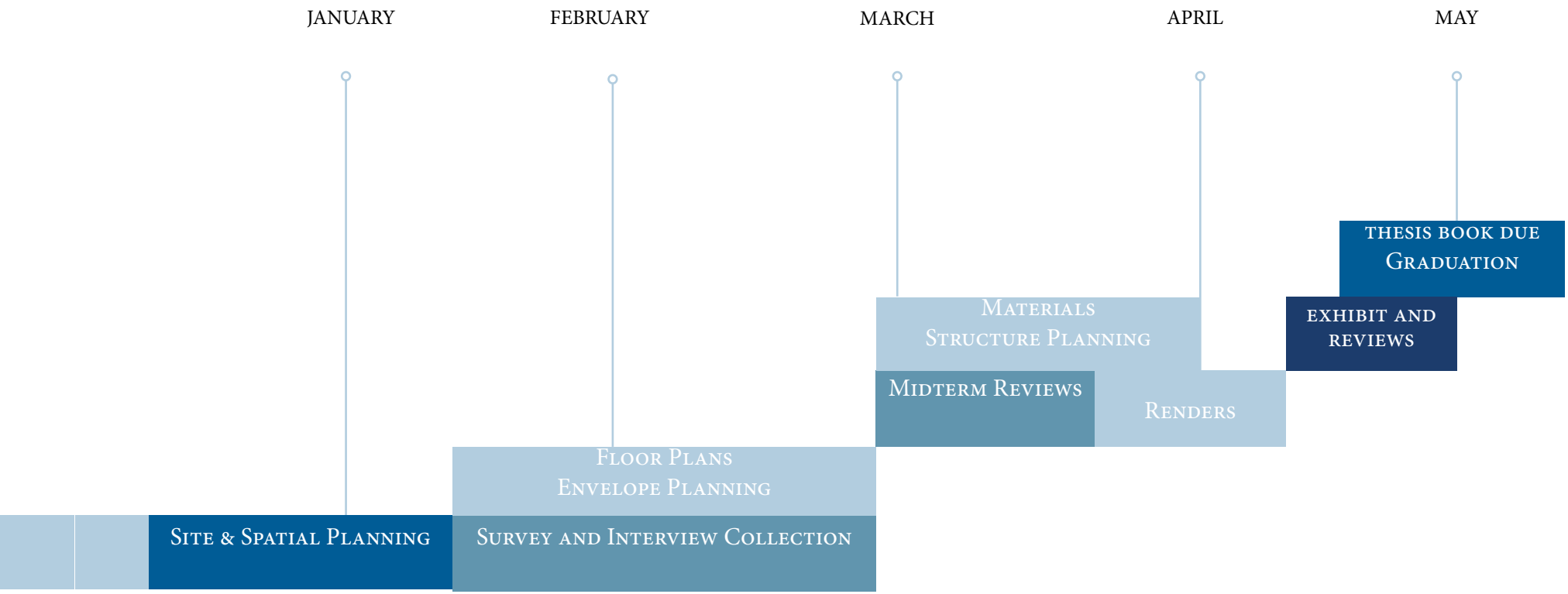

JANUARY
FEBRUARY
MARCH
APRIL
MAY
Site & Spatial Planning
Survey and Interview Collection
Floor Plans
Envelope Planning
Midterm Reviews
Materials
Structure Planning
Renders
exhibit and reviews
thesis book due
Graduation

Fig. 17

THESIS
RESEARCH

Fig. 18

PHILOSOPHICAL FRAMEWORK

The Philosophical framework for this project uses Qualitative Data through Constructivism and Intersubjectivism. Constructivism will involve interacting with subjects that are survivors and bereaved.

Due to the nature of my theoretical premise, Intersubjecitivism is prominent since my biases can not influence the research process. Social conventions about Suicide will be arrived at through intersubjective consensus due to the different opinions about the definition of death.

My knowledge will be co-constructed with the participants through Constructivism. Some of my knowledge is already present, but more will emerge as I interview survivors and understand suicidal thoughts in depth.

This approach in design and environmental research will explain interpretations of suicide from the perspectives of individuals who experience these thoughts and have encountered them and extract a design idea from the needs of individuals to create a space that will discourage suicidal thoughts and encourage healing.

My ontology is a hybrid of Intersubjectivism and Constructivism as it includes multiple constructed realities, possibly infinite realities about the experience of suicidal thoughts. There are multiple diverse viewpoints regarding suicide in socio-cultural realities.

The causal relationship between suicide, grief, and survival will be under study and will be situated socially.

An Abductive Logic approach is the strategy used to arrive at a consensus.

THEORETICAL FRAMEWORK

This project will explore the impacts of Architectural Design on Suicidal individuals, Survivors and bereaved families. Positive and Negative Impacts are outlined.

Suicide is seen as a Taboo in the socio- cultural context. There is a stigma around suicide, from expression of the idea, through the environments that house and help with the healing process. Survivors are also ignored, with minimal change to the causality of the many possible relations or interactions withing the phenomena of suicide.

Bereaved Families have an Intersubjective Consensus that makes it difficult to carry out an abductive logic through integrating a Constructivist approach.

These different perspectives on the definition of suicide and what comes after death will influence the creation of a design that has positive impacts on recovery with minimal detrimental effects.

STRATEGIES

I want to follow the approach using the Abductive Logic where:

The **Architectural Design** is UNKNOWN and is being designed.
Processes to design the work of Architecture- **14 patterns of biophilia** are KNOWN.

Architectural Design functions- for healing, recovery and social interaction are KNOWN

The processes to design the center are combined with the functions of the building and the user needs to obtain a biophilic design that can meet user needs.

INTERVIEWS AND SURVEYS

Interviewing Bill Burns, the director of the counseling center at North Dakota State University, and nurse Sarah from Sanford Behavioral Health allows me to have a better understanding of the needs of clients with mental health issues, and suicidal individuals and influences design decisions.

TACTICS

Case studies are the final step to understanding the precedents set in previous designs, and distinguishing what works, from what should not be repeated in designs that don't work.

Literary Analysis is also conducted to understand how to proceed with the design process. Sensory Design by Joy Monice Malnar and Frank Vodvarka explores sensory reception and how design influences sensory emotions within individuals.

14 Patterns of Biophilia by Terrapin Bright Green directly influences design decisions on how to design in ways that improves health and well-being in spaces.

For the research process; Gathering Qualitative data, and analysis of precedents will be conducted to highlight negative impacts of architecture on healing. Stigma regarding different architectural typologies will also be covered and how we can create designs that break such stereotypes.

SURVEY

Isolation and loneliness is often felt by bereaved individuals and can partly contribute to suicide ideation in survivors. Due to the Covid 19 Pandemic, individuals have expressed increased feelings of loneliness.

A survey was conducted amongst 257 students at North Dakota State University on Isolation and Loneliness.

1. During the COVID-19 pandemic, have you felt:

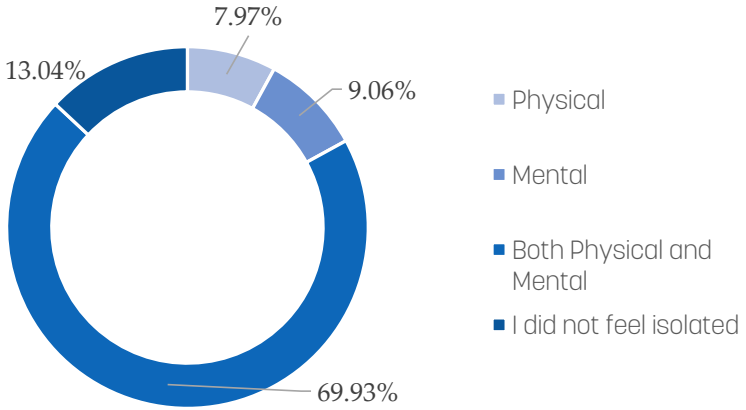


Fig. 19

Responses from Question 1 shows how important integration is into society to help with isolation

2. If you felt physically or mentally isolated, was it more than prior to the pandemic?

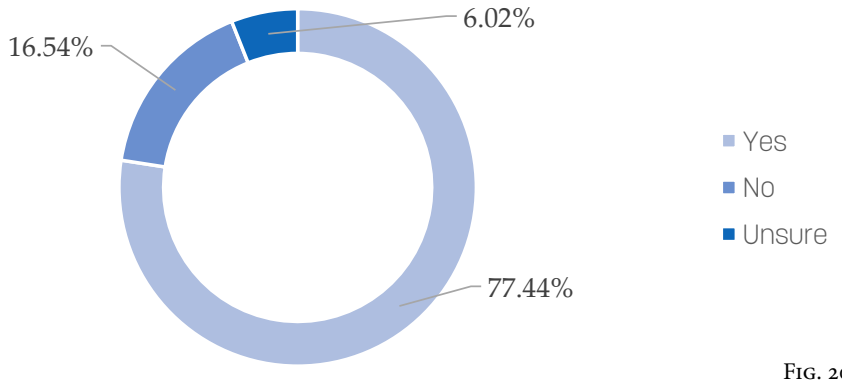


Fig. 20

Resposnses from Question 2 shows how covid highlighted more feelings of isolation than before, yet 17% of the students felt isolated before covid. We have to take these numbers into account.

3. Did any of the following make you feel less isolated during this time?

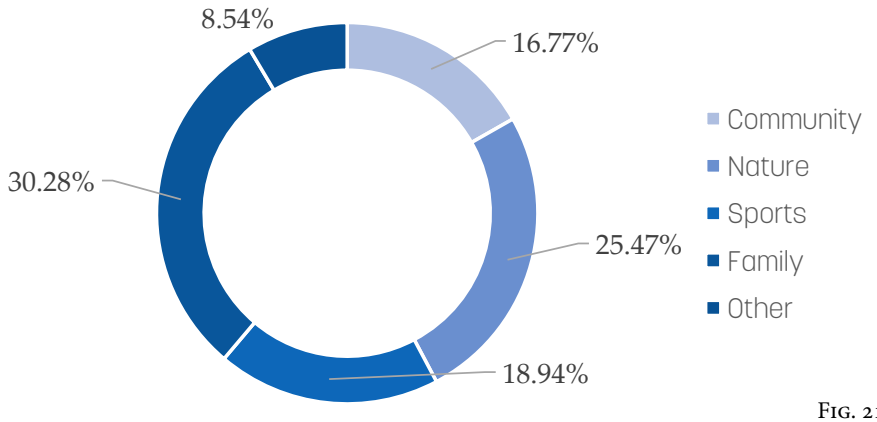


Fig. 21

Nature is a very important aspect in helping with feelings of isolation after family.

4. How comfortable are you talking about mental health now as opposed to the start of the COVID-19 Pandemic?

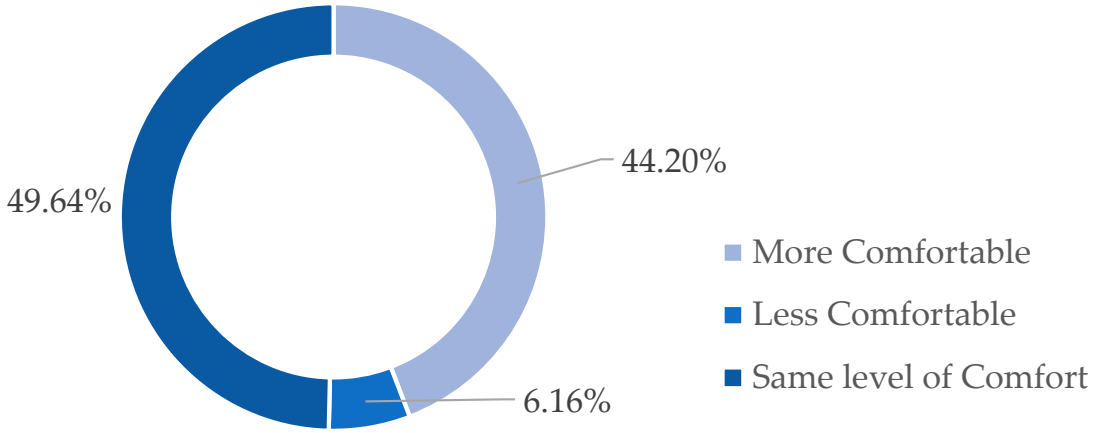


Fig. 22

This question shows how mental health issues are now being talked about compared to before.

Based on these responses, the design solution will focus heavily on fostering interactions in a natural setting.

Not only has it been found to help with feelings of isolation and loneliness (symptoms that accompany suicidal individuals, survivors and the bereaved), it has been shown to have positive impacts on the wellness of users as a less invasive form of treatment towards physiological and cognitive performance.

(Brown, Barton & Gladwell, 2013; van den Berg, Hartig, & Staats, 2007; Tsunetsugu & Miyazaki, 2005) (Biederman & Vessel, 2006) (Barton & Pretty, 2010)

INTERVIEW: Bill Burns, Ph.D., LP
Director of the Counseling Center, NDSU

What do you think about individuals who are feeling suicidal?

There is a difference between people feeling suicidal, and people who have dealt with a suicidal death in the past. They are separate but they are all dealing with severe grief.

For someone who is suicidal, at the moment, they need to be at a place with supervision, cared for by somebody who is going to make sure that they are not going to make a suicide attempt.

So there needs to be a safety net built in for someone who is suicidal, that wouldn't be built for the people who have experienced loss. That would be one difference between those three separate groups.

I think other than that difference, your idea could be pretty similar in that I would foresee something that would have a relaxation type of atmosphere such as rooms, courtyards in the middle, gardens, meditation rooms, yoga rooms, green plants within, waterfalls for people to find a place to recharge and rejuvenate. Those types of things would help with healing, lots of natural light.

For people dealing with grief, how do you create an experience of empathy within individuals who are blaming dead suicidal individuals?

Talking to them, and showing that you are hearing them on a one-to-one or a group basis would facilitate those conversations and they can interact that way. Spiritual rooms can also help with the empathy piece

What about suicide prevention? Does the hotline work?

THE HOTLINE WORKS. The people who die by suicide don't want to die. They want to stop the pain. Suicide happens at lows of depression and traumatic disorders or bipolar. So getting them to feel a little bit better during those lows and talking about prevention works. We try to get people to not have those experiences.

What is a win for suicidal individuals?

A WIN would be having individuals not attempt suicide better-coping methods. Curing their ailments. Those would be a short term and one is a long-term win.

STIGMA WITH MENTAL HEALTH INSTITUTION

There is a stigma where people do not want to be locked up. There is a fear there. It is better than dying, however. If we have a person come in who is feeling suicidal, even if it is against their will, it is better to go to the hospital for 72 hours than die.

Won't institutionalization get them extremely agitated?

If detainment is required, and that rarely happens, they are usually upset and distressed at that moment but they are grateful after that. It is a very tricky situation.

INTERVIEW: NURSE SARAH, CNA
SANFORD MEDICAL CENTRE BEHAVIORAL HEALTH.

M.N: What are the layouts of spaces in the hospital for patients on suicide watch?

A.K: The patients have a completely different building distant from the other buildings on campus. Individuals on suicide watch reside on a different floor than other patients with behavioral health issues.

M.N: Do they share rooms when they are in the facility?

A.K: Due to safety reasons, sharing a room is not allowed. Do we always picture worst-case scenarios such as, "what if they start fighting each other? What if they discourage recovery from each other?" Some patients are very violent and aggressive, which reverts the progress of other patients.

M.N: Are there any other restrictions?

A.K: Absolutely. No chords are allowed. No nylon bags and mouthwash are permitted. Sanitizers, curtains, soap, alcohol, or anything with rope are not allowed. No pens for writing are allowed either. These are all tools they might use to take their lives, so we have to take precautions.

M.N: What are other precautions is the hospital taking to protect the safety of the patients?

A.K: At arrival, there is a sitter that watches over the patients. We also have security on standby in case of a violent outbreak/ episode from a patient.

Our name badges not only have our names, but they also have a Panic Device just in case we get attacked, security can come right away.

There is also an automatic camera with audio known as a Tele-Sitter. This is a security monitoring system installed on the ceiling that watches patients. The camera is connected to some screens viewed by a person who can tell if someone is about to harm themselves. Sometimes we do both, sit in to watch a patient, and the Tele-sitter is also on.

M.N: What are the activities that patients do when they are staying inpatient?

A.K: It is similar to a nursing home. They watch tv all day. Their phones are confiscated. Any visit has to be supervised and approved by the nurses. They can order whatever they want to eat from their rooms. The furthest they can go is the hallway, where they can walk back and forth under supervision. Since the pandemic started, they cannot roam the hallways anymore if they test positive. If they are on good behavior, they can have their phone for a while but not for a long time.

M.N: What happens to the distressed patients on arrival?

A.K: In case of aggression, we take them to a room with a netted cube called a Posey Net. They are medicated to ensure they don't harm themselves.

M.N: Do you have any comments?

A.K: Yes. Some individuals are frequent there due to severe loneliness. They keep coming back due to the same reasons. They feel cared for in the hospital than being discharged. Some patients are okay. But some of them are suicidal.

ANALYSIS IN RELATION TO DESIGN:

After the interview with nurse Sarah from Sanford Behavioral Health Clinic, safety is a priority for patients with suicidal tendencies. Of course, behavioral health also includes individuals with mental health illnesses.

STIGMA: NOT ALL INDIVIDUALS WHO ARE SUICIDAL HAVE MENTAL HEALTH ISSUES.

Suicidal individuals want to be seen and respected instead of being seen as people who need mental fixing or treatment. Their feelings are not dismissable as a diagnosis but should be acknowledged and validated.

SAFETY:

Spaces with posey beds with straps incase of an episode of distress can be incorporated into the design, with direct access to nature to ensure they don't harm themselves and ensure safety.

Sometimes patients who are confused need restraints so that they do not scratch their skin, set out of bed, fall, and hurt themselves or harm other people.

In the design, rooms will be flexible as to where posey beds can be brought into the room immediately in case of an emergency and the presence of non-rhythmic stimuli patterns (a welcome distraction) will attract attention to allow individuals capacity for focused tasks to be replenished from physiological stressors.

Presence of dynamic and diffuse light will also ensure positive psychological and physiological response and balance mood and sleep quality.

Use of natural materials in patient rooms especially wood will also assist with decreasing diastolic blood pressure and brain activity which is highly restorative according to a research conducted by Tsunetsugu, Miyazaki & Sato in 2007

LITERATURE REVIEW:

The literary works reviewed are used to further support the framework. The book Sensory Design by Joyce Malnar and Frank Vodvarka explains how human beings experience design through their senses. It explains visual perception and even how other senses experience design.

VOCABULARY:
Spatio-sensory construct: Physical constructs that human beings find meaningful is.

Afterward, the book by Lynn Despelder and Albert Strickland defines suicide.The article highlights different kinds of suicide and explores causation and effect. It talks about the feelings that the individuals feel towards suicide and explores duration of suicidal thoughts, whether it is a short period of time, or a behavioral process that develops over time.

VOCABULARY:
Anomie (lack of regulation): a strong degree of social integration, where one identifies with their values to the point that their personal identity is diminished.

Egoism (lack of integration): Low integration and low belongingness eventually leads to egoistic suicide. This is because these kinds of individuals have no reason to hold on to life and feel like they have no meaning to the community by being detached.

Fatalism: excessive social constraints and feelings of absence of choice and lack of freedom, that generate a feeling of entrappment.

The article Mindful spaces by Katie Okamoto explains the importance of having environments integrated together seamlessly to create spaces that are conducive for healing. It touches briefly on the reason behind suicidal thoughts, and how we can design new spaces that can adapt to the people's uses and requirements in today's world. This article is the start of thinking about new spaces that can cater to suicidal, survivors and the bereaved.

VOCABULARY:
Therapeutic Platform: the combination between environments that support healing.

As for the second article, 14 Elements of biophilic design discusses the 14 elements that can be incorporated into the design of a structure to foster well-being in individuals.

It also describes design considerations to take when incorporating these elements into a design. It also has studies proven to improve the emotions, stress reduction and cognitive responses in individuals hence improving mental well-being.

I combined this article with the case study of Marina Bay Hotel, The Park Royal Pickering Collection in Singapore designed by WOHA, as I believe that the hotel embodies almost all the elements of biophilia.
This article is the start of taking a step forward towards a community inclusive, sustainable design.

Together, these articles frame the research, and are a start in designing a center that caters to the user's needs.

BOOK I: Sensory Design

Joy Monice Malnar and Frank Vodvarka

"That aspect of the modernist tradition which in ideology or practice concentrates exclusively on pure spatial structure or the appearance of spatial structure, rests on an error about the metaphysics of architecture... it is sensory properties in a certain three-dimensional spatial context which have aesthetic significance in architecture."

Nick Zangwill

Malcolm Quantrill points out that the concept, spirit of place, depends upon the particular relationship of things to each other in a particular place and time.This book takes precedents from historical architecture and describes how we can design for human senses and how designs impact people.

Place is always specific but elements of architecture remain common. This comprehension relies on sensory data filtered through memory and that delight is enhanced by a degree of mystery. Full comprehension of space relies not just on sensation but also on perception.

Humans experience three kinds of sensory response: An immediate physical response to stimulus. A response conditioned by prior knowledge of its source and Response to stimulus as it has become identified in one's memory with a particular time and place. The mind identifies space faster than the body.

Recollection of spaces is due to the mind. However, it is not the mind that is critical, it is the mind's eye (third eye).
Our preferred term for the physical constructs that human beings find meaningful is "spatio-sensory construct"

We appreciate a place not just by its impact on our visual cortex but by how it sounds, feels, and smells. Some of these sensual experiences elide. Sensory experience is the key to understanding the essential nature of an architectural construct in much the way that writers understand the sites they describe.

Reality is therefore the result of sensory emotional experience, suggesting an ongoing dialogue between human beings and the entities surrounding us. Nor should there be anything odd about the notion of comprehending architecture through the senses.
It has been argued that aesthetic response is a function of cognition, hence art and architecture are best understood intellectually. For architecture however, the physical properties of buildings have been granted a greater weight than their sensory properties.

The senses are imperative in collecting information about architecture. Sight, hearing, touch, taste, smell and intuition. A full understanding of spatial constructs depends on perception and mediating intelligence. Visual and auditory systems enjoy autonomy.

Vodvarka and Malnar therefore conclude that sensation mediated by experience and culture shapes our responses to spaces.

In this chapter, DeSpelder and Strickland define different meanings of suicide. Four definitions of suicide are established to create a framework for understanding the complexity of suicide and organizing it into a manageable form. The third definition by Jean Baechler is a behavior that seeks and finds the solution to an existential problem by attempting the life of the subject.

DeSpelder focuses on the dynamics of suicide and how it might be a short or long term issue. It questions whether suicide is just an act or a behavioral process.

DeSpelder and Strickland point out the three types of self-destruction that include: a completed suicide, attempted suicide, and suicidal gestures and ideations. These acts are sometimes a plea for help from individuals who don't want to die, but some of these gestures are intended to be fatal.

DeSpelder and Strickland point out the statistics wherein 2016 suicide was the 10th leading cause of death in the United States, twice as many suicides as homicides. It was higher in males, four times that for females. An average suicide is one suicide every 18 minutes. This number is approximately twice higher than reported, especially in the classification of death by the coroner. It points out that some accidents such as auto accidents are a disguise of suicide, and if included in the statistics, it is the number one killer of young people.

It also points out how controversial the manner of death is, and how complex an issue it is. DeSpelder and Strickland point out integration of an individual into his or her society is important. Low integration and low belongingness eventually lead to egoistic suicide. This is because these kinds of individuals have no reason to hold on to life and feel like they have no meaning to the community by being detached.

The opposite is true where altruistic/ Institutional suicide stems from a strong degree of social integration, where one identifies with their values to the point that their identity is diminished. The terms Anomie (lack of regulation) and egoism(lack of integration) are used to reinforce each other.

DeSpelder also touches on suicide among the youth where the possible cause could be attributed to cultural changes, whereby individualism and autonomy tend to loosen bonds between individuals and society. Death, Trauma, catastrophe, and any change could influence suicide.

Excessive social constraints and feelings of the absence of choice and lack of freedom can generate feelings of entrapment- according to Durkheim is known as Fatalistic Suicide.
These forms of suicide—egoistic, altruistic, anomic, fatalistic—are related to a particular kind of interplay between society and the individual.

Psychoanalytic Insights about suicide, drawing on theories by Sigmund Freud analyze emotions and mental processes where people might want to die and not want to die but are stuck in the conflict caused by aggression towards themselves.

Developmental changes in teenagers are partial causes of deaths in teenagers, while in middle adulthood there is a social shift from valuing physical capabilities to instead emotional and mental capabilities, suggesting that this age is as turbulent as adolescence. The possible cause of suicide for the elderly is possibly bereavement, and physical ailments- especially for white males.

Prevention and intervention techniques have been suggested, where education is recommended and setting up physical barriers in places where suicides are likely to occur.

ARTICLE I: Mindful Spaces
Katie Okamoto

Mindful Spaces explores how the scarcity of health resources affects Americans who suffer from mental disorders, focusing on the work of the design firm CannonDesign. This could be due to having insufficient beds, inadequate insurance coverage, lack of access/distance/ability to get to a health center, cost, discrimination, or cultural stigma. Only half of these patients receive treatment and the situation is especially alarming for children.

Okamoto points out the causation of traumas that affect children ranging from academic stress, bullying, intolerance of gender non-conformity. Separation of families, school shootings, and other social issues also negatively impact the youth. Causation is an important factor in suicide rates in various age groups that I want to explore in this thesis.

Architects that focus on behavioral health are advised to consider how physical and programmatic thresholds that enable a fruitful exchange between patients and caregivers, community and family. These thresholds support the therapeutic functions of care environments and remove barriers to treatment. Open space floor layouts with a variety of colors and textures are to be incorporated into the design to create a relaxing atmosphere that could establish that trust.

NEW SPACES
The first threshold is the designated emergency department. Cannon-Design, a firm that specializes in healthcare decided to provide a calmer setting to avoid hospitalization of individuals who don't need it by designing hybrid areas, where patients experiencing both physical and mental ailments can be assessed for treatment. Good design is one with these hybrid areas that can be used by different people with varying needs. This has been shown to alleviate the strain on staff and young patients.

THERAPEUTIC PLATFORM

Cannon uses Therapeutic Platforms to describe the combination of environments that support healing. These environments of daily life are believed to be integral to treatment protocols. They point out that therapeutic platforms comprise units that depend on patient groups and they can include clinical settings, activity spaces, and outdoor areas in addition to bedrooms and areas outside the units such as shared semi-public areas for recreation and other uses.

The success of these platforms depends on the choice of the patients. Private rooms are preferred over dorm-styled rooms with multiple beds as the standard. The plus side of this is the advantage of designing for transgender and nonbinary patients. There is also increased privacy, family space, lower infection, better infection control, less distraction for medical staff. In my perspective, the danger increases when a sense of community is taken away from patients. CannonDesign provides variety elsewhere- larger and smaller spaces for active patients and patients that need to step away without complete retreat.

The field of Architecture is facing challenges as we are trying to find alternatives to physical and chemical restraints for calming patients, while hospitals prioritize design-driven ways to de-escalate high-risk situations or avoid them completely. Okamoto highlights that natural light and access to nature are beneficial to patients as well as the idea that physical activity and mental health are intimately connected. Creating spaces with nature in mind has also yielded thoughtful threshold treatments that is to bring the outdoors in through courtyards and atria that aid in circulation.

CannonDesign shows how successful designs can play a part in making health and wellness more holistic. The behavioral health studio believes that design decisions affect users' lives directly.

ARTICLE III: 14 PATTERNS OF BIOPHILIC DESIGN IMPROVING HEALTH & WELL-BEING IN THE BUILT ENVIRONMENT:

Terrapin Bright Green

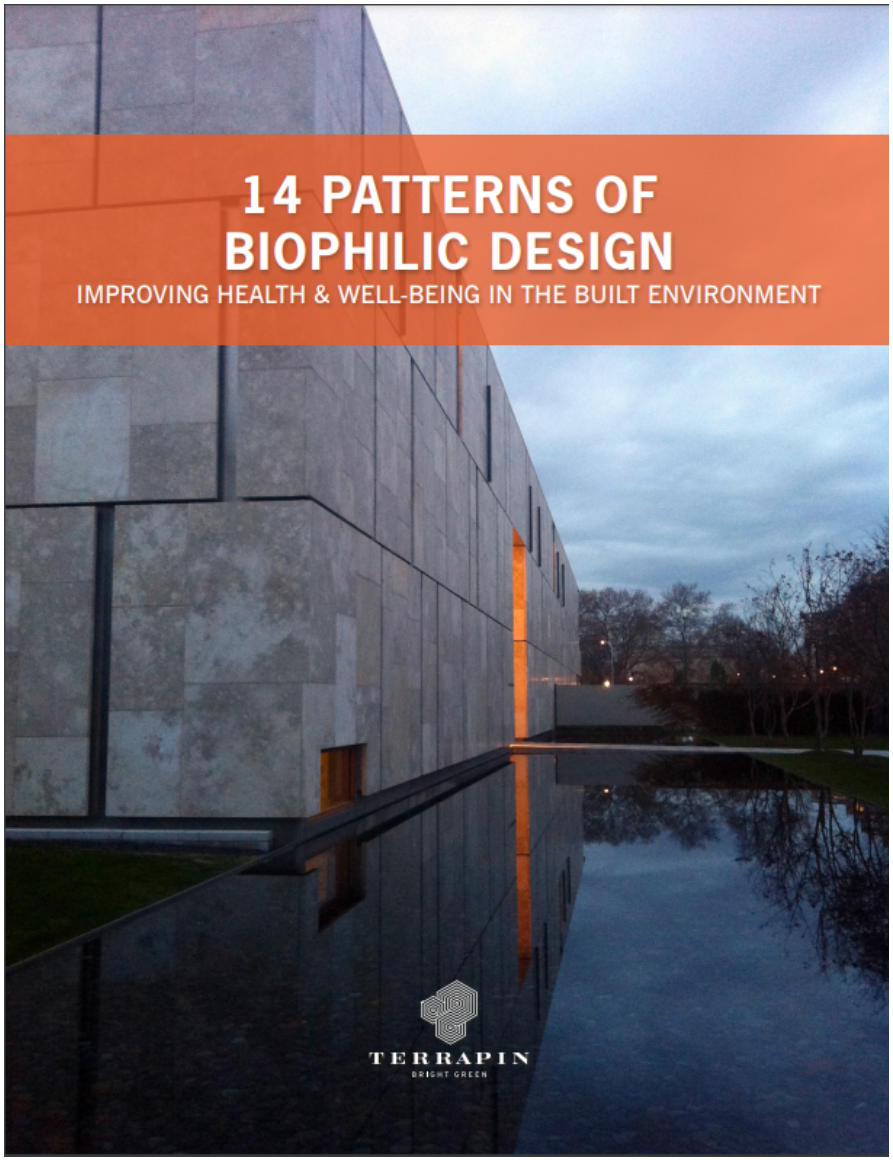


Fig. 23

"In every walk with nature one receives far more than one seeks."
John Muir, 19 July 1877

OVERVIEW

What is Biophilic Design?

