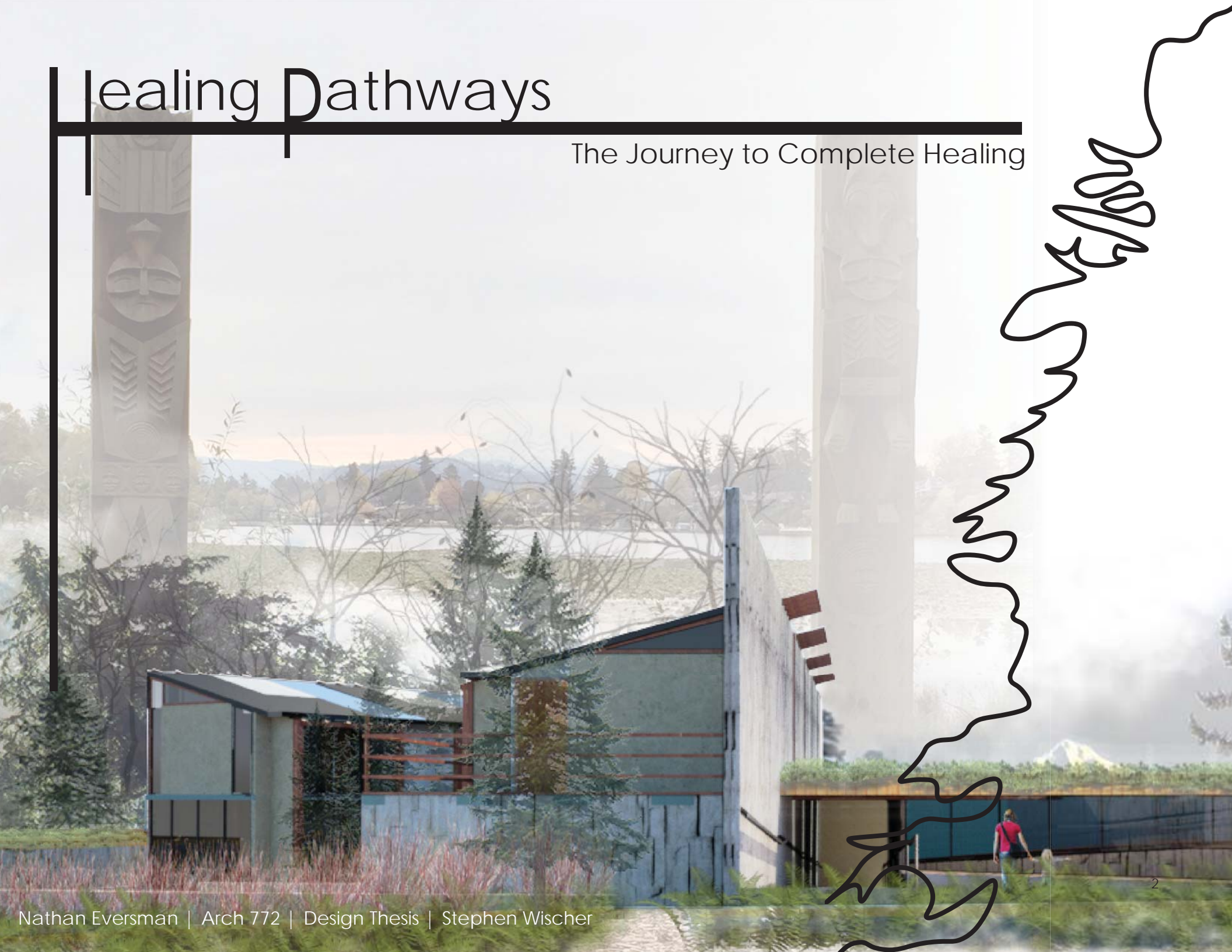


Healing Pathways

The Journey to Complete Healing



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Signature Page

Healing Pathways

A design thesis submitted to the Department of
Architecture and Landscape Architecture of
North Dakota State University.

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Primary Thesis Advisor



Thesis Committee Chair

May 2017 | Fargo, North Dakota

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Introduction

Thesis Abstract

How can cultural ideologies and attunement to nature create edges that articulate healing pathways through an architectural embodiment of complete healing?

Technology has impacted the human perception of health through monumental advancements, but the process of healing has been diminished to where the sole focus of health care has become “to resolve” instead of “to heal”. “To resolve” is finding the most efficient, cost effective, short-termed solution and move on to the next customer, whereas, “to heal” means aiding in the rebalancing of an imbalance within one’s life. “To heal” is a pathway that mediates a process of healing, oriented towards a solution, but not an immediate one. The healing path created, by architectural expression, will express cultural ideologies and emphasize the character of nature through a dialogue created by architectural expression, focused on experiences inspired by such things. Through this manifestation of programmatic elements and experiences, architecture will become a journey that is organic to the patient while specifically addressing their healing needs.