Biophilia is humankind's innate biological connection with nature. Biophilic design therefore is a design that incorporates natural elements.

This article articulates the relationships between nature, human biology and design of Architecture. Studies conducted show the positive impact of biophilia improved stress reduction, cognitive performance, emotion, mood and preference.
This article was chosen for review because of the positive impacts Biophilia has on psychological responses.

The purpose of this paper is to address universal issues of human health and wellbeing within Architecture. It moves from research on biophilic responses to design application as a way to enhance health and well-being for individuals and society. This paper is intended to help close the gap between current research and implementation in design. It also puts biophilic design in context with architectural history and practices, and briefly touches on key implementation considerations, then presents biophilic design patterns.

The images included are part of the case study of Marina Bay Pickering Collection hotel in Singapore that encompass these elements of biophilia. Further discussion of the hotel will be discussed in the precedent studies section.

Biophilic design can be organized into 3 categories – Nature in the Space, Natural Analogues, and Nature of the Space

NATURE IN THE SPACE

Nature in the Space addresses the direct, physical presence of nature in a space or place. This includes plant life, water and animals, breezes, sounds, scents, and other natural elements. Examples include potted plants, flowerbeds, bird feeders, butterfly gardens, water features, fountains, aquariums, courtyard gardens and green walls or vegetated roofs.

Fig. 24

1. Visual Connection with Nature is a view to elements of nature, living systems and natural processes. The hotel has big windows that have direct views to the outside areas that have terraces filled with plants.

The effect of this element on people includes Improved mental engagement/ attentiveness (Biederman & Vessel, 2006) and Positively impacted attitude and overall happiness (Barton & Pretty, 2010

Fig. 25

2. Non-Visual Connection with Nature include auditory elements that are deliberate and positive reference to nature. The hotel has areas that do not necessarily have direct views to nature but can still have sounds of water and air rustling through leaves and plants, creating a feeling of tranquility.

In the study by Zhu, Neely and Lundstrom, it positively impacted perceived improvements in mental health and tranquility (Li, Kobayashi, Inagaki et al., 2012; Jahncke, et al., 2011; Tsunetsugu, Park, & Miyazaki, 2010; Kim, Ren, & Fielding, 2007; Stigsdotter & Grahn, 2003)

Non-Rhythmic Sensory Stimuli are connections with nature that maybe analyzed statistically but may not be predicted precisely

Fig. 26

3. Thermal & Airflow Variability are subtle changes in air temperature, relative humidity, airflow across the skin, and surface temperatures that mimic natural environments.

As demonstrated in pictures, the hotel utilizes passive systems in most of the spaces, lowering the costs of HVAC systems, making this structure sustainable and natural.

It positively impacts concentration (Hartig et al., 2003; Hartig et al., 1991; R. Kaplan & Kaplan, 1989) and improved perception of temporal and spatial pleasure (alliesthesia) (Parkinson, de Dear & Candido, 2012; Zhang, Arens, Huizenga & Han, 2010; Arens, Zhang & Huizenga, 2006; Zhang, 2003; de Dear & Brager, 2002; Heschong, 1979)

Fig. 27

Fig. 28

4. Presence of Water is a condition that enhances the experience of a place through seeing, hearing, or touching water. Sounds of water are prevalent in this structure given the incorporation of pools and ponds next to plants to mimic natural systems in architecture.

It is shown that presence of water reduced stress, increased feelings of tranquility, lower heart rate and blood pressure (Alvarsson, Wiens, & Nilsson, 2010; Pheasant, Fisher, Watts et al., 2010; Biederman & Vessel, 2006) It also improved concentration and memory restoration (Alvarsson et al., 2010; Biederman & Vessel, 2006) and enhanced perception and psychological responsiveness (Alvarsson et al., 2010; Hunter et al.,2010)

Fig. 29

5. Dynamic & Diffuse Light leverages varying intensities of light and shadow that change overtime to create conditions that occur in nature. Overall, the architecture incorporates lighting with the architecture itself that creates shadows and patterns making the spaces dynamic

6. Non-Rhythmic Sensory Stimuli feels as if one is momentarily unaware of something interesting and stimulating. It is a brief but welcome distraction. The pattern has evolved from research on looking behavior (periphery vision movement reflexes); eye lens focal relaxation patterns; heart rate, systolic blood pressure and sympathetic nervous system activity; and observed and quantified behavioral measures of attention and exploration

Fig. 30

7. Connection with Natural Systems is the awareness of natural processes, especially seasonal and temporal changes characteristic of a healthy ecosystem. The architecture itself is within a growing concrete jungle but incorporates nature creating a feeling of belonging thus showing our world is healing.

Enhanced positive health responses and shifted perception of environment were the postive effects in the study by Keller. (Kellert et al., 2008)

Natural Analogues addresses organic, non-living, indirect evocations of nature.

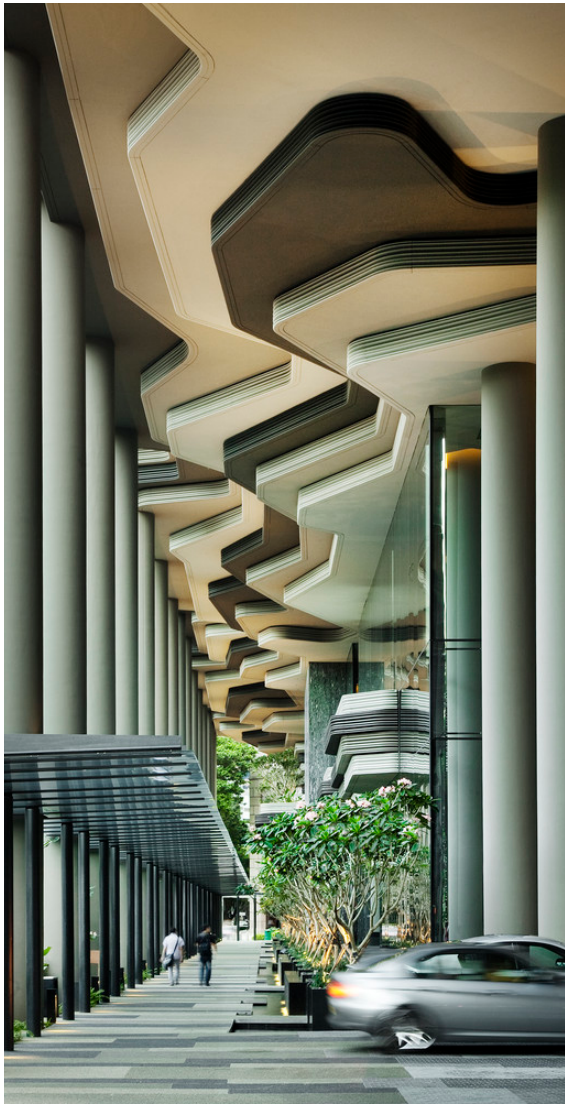
Objects, materials, colors, shapes, and patterns found in nature, appear as artwork, furniture, décor, and textiles in the built environment. Mimicry of shells and leaves, organic shapes, each provide an indirect connection with nature.

8. Biomorphic Forms & Patterns are symbolic references to contoured, patterned, textured or numerical arrangements that persist in nature. The building is a product of parametricism used to design free flowing architectural forms, in this case the contouring structure known as "topographic architecture"

9. Material Connection with Nature include materials and elements from nature that, through minimal processing, reflect the local ecology or geology and create a distinct sense of place. This building's interior uses warm tones of wood and concrete to mimic 'eroded rock-forms' of the mass and into crevices and ledges from which trees and vines can thrive.

10. Complexity & Order is the rich sensory information that adheres to a spatial hierarchy similar to those encountered in nature. The geometry is organic, but the fluid geometry combines different architectural styles that preceded modern architecture especially Baroque Architecture.

Order positively impacted perceptual and physiological stress responses in individuals.
(Salingaros, 2012; Joye, 2007; Taylor, 2006; S. Kaplan, 1988



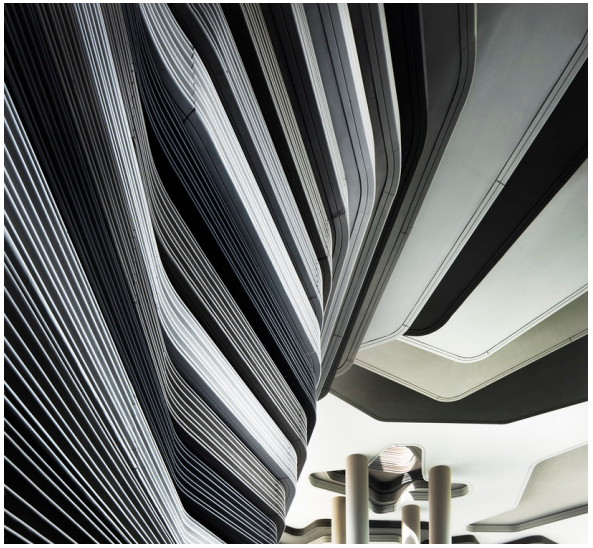


Fig. 31-33

NATURE OF THE SPACE

Nature of the Space addresses spatial configurations in nature. This includes our desire to be able to see beyond our immediate surroundings, or unknown and revelatory moments. These experiences are achieved through the creation of engaging spatial configurations with patterns of Nature in the Space and Natural Analogues.

11. Prospect is an unimpeded view over a distance, for surveillance and planning.

12. Refuge is a place for withdrawal from environmental conditions or the main flow of activity, in which the individual is protected from behind and overhead. The spaces provide a warm feeling of being protected especially by the materials used.

Prospect increased the feeling of safety in individuals according to a study by Herzog (Herzog & Bryce, 2007; Wan)

13. Mystery is the promise of more information, achieved through partially obscured views or other sensory devices that entice the individual to travel deeper into the environment.

14. Risk/Peril. An identifiable threat coupled with a reliable safeguard.

SUMMARY

These elements have been studied to have a positive impact on individuals and their mood levels. I am hoping to employ some of these elements into the design of the center to create a feeling of safety and spark engagement.
Nature is integral to human beings, and re-incorporating it into our lives can improve our health and make way for more healing through therapy and sports for the bereaved and survivors.

SUMMARY OF LITERATURE REVIEW

After reviewing the articles and books, Architecture has positive impacts on mental health, therefore affecting suicidal individuals.

The articles were reviewed to first understand how human beings respond to architectural spaces and how we perceive architecture, which can in turn improve our mental health, or worse not appreciate the aesthetic of architecture. My deduction is that we have to design in ways that are not too overwhelming on the stimuli which can have a negative impact on architecture. This finding also supports the theoretical premise on how architecture can affect individuals in a negative way.

Suicide is then explained in detail, analyzing whether it is a temporary or behavioral process. Anomie, Egoism and Fatalism are the categories that we can group the causation of suicide into. This book helps us as designers and the community empathize with individuals with suicidal thoughts, survivors and the bereaved, and in turn create a design with considerations for the community and sustainability which then supports the premise that architecture can impact the healing of individuals.

Okamoto brings up a great point in creating mindful spaces. Given that we understand the problem at hand- suicide and we also understand how human beings perceive architectural spaces, this article is the bridge to connecting a sustainable design, which then transitions to the article by Terrapin bright green that focuses on Biophilic Design.

I want to resolve this thesis statement by designing a space that has positive impacts on healing, while being cautious about the possible negative impacts and having a back up plan that can be created by thorough analysis of precedent studies.

The areas of this research that have to be accomplished are first understanding how individuals have interacted with spaces bin mental health treatment centers, and what has been successful. A survey however has to be completed to further understand the spaces that discourage feelings of depression and helplessness, as these issues are directly related to suicidal thoughts and grief.

Interviews with healthcare professionals will also show the priorities in providing treatment, even though they are against user requirements. Spaces are sometimes designed to prioritize safety before healing. Talking to these professionals and combining that with user needs can create a design that satisfies both sides and provide a positive healing experience.

TYPOLOGICAL PRECEDENT STUDIES

EMPATHY IN ARCHITECTURE

Case Study I
Jewish Museum: Daniel Libeskind

Fig. 34

"The Jewish Museum is conceived as an emblem in which the Invisible and the Visible are the structural features which have been gathered in this space of Berlin and laid bare in an architecture where the unnamed remains the name which keeps still." - Daniel Libeskind

Type: Museum
Location: Berlin, Germany
Size: 166,841 sq. ft.

The museum contains the history of the German-Jewish population. It consists of three buildings, two being new additions designed by Daniel Libeskind.

The distinguishing characteristic of this case study is the deconstructivist architecture style which incorporates empty spaces that zig zag through the museum that portrays Jewish history, emigration, and the holocaust.

The existing program elements include different exhibition spaces that house artworks, archive areas, a learning center, and a learning academy.

The walls on the interior museum have an exaggerated slant to them that creates a feeling of disorientation. The gardens of exile also have an uneven foundation creating the same effect in terms of structure.
Natural lighting is used sparingly in a way that allows minimal light into the museum.

Some areas are very open, while most parts are covered to create the same feeling of uncertainty.

Analysis:

This case study has a layout of spaces centered around the concept of a void, organized across two different axes. Its titanium-zinc facade together with the Garden of exile where the visitors feel lost among 49 tall concrete pillars covered with plants are elements of architecture that are unique from other cases.

The bolt of lightning structure is a sharp contrast to the surrounding baroque museum that was long built-in in 1933. It physically integrates the meaning of the holocaust into the memory of Berlin

The museum expresses the disappearance of the Jewish culture through the presence of tangible objects, memorabilia, and emotions that accompanied the holocaust- insecurity, and disorientation through architecture.

The interior is composed of reinforced concrete which supports the moments of the empty spaces and dead ends where only a sliver of light enters.
It is a symbolic gesture for visitors to experience what the Jewish people during WWII felt that even in the darkest moments, a small trace of light restores hope.

One of the most emotional and powerful spaces in the building is a 66' tall void that runs through the entire building. The concrete walls add a cold, overwhelming atmosphere to the space where the only light emanates from a small slit at the top.

The ground is covered in 10,000 coarse iron faces. A symbol of those lost during the Holocaust.

The Jewish Museum is an emotional journey through history. Politically, through acknowledgment of the erasure and void of Jewish life, the history of Berlin and Europe has a future.

Fig 35-38

These elements of emotion-evoking design support both sides of the premise Architecture can have either a positive or negative impact on individuals. In this case, Architecture is a strong tool to create empathy but can also be traumatizing if tension creates fear and trauma or flashbacks and other mild emotions.

I hope to create anticipation in my project by having curves in walls instead of sharp slants. According to research conducted by Thompson in 1917, Nature abhors right angles and straight lines. Forms that are biomorphic however are shown to reduce stress and enhance concentration since the users are focused on the induced shift instead of the sudden direct shift(Joye, 2007).

This is a safer approach to curiosity without overwhelming the users. A good example to follow is to have spaces that use diffuse lighting direct and diffuse to illuminate different areas in a controlled way. Giving this access to the users can improve their mood and preference.

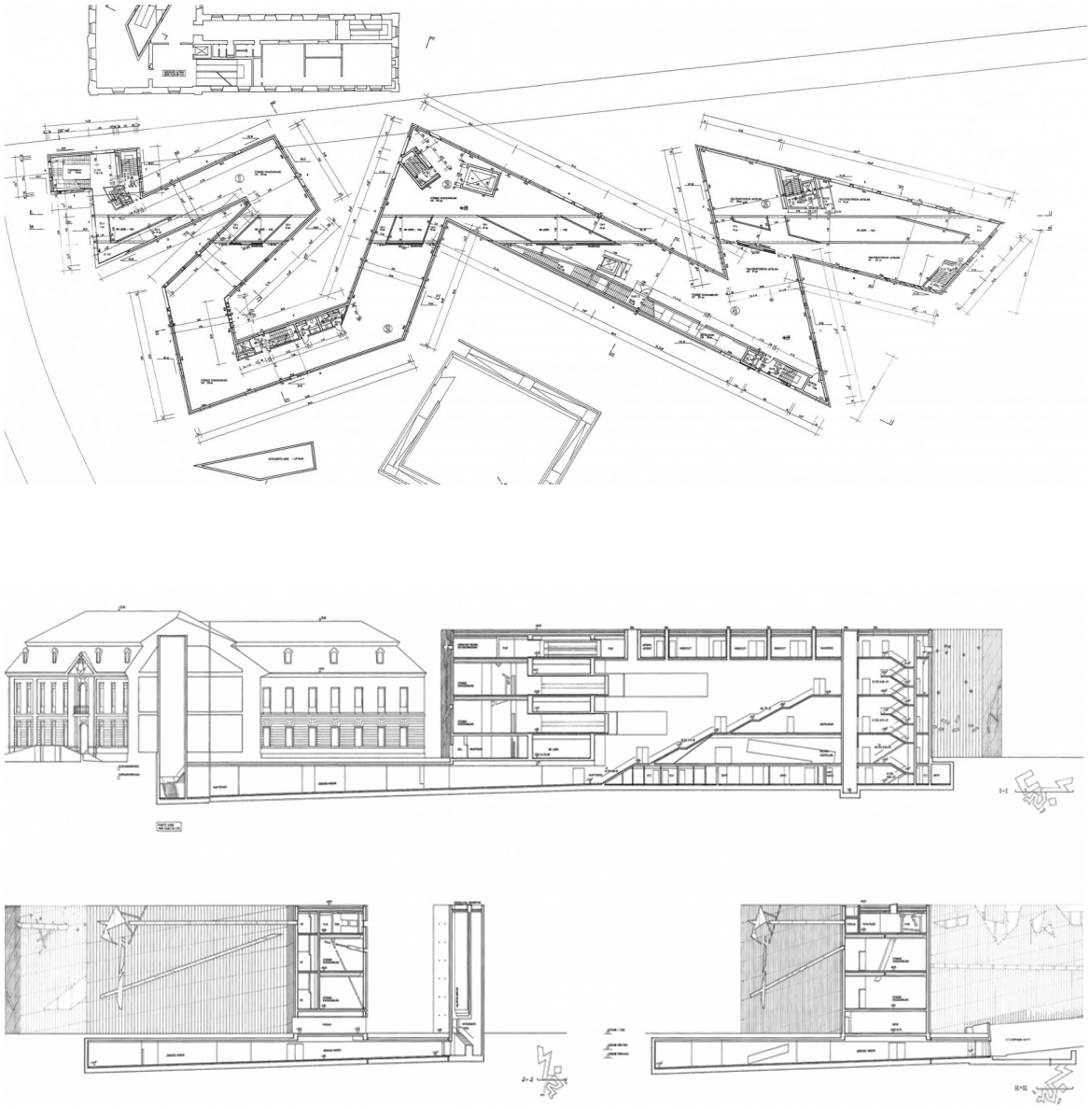


Fig 39.40

Case Study II:
Kaleidoscope Kindergarten
Sako Architects || 2018-2019

Fig 41

Type: Kindergarten
location: Tianshui, China
Area: 30000 sq. ft.

Kaleidoscope is a kindergarten in the heart of China in a city called Tianshui in the Ganshu province. The structure uses 438 stained glasses in ten different colors as the main element of design.

The distinguishing characteristic of this case is the colors that are applied to glass doors, windows, and stair railings. The light shining on the colored glass forms colorful lights and shadows. This evokes
creativity and stimulates imagination.

Another feature is that the kindergarten has arched openings. The traditional cave like form of dwelling in the Loess Plateau, in Tianshui City, inspires the idea of the arch.
The arched windows are arranged in different sizes with scattered positions, making this building look like a birthday cake.

There is a glass ceiling above the three-story atrium in the center of the structure which allows natural light to come through. The windows around the atrium can be opened for ventilation in summer and closed to trap heat in winter.

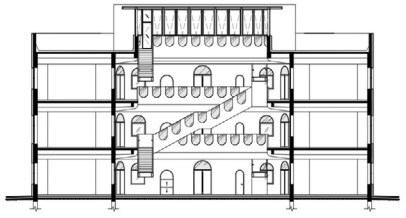
ANALYSIS:

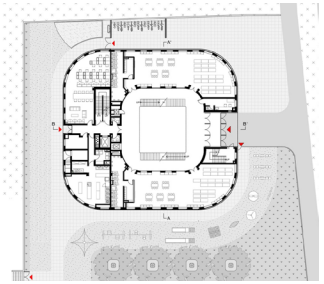
The colored glass in ten colors creates an airy, light atmosphere, with color applied to the handrails of the corridors and the stairs, that go around the entire atrium.

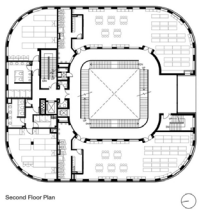
With the sun pouring into the atrium, it passes through these colored glasses to form colored shadows of various shapes. The shadows overlap with each other to create completely different colors from the original ten colors.

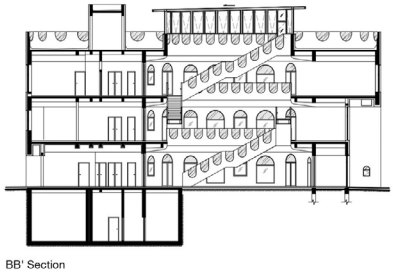
The color in contrast to the white spaces would be a great addition to the design solution of this project to break the monotony and make the space dynamic as the colored shadows change with the flow of time.

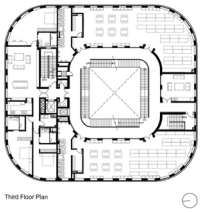
In a series of experiments, the results concluded that exposure to the color green before conducting a task facilitates creativity performance (Lichtenfeld et al., 2012) This will allow users to interact with the creative spaces in the center that will be designed to combat isolation and loneliness.











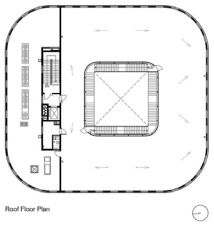


Fig 42-47

Fig 48-51

" The entire space is like a giant rotating kaleidoscope with constantly changing colors and patterns." is the intention of the architects that proposed this design."

Sako Architects

The atrium that allows the sun in improves the efficiency of the area in the local cold climate by allowing heat to naturally warm up the building.

Adapting the use of colored windows can help improve the mood of individuals and encourage interaction with their surroundings through the use of colors. The open central layout of the atrium will motivate gathering and togetherness when added to the design solution of this thesis.

The child-like innocence brings a level of playfulness that is sometimes lacking in adults.

Case Study III
Park Royal Collection, Pickering Singapore.
WOHA Architects || 2013

Fig. 52

Type: Hotel
Location: Singapore
Size: 321,000 sq. ft.

Parkroyal hotel was designed as a hotel-as-garden that doubled the potential of greenery on the site. Filled with curved sky gardens, tropical plants are cantilevered at every fourth level between the blocks of guest rooms.

Greenery flourishes throughout the entire complex and the trees and gardens of the hotel appear to merge with those of the adjoining park as one continuous sweep of urban parkland.

Placed above the open elements there is a pool deck of a five-story podium, a twelve-story tower which forms an E plan, so that all guest rooms look north to the park and into the sky gardens, whilst the services and the external connecting corridors were placed on the southern elevation.

The hotel is 'self-shaded' – by the projecting sky gardens and the adjacency of the three room-blocks and is protected from early morning and afternoon sun by adjoining buildings the rooms could be fully glazed (by the low-emissivity glass) without external screening devices.

ANALYSIS

"We wanted to recreate an urban street scale, so that people walking and driving could pick up interesting details. And we wanted to work with the building's mass and appearance, so we could avoid the usual city scale of building-as-silhouette, and so we could implement a garden-themed aesthetic."

Woha Architects

The overriding concept was that of a building as a garden for an idealized green city. The architecture is organic, with a fluid geometry that has a loftier sense of purpose.

Referred to by WOHA as 'topographical architecture', the stratified undulating layers of pre-cast concrete wrap around, through, and above the car park and the public areas of the hotel as contour lines weaving through a modular grid of cylindrical columns.

The cascades flow down from swimming pools and garden terraces on the podium roof, over the 'eroded rock forms of the striated mass and into crevices and ledges from which trees and vines can thrive.

The 14 patterns of Biophilic Architecture are visible in this structure and there is a blurred line between the indoors and outdoors. Weaving biophilia and architecture seamlessly is what I want to do in the design of this center, to improve the relationship between people and their dwellings.

I am hoping to incorporate layers of nature throughout the center, so that every dwelling will have a visual connection to nature, light and refuge to establish a sense of safety, yet improving mental engagement and impacting their attitude and happiness.

Fig. 53-56

CASE STUDY IV
PRAIRIE ST. JOHN'S MENTAL HEALTH TREATMENT CENTER

Fig. 57-59

Type: Psychiatric Hospital
Location: Fargo, N.D
Size: 105,000 square feet.

Prairie St. John's is a 110-bed facility founded in 1997. It caters to children, teens, and adults with mental health, substance abuse, and dual-diagnosis disorders using evidence-based treatment methods for physical, mental, and emotional wellness and offers hospitalization and clinical services.

The medical staff comprises an executive team, psychiatrists, and nurse practitioners. The rooms and bathrooms are shared between two occupants with the option to have either carpeted or wooden flooring.

There are common sitting rooms where group therapy sessions are conducted.
Healthy group activities are performed in rooms furnished with chairs and tables.
The halls, common rooms, and clinics have indoor plants.
The children's department has walls decorated in colors and drawings.

The hospital separates cafeterias for each of the children, adolescents, and adults units. Meetings with families are performed in the cafeteria.

A geriatric ward, psychiatric floor, patient rooms, bathrooms, quiet and noisy activity rooms, exam rooms, counseling rooms, and spaces for education were added in 2014.

Prairie St. John's mission is to offer treatment ethically and safely. There are locks set in place between different spaces and some areas that patients do not have access to. This is to make sure patients with suicidal intent do not harm themselves or trespass into areas designated for patients with other mental health issues. Interaction with other patients is discouraged because of safety concerns.

Activities within the building with minimal access to nature (partially attributed to the cold weather outside) start feeling monotonous and again entrapping.

For some users battling suicide ideation, the community is an important aspect of recovery. Being isolated from others despite the duration of stay further deepens the feelings of isolation and loneliness.

The presence of other individuals with mental illnesses also creates a bias and implies that suicidal individuals have a mental disorder by being put in the same facility as those individuals.

Some aspects of the psychiatric hospital such as spaces for practice, secure doors, and isolated spaces for patients in distress are highly favorable elements I would like to incorporate in my design solution, but with more flexibility in terms of interaction with their peers, community, or their surroundings to remove the feeling of entrapment and isolation.

Concerning the theoretical premise, this case study answers both sides of the question " Does Architectural Design Impact the Healing of Suicidal Individuals, Survivors and the bereaved"

On one hand, being in a safe area without means of harming oneself can prevent suicide first and foremost. It can also allow treatment of mental disorders with the presence of medical professionals nearby. Anxiety and panic attacks can also be treated in the facility.

It also satisfies the other side of the premise, where being contained without interaction creates new feelings of isolation and loneliness. A balance is needed to ensure positive outcomes.

Case Study V:
Hazelden Betty-Ford Foundation Plymouth, M.N

Fig. 60, 61

LOCATION: Plymouth, Minnesota
BUILDING TYPE :Specialty Care
SIZE: 100,000 SF

Hazelden is an addiction-treatment center for adolescents and young adults located on a 15-acre site within yards of a serene lake and regional park.

It contains a 49,000-SF expansion and renovation includes a reception lobby, private Admission area, new 32-bed unit for female patients, recreational gym with climbing wall, music therapy room, art therapy room, classroom, family-program space, mental health services space, renovated dining room, and reconfigured staff space.

Residents and their families enter a light-filled reception lobby trimmed with warm colors, cherry wood, and regional limestone. There is also an adjacent family lounge with large windows that show the outdoors. The secure residential sleeping units beyond the reception lobby provide both private and community space, from half-height walls separating individual sleeping spaces to community-focused living room, quiet lounge, and snack area for group activities.

Analysis

The reason I chose this structure as a case study, is its approach towards treatment and making private spaces feel open and shared. There is a balanced use of direct and diffused light throughout the spaces. There is also a variety of spaces for activities such as art rooms, sports rooms etc. with cohesive materials (wood and masonry)that I would like to employ in my design.

It has also brought up the question of the duration of stay to ensure complete treatment, and different spaces focusing on different therapies to achieve said goal of treatment.

Longer stays indicate that more spaces will be interacted with, while shorter stays will also mean that the concept of community within this space has to be considered in order not to disrupt the treatment process.

Case Study VI:

Hazelden Betty-Ford Foundation Rancho Mirage, CA

Fig. 62

Location: Rancho Mirage, California
Building Type: Drug Rehabilitation Center
SIZE: 67,380 SQF.

Moon Mayoras Architects designed the Hazelden Rancho Mirage Center which is home to patients that require transitional care who have completed the inpatient program and are to participate in a 30-90 day continued stay. The center also has different treatment services including chemical dependency treatment services, inpatient treatment, outpatient follow-up care, and a Residential Day Treatment (RDT) program.

The facility is designed using an internalized village concept, where each building acts as an integrated component of the RDT neighborhood.

ANALYSIS:

This case study is of the closest similarities to the center I am about to design in terms of macroclimate and typology. This facility has the presence of water and uses passive strategies to provide shade from the extreme desert heat using exterior pedestrian walkways, trellises, courtyards, and landscape feature interconnecting each building.

The desert-themed architectural elements are inspired by the surrounding Coachella Valley and incorporate sustainable landscape features. I will follow a similar approach in my design.

Summary of the Precedent Studies:

The case studies highlighted design elements that supported both sides of the premise "Architecture design has negative impacts on the recovery of suicidal, survivors and bereaved individuals."

The Jewish Museum by Daniel Libeskind employed elements of architecture that were supposed to elaborate the difficult history of the Jewish population in Germany to create empathy in individuals through Architecture. This would be a positive impact, however, the negative impact outweighs the positive due to the weight of the atmosphere within the museum. Slanted walls and minimal lighting are elements that should not be employed in the design of this center since they could stir up feelings of the bereaved and have a negative impact instead.

Kaleidoscope employs positive design elements that are to improve mood with the use of light and color to influence mood and interaction with dynamic spaces. It does positively support the premise as light is proven to improve Circadian Rhythm and productivity (Figueiro, Brons, Plitnick, et al., 2011; Beckett & Roden, 2009) but too much light can disrupt the process of treatment.

Marina Bay Hotel in Singapore as covered is the embodiment of biophilic design. This hotel has elements that support the positive side of the premise. These elements are to be explored and implemented in my design.

Prairie St. John's Mental Health treatment center has elements of design that prioritize the safety of patients given that they receive patients with mental health disorders who might harm themselves or others. This case study supports both sides of the premise. When the security of the facility is prioritized, means of suicide are taken away.

It can also impact healing negatively when people don't have a positive interaction with their spaces when sensory elements are not satisfied. Lack of windows and secured doors in spaces slows down physical natural remedies for mental health issues.

Finding balance between safety and control, isolation and connection with elements of design are my takeaways from this case.

Lastly, Hazelden Betty Ford brings up the question of whether the duration of stay in these facilities creates anomie or egoism in individuals regardless of their treatment process.
Individuals who stay for shorter periods interact with fewer spaces within a shorter period, missing out on establishing a sense of community. Vice versa is also possible where longer durations means more interaction with these spaces leading to autonomy and hence egoism.

These precedents support the premise of this thesis. The challenge lies in the balance as a designer and gaging what design decisions are to be prioritized and if possible a compromise that can please all categories of users.

PROJECT JUSTIFICATION

This project is important because I have seen how spaces can fuel suicidal thoughts in individuals and survivors. I believe that architecture can discourage suicidal thoughts, and reconnecting architecture with nature can help with recovery in bereaved individuals and encourage wellness.
I am learning more about how spaces can influence our daily lives. Minuscule decisions can make a difference in affecting individuals. This motivates me to become a better designer in thinking about people's needs.

Socially, suicide is a heavy topic seen as taboo. I want to start a discussion on how intense this situation is, and how we can play our part as designers to help deal with this issue and improve mental wellness by bringing society together and integrating biophilia to blur the line created by separating architecture from nature.

Insight is the technology to be used in this project. It analyzes spaces and gives recommendations to create a net-zero sustainable project with low energy costs.

There is increasing isolation due to Covid-19 and living in a digital world. There is so much interaction that happens digitally it has created a disconnect when it comes to connecting with people and interacting with the community in the real world.

GEOGRAPHY:

Suicide is a public health problem because of its far-reaching effects:
Suicide is a leading cause of death in the United States. It was responsible for more than 47,500 deaths in 2019.

In 2019, 12 million American adults seriously thought about suicide, 3.5 million made a planned suicide attempt, and 1.4 million attempted suicides.
People who have experienced violence, including child abuse, bullying, or sexual violence are at higher risk for suicide.

Early 2020 data external icon shows a 4.6% decrease in suicide deaths during the COVID-19 pandemic. However, the pandemic has increased many risk factors for suicide, such as social isolation and barriers to physical and mental healthcare.

CAUSE:

The Montana Department of Health and Human Services released a report citing Altitude as one of the reasons why the suicide rates are high. Long term oxygen deprivation (altitude of 2,500 feet) can disrupt mental health. Montana sits high at an altitude of 3,500 feet increasing the risk of mental health issues hence suicidal tendencies.

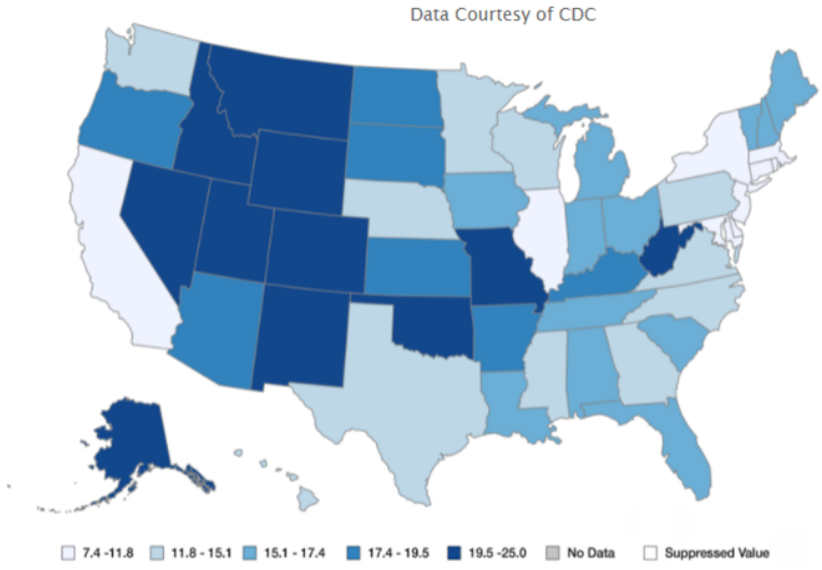


Fig. 63

Based on data from the CDC WISQARS Fatal Injury Data Visualization Tool

Leading Cause of Death in the United States for Select Age Groups (2019)

Data Courtesy of CDC

Rank	10-14	15-24	25-34	35-44	45-54	55-64	All Ages
1	Unintentional Injury 778	Unintentional Injury 11,755	Unintentional Injury 24,516	Unintentional Injury 24,070	Malignant Neoplasms 35,587	Malignant Neoplasms 111,765	Heart Disease 659,041
2	**Suicide 534**	**Suicide 5,954**	**Suicide 8,059**	Malignant Neoplasms 10,695	Heart Disease 31,138	Heart Disease 80,837	Malignant Neoplasms 599,601
3	Malignant Neoplasms 404	Homicide 4,774	Homicide 5,341	Heart Disease 10,499	Unintentional Injury 23,359	Unintentional Injury 24,892	Unintentional Injury 173,040
4	Homicide 191	Malignant Neoplasms 1,388	Malignant Neoplasms 3,577	**Suicide 7,525**	Liver Disease 8,098	CLRD 18,743	CLRD 156,979
5	Congenital Anomalies 189	Heart Disease 872	Heart Disease 3,495	Homicide 3,446	**Suicide 8,012**	Diabetes Mellitus 15,508	Cerebro-vascular 150,005
6	Heart Disease 87	Congenital Anomalies 390	Liver Disease 1,112	Liver Disease 3,417	Diabetes Mellitus 6,348	Liver Disease 14,385	Alzheimer's Disease 121,499
7	CLRD 81	Diabetes Mellitus 248	Diabetes Mellitus 887	Diabetes Mellitus 2,228	Cerebro-vascular 5,153	Cerebro-vascular 12,931	Diabetes Mellitus 87,647
8	Influenza & Pneumonia 71	Influenza & Pneumonia 175	Cerebro-vascular 585	Cerebro-vascular 1,741	CLRD 3,592	**Suicide 8,238**	Nephritis 51,565
9	Cerebro-vascular 48	CLRD 168	Complicated Pregnancy 532	Influenza & Pneumonia 951	Nephritis 2,269	Nephritis 5,857	Influenza & Pneumonia 49,783
10	Benign Neoplasms 35	Cerebro-vascular 158	HIV 486	Septicemia 812	Septicemia 2,176	Septicemia 5,672	**Suicide 47,511**

Fig. 64

GENDER AND AGE

According to the Centers for Disease Control and Prevention (CDC), women are more likely to attempt suicide than men, but men are more likely to die by suicide than women.
This may be because men are more likely to attempt suicide using very lethal methods, such as firearm or suffocation(hanging), and women are more likely to attempt suicide by poisoning and overdosing on prescribed or unprescribed prescription drugs. Recent CDC data shows that the leading means of suicide for women may be shifting toward more lethal methods.

The total age-adjusted suicide rate in the United States increased from 10.5 per 100,000 in 1999 to 14.2 per 100,000 in 2018, before declining to 13.9 per 100,000 in 2019.

In 2019, the suicide rate among males was 3.7 times higher (22.4 per 100,000) than among females (6.0 per 100,000).

Among females, the suicide rate was highest for those aged 45-64 (9.6 per 100,000).
Among males, the suicide rate was highest for those aged 75 and older (39.9 per 100,000)

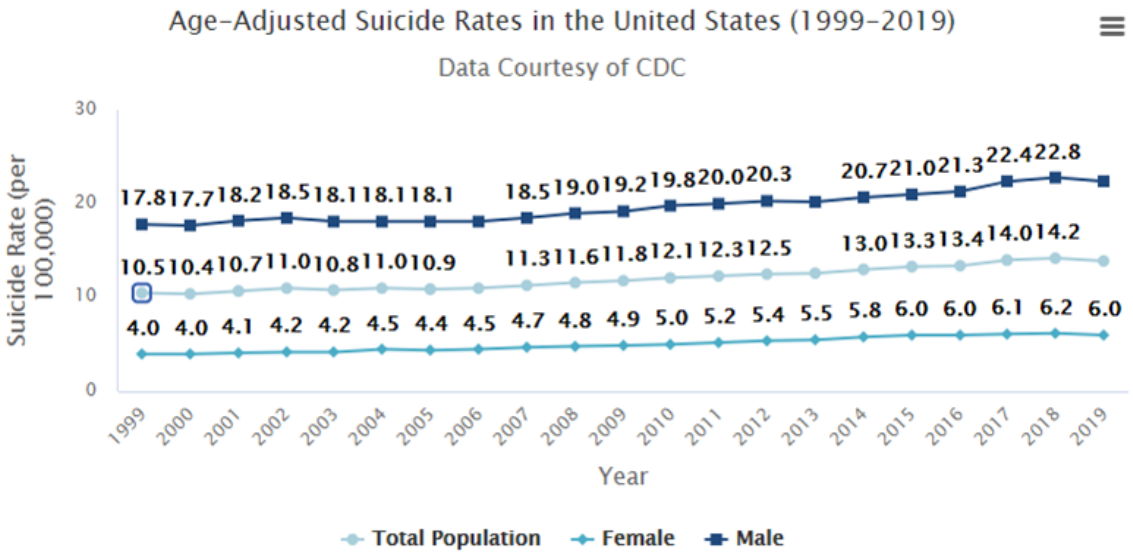

Age-Adjusted Suicide Rates in the United States (1999-2019)
Data Courtesy of CDC
Suicide Rate (per 100,000)
30
20
10
0
17.8 17.7 18.2 18.5 18.1 18.1 18.1 18.5 19.0 19.2 19.8 20.0 20.3 20.7 21.0 21.3 22.4 22.8
10.5 10.4 10.7 11.0 10.8 11.0 10.9 11.3 11.6 11.8 12.1 12.3 12.5 13.0 13.3 13.4 14.0 14.2
4.0 4.0 4.1 4.2 4.2 4.5 4.4 4.5 4.7 4.8 4.9 5.0 5.2 5.4 5.5 5.8 6.0 6.0 6.1 6.2 6.0
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
Year
Total Population
Female
Male

Fig. 65

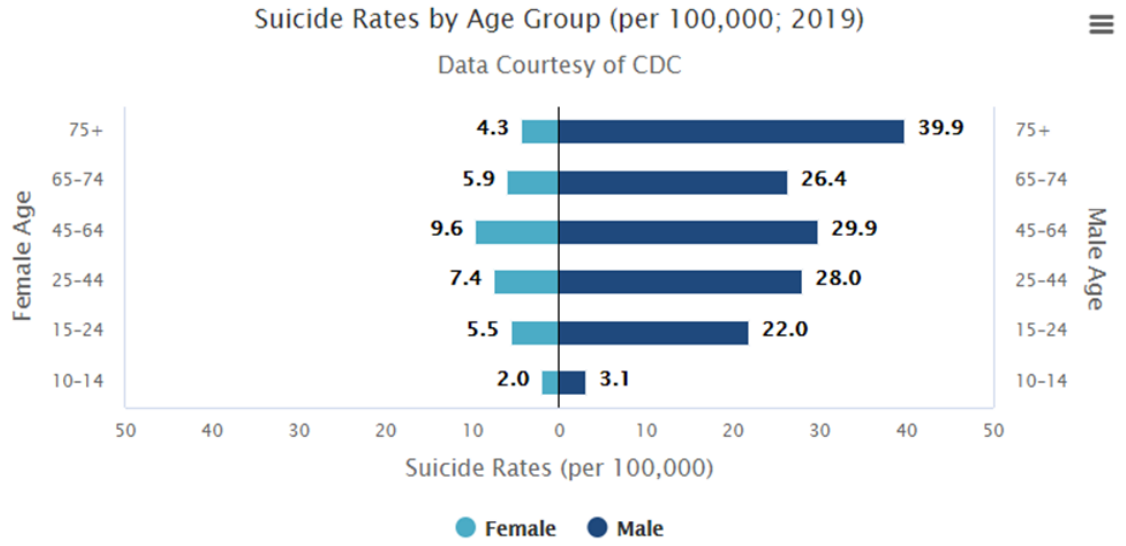

Suicide Rates by Age Group (per 100,000; 2019)
Data Courtesy of CDC
Female Age
75+
65-74
45-64
25-44
15-24
10-14
4.3
5.9
9.6
7.4
5.5
2.0
39.9
26.4
29.9
28.0
22.0
3.1
Male Age
50 40 30 20 10 0 10 20 30 40 50
Suicide Rates (per 100,000)
Female
Male

Fig. 66

RACE

American Indian, Non-Hispanic males (33.4 per 100,000) and, followed by White, Non-Hispanic males (29.8 per 100,000). Among females the crude rates of suicide were highest for American Indian, Non-Hispanic females (11.1 per 100,000) and White, Non-Hispanic females (8.0 per 100,000).

American Indian/Alaska Natives (AI/AN) have the highest rates of suicide of any racial/ethnic group in the United States and the rates have been increasing since 2003.

According to the Center for Disease Prevention and Control (CDC), 70% of American Indians /Alaska Natives decedents resided in non-metropolitan areas, including rural settings. Residential status however, can affect the circumstances surrounding suicide due to scarcity of resources of suicide prevention (mental health diagnosis and treatment).
Rural areas also have lower availability and use of mental health services because of provider shortages and social barriers, including stigma and lack of culturally competent care.

CDC points out that American Indians/ Native American decedents are more likely to have a friend's or family member's suicide contribute to their death. Substance use (alcohol) is a recognized risk factor for suicidal behavior

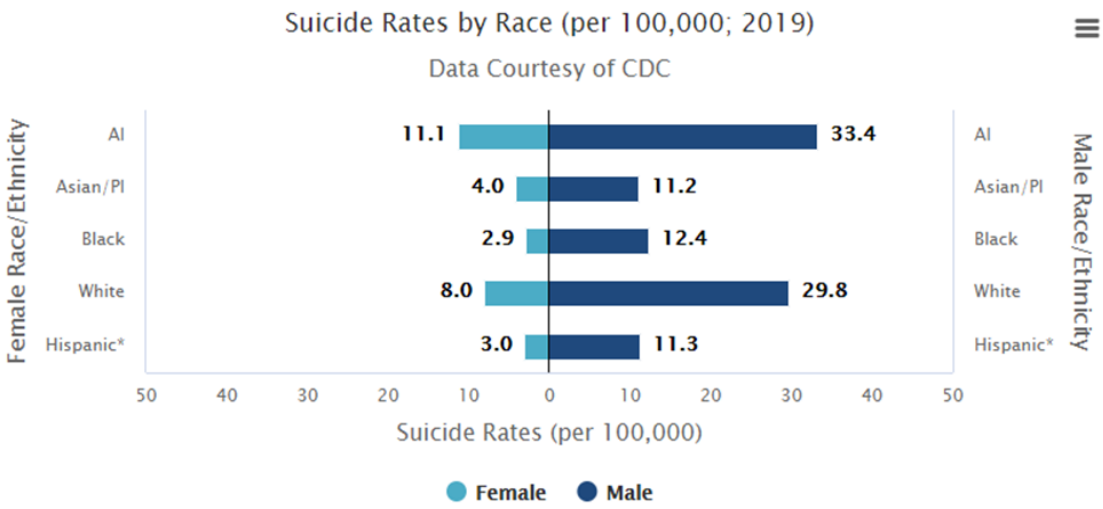

Suicide Rates by Race (per 100,000; 2019)
Data Courtesy of CDC
Female Race/Ethnicity
Male Race/Ethnicity
AI
Asian/PI
Black
White
Hispanic*
11.1
33.4
4.0
11.2
2.9
12.4
8.0
29.8
3.0
11.3
50
40
30
20
10
0
10
20
30
40
50
Suicide Rates (per 100,000)
Female
Male

Fig. 67

MEANS

There were 23,914 deaths caused by use of firearms. Deaths by the use of suffocation were 13,563. Poisoning had a total of 6,125 and other methods used were a total of 3,882 bringing the total to 47,511 deaths.

Among females, the most common methods of suicide were firearm (31.4%), poisoning (30.0%), and suffocation (29.0%). Among males, the most common methods of suicide were firearm (55.6%) followed by suffocation (28.4%).

Though firearms are the third-most common method for attempting suicide, they are responsible for the largest share of suicide deaths because they are so lethal.

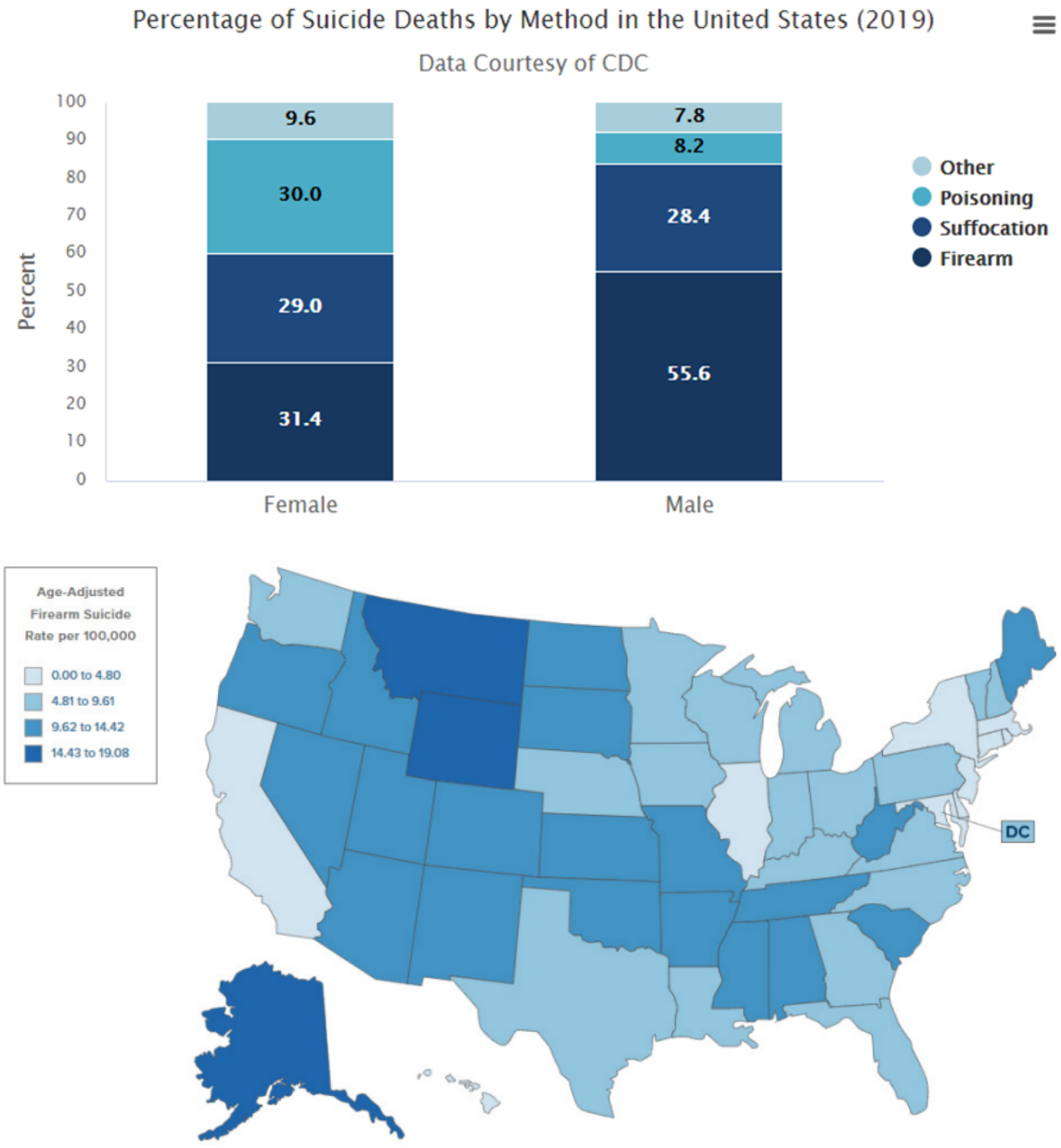

Percentage of Suicide Deaths by Method in the United States (2019)
Data Courtesy of CDC
Percent
100
90
80
70
60
50
40
30
20
10
0
9.6
30.0
29.0
31.4
7.8
8.2
28.4
55.6
Female
Male
Other
Poisoning
Suffocation
Firearm
Age-Adjusted
Firearm Suicide
Rate per 100,000
0.00 to 4.80
4.81 to 9.61
9.62 to 14.42
14.43 to 19.08
DC

Fig. 68,69

4.8% of adults age 18 and older in the United States had serious thoughts about suicide in 2019.
Among adults across all age groups, the prevalence of serious suicidal thoughts was highest among young adults aged 18-25 (11.8%).

The prevalence of serious suicidal thoughts was highest among adults age 18 and older who report having multiple (two or more) race (6.9%)

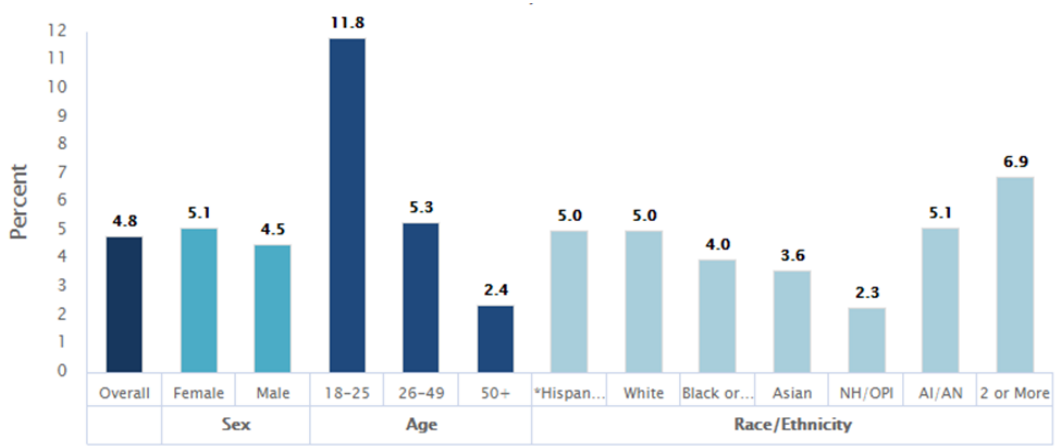


Fig.70

0.6% of adults age 18 and older in the United States report they attempted suicide in in the past year.
Among adults across all age groups, the prevalence of suicide attempt in the past year was highest among young adults 18-25 years old (1.8%).
Among adults age 18 and older, the prevalence of suicide attempts in the past year was highest among those who report having multiple (two or more) races (1.5%).

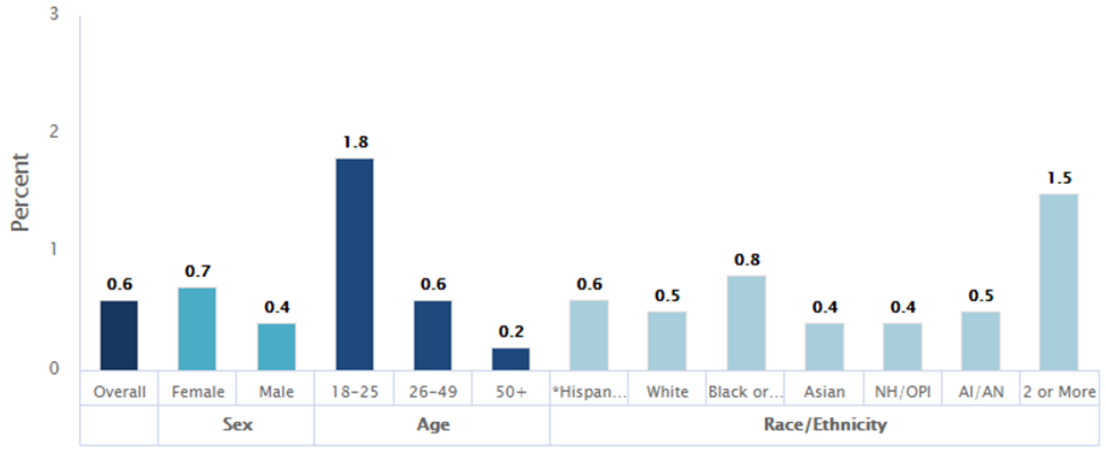


Fig. 71

POPULATION:

12.0 million adults aged 18 or older reported having serious thoughts of suicide, and 1.4 million adults attempted suicide during the past year.

National Survey on Drug Use and Health (NSDUH) surveyed residents of households and people in non-institutional group homes such as shelters and college dorms.