Located on the Northeast-most corner of the Portland city limits in Oregon, this physical rehabilitation facility will be the medium for which healing is reframed; mediated through a new understanding of nature and culture, framed by architecture that becomes the path to a complete and “whole” healing.

Thesis Proposal

The Narrative

Introduction

Our ideas of health and healing have been simultaneously evolving along with us through 1000's of years of self-discovery and contextualization within the world. Our Greek and Aboriginal ancestors defined health as something that is present, both in body and mind, which is a direct result of nature, providing insight regarding ancient cultures' reverence to the forces beyond their control. Through our instinctual aspiration to advance our understanding of the world and sense of control, our affiliation with health has become increasingly neglectful of our primal connection to the world and our place within it because of our developed reliance on technology resolving our afflictions. What once was a sense of healing has turned into a dependency on the immediate and the efficient, resulting in a disconnected sense of what it means to heal.

Located on the Northeast-most corner of the Portland city limits in Oregon, this physical rehabilitation facility will be the medium for which healing is redefined; mediated through a new understanding of nature and culture, framed by architecture that becomes the path to a complete and "whole" healing. By locating the site in Portland, Oregon, this facility has the unique opportunity to create a year around healing environment that weaves itself with natural elements, the local community, and the cultural history established on the site.



The Lost Pathway

Healing methods, today, have become highly technological. The primary focus of health care has shifted towards efficiency and quick solutions which has resulted in healing processes neglectful of the human condition. Technology, has been and still is, in most cases, an instrument which has lent itself to a better understanding of the process endured to reach a solution. Unfortunately, this instrument has turned into a crutch for society where now health and healing are affected in a way where man has been intrigued with the notion of creating health, and uses technology as the solution, rather than a means to reach one. Health care has lost a sense of complete healing which results in short-termed illusions of health for patients. This results in stagnant architecture, unresponsive to the functions outside and within the building, creating healing that is incomplete. By creating responsive architecture that not only houses healing, but also embodies it, technology can become a tool for health care instead of the solution, and a complete sense of healing can be achieved.

Theoretical Premise

Health is an ancient concept; once considered to be an interwoven connection of our mind, body and soul. Our ancient ancestors established an understanding that health is a direct result of the natural world around us. Their attunement and reverence for nature was apparent in their rituals, ceremonies, and everyday life routines. This project looks to redefine healing by studying past techniques of healing before the Industrial Age and sythesizing those views with modern ideas of healing to create a reinterpretation of health care design that completely heals.

By rekindling the attunment our ancestors shared with nature through design, architecture has the ability to be more than a shell that houses human activity; it can become a living system that interacts, responds, and embodies the functions on which it was built to encompass.





Thesis Proposal

Project Typology

Facility for physical rehabilitation, historical preservation of Chinook cultural history, and community engagement.

Typology: Health Care Facility

Healing Pathways is an outpatient physical therapy retreat that doubles as an extension of the Blue Lake Regional Park in Portland, Oregon. The design of this facility looks to challenge the current ideals defined by the health care industry by creating space for physical rehabilitation pertaining to the musculoskeletal injuries (MSI). Musculoskeletal injuries (MSI) are defined as injuries that affect basic human movement. This consists of muscle or tendon strain, rotator cuff injuries, tendonitis, carpal tunnel syndrome, and many more ailments that affect physical movement. There are many factors that can bring about the onset of MSI but most commonly injury stems from overuse or over exertion and because of that it is a very common injury that afflicts a vast amount of blue collar workers and athletes.

Being that musculoskeletal injuries are very prominent throughout the United States, the design of a facility that specializes in this type of therapy is appropriate since it will be accommodating rehabilitation for a vast number of people. Although the emphasis of this project will be to accommodate people afflicted by MSI, this project could be a template of design used for other rehabilitation situations.

This project typology will benefit from the site location in Portland because of opportunities the year-round mild climate Oregon presents. The design will focus on a reconnection to the natural world to create healing and the mild climate offers another layer to the healing process making it unique to the site and patient.

“More than three of every five unintentional injuries that occur annually in the United States are to the musculoskeletal system. Although the incidence of total unintentional injuries is difficult to estimate, numerous databases and reports since the early 1990s have shown that between 60% and 77% of injuries occurring annually involve the musculoskeletal system”

(Pollak, 2013)

Thesis Proposal

Typological Research

The typological research portion of this thesis looked at design elements that weave the building into the natural world for a better understanding of nature's direct connection to health and healing. Some projects strictly deal with health care design but others highlight ways architecture can be integrated into its surroundings in a way that creates a new understanding and appreciation for the site. In creating a hyper-awareness of the site through architecture and through new experiences with the natural world, architecture can provide unfamiliar moments of natural interaction that result in a resounding connection between the patients and architecture, beneficial for therapy.