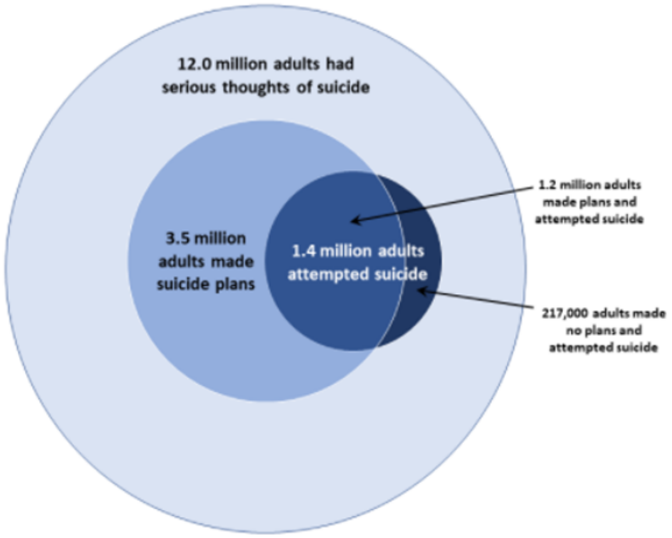
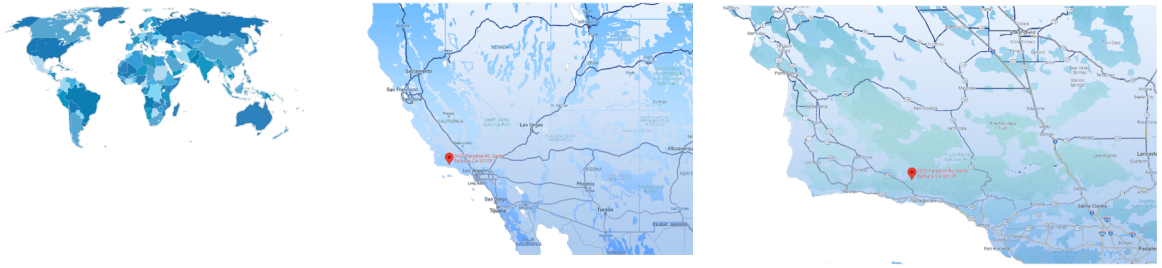


Fig. 72

SITE ANALYSIS

Location: 3900 Paradise Rd.,
Santa Barbara, CA 93105

Acreage: 572



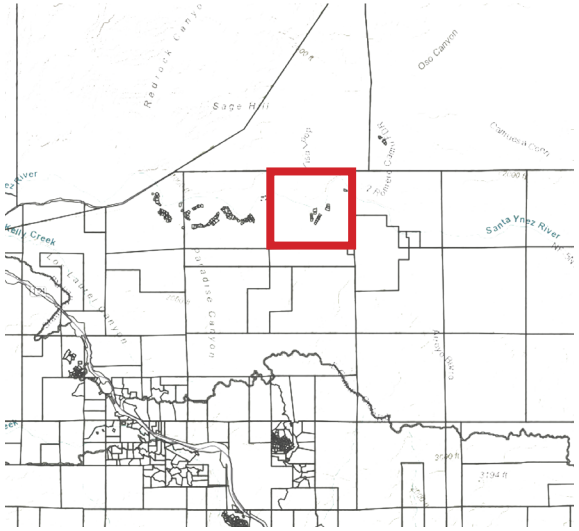


Fig. 73-77

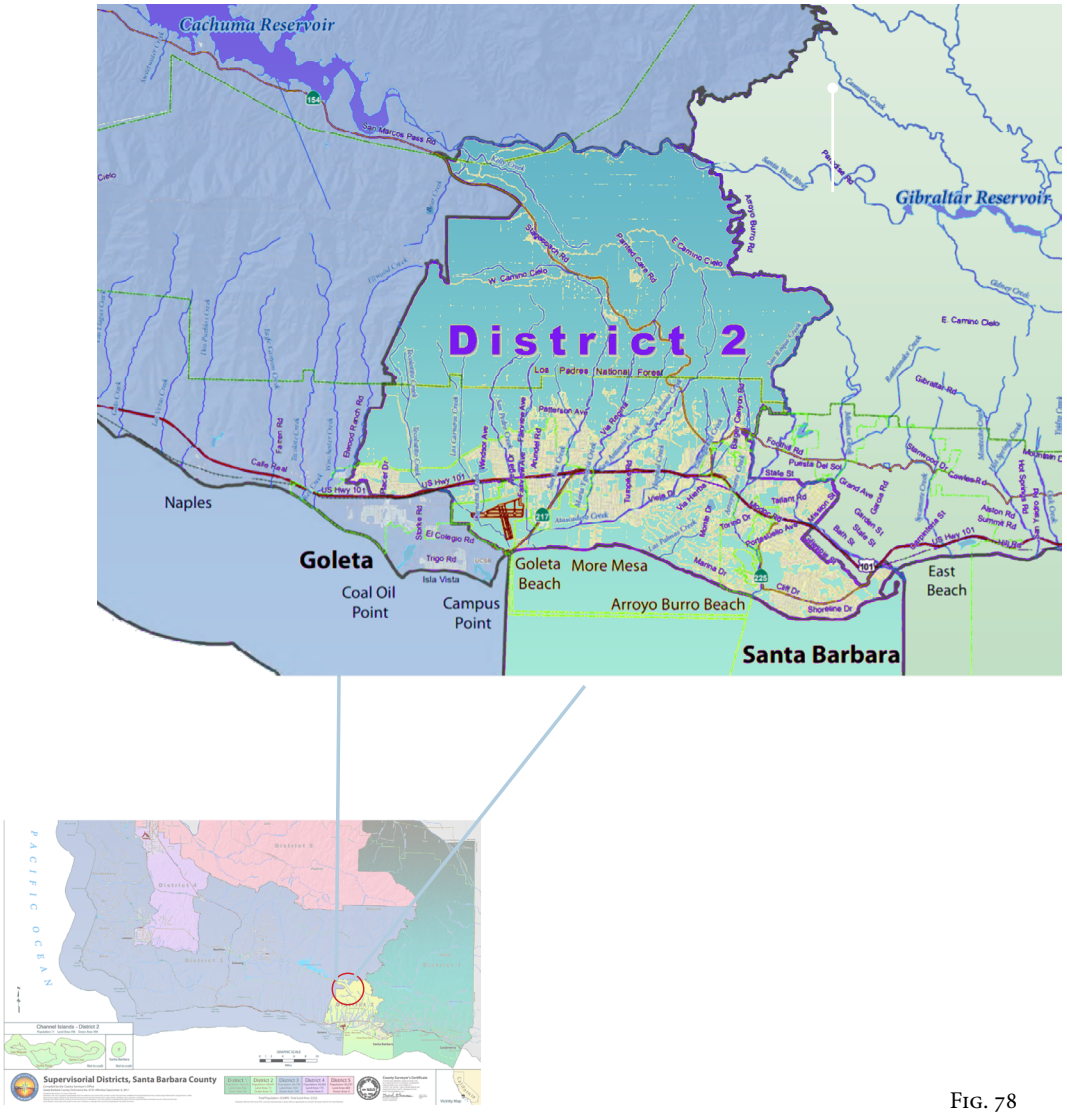

Cachuma Reservoir
Gibraltar Reservoir
District 2
Los Padres National Forest
Naples
Goleta
Coal Oil Point
Isla Vista
Campus Point
Goleta Beach
More Mesa
Arroyo Burro Beach
East Beach
Santa Barbara
PACIFIC OCEAN
Supervisorial Districts, Santa Barbara County

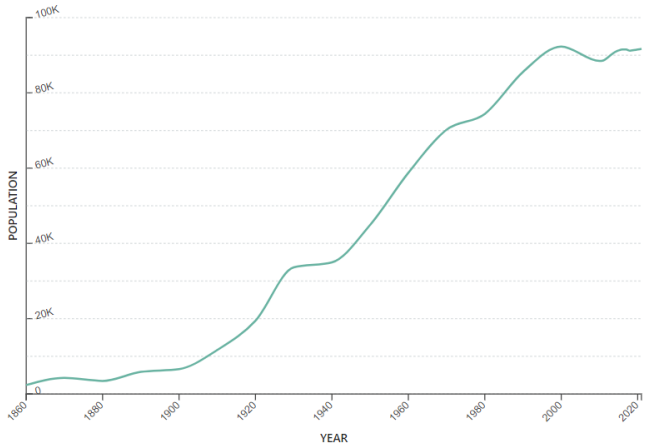
Fig. 78

DEMOGRAPHICS:

Total Population Santa Barbara: 42
Total Land Area: 19.5 sq mi

Site is Located in District 2:

Population: 92,000
Land Area: 73
Ocean Area: 33

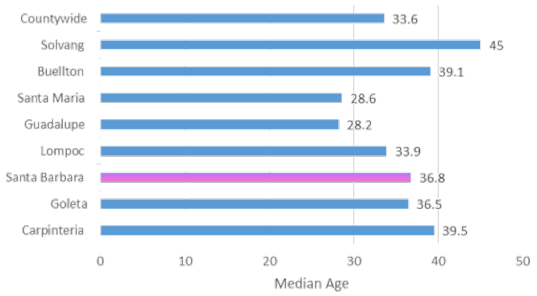


White: 79.23%
Other race: 11.55%
Asian: 3.97%
Two or more races: 3.04%
Black or African American: 1.55%
Native American: 0.66%
Native Hawaiian or Pacific Islander: 0.01%

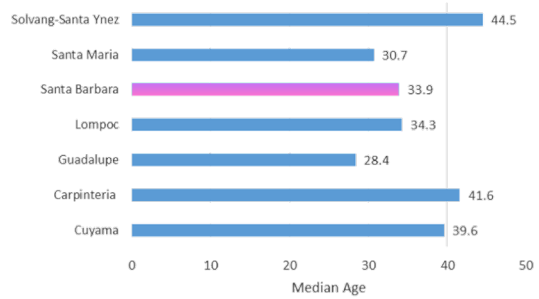
Fig. 79

MEDIAN AGE

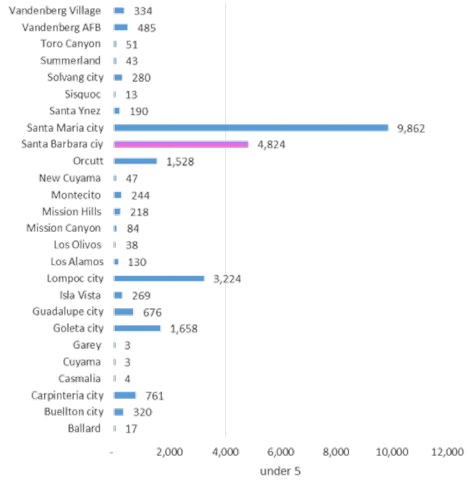
Santa Barbara Jurisdiction: 36.8



Santa Barbara Subregion



4824 Children Under 5



11320 Aged 5-17

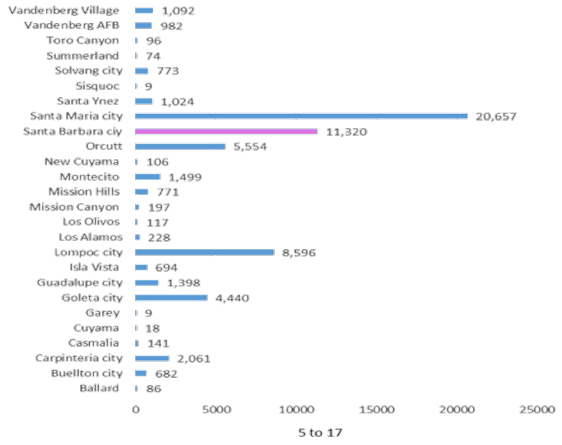
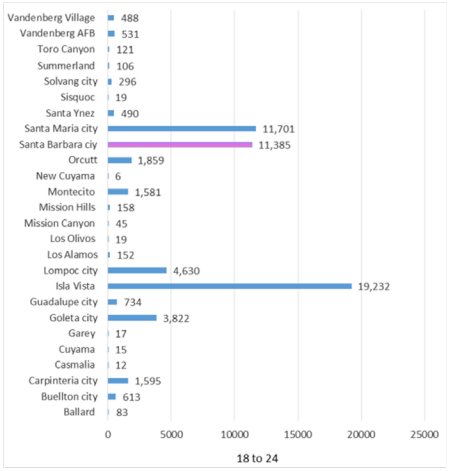
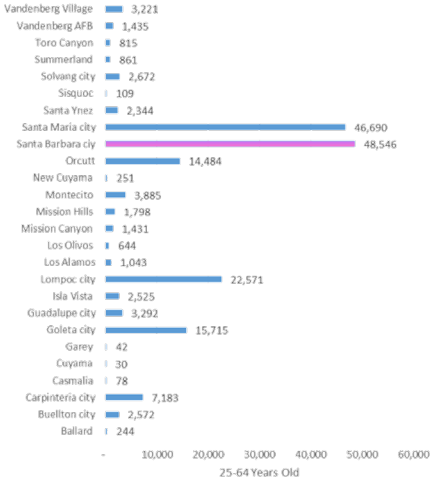


Fig. 80-83

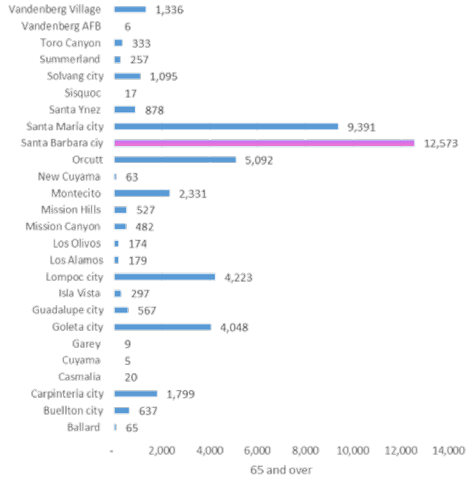
11385 Aged 18-24



48,546 Aged 25-64



12,573 Aged 65 and over



Percentage within regions

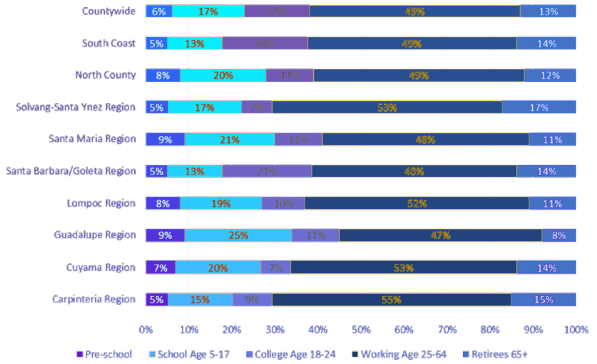
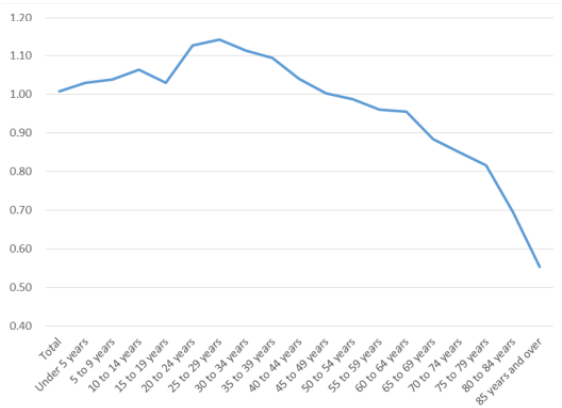


FIG. 84-87

GENDER RATIO

Male to Female Ratio



Male to Female Ratio by age group

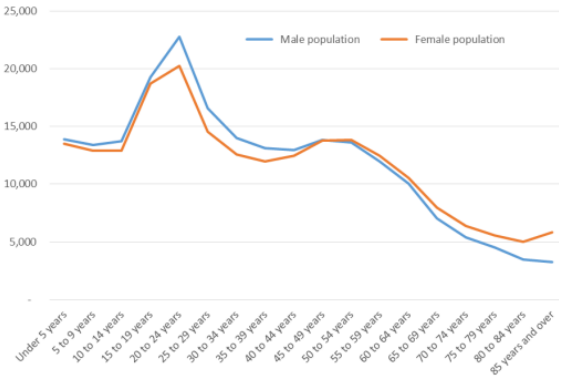


Fig. 88, 89

PARKS AND VEGETATION:

There is a prominent presence of parks around Santa Barbara. Cachuma Lake Recreation Area offers camping and cabins for recreation.

The site's vegetation is Herbaceous. It is filled with abundant grassland, coastal oaks and vineyards.

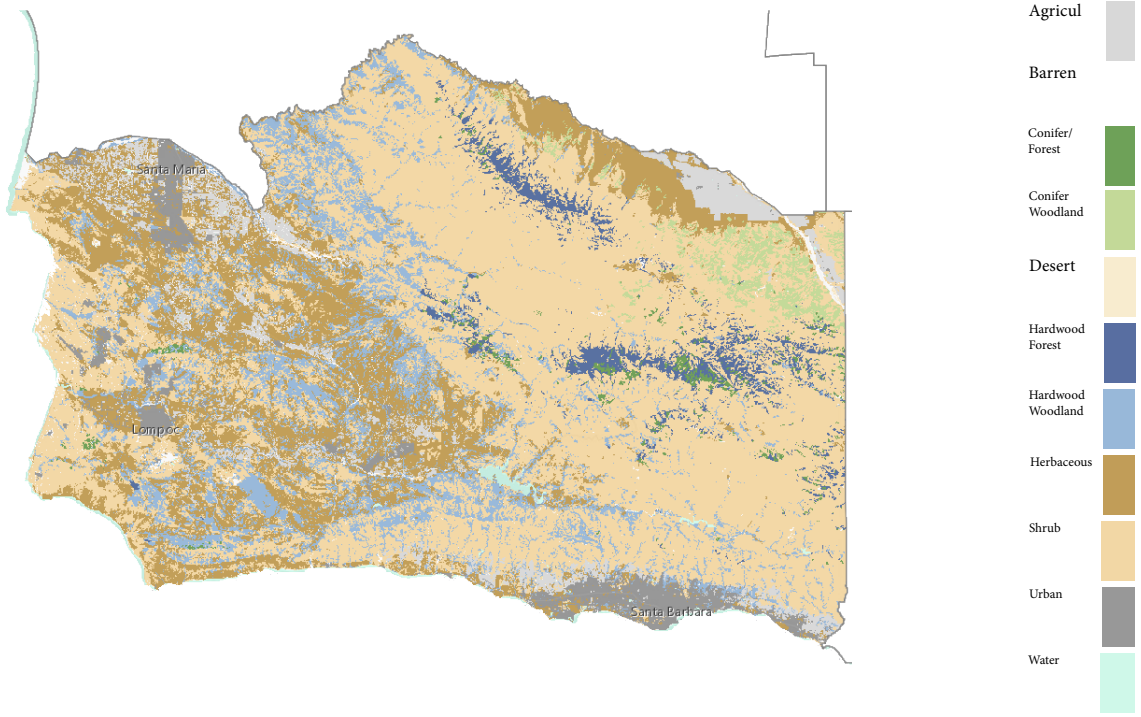


Fig. 90

ZONING:

The site is designated as A-II-100 with an open land use. The type of use is Agriculture, with a minimum parcel of 100 acres. The site is surrounded by Residential ranchettes.

The site is in close proximity to an Environmentally Sensitive Habitat and a Riparian Corridor Overlay.

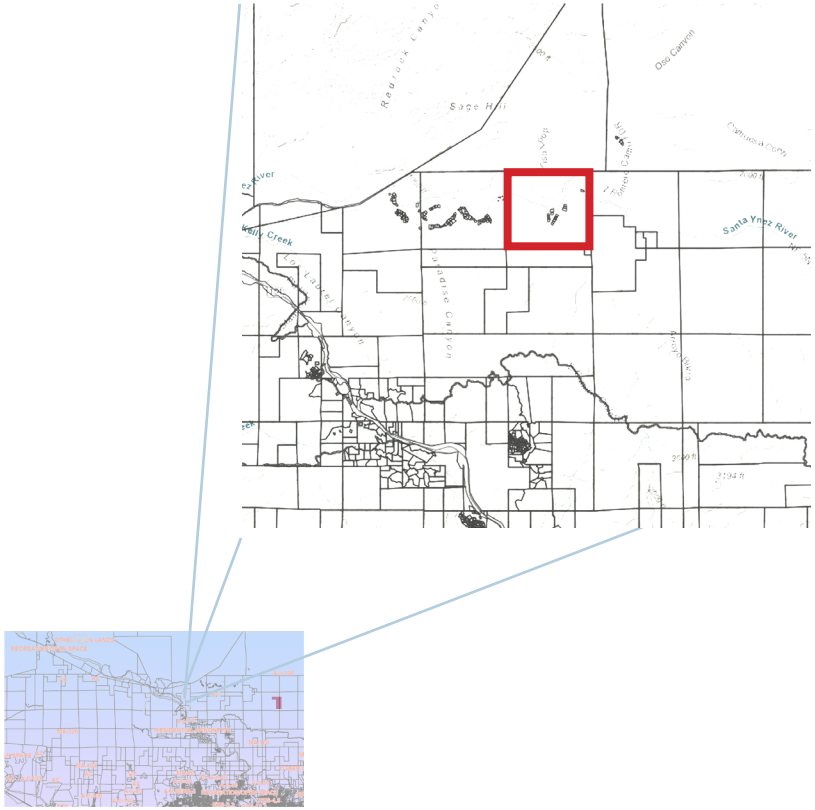
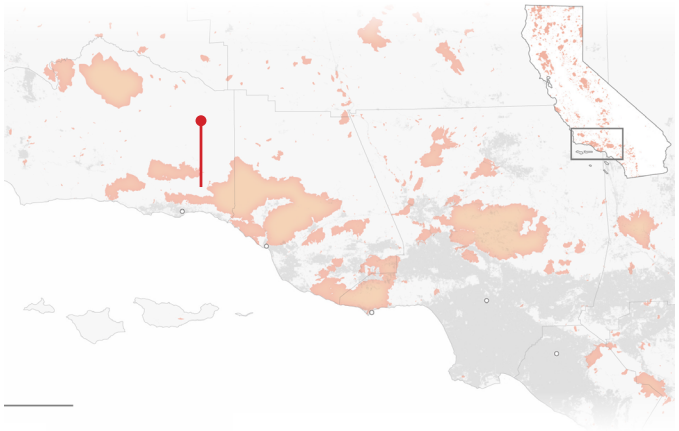


FIG.91,92



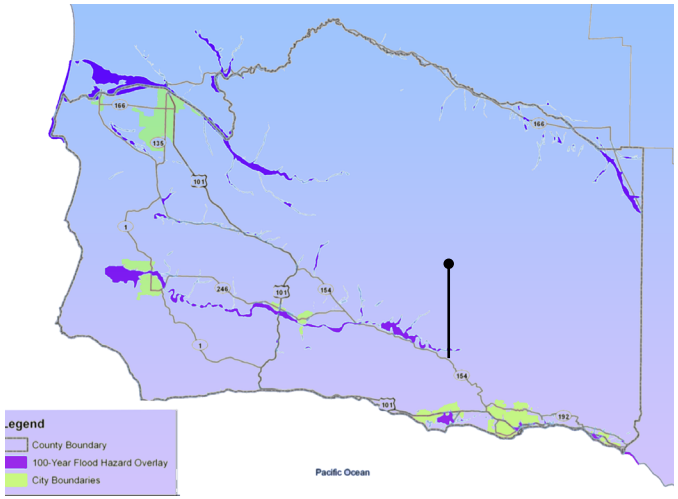

Legend
County Boundary
100-Year Flood Hazard Overlay
City Boundaries
Pacific Ocean

Fig. 93, 94

TRANSPORTATION

The site is four minutes away from Interstate 154. County wide, over half of the population work from home, followed by people who drive alone for a commute.

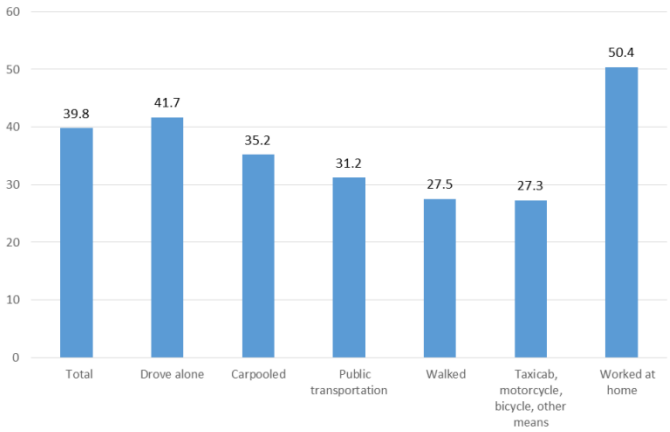


FIG.95, 96

GROUND WATER TABLE

Fig. 97

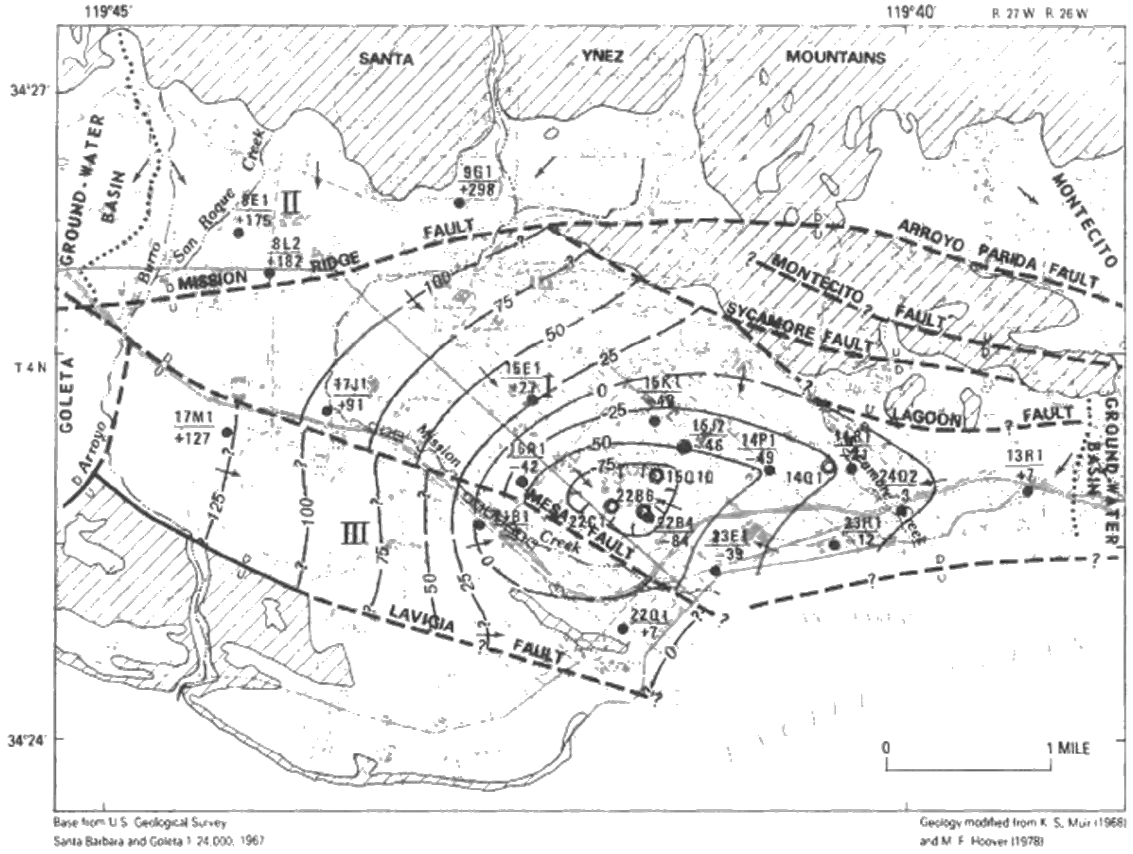


Figure 6. Water-level contours of the lower producing zone, January 1980.

FIG. 98

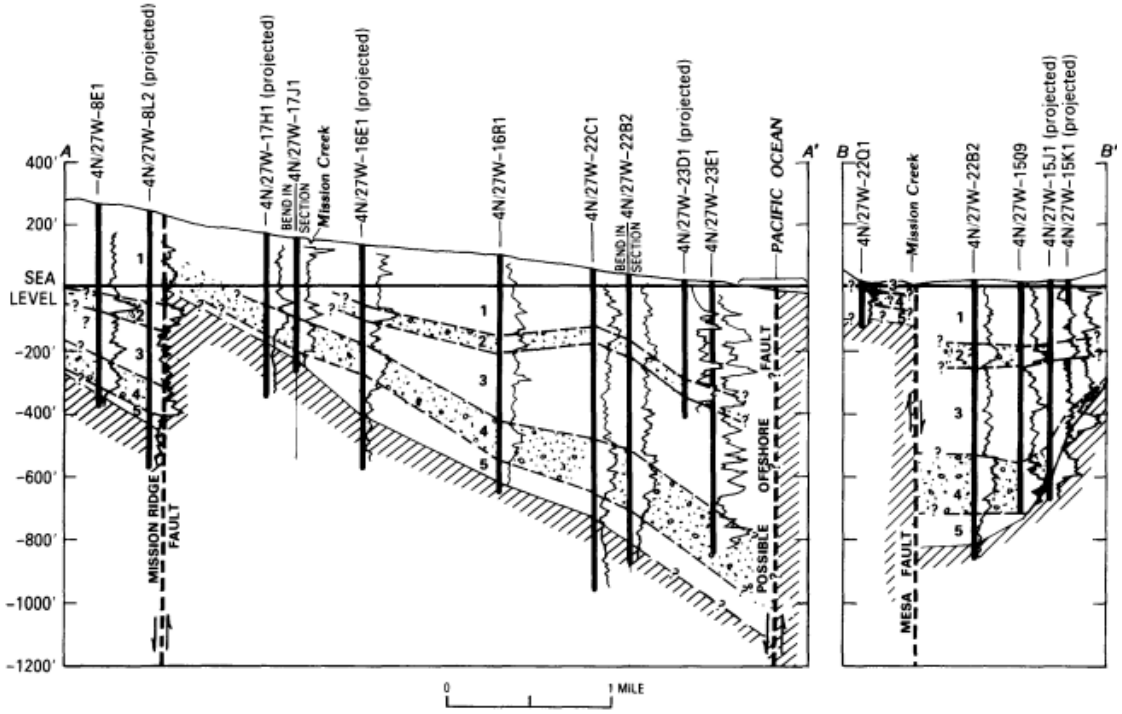


Figure 2. Geologic sections.

FIG. 99

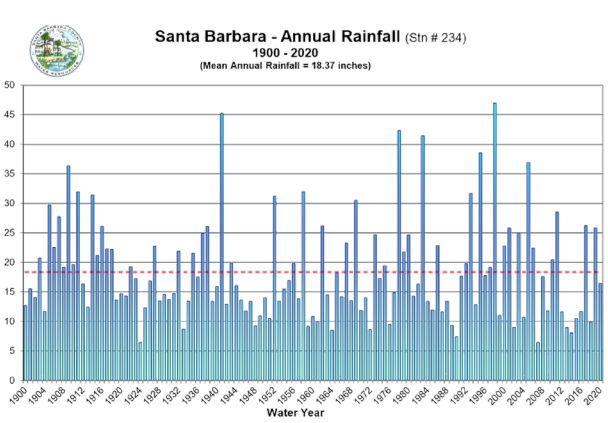
FIG. 100

CLIMATE

Santa Barbara experiences a warm-summer Mediterranean climate which is typical in coastal cities of California.

Since the city lies along the ocean, there is moderate temperatures resulting in warmer winters and cooler summers compared with places farther inland.

The warmest month is August with an average temperature of 75°F. The coldest month is January with an average temperature of 64°F.



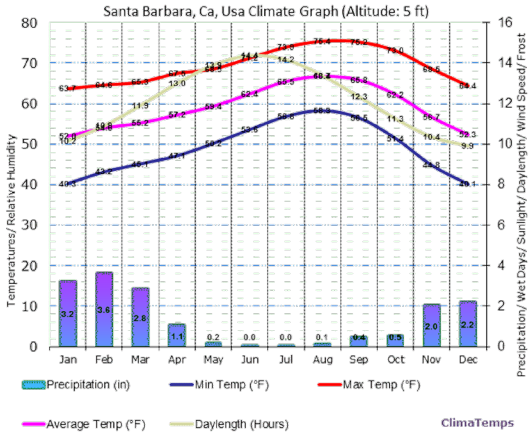


Fig. 101, 102

SITE ANALYSIS CONCLUSION

The selection of the site was foremost due to its remote location. According to Stress Recovery during Exposure to Natural and Urban environments by Roger Ulrich, individuals exposed to stress recovered well physiologically after being exposed to natural settings compared to individuals in an urban setting.

Hazelden-Betty Ford Rehabilitation center is a precedent study in which the campus is isolated from the urban setting and focuses on healing patients in residential units and villages remotely.

The site also offers excellent views of the surrounding terrain, as it sits at a mountain with a peak at 2200 ft. This is also a natural pattern of biophilia (Risk/ Peril) which provides an identifiable threat but with a reliable safeguard of having terrains that create a gentle slope.

The site is also 20 minutes away from a bigger hospital in case of medical emergencies for patients, but it is also remote enough for uninterrupted recovery for the patients.

Since the center acts as a refuge for suicidal individuals, it services individuals with a history of suicide, survivors, and the bereaved. It is accessible to all Americans who have a referral from a doctor and are seeking help to combat suicidal ideologies and are looking for treatment.

Fig. 103, 104

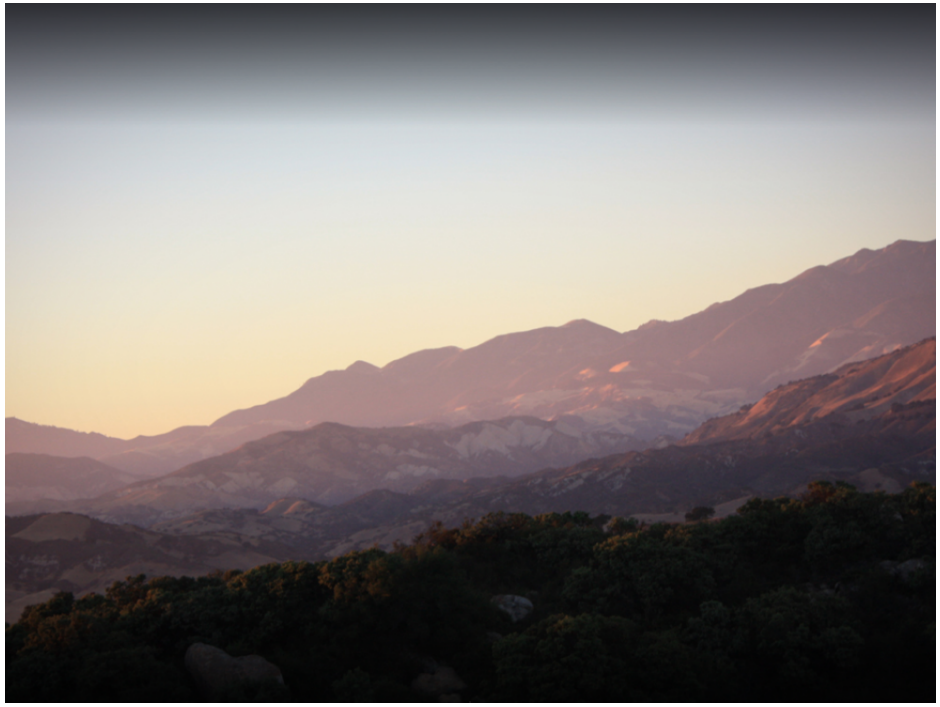


Fig. 101, 102

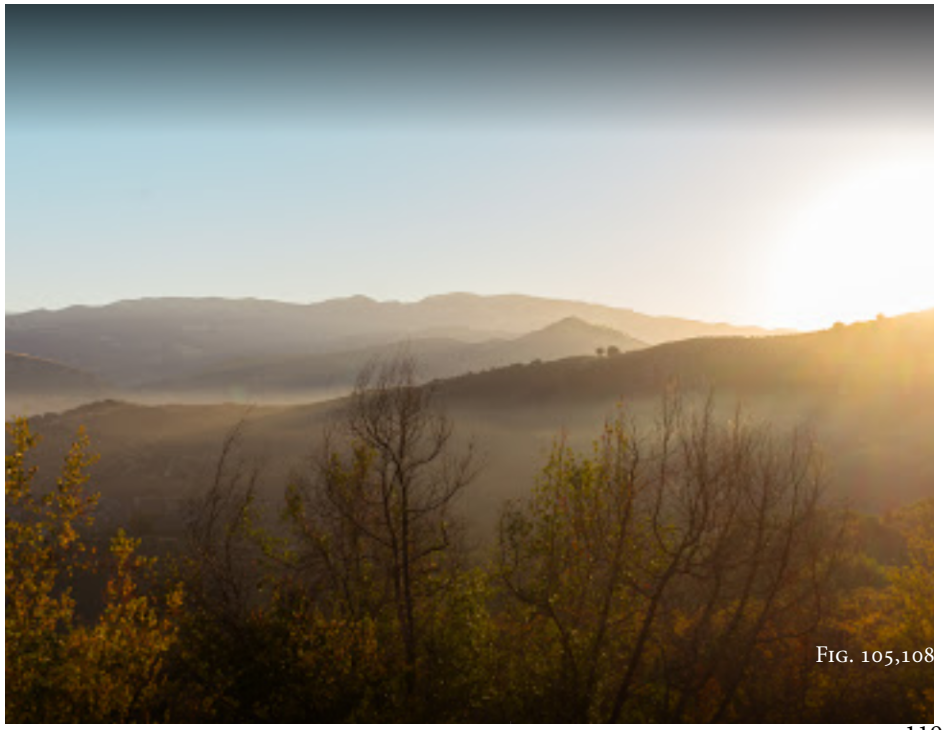


Fig. 105,108

PERFORMANCE CRITERIA:

Safe environment Conducive for Treatment

- Spaces with high ceilings and clear sight lines will be welcoming to improve attention and concentration during the admission process.
- Private areas withdrawn from the flow of activity and environmental conditions will establish a sense of safety.
- Using natural remedies and resources to improve health and recovery rates through:
    1. Visual connection to nature which positively impacts attitude and overall feelings of happiness
    2. Variety within spaces to increase dopamine and pleasure responses.

Universal Design

- Flexible design that can be re-purposed according to use and can be adaptable to users.
- Spaces will have simple use with minimal complexity but will be engaging and welcoming.
- Comfortable areas with warm materials and colors that are inclusive for all.
- Accessible spaces that meet ADA standards.

Sustainability

- Energy-conscious occupant behaviors will give users control over their environment to reduce heating, cooling, ventilation, and lighting.
- Every treatment room will have access to sun, wind, and light for as many interior spaces as possible for visual and thermal comfort and improvement of the circadian rhythm.

Community

- Users will engage in shared spaces that will allow them to share a common experience and create bonds that will aid in recovery through interaction which establishes a sense of place and belonging.
- Establish trust between the patients and healthcare professionals by having nurse and medical stations available to create a sense of safety.

Purpose & Change

- How influential our designs are on the wellbeing of society by breaking physical barriers between architecture and nature and uniting us with the natural environment by having indoor and outdoor spaces.
- Create a sense of place and belonging, by including non-rhythmic connections to nature which will encourage exploration and increase of attention in patients.

Education

- Educate the community on issues regarding suicide and de-stigmatize ideologies that are detrimental to recovery by having individual spaces tailored to educate suicidal individuals, survivors, and the bereaved.
- Understand mental illnesses and disorders by having spaces that allow mental, physical, and spiritual activities, providing positive coping and healing strategies in patients.

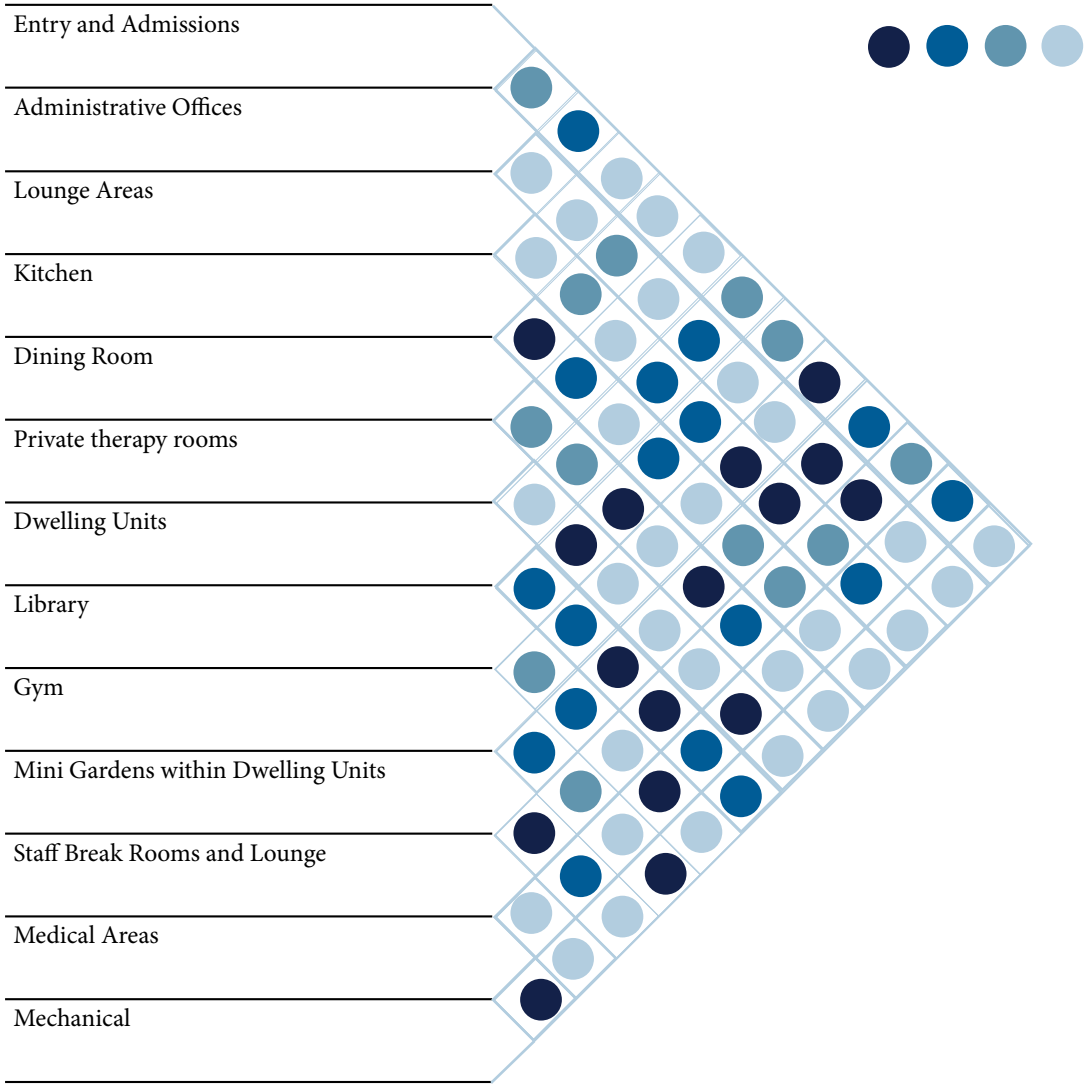

Entry and Admissions
Administrative Offices
Lounge Areas
Kitchen
Dining Room
Private therapy rooms
Dwelling Units
Library
Gym
Mini Gardens within Dwelling Units
Staff Break Rooms and Lounge
Medical Areas
Mechanical

Fig. 109

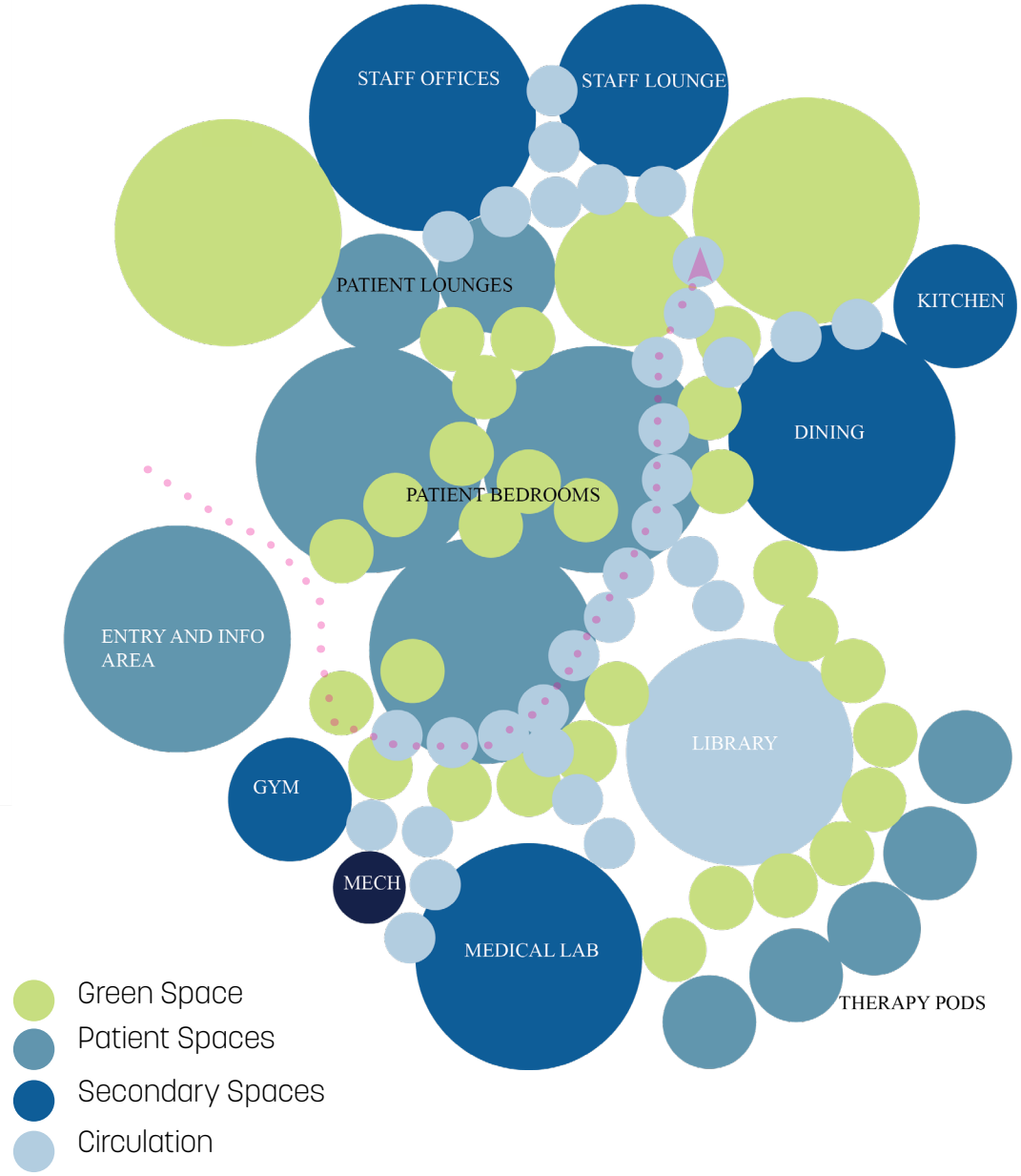

STAFF OFFICES
STAFF LOUNGE
PATIENT LOUNGES
KITCHEN
DINING
PATIENT BEDROOMS
ENTRY AND INFO AREA
LIBRARY
GYM
MECH
MEDICAL LAB
THERAPY PODS
Green Space
Patient Spaces
Secondary Spaces
Circulation

Fig. 110

	SPACE	W	x	L	SQFT	QTY	NSF
	Public Spaces: First Floor						
1A	Lobby and Waiting	50	x	50	2500	1	2500
1B	Vestibule	10	x	20	200	1	200
1C	Check-In Desks	5	x	10	50	1	50
1D	Check-in Work room	10	x	10	100	3	300
1E	Bathrooms	5	x	5	25	10	250
	Medical Wing						
2A	Nurse Station	5	x	5	25	10	250
2B	Intake	5	x	10	50	1	50
2C	Triage	10	x	15	150	1	150
2D	Physical Exam Bay	8	x	8	64	6	384
2E	Xray	10	x	15	150	1	150
2F	Treatment Room	10	x	15	150	4	600
2G	Waiting Area	20	x	20	400	1	400
2H	Restrooms	4	x	5	20	20	400
2I	Consult Rooms	10	x	10	100	4	400
2J	Medical Diagnostics and Lab Room	30	x	30	900	1	900
	Medical Support Space						
2K	Clean Utility	10	x	10	100	1	100
2L	Soiled Utility	10	x	10	100	1	100
2M	Storage	20	x	20	400	1	400
2N	Equipment	10	x	15	150	1	150
	Medical Staff Work Space						
3A	Medical Assistant Workstations	5	x	5	25	10	250
3B	Doctor Workstation	5	x	5	25	10	250
3C	Nurse Workstation	5	x	5	25	10	250
3D	Shared work area/supplies	15	x	20	300	1	300
3F	Private Offices	10	x	10	100	6	600
3G	Shared Offices, Healthcare Navigators and Social \	20	x	20	400	3	1200
3H	Phone Room	10	x	10	100	1	100
3I	Conference Room	20	x	25	500	1	500
3J	Pharmacy	20	x	25	500	1	500
	STAFF FLEX SPACES						
3K	Staff Restrooms	5	x	5	25	30	750
3L	Staff Locker Rooms	20	x	20	400	2	800
3M	Staff Sleeping Rooms	15	x	15	225	5	1125
3N	Staff Lounge and Breakroom	15	x	30	450	1	450
	Patient Spaces						
4A	Family Therapy Rooms	10	x	10	100	10	1000
4B	Guests Restrooms	20	x	20	400	25	10000
4C	Therapy Pods	10	x	10	100	30	3000
4D	Library	50	x	60	3000	1	3000
4E	Patient Bedrooms (Bath + Kitchenette)	20	x	20	400	100	40000
4F	Kitchen	40	x	25	1000	1	1000
4G	Dining	75	x	80	6000	1	6000
4H	Nurse and Security Station	5	x	5	25	20	500
	Therapy Spaces						
5A	Family Therapy Rooms	10	x	10	100	10	1000
5B	Therapy Pods	10	x	10	100	30	3000
5C	Religious and Gathering Spaces	20	x	30	600	3	1800
5D	Class Rooms	10	x	15	150	6	900
5E	Art Therapy	30	x	30	900	2	1800
5F	Music Therapy	15	x	20	300	6	1800
5G	Sound bathing	20	x	20	400	1	400
5H	VR Therapy	10	x	10	100	6	600
5I	Meditation Therapy	30	x	30	900	1	900
5J	Gym	30	x	50	1500	1	900
5K	Tennis Court	30	x	50	1500	1	1500
5L	Nurse Station	5	x	5	25	2	50
	Building Services						
6A	Breakroom	15	x	15	225	1	225
6B	IT	30	x	40	1200	1	1200
6C	Electrical	30	x	30	900	1	900
6D	Mechanical/Plumbing	40	x	50	2000	1	2000
6E	Janitor	10	x	10	100	1	100

NET SQUARE FOOTAGE (NSF)	**98384**
Circulation/Structure (35%)	**34434**
DEPT. GROSS SQUARE FEET (DGSF)	**132818**

FIG. 111

DESIGN SOLUTION

Fig. 112

PROCESS DOCUMENTATION

SITE

Initially, the site was located at 5750 Stagecoach Road, Santa Barbara CA, west of the current site. The challenge with the site was a steep terrain that didn't allow ease of circulation and access due to extreme remoteness.

The new site at 3900 Paradise Road worked better for some of the schemes, especially around connectivity and community.

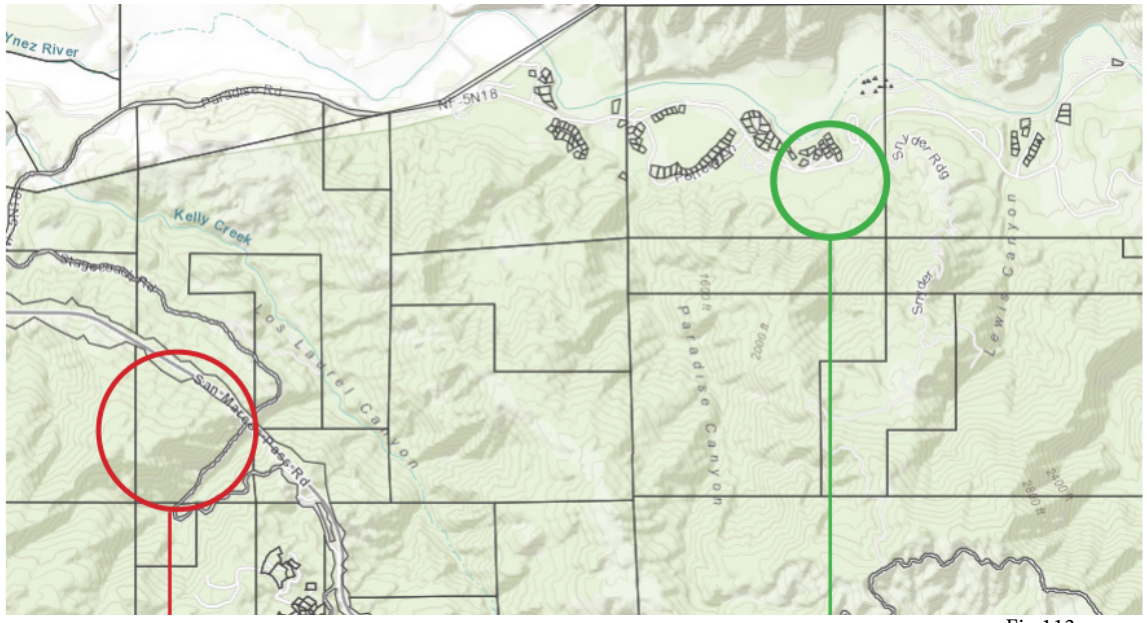


Fig 113

Old Site
5750 Stagecoach Rd.

New Site

3900 Paradise Rd.

In terms of the design process, the extreme schemes were intended to support the goals. Community was an important consideration for the layouts of spaces. Each scheme location is at different points of the site. Contours and gradient incline to the sites factored heavily into the placement of these schemes. Each contour line had a difference of 40ft, with the southern side of the site being steep while the eastern side has a gentler incline.

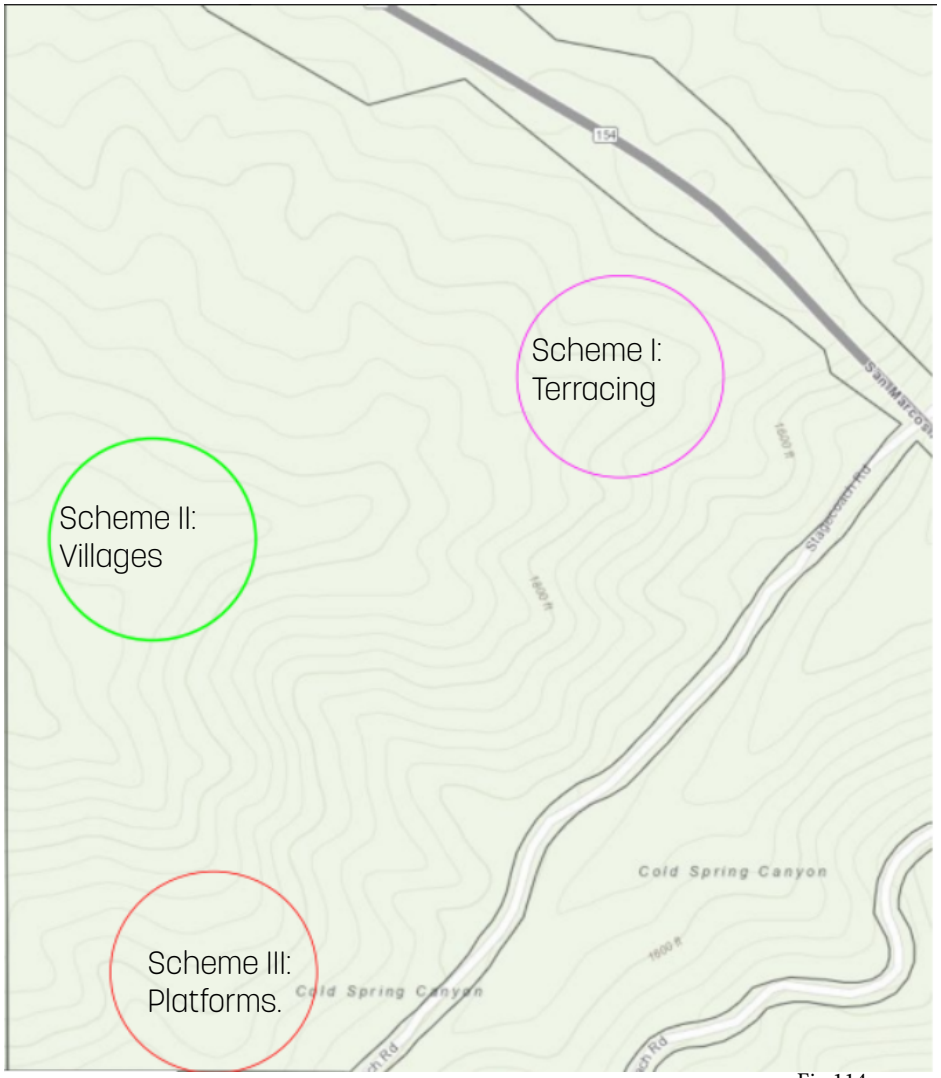


Fig 114

SCHEME I.
TERRACING.

The goals for this scheme included direct views to nature, and private areas withdrawn from activity. This scheme had the highest potential for the most engagement with nature.
The spaces, however, were very segregated, which hindered the establishment of a community. Accessibility would also pose as a challenge, as the path to connect the buildings would be very steep.

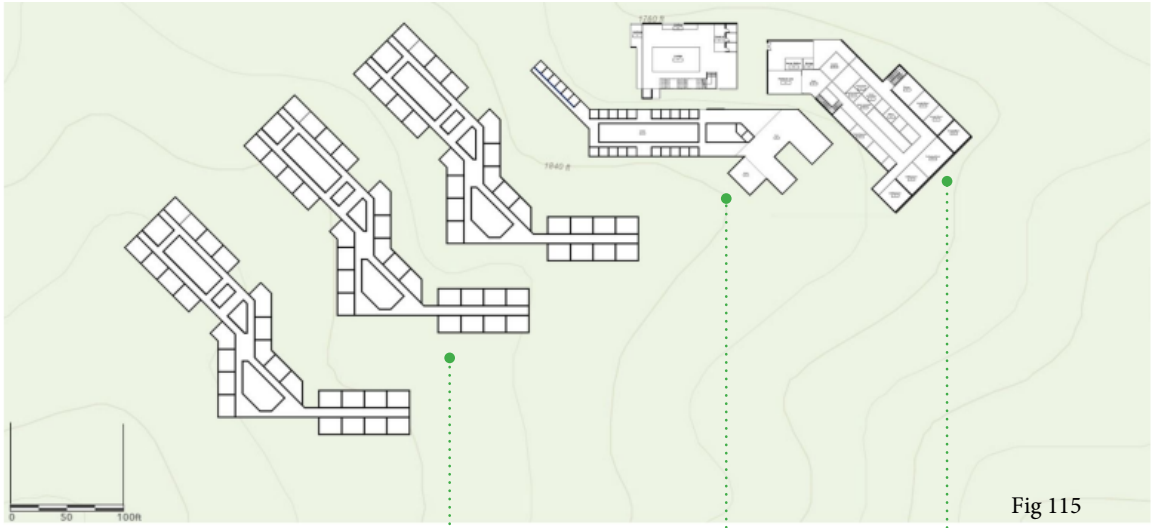


Fig 115

Clinic

Shared Spaces (Library, Dining)

Patient Rooms

This scheme lacked accessible workspace for medical professionals to connect to patients, supplies and group rooms.