Groot Klimmendaal

Architect: Koen van Velsen Architects

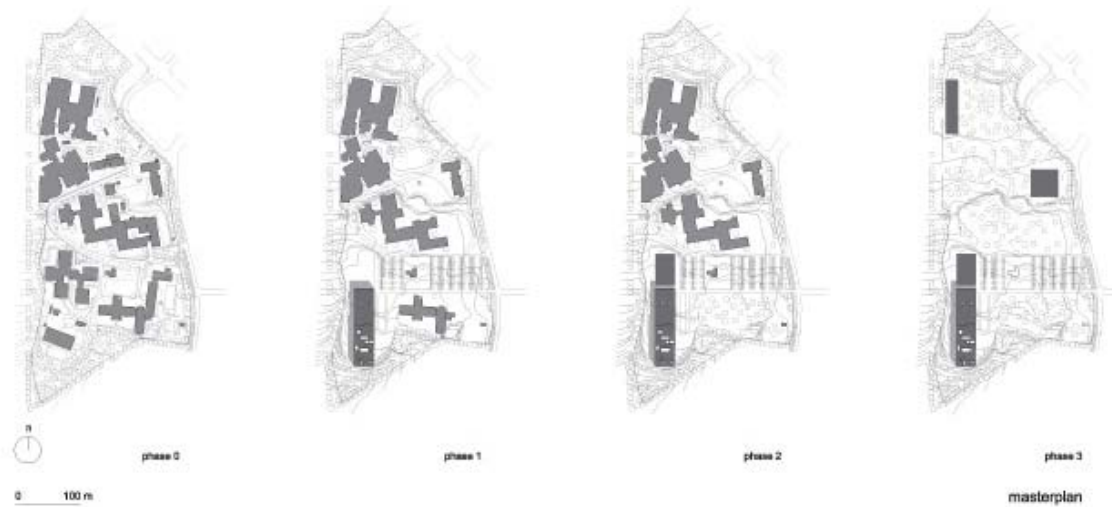
Location: Heijenoordsweg Arnhem, Netherlands

Project Year: 2009

The theoretical idea driving the architecture of Groot Klimmendaal is the most successful in terms of Koen van Velsen's initiative to design a complex of rehabilitation facilities in a three phase, master plan project, that create a healing community. This idea was hinged on integrating architecture and healing into the Dutch Forest in order to use the forest as rehabilitation park. It gives the patients the opportunity to connect with the environment during their healing process and makes use of natural elements for therapeutic means. Koen van Velsen's design strategies were guided by their desire to create low-impact buildings that bring the environment into the architecture. This building emphasizes a small foot print for minimal disturbance and vertically stacks the spaces. Large windows frame the beauty of the forest and spaces cantilever out towards the forest pushing patients into space enveloped by nature.



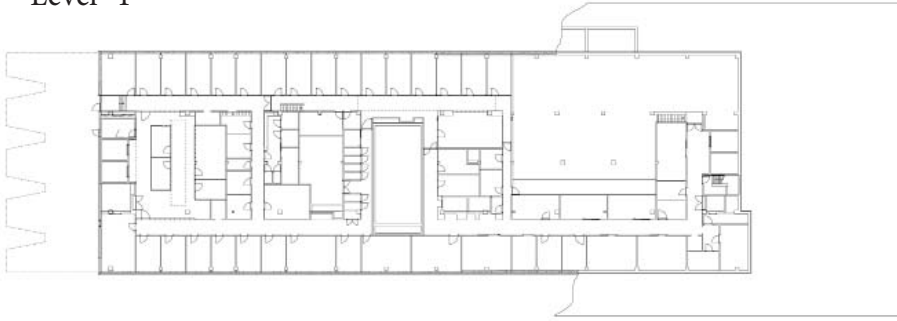




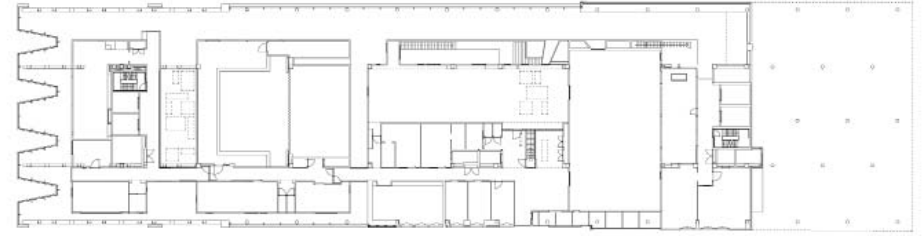
My biggest take away from this project is the initiative Koen van Velsen has set forth in establishing a healing community in the middle of a forest. I see my architecture striving for the same kind of connection between healing and nature this project is setting forth. The idea involving the park as an extension of the rehabilitation programs, which is in a community like setting, is an aspect of this design that resonates the most with me. This project approaches healing from two perspectives; social healing and natural healing. Both types of healing are important fundamental strategies that have been ignored within the health care industry today.