Nurse stations were also thoroughly scattered, separated by green spaces, which would make safety difficult to enforce.

Fig 116-118

SCHEME II.
VILLAGES.

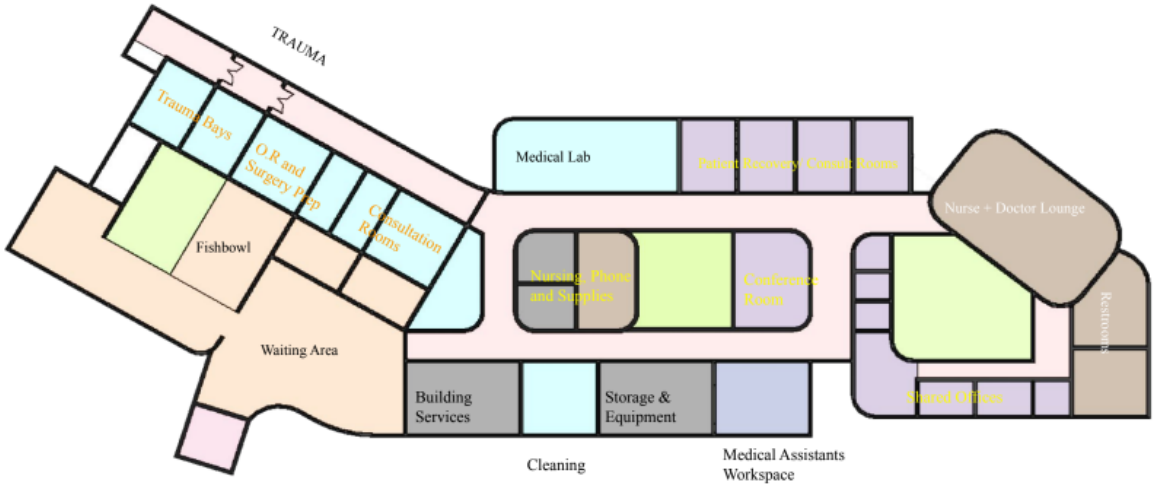
This scheme was intended to foster interaction between all patients in smaller facets. To prevent feelings of being overwhelmed, dwellings are divided into smaller groups with central courtyards.
The bigger courtyard can be shared by everyone in the facility.

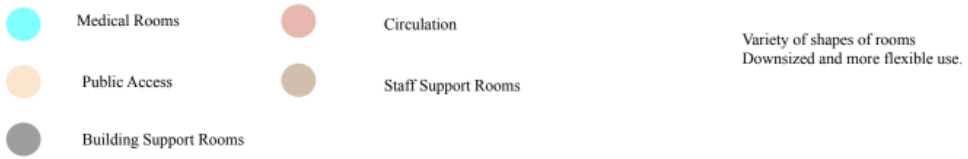
Ease of access between different spaces inspired the need to have all them on one level. The medical wing is separated from dwelling areas so that patients don't feel watched. This scheme is the least impactful to the site and allows air movement and sun exposure.

The proximity of medical staff is close yet zoned for separation.

Fig 119

MEDICAL WING (1ST FLOOR)





Variety of shapes of rooms
Downsized and more flexible use.

2ND FLOOR

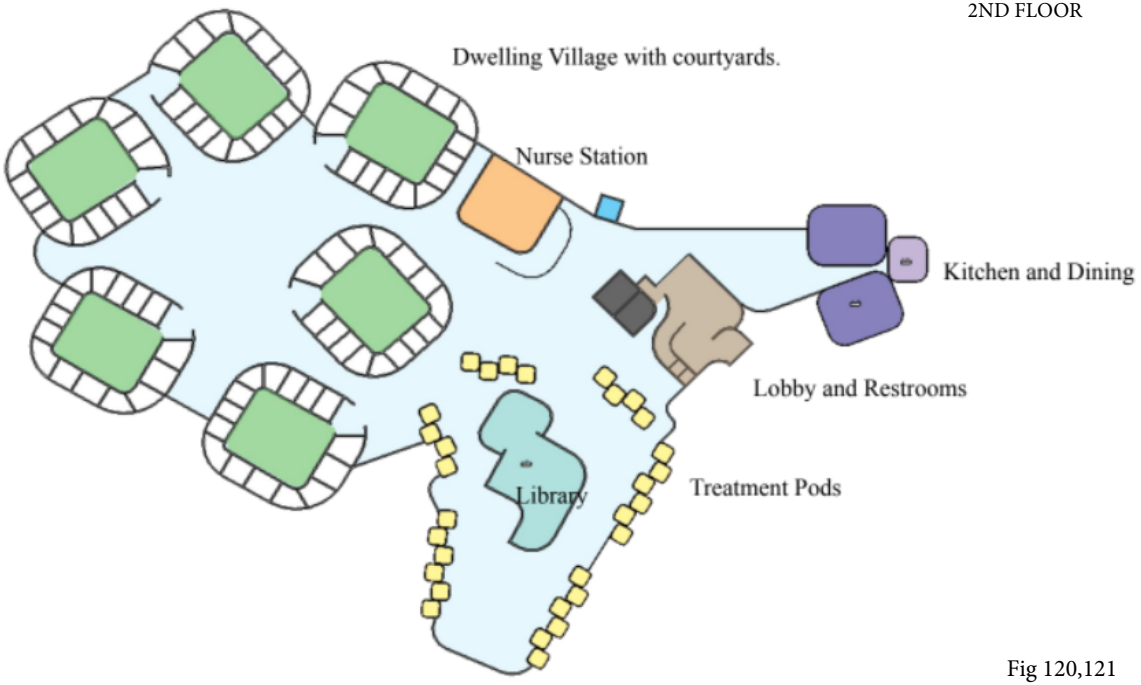


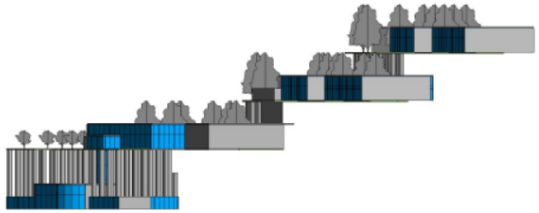
Fig 120,121

SCHEME III.
PLATFORMS.

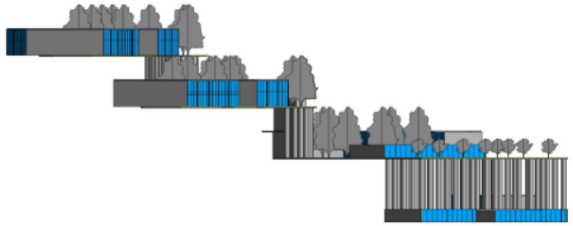
The goal for this scheme was to have extensive views and variety in each tier, with front of mountain and back of mountain. The central gathering space connects all levels.
The large platforms of green feel contained yet open with a large potential for views. This scheme does not meet ADA standards because each tier is far from the other due to the height of columns . The platforms would also be unreasonable in terms of cost, and medically, healthcare professionals are not in close proximity.

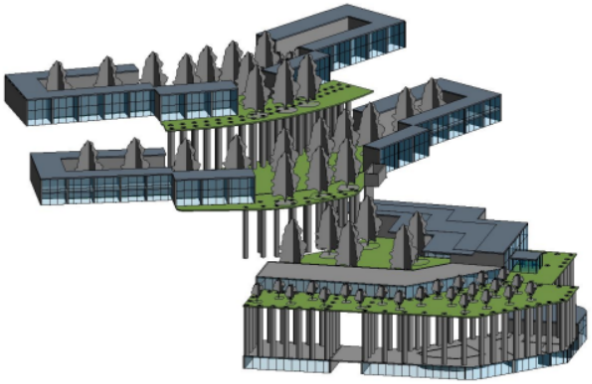
Fig 122

East Elevation



West Elevation





Perspectives

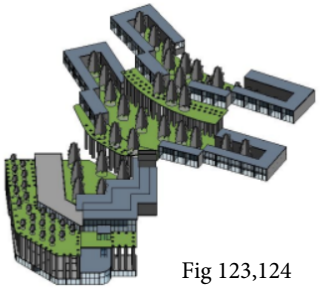


Fig 123,124

PERFORMANCE ANALYSIS: RESPONSE TO SITE:

SCHEME II: VILLAGE SCHEME

This scheme worked best when the site switched to 3900 Paradise Rd. All the buildings would be at one level which would make accessibility easy.
Stemming from Paradise Road, there was a potential to having a path that would lead directly from the entrance of the facility, to the private end of the site. The path was a central axis that meanders and eventually has paths leading to different destinations.

Division and Placement of Spaces.

The spaces transition from day uses in the eastern part of the site, and as a user proceeds west, the buildings can be used both during the day and night. I divided the site into three parts and worked on placing the buildings according to use in the three parts.

Courtyards

The intention of having the center itself was to create a community. Since dwellings are the most important part of the center, I wanted to not only provide direct visual connection to nature, but also provide an interior green space where individuals would not feel overwhelmed with the vastness of the site.

The courtyards would also be private space for interaction and would establish a sense of belonging and privacy.

Bio-mimicry

Bio-mimicry takes inspiration from natural selection solutions adopted by nature and translate the principles to human engineering. For the site, I divided the site into three parts following the anatomy of the fish. With bio-mimicry, inspiration could be drawn from either form, function or system. For this instance, I got inspiration from the general form of the fish and manipulated the shapes in a way that allowed natural flow of the spaces.

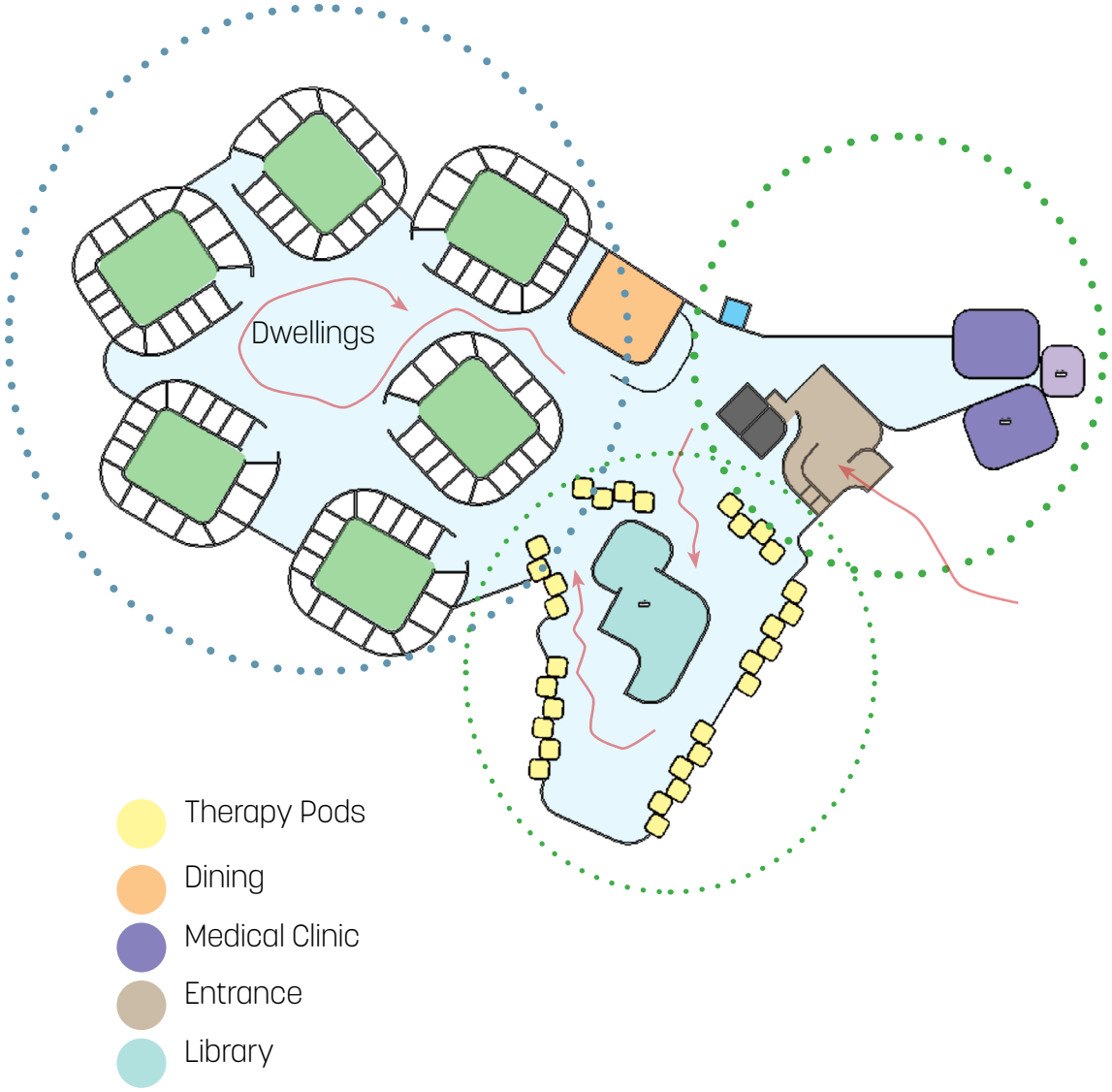
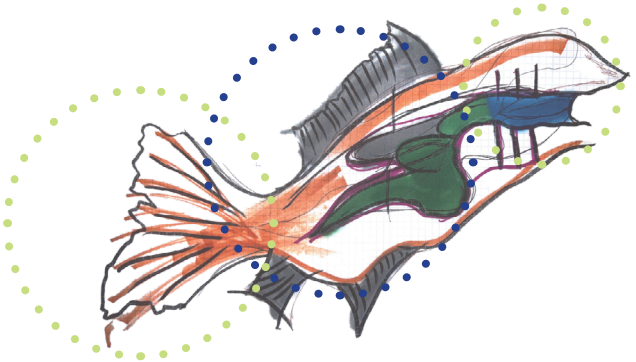
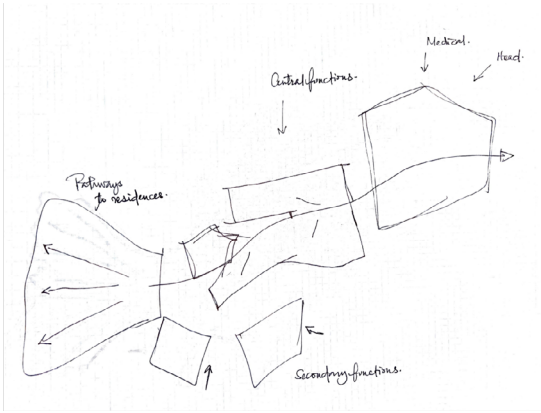

Dwellings
Therapy Pods
Dining
Medical Clinic
Entrance
Library

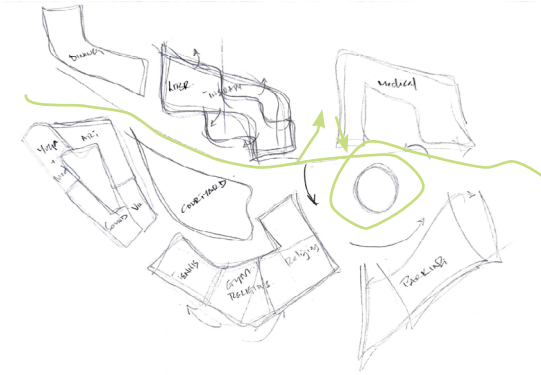
Fig. 125



Division of the shape into three distinct parts.



Direct path following central axis of the form with paths branching from the center.



Rotating and subtracting shapes to create central courtyards, with paths connecting buildings.

Fig. 126-128

PERFORMANCE ANALYSIS: RESPONSE TO PRECEDENT RESEARCH: 14 PATTERNS OF BIOPHILIC DESIGN

NATURE IN THE SPACE

Nature in the space is the direct and physical presence of nature in a space or place. This includes plant life, water and animals, as well as breezes, sounds, scents and other natural elements.

Visual Connection with Nature: A view to elements of nature, living systems and natural processes.

Non-Visual Connection with Nature: Auditory, haptic or olfactory stimuli that contains a deliberate reference to nature, living systems or natural processes.

Non-Rhythmic Sensory Stimuli: Ephemeral connections with nature that may be analyzed statistically but may not be predicted precisely.

Thermal & Airflow Variability. Subtle changes in air temperature, relative humidity, airflow across the skin, and surface temperatures that mimic natural environments.

Presence of Water. A condition that enhances the experience of a place through seeing, hearing or touching water.

Dynamic & Diffuse Light. Leverages varying intensities of light and shadow that change over time to create conditions that occur in nature.

Connection with Natural Systems. Awareness of natural processes, especially seasonal and temporal changes characteristic of a healthy ecosystem.

Fig. 129-135

NATURAL ANALOGUES

Natural Analogues addresses non-living evocations of nature. Objects, materials, colors, shapes, sequences and patterns found in nature become artwork, furniture, and textiles in the built environment.

Biomorphic Forms & Patterns. Symbolic references to contoured, patterned, textured or numerical arrangements that persist in nature.

Material Connection with Nature. Materials and elements from nature that, through minimal processing, reflect the local ecology or geology and create a distinct sense of place.

Complexity & Order. Rich sensory information that adheres to a spatial hierarchy like those encountered in nature. processes, especially seasonal and temporal changes characteristic of a healthy ecosystem.

NATURE OF THE SPACE

Nature of the Space addresses spatial configurations in nature including our innate and learned desire to be able to see beyond our immediate surroundings.

Prospect: An unimpeded view over a distance, for surveillance and planning.

Refuge: A place for withdrawal from environmental conditions or the main flow of activity, in which the individual is protected from behind and overhead.

Mystery: The promise of more information, achieved through partially obscured views or other sensory devices that entice the individual to travel deeper into the environment.

Risk/Peril: An identifiable threat coupled with a reliable safeguard.

Fig. 136-142

PERFORMANCE ANALYSIS:
RESPONSE TO GOALS AND PROJECT EMPHASIS

The 14 elements of biophlia have been integrated into the design to improve engagement, attitude, and overall happiness by reducing stress, positively impacting mood, and preference, and improving cognitive performance.

Safe environment Conducive for Treatment

- Private areas withdrawn from the flow of activity have been incorporated in dwellings and therapy rooms to establish a sense of safety.
- All buildings have a visual connection to nature, to improve health and recovery rates by positively impacting attitude and overall feelings of happiness.

Universal Design

- Wood has been used as a material to establish a sense of comfort, as it helps users feel connected to nature.
- All spaces meet ADA Standards and are accessible, as they are all on the same level.

Sustainability(Visual Connection to nature, thermal air variability, dynamic lighting, Prospect)

- Users have control over their environment to reduce heating, cooling, ventilation, and lighting.
- Every treatment room has access to sun, wind, and light for as many interior spaces as possible for visual and thermal comfort and improvement of the circadian rhythm.
- A design that will support the ecological health of the site as time progresses through:
- Minimal disruption of the existing site by designing floor plans around existing vegetation

Fig. 143-145

Community (mystery-more engaging and strong pleasure response)

- Users have shared spaces that allows them to share a common experience that will aid in recovery through interaction which establishes a sense of place and belonging.

Trust is being established between the patients and healthcare professionals by the presence of nurse and medical stations throughout the facility create a sense of safety.

Purpose & Change

- How influential our designs are on the wellbeing of society by breaking physical barriers between architecture and nature and uniting us with the natural environment by having indoor and outdoor spaces.
- Create a sense of place and belonging, by including non-rhythmic connections to nature which will encourage exploration and increase of attention in patients. This pattern will also shift the perception of the environment to the users which is intended to make users appreciate nature more.

Education

- Educate the community on issues regarding suicide and destigmatize ideologies that are detrimental to recovery by having individual spaces tailored to educate suicidal individuals, survivors, and the bereaved.
- Understand mental illnesses and disorders by having spaces that allow mental, physical, and spiritual activities, providing positive coping and healing strategies in patients.

Fig. 146-148


Dining
Therapy Rooms and Library
Outpatient Clinic
NF-5N18
PARADISE RD
PARADISE RD
Dwellings
Arts Center
Tennis and Gathering Spaces
0
100
200ft

Fig. 149

OUTPATIENT CLINIC

Treatment rooms:

Have strong visual connection to nature, which calms heart rate in patients, meeting the goal of having an environment conducive for treatment.

Non-Rhythmic Sensory stimuli by seeing elements of nature such as bees that improves attention in patients helps establish trust between them and health care professionals, which meets the goal of a strong community.

Connection with natural systems-they can see the changes in season helps patients feel connected to the environment.

Prospect: The unimpeded view over a distance more than 20ft for surveillance enables users to feel safe and comfortable in treatment rooms.

Fig. 150

Lobby
Users: All Users

Lobby space:

Visual connection to nature

The spatial layout has been designed to uphold desired view lines and avoid impeding the visual access when in a seated position. This lowers heart rate and meets the goal of improving the mood of users-making this a safe environment for treatment.

Biomorphic Pattern

The use of hexagonal pattern on the vertical louvers is designed to make space feel interesting and comfortable. While our brain knows that biomorphic forms and patterns are not living things, we may describe them as symbolic representations of life (Vessel, 2012).

The color on the vertical louvers allows shadows that have different colors, which makes the space interesting, which establishes a sense of comfort visually.

Fig. 151

Outpatient clinic inner courtyard
Users: Youth, elderly, survivors, healthcare workers.

Offices for the staff and healthcare professionals facing interior courtyard have a strong:

Presence of water.
Thermal Variability and Airflow.

A multi-sensory water experience is prioritized to achieve the most beneficial outcome. Naturally fluctuating water movement is prioritized over predictable movement.

The water feature improves concentration and memory restoration induced by complex, naturally fluctuating visual stimuli. This can help the healthcare providers focus on tasks while providing positive emotional responses to patients.

These patterns allow this space to meet the goal of sustainability as users have control over thermal comfort to reduce heating and allow cooling. The use of wood on the patio brings warmth to the space, allowing the space to feel comforting and connected to nature. This meets the Universal Design goal.

Fig. 152

Doctor's room
Users: Youth, elderly, survivors, doctors, nurses, healthcare workers and navigators.

Visual connection to nature and connection to natural systems are elements prevalent in treatment rooms. This brings a sense of comfort to the users by lowering heart rate and improving attentiveness.

Light
This pattern has been shown to increase visual comfort. Early research showed that productivity is higher in well daylighted work places. (Nicklas & Bailey, 1996).

Connection with Natural Systems
This pattern evokes a relationship to a greater whole, making one aware of seasonality and the cycles of life. The experience is often relaxing. (Kellert et al., 2008)

These patterns in this space bring the sense of comfort for both the healthcare providers and patients. In turn, not only is this an environment safe for treatment, it creates a strong pleasure response for the users.

Fig. 153

THERAPY ROOMS AND LIBRARY

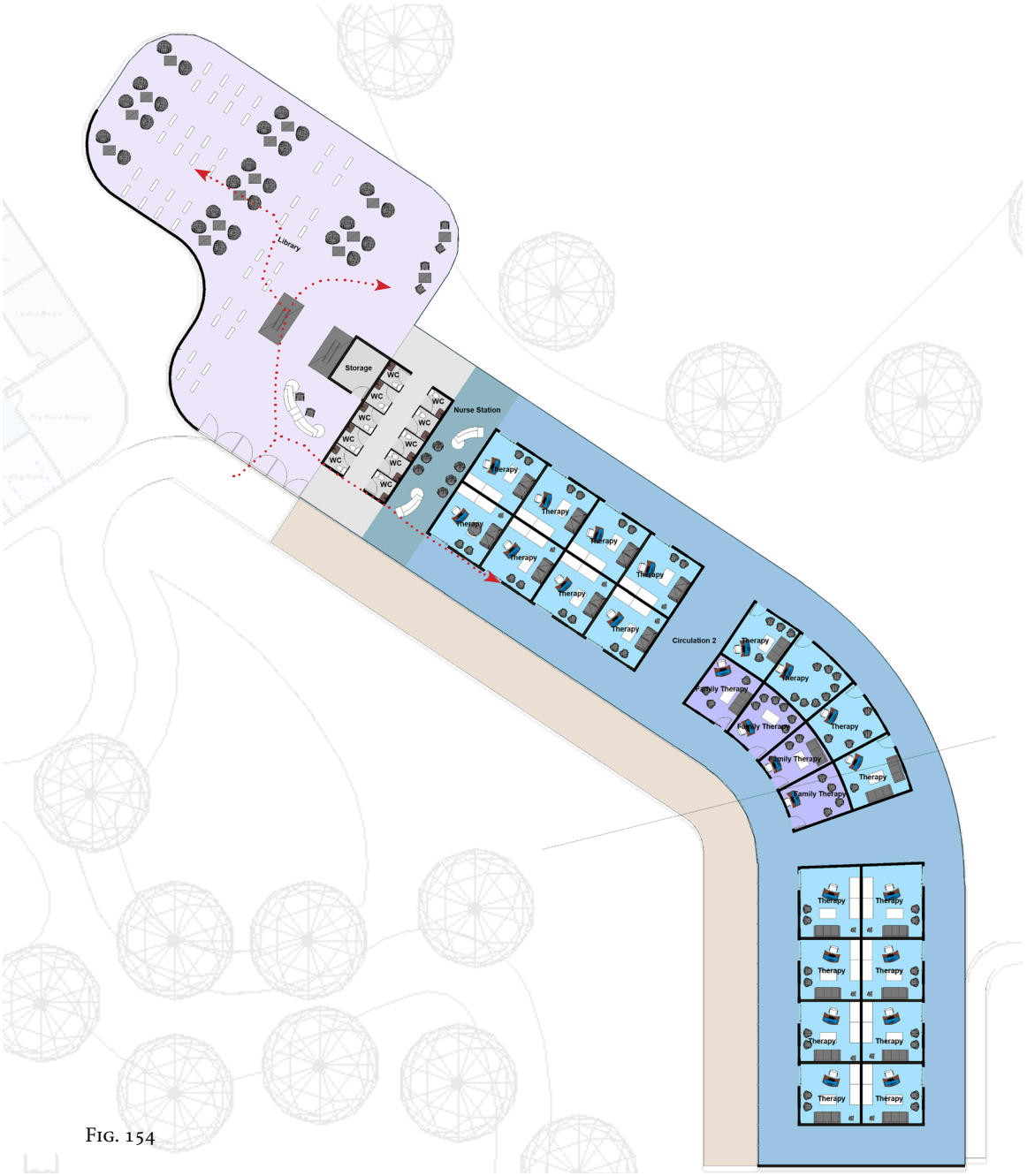


Fig. 154

The library and therapy spaces are grouped together in the building to have a quiet zone.

The rooms have individual windows that have direct access to nature, which improves mental engagement, that allows the patients and therapists to have direct connection by having an element of safety in the space.

In order to reduce stress levels, the materials used are made of wood and adobe, which connect users to nature. Use of wood in interior spaces creates a sense of safety which is important to patients. This allows patients to open up to healthcare providers and be comfortable in receiving treatment.

There is an order to the spaces created by a variety of personal therapy rooms, and family therapy rooms. These spaces are included, to allow education of survivors, bereaved and suicidal individuals different techniques to improve their emotional well-being.

Southern exterior of library and therapy spaces.

Visual Connection to nature
Real nature has been prioritized over simulated nature; and simulated nature over no nature. Biodiversity is prioritized over acreage, area and quantity.

Complexity & Order
The space is intended to feel engaging and information-rich, as an intriguing balance between boring and overwhelming.

The objective of the Complexity & Order pattern is to provide symmetries, configured with a coherent spatial hierarchy, to create a visually nourishing environment that engenders a positive psychological or cognitive response (Salingaros, 2012).

Fig. 155

Therapy Room
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Refuge

This space is a good refuge where the user feels safe, providing a sense of retreat and withdrawal. It is intended to feel separate, and its spatial characteristics can feel contemplative without unnecessarily disengaging. It also has speech privacy.

Refuge is suggested to include reduced irritation, fatigue and perceived vulnerability, as well as improved concentration, attention and perception of safety (Grahn & Stigsdotter, 2010; Wang & Taylor, 2006; Petherick, 2000; Ulrich et al., 1993).

Light and visual access to nature allows the users to increase visual comfort, while also impacting attitude and mental engagement. These patterns allow the users to open up to healthcare providers, which allows them to get the treatment they need, improving mental and emotional wellness.

Being able to improve emotions and mental health creates the necessary change that is needed for users to be positively integrated into the community.

Fig. 156

Library
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

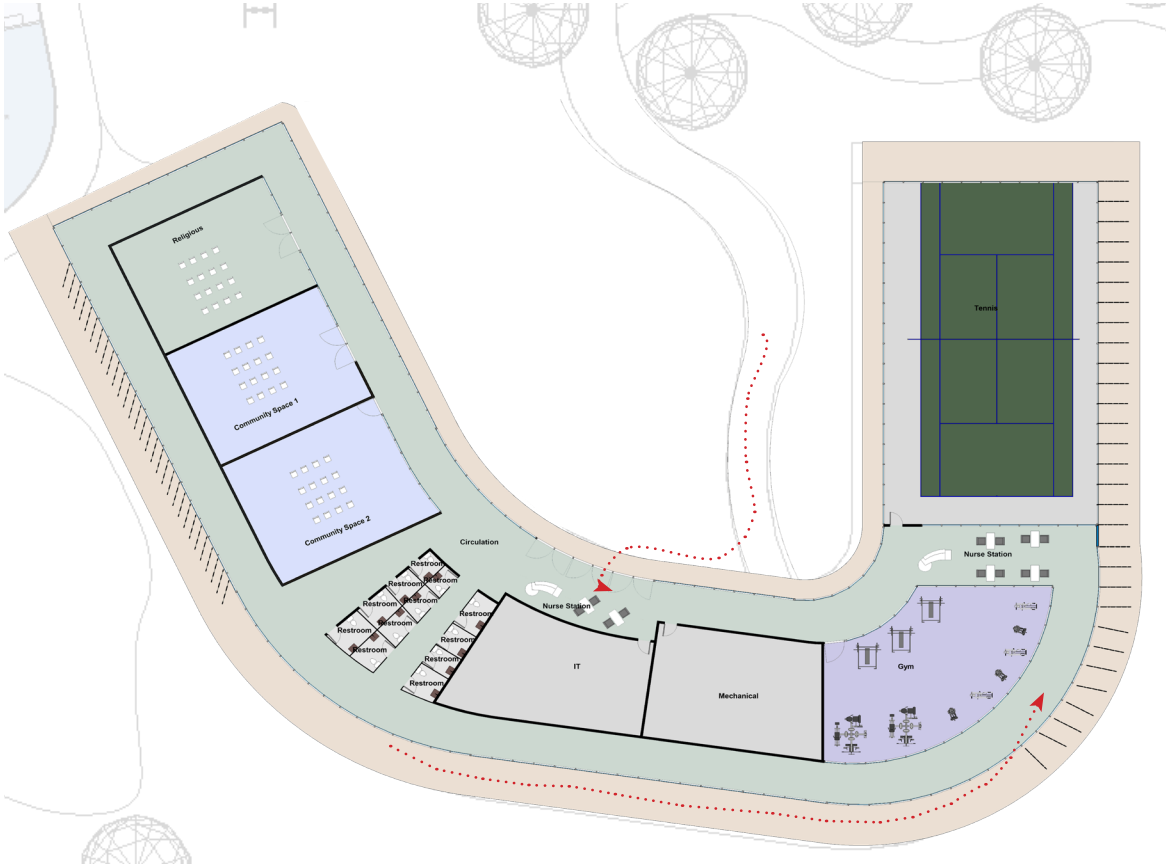
The library is prominently mysterious as it has a promise of more information achieved through partially obscured views that entice the individual to travel deeper into the environment. This space aims to compel users to further investigate the space.

The Mystery pattern is largely based on the idea that people have two basic needs in environments: to understand and to explore (Kaplan & Kaplan, 1989)

The benefits of mystery conditions are suggested to include improved preference for a space and heightened curiosity. This is done by curving edges that slowly reveal which are more effective than sharp corners in drawing people through a space.

Fig. 157

TENNIS AND GATHERING SPACES



The tennis court, gym and gathering spaces are grouped in this building to transition between physical wellness spaces to mental wellness and engagement spaces. The goals

Fig. 158

Interior of gym
Users: Bereaved, youth, survivors

Visual connection with nature
Positive impact on mood and self-esteem has also been shown to occur most significantly in the first five minutes of experiencing nature, such as through exercise within a green space (Barton & Pretty, 2010). This improves focus which allows them to concentrate on the sport and have stamina to improve physical fitness.

Biomorphic Forms & Patterns
Biomorphic Forms & Patterns has evolved from research on view preferences (Joye, 2007), reduced stress due to induced shift in focus, and enhanced concentration. This space is conducive for physical and mental wellness.

Dynamic Lighting.
The lighting in the interior of the gym makes the space interesting due to having different patterns. The light allows production of serotonin, which creates a sense of calm and focus, allowing patients to improve physical and mental wellness. The presence of light also enhances visual comfort.

Fig. 159

Fig. 160

Northern Exterior of Tennis Court
Users: All users

Connection with Natural Systems is the most prevalent pattern around the facility. The objective of this pattern is to heighten awareness of natural properties. The strategy used was having spaces have views to nature.
I incorporated this pattern by providing visual access to existing natural systems which is the most cost effective approach.
I also incorporated responsive design tactics by using of materials that change form or expand function with exposure to solar heat gain, wind, rain/moisture, or shading), in this case wood for the walkways which was necessary to achieve the desired level of awareness.

In turn, there is a shift of perception in the environment, creating a sense of belonging in users, which meets the sustainability and change goal.

Fig. 161

Tennis Court
Users: Bereaved, youth, survivors, healthcare professionals.

The most prevalent patterns of biophilia in the tennis court include visual connection to nature, prospect, connection with natural systems and light.
The use of glass on all three sides of the tennis court is to blur the line between architecture and nature where users experience the outdoors while being protected on all sides from the elements. The visual connection to nature also improves focus in users and allows them to focus on the task of working out and improving their physical wellness.
Being connected to the natural systems allows them to be fully immersed in the experience by being closely connected to nature and feel like part of the ecosystem. Combined with prospect where an individual can surveil the surroundings, it creates a sense of safety, reduces fatigue and stress.

In turn, it encourages the individuals to interact with each other, to create a sense of community.

Fig. 162

Courtyard overlooking library and arts center
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

The meandering path in the middle separates some buildings, while creating courtyards that can allow small gatherings, making the space feel less overwhelming and helping users feel safe.

Biodiversity of different plants is emphasized as a strong aspect of visual connection to nature, breaking monotony and creating visual comfort.

The presence of water is soothing, enhances mood, and provides restoration from cognitive fatigue. Even as users are walking through the path, taking advantage of the sounds created by small-scale running water, and our capacity to touch it amplifies the desired health response with a multi-sensory experience.

ARTS CENTER

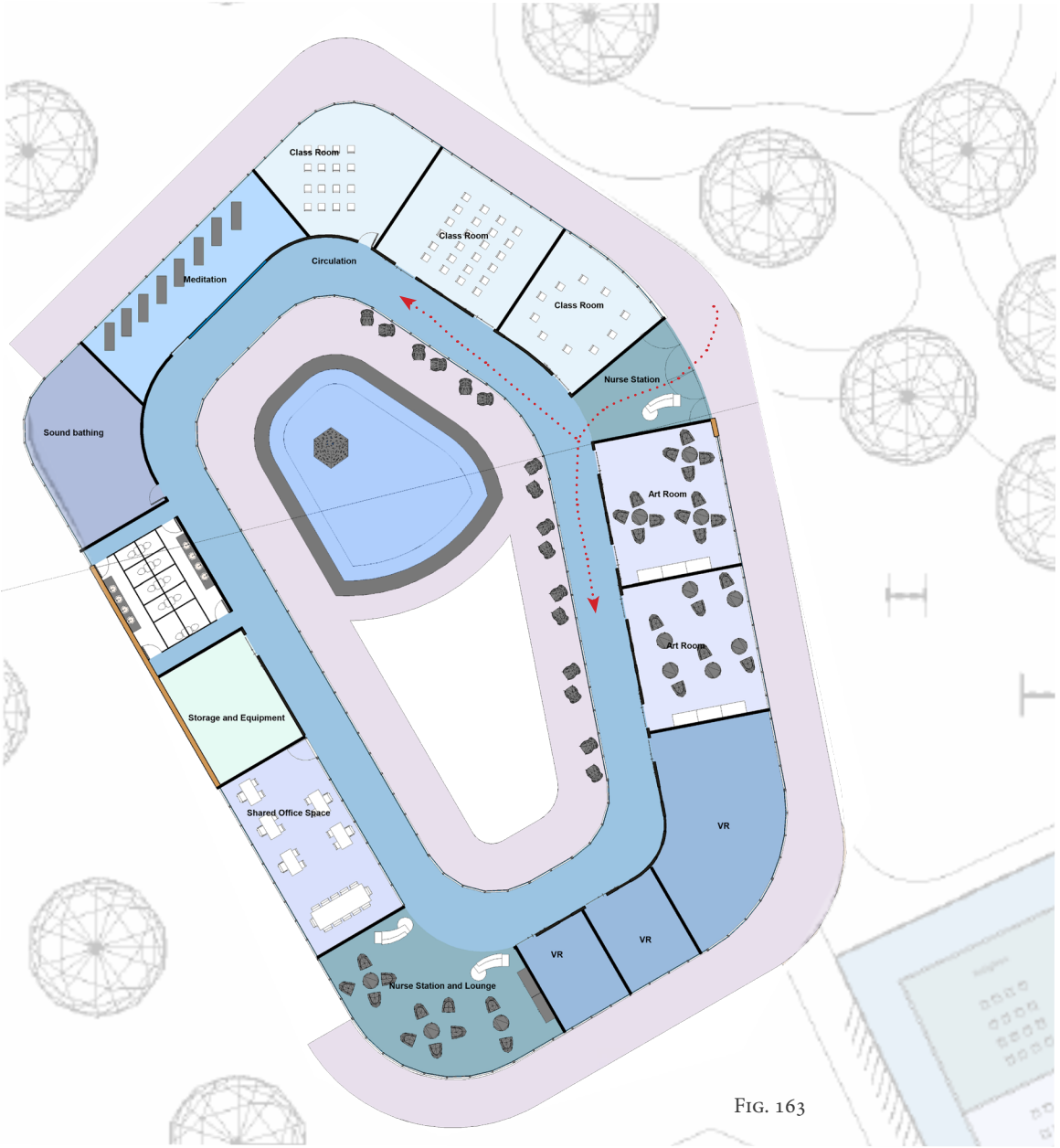


Fig. 163

The goals of the art center is to establish a sense of community between different users, and encourage mental wellness in individuals through self reflection

.

The Art center has a central courtyard that is obscured by the narrow entrance. The mystery pattern entices the users to travel deeper into the environment. The benefits of mystery conditions are suggested to include improved preference for a space; heightened curiosity and increased interest in gaining more information, which is important for education in the arts center.

Mystery has been made possible by curving edges that slowly reveal which are more effective than sharp corners in drawing people through a space.

This space meets the goal of education by having art rooms to help users practice Yoga, meditation and arts. These are positive coping and healing strategies in patients.

Fig. 164, 165

Exterior Courtyard Arts Center
Users: Bereaved, youth, survivors, elderly, healthcare professionals

Corridor Arts Center
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Early research showed that productivity is higher in well daylighted work places, and that youth performed better in daylighted classrooms with views – the research focus was on lighting strategy and task performance and less on human biology.

Sunlight changes color from yellow in the morning, to blue at midday, and red in the afternoon/evening; the human body responds to this daylight color transition. The response is apparent in body temperature, heart rate, and circadian functioning.

Fig. 166

Meditation and Yoga Room
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Prospect

The prevalent pattern in this space is prospect. Health benefits are suggested to include reductions in stress, boredom, irritation, fatigue and perceived vulnerability, as well as improved comfort.
It has evolved from research on visual preference and spatial habitat responses, as well as architectural analysis.

Fig. 167

DINING

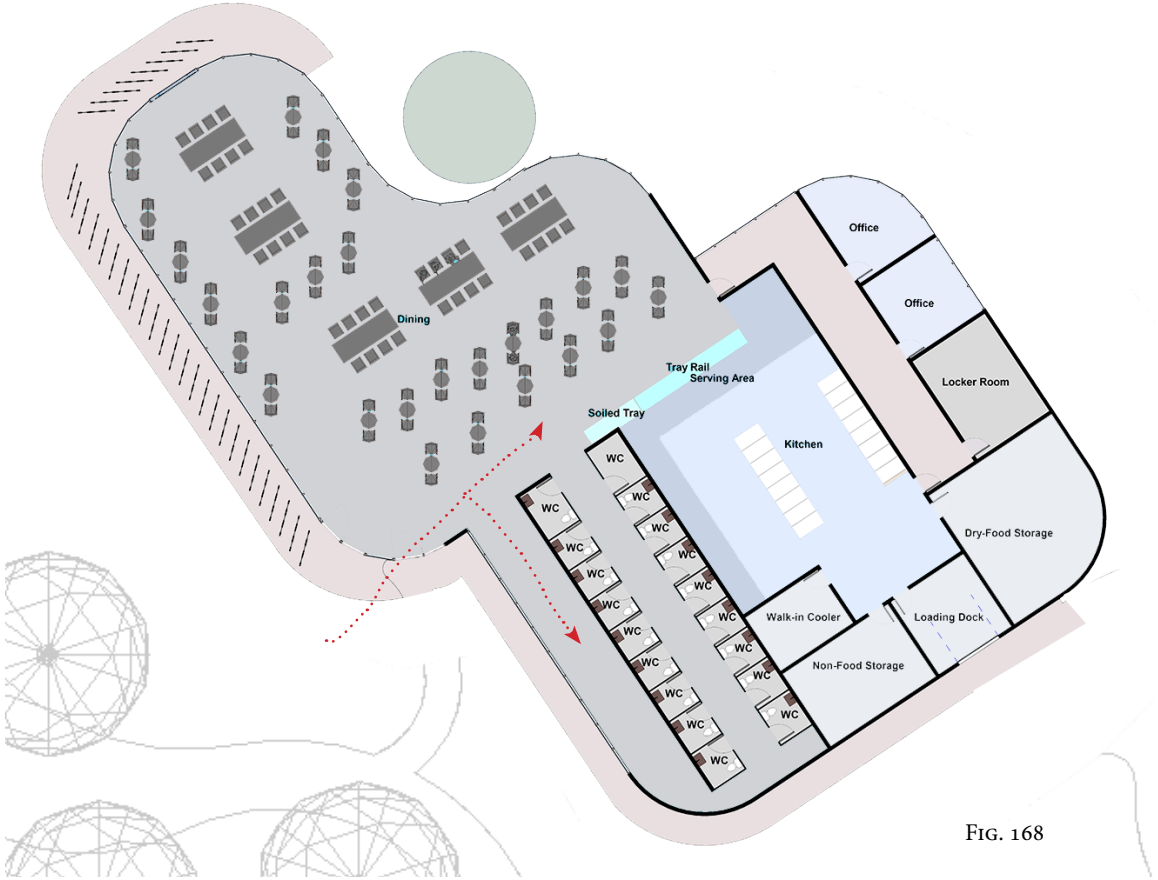


Fig. 168

The goal of the dining center is to foster interaction between individuals and encourage healthy integration. The space has larger tables for individuals to interact, and individual tables for private meals.

According to research, patients in a room with a moderate ratio of wood exhibited significant decreases in diastolic blood pressure and significant increases in pulse rate, whereas a decrease in brain activity was observed in large ratios.

Material connection to nature in the dining area allows them to share a common experience that will aid in recovery through interaction which establishes a sense of place and belonging.

Dining
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Risk/Peril

Risk can support positive experiences that result in strong dopamine or pleasure responses. There are nurse stations that prevent individuals from leaving the site but users are subjected to risk by being at the edge of the site boundary.

In adults, short doses of dopamine support motivation, memory, problem solving and fight-or-flight responses.

Dining Exterior
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Fig. 169, 170

DWELLING

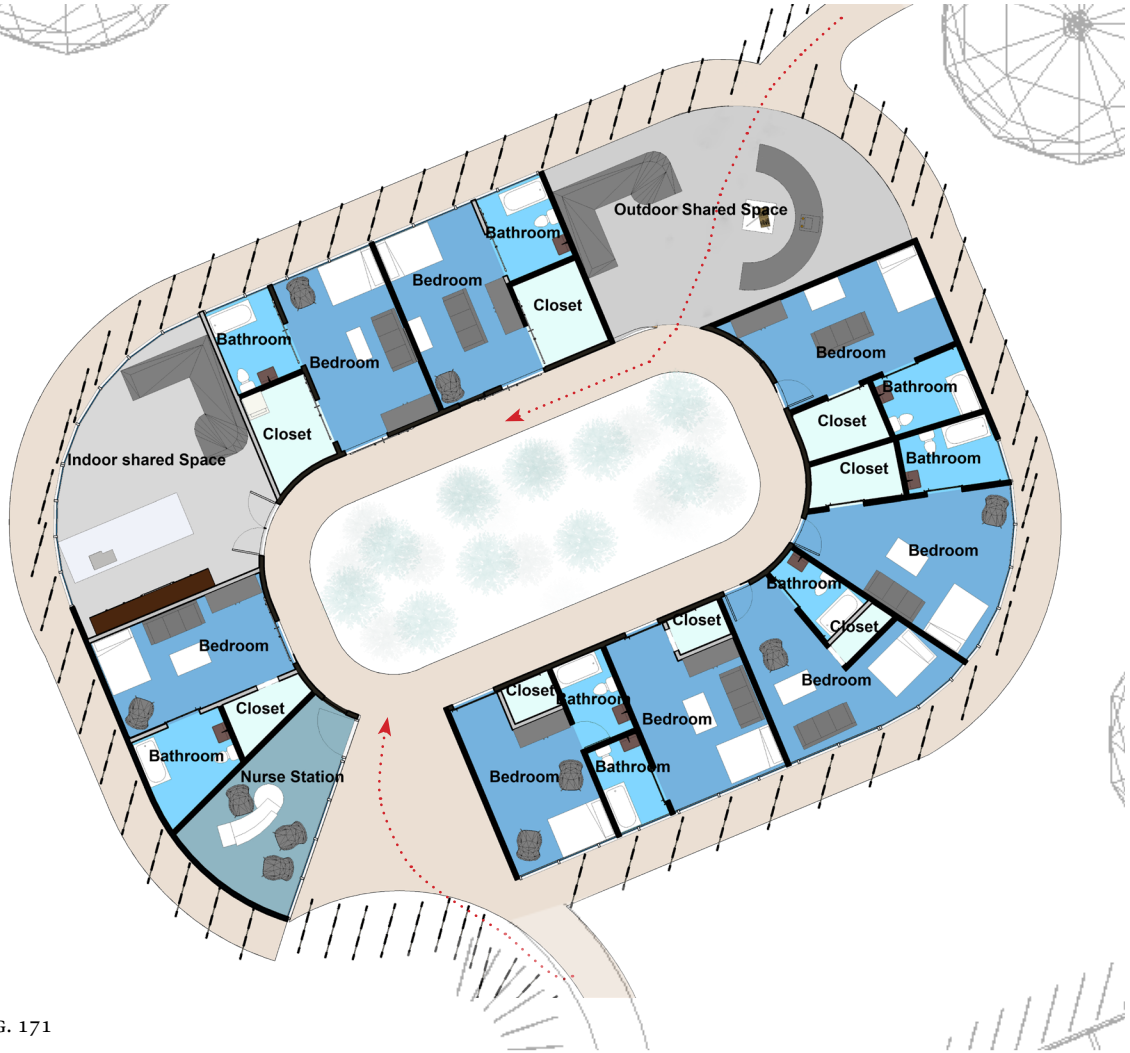
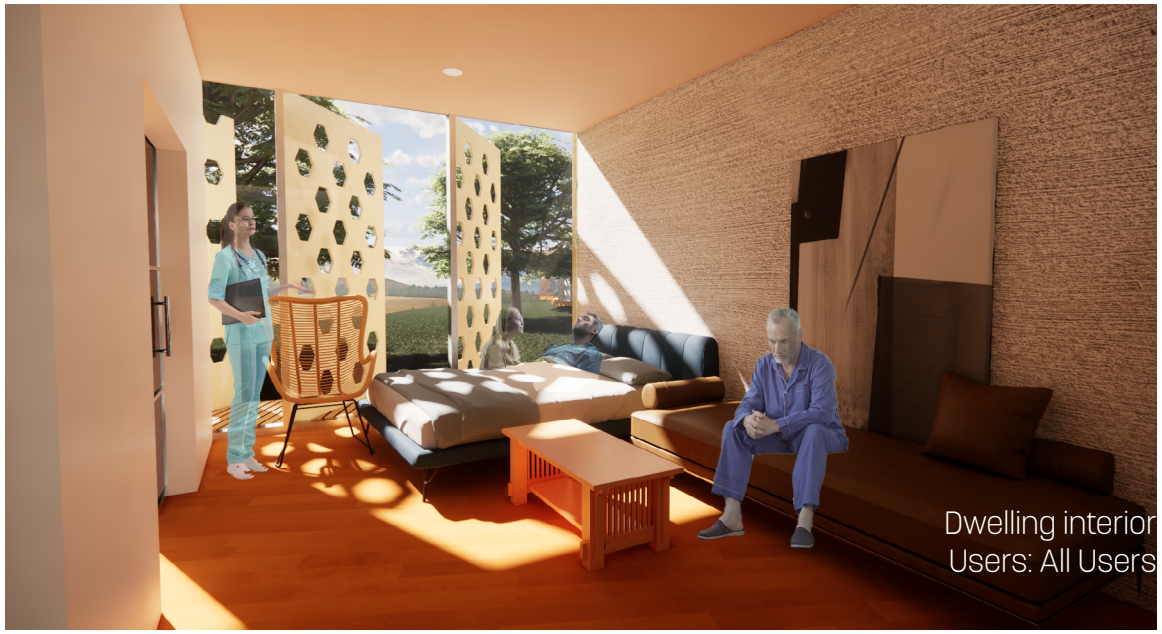


Fig. 171

The dwelling is intended to be a safe place of refuge, providing a sense of retreat, , rest or healing. Refuge is important for restoration and stress reduction, which can be realized through lowered blood pressure and heart rate. This pattern provides users with an easily accessible and protective environment – a smaller portion of a larger space – that supports restoration. This has been done by incorporating a central courtyard within the dwelling pod that encompasses shared rooms.



Higher content of blue light (similar to skylight) produces serotonin; whereas, an absence of blue light (which occurs at night) produces melatonin. The balance of serotonin and melatonin can be linked to sleep quality, mood and alertness.

Fig. 172, 173

According to Attention Restoration Theory, elements of "soft fascination" such as light breezes or other natural movements can improve concentration (Heerwagen & Gregory, 2008; S. Kaplan, 1995).

Fig. 174, 175

SUMMARy:

I have shown how some patterns of biophilia have been incorporated in the facility to service the users to help with feelings of isolation caused by lack of integration and lack of regulation. These users are representatives of different populations feeling isolated, lonely, suicidal, survivors and bereaved.
Including elements of biophilia has allowed me to achieve goals as highlighted in the user profiles.

Mark can find rest and refuge in this area withdrawn from activity without feeling detained. He can rest in his dwelling but still have an option to be involved with the community. He has a strong support system of individuals who understand what he is going through, and he is getting the help he needs.

Rose can rest and be medicated while enjoying the scenery. Her stress levels are calmed by having visual connection to nature to calm her stress responses, surrounded by presence of water, material connection to nature to lower her blood pressure.

Kristi and John can understand the feelings their son was enduring by interacting with survivors of suicide and going to classrooms to learn about suicidal ideology. They are also attending therapy to cope with their grief and are in a setting that calms their psychological and physiological responses.

Shayne is being watched carefully and he is establishing a community where individuals can check on him. He is safe, and there is an aspect of freedom.

Sarah is getting enough rest and breaks she needs from working with patients by going to the staff gym and spending time outside in nature. Within her work space she is always surrounded with nature, so she naturally feels safe.

Fig. 176-180

I applied the 14 elements of biophilic design to inform the layout of spaces. The most prevalent pattern was the visual connection to nature pattern, where each room had visual access to natural elements such as trees and mountain views.

Refuge was another emphasis that guaranteed the safety and comfort of users.

The precedent studies influenced the design heavily. I included colored panes of glass from the project Kaleidoscope in the arts center.
Most spaces in the different buildings were accessible to all patients, in contrast to the Prairie St. Johns facility by scattering nurse stations to ensure the safety and protection of patients.

From Hazelden Betty Ford, I got the inspiration to include courtyards and paths that connected each building to create an internalized village concept.

The survey helped reinforce the idea that Covid-19 has highlighted the existing problem, and the students show that close ties to nature and community help improve people's mood and integration.

The literature reviews helped me understand suicide and the different factors that influenced suicidal thoughts. This helped root out the problem of integration, and find a suitable solution to incorporate shared spaces into the design.

The interview with Bill Burns showed that therapy and relaxation techniques would help with suicidal symptoms.

The interview with Sarah from Sanford Behavioral Health Clinic demonstrated how even though some patients need to be isolated, we can still provide them with comfort.

How Architectural Design Impacts the Recovery of Suicidal Individuals, Survivors and Bereaved Families.

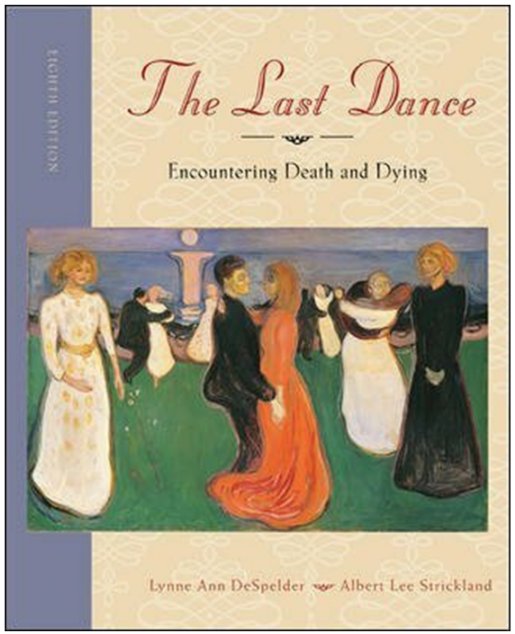
Suicide is a behavior that seeks and finds the solution to an existential problem by attempting the life of the subject.

-Jean Baechler

Anomie, Egoism and Fatalism

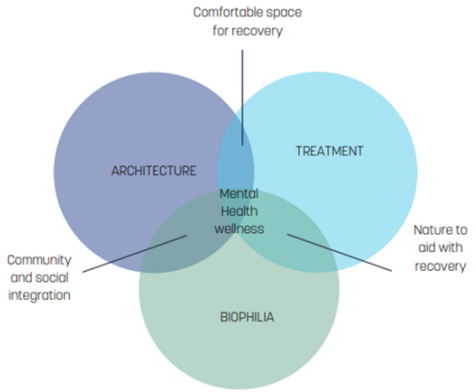
Integration of an individual into his or her society is important.

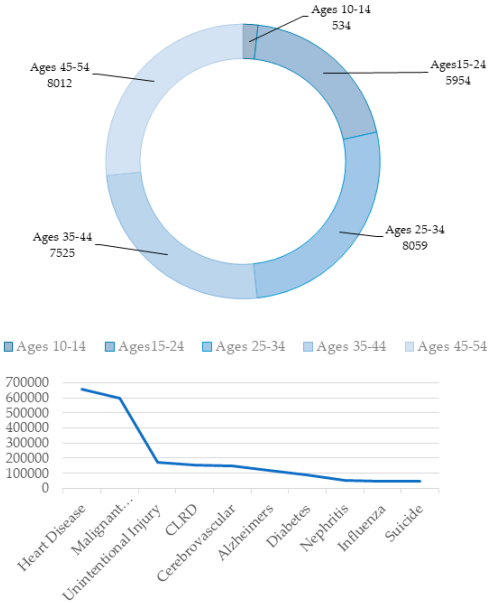
- **Egoistic suicide**: Lack of integration.
- **Altruistic/ Institutional suicide(Anomie)**: Lack of regulation
- **Fatalistic Suicide**: Feelings of entrapment.



Project Typology

- This facility will be an 80-bed retreat center with an outpatient clinic that serves individuals.
- Major functions will include:
  - To provide treatment of suicidal symptoms and trauma through natural remedies.
  - To provide therapies to deal with bereavement trauma through health care professionals.
  - To provide palliative care for elderly populations.
  - To establish a community of understanding between suicidal individuals and survivors, while educating the bereaved.





Justification and Need

- Suicide is common.
  - #2 in youth
  - #10 overall
- Yet it is not talked about and is seen as taboo.
- This center can help alleviate suicides caused by lack of connection, regulation or entrapment.
- Connecting Architecture back with nature.

Spaces

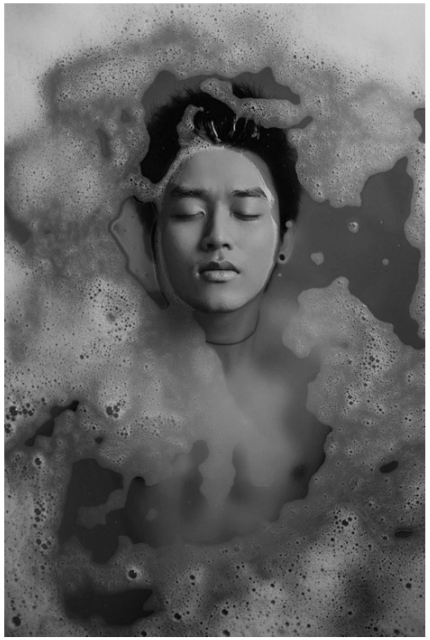
- Outpatient Clinic
- Offices for Healthcare navigators and social workers
- Therapy Spaces
- Inpatient Spaces- overnight stays
- Shared Spaces
- Fitness Spaces
- Nurse Workstations

These users are a representation of different populations that are suicidal/survivors/bereaved.

Users

- Mark is a 19-year-old college student with alternating episodes of highs and lows who feels trapped and fears detainment.
- Need: Acceptance. Release. Rest. Support. Connection.

-Individual who has experienced suicidal symptoms and is on medication currently.



- Rose is a 78-year-old woman diagnosed with terminal Cancer. She has chronic symptoms and has requested the doctors to end her pain.

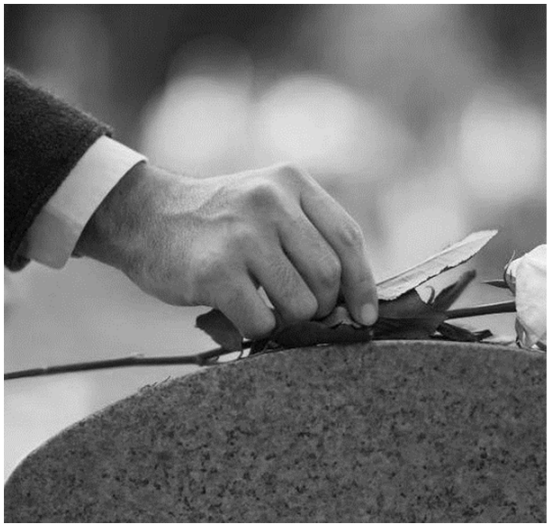
Need: Palliative care. Medication and rest. Support.

-Based on Research on an article conducted on individuals seeking assisted suicide.

Kristi and John are at their son Jamie's funeral after he secretly purchased a gun and took his life. He had attempted suicide before by slitting his wrists three years ago, but he was getting help.

Need: Support. Family and personal therapy.

-Based on research on parents in denial of their child's suicide.



Shayne is a suicide survivor that tried taking his life multiple times a year ago still seeing a therapist. This time he is planning so that he succeeds in taking his life.

Need: Integration. Support. Security. Medication.

-A survivor of suicide seeking help from the local counselling center.

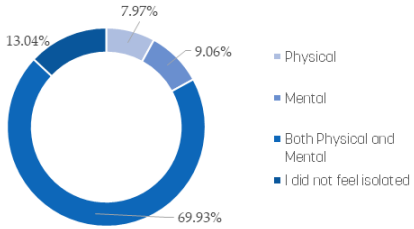
Sarah is a nurse that has witnessed numerous suicides and trauma amongst patients. She hopes that people can be more open to talking to avoid the heartbreak that accompanies the bereaved.

Need: Support. Rest.

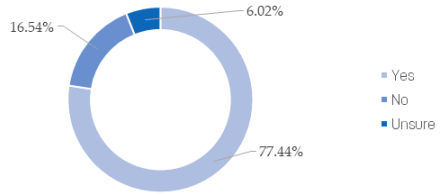
-Nurse Sarah from Sanford Behavioral Health.

A survey was conducted amongst 257 students at North Dakota State University on Isolation and Loneliness.

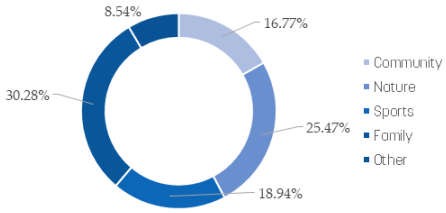
1. During the COVID-19 pandemic, have you felt



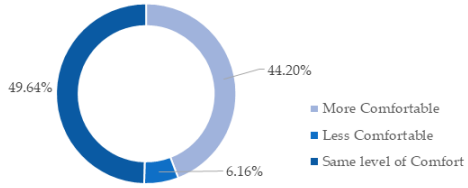
2. If you felt physically or mentally isolated, was it more than prior to the pandemic?



3. Did any of the following make you feel less isolated during this time?



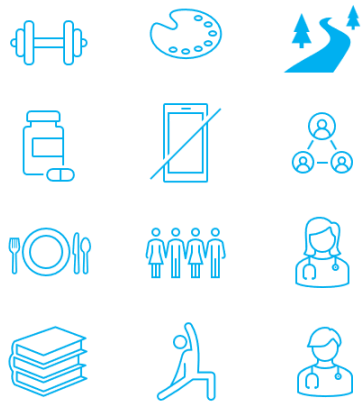
4. How comfortable are you talking about mental health now as opposed to the start of the COVID-19 Pandemic?



Based on these responses, the design solution will focus heavily on fostering interactions in a natural setting.

Not only has it been found to help with feelings of isolation and loneliness (symptoms that accompany suicidal individuals, survivors and the bereaved), it has been shown to have positive impacts on the wellness of users as a less invasive form of treatment towards physiological and cognitive performance.

(Brown, Barton & Gladwell, 2013; van den Berg, Hartig, & Staats, 2007; Tsunetsugu & Miyazaki, 2005) (Biederman & Vessel, 2006) (Barton & Pretty, 2010)



Biophilic Design

Biophilic design

What is Biophilia?

Biophilia is the humankind's innate biological connection with nature.

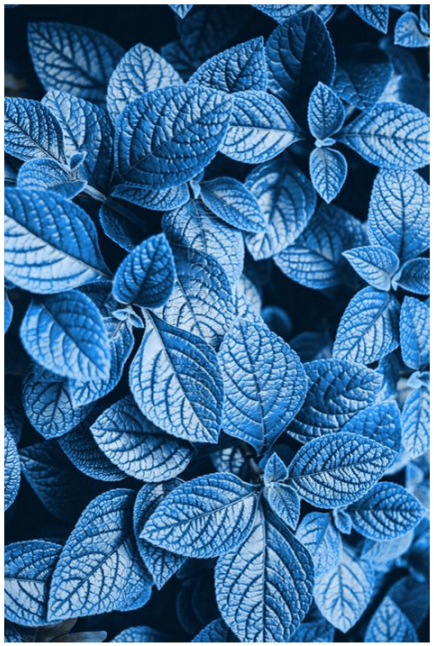
What is Nature?

According to Terrapin Bright Green, there are two connotations of nature.

One is that nature is only that which can be classified as a living organism .

Alternatively, it could be argued that everything, including all that humans design and make, is natural.

We are defining nature as living organisms and non-living components of an ecosystem.



Why Biophilic Design?

- Cognitive Functionality and Performance
  - Opportunity for mental restoration.

- Psychological Health and Well-being
  - Emotional restoration.

- Physiological Health and Well-being
  - Relaxation of overall physical comfort

Terrapin Bright Green

Nature in the Space

Nature in the space is the direct and physical presence of nature in a space or place. This includes plant life, water and animals, as well as breezes, sounds, scents and other natural elements.

Visual Connection with Nature: A view to elements of nature, living systems and natural processes.

Non-Visual Connection with Nature: Auditory, haptic or olfactory stimuli that contains a deliberate reference to nature, living systems or natural processes.

Non-Rhythmic Sensory Stimuli: Ephemeral connections with nature that may be analyzed statistically but may not be predicted precisely.

Thermal & Airflow Variability. Subtle changes in air temperature, relative humidity, airflow across the skin, and surface temperatures that mimic natural environments.

Presence of Water. A condition that enhances the experience of a place through seeing, hearing or touching water.

Dynamic & Diffuse Light. Leverages varying intensities of light and shadow that change over time to create conditions that occur in nature.

Connection with Natural Systems. Awareness of natural processes, especially seasonal and temporal changes characteristic of a healthy ecosystem.

Natural Analogues

Natural Analogues addresses non-living evocations of nature. Objects, materials, colors, shapes, sequences and patterns found in nature become artwork, furniture, and textiles in the built environment.

Biomorphic Forms & Patterns. Symbolic references to contoured, patterned, textured or numerical arrangements that persist in nature.

Material Connection with Nature. Materials and elements from nature that, through minimal processing, reflect the local ecology or geology and create a distinct sense of place.

Complexity & Order. Rich sensory information that adheres to a spatial hierarchy like those encountered in nature. processes, especially seasonal and temporal changes characteristic of a healthy ecosystem.

Nature of the Space

Nature of the Space addresses spatial configurations in nature including our innate and learned desire to be able to see beyond our immediate surroundings.

Prospect: An unimpeded view over a distance, for surveillance and planning.

Refuge: A place for withdrawal from environmental conditions or the main flow of activity, in which the individual is protected from behind and overhead.

Mystery: The promise of more information, achieved through partially obscured views or other sensory devices that entice the individual to travel deeper into the environment.

Risk/Peril: An identifiable threat coupled with a reliable safeguard.

Goals

Safe environment Conducive for Treatment

- Refuge
- Nature
- Community.

Universal Design

- Flexible design
- Comfortable areas
- ADA standards.

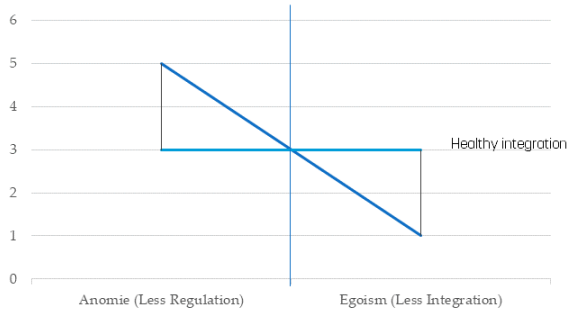
Sustainability

- User-Control
- Visual and Thermal Comfort

Community

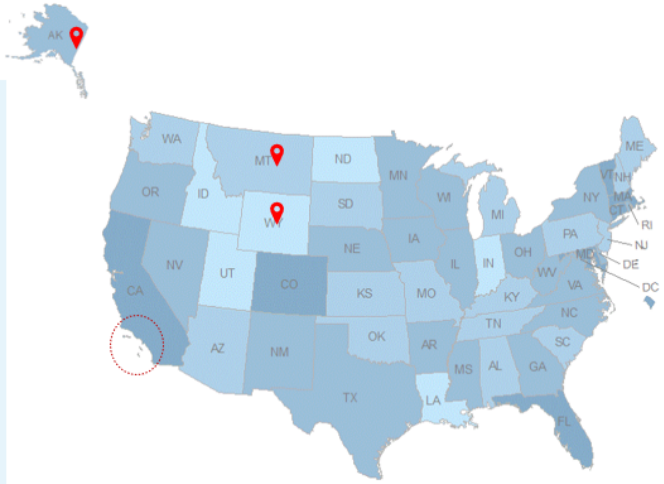
- Shared spaces
- Trust between patients and healthcare professionals.

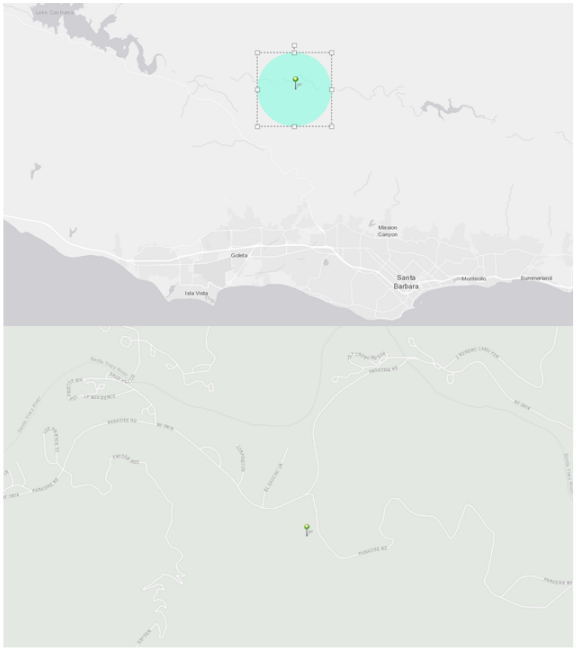
- Geographical location of the site.
  - A community of individuals with a common understanding sharing similar experiences.
- Anomie(Lack of regulation), Egoism (lack of integration) and Fatalism (feelings of entrapment)
  - Regulation treatment and therapies for individuals experiencing Anomie
  - Integration treatment and therapies for individuals experiencing Egoism.
  - Choice for individuals experiencing fatalism.



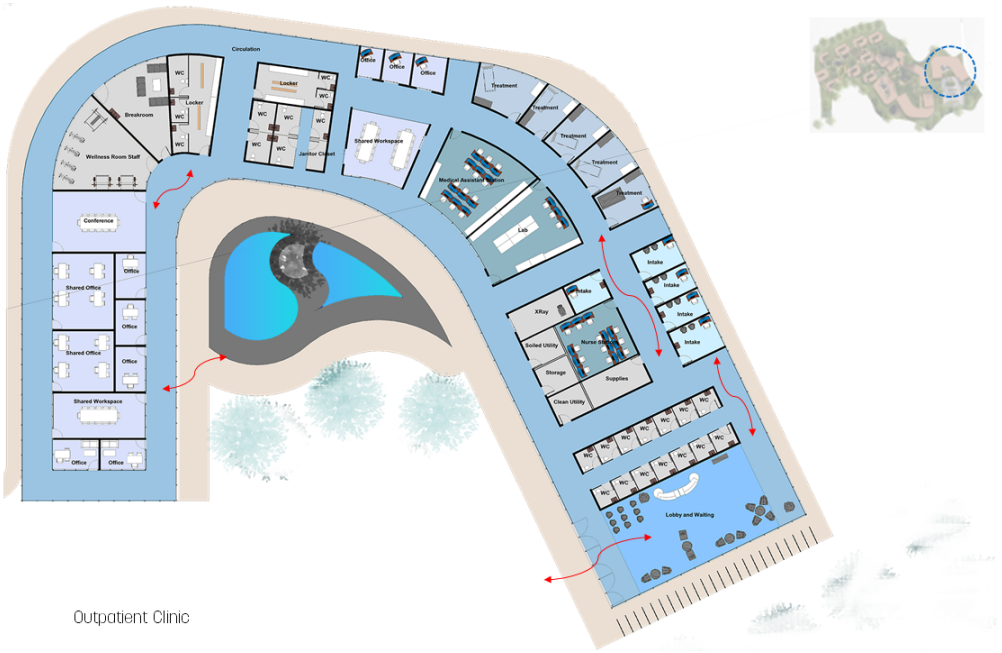
Site

- According to the Centers for Disease Control and Prevention, in 2019, the top three states with leading rates of suicide were Wyoming, Alaska, and Montana, respectively.
- This site is a conducive environment for a retreat center due to the presence of sunshine throughout the year, in comparison to other states, which is imperative to the treatment process.
- It is geographically central to the three locations.
- Accessible travel for the three cities




Mission Canyon
Goleta
Santa Barbara
Isla Vista
Montecito
Summerland

DESIGN SOLUTION

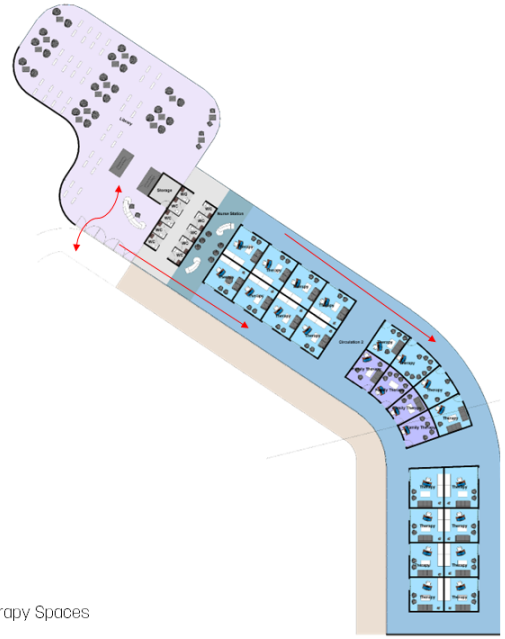


Outpatient Clinic

Outpatient clinic inner courtyard
Users: Youth, elderly, survivors, healthcare workers.

Lobby
Users: Youth, elderly, survivors, healthcare workers and navigators.

Doctor's room
Users: Youth, elderly, survivors, doctors, nurses, healthcare workers and navigators.

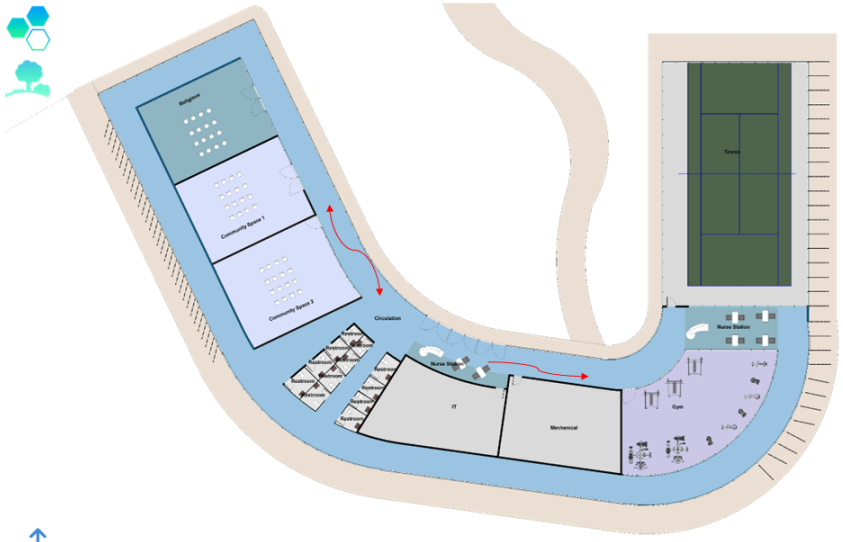


Library and Therapy Spaces

Southern exterior of library and therapy spaces.

Therapy Room
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Library
Users: Bereaved, youth, survivors, elderly, healthcare professionals.



Gathering Areas, Tennis and Gym

Northern Exterior of Tennis Court
Users: All users

Interior of gym
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Tennis Court
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

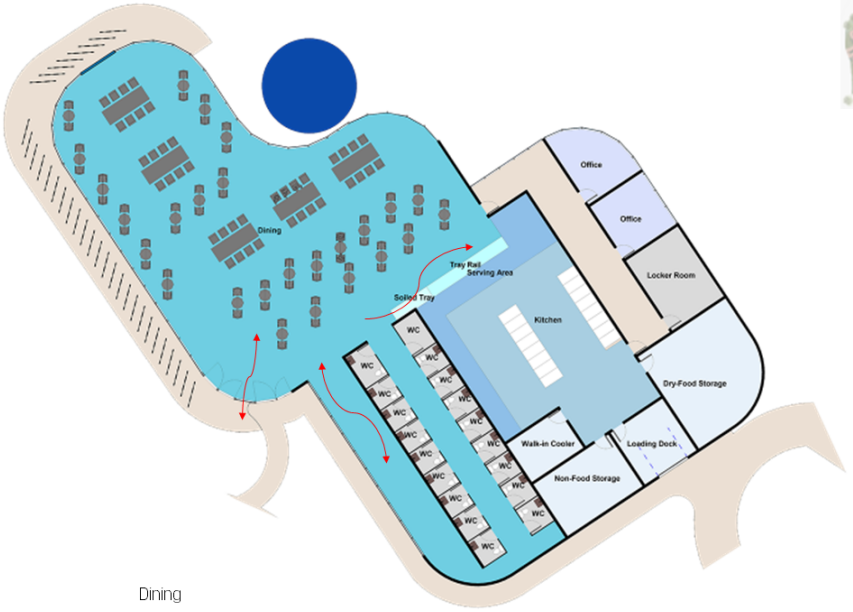
The Arts Center

Courtyard overlooking library and arts center
Users: Bereaved, youth, survivors, elderly, healthcare professionals

Exterior Courtyard Arts Center
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

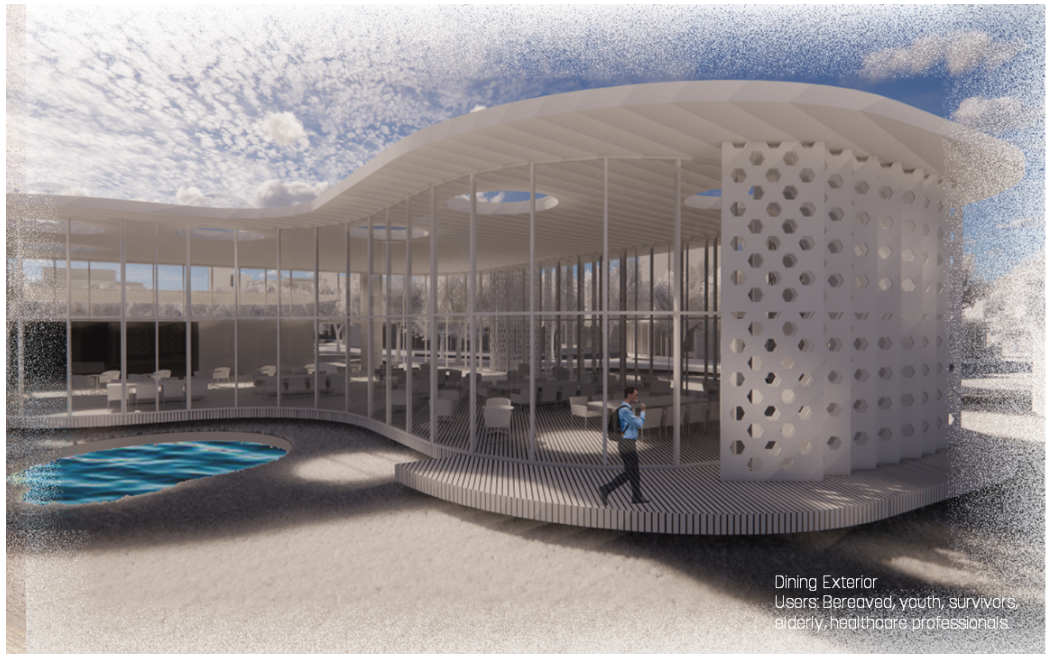
Meditation and Yoga Room
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

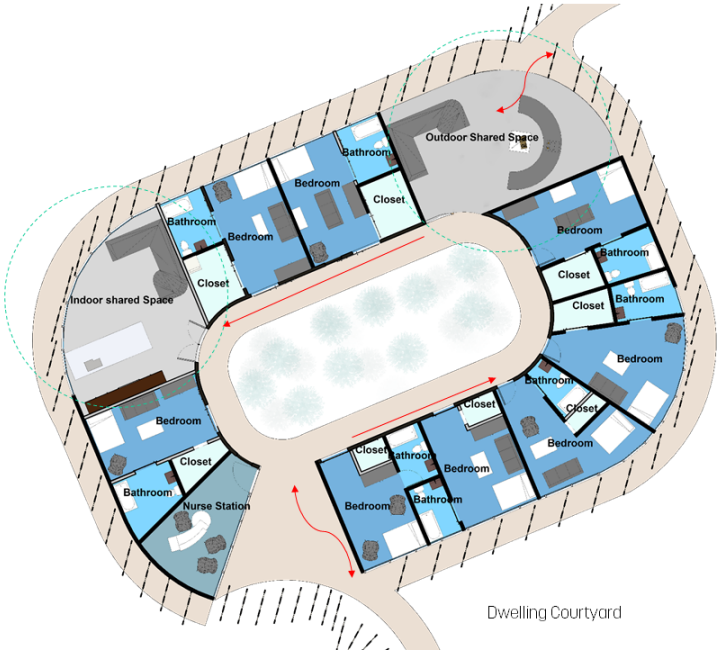
Corridor Arts Center
Users: Bereaved, youth, survivors, elderly, healthcare professionals



Dining

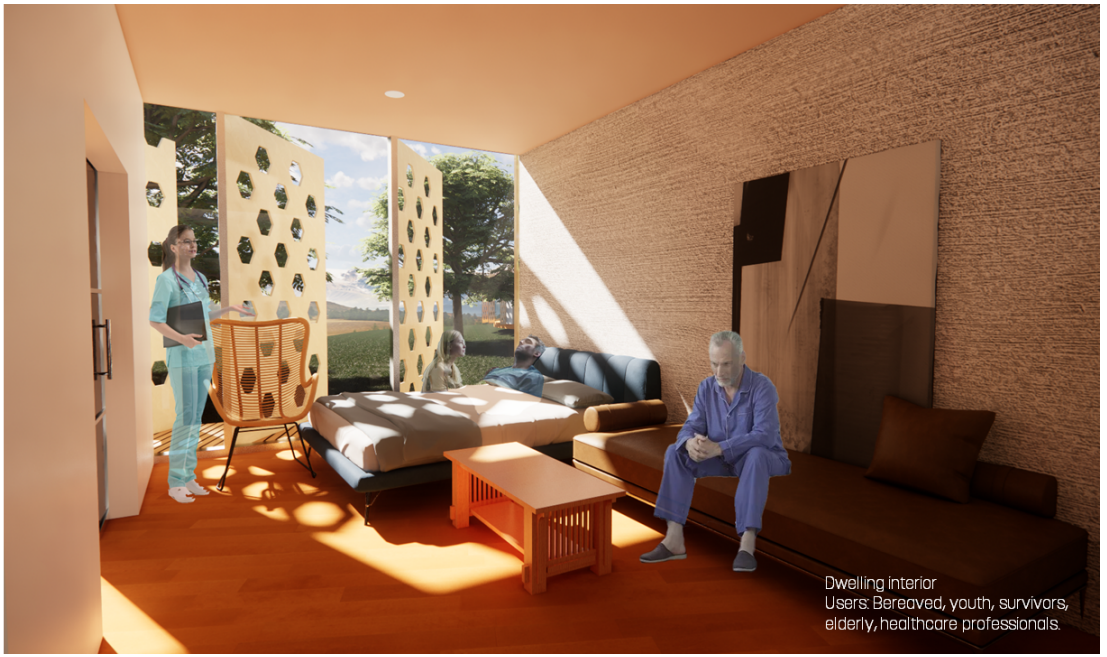

Dining
Users: Bereaved youth, survivors,
elderly, healthcare professionals


Dining Exterior
Users: Bereaved, youth, survivors,
elderly, healthcare professionals


Outdoor Shared Space
Bathroom
Bedroom
Closet
Bathroom
Bedroom
Closet
Indoor shared Space
Bedroom
Closet
Bathroom
Nurse Station
Bedroom
Bathroom
Closet
Bedroom
Bathroom
Closet
Closet
Bathroom
Bedroom
Bedroom
Bathroom
Closet
Closet
Bedroom
Bedroom
Bathroom
Closet
Closet
Bathroom
Bedroom
Dwelling Courtyard


Dwelling Exterior
Users: Bereaved, youth, survivors,
elderly, healthcare professionals.

Courtyard-dwelling
Users: Bereaved, youth, survivors, elderly, healthcare professionals.



Dwelling interior
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Shared outdoor patio in dwelling
Users: Bereaved, youth, survivors, elderly, healthcare professionals.

Safe environment Conducive for Treatment

- Refuge
- Nature

Universal Design

- Flexible design
- Comfortable areas
- ADA standards.

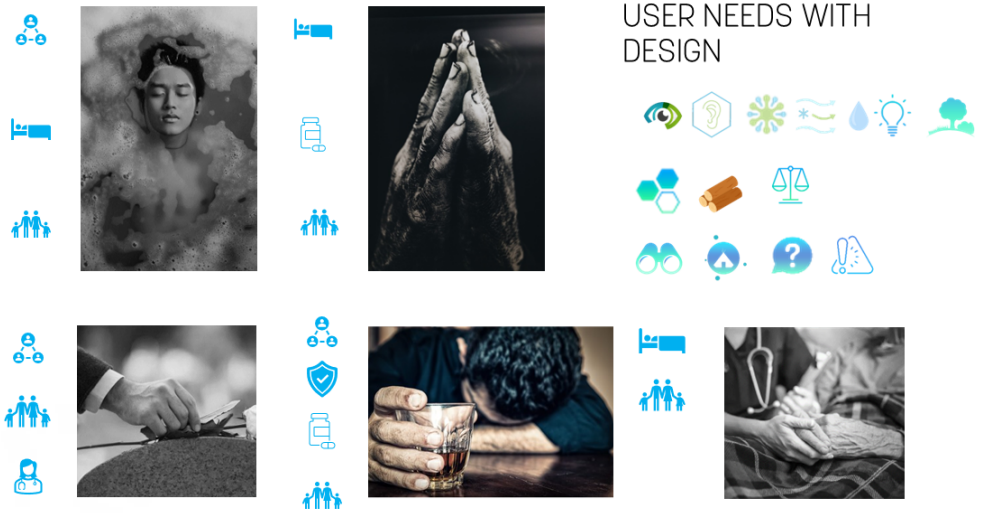
Sustainability

- User-Control
- Visual and Thermal Comfort

Community

- Shared spaces
- Trust between patients and healthcare professionals.

Final look at the goals.



WELCOME TO THE OTHER SIDE OF PARADISE

3900 PARADISE ROAD, SANTA BARBARA CA 93105

PHOTOGRAPH OF PROJECT INSTALLATION

Fig. 181

APPENDIX

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PREVIOUS DESIGN STUDIO EXPERIENCE

SECOND YEAR

Fall: Cindy Urness
- Moorhead Teahouse Project
- Jamestown Boathouse Project

Spring: Charlott Greub
- Moorhead Multi-Use Project
- Marfa, TX Dwelling Project

THIRD YEAR:

Fall: Paul Gleye
- Downtown Fargo Welcome Center
- Downtown Fargo Multi-Use Student Center

Spring: Emily Guo
- Downtown Fargo Museum of African American History
- Bismark Federal Building

FOURTH YEAR

Fall: Cindy Urness
- Miami Highrise Capstone Project

Spring: Amar Hussein
- Miami Urban Design Project

FIFTH YEAR

Fall: Ganapathy Mahalingam
- Music Opera House Project

Spring: Jennifer Brandel
- Design Thesis

Fig 182

PERSONAL INFORMATION:

Fig. 183

Mary Nyaronga

Thank you, Vivian & Emmanuel.
We will keep living, until we are alive again.