Architecturally, I wish the architects would have pushed the design further when evaluating the project form a stand point of natural integration. I believe the building can stretch out on the ground level while still creating a low impact footprint. A more integrative design strategy would not only create a more profound natural presence within architecture but it would beneficially affect the therapeutic program by providing opportunities of smooth transitions between indoor and outdoor spaces.

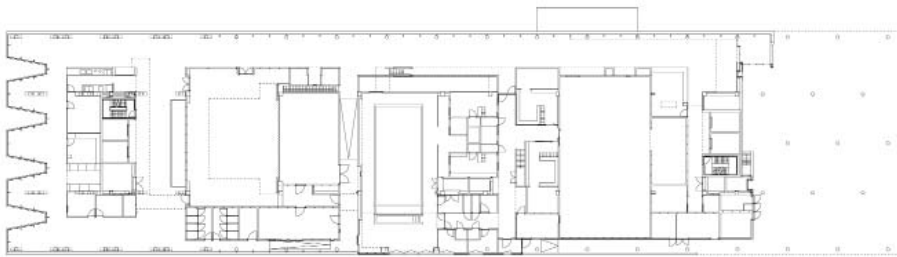
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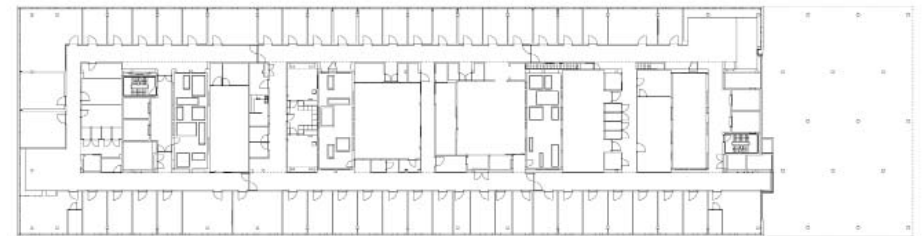
Level 1



Level 0



Level 2



Tadao Ando's Architecture

Ando's style of design brings simplistic Japanese design styles and melds them into an architectural master piece. His buildings embody a spiritual essence made undeniably present but the simple architectural expressions used to create form. Time and space begin to be manipulated in ways one never experiences on a routine day. Space is created by light which paints itself across the walls, nature is emphasized when viewed over a concrete ledge, and human perception is altered, creating an existential awareness.

Additionally, the designs cause the body to move in certain ways that react to the architectural expression. Ando can capture the spirit of what is being held by architecture and weaves it through every design decision made.

The material compositions of his work, creates a profundity in the architectural design that points beyond the building and to deeper meanings woven into the project. Rhythmic metal patterns guide users through spaces, metal handrails lead users securely beneath a pond, a thin slice of light pierces through a concrete wall, or textured glass capturing the characteristics of water are a few of the ways Ando uses simple materials in a way that creates a draw to the user. His use of materials becomes enticing, and begs users to interact with it. In the Church of Light, Ando does what seems impossible and has light cut completely through a concrete wall to make a new representation of the cross. Through this new representation, Ando creates a





spiritual awareness that sets the tone of contemplation and meditation for the space.

His material usage exceeds beyond working with manmade elements but also natural ones. The Water Temple is a submerged temple that is accessed by descending the stairs, under the roof top pond. While descending the user is confronted with a stunning eyelevel view that celebrates the stillness of the water and beauty of the lilies. Since this structure is a temple, Ando created interactions with the natural world so that upon entering the temple, the user's perception of reality is challenged by these unique moments. Ando creates moments of wonder within these religious buildings so the user almost becomes forced to focus on the intent of the architecture and what it embodies.



Ando's architectural genius is truly one to be revered and respected. The artistic dimension created through his architecture creates a tangible distance between intangible concepts. He links the spiritual to the physical through an artistic and sensual use of architectural design techniques. The way in which these designs point beyond themselves is truly inspiration and will be a focus of design for Healing Pathways. Ando is using architecture as a tool that becomes a physical manifestation of an existential concept. In a similar way, I look to create architecture that houses healing in a way where the architecture becomes the healing process when experienced. The design solution for this thesis will channel this style of experiential architecture that reaches people on a physical and psychological level just as a work of art elicits some type of emotional response.

Aside from the existential connection Ando's architecture makes with the user, I will be emulating the same type of respect for the natural elements of my site. Materials will be used in a way to contrast the natural surroundings when emphasis needs to be made, as well as, using manmade materials that blend with natural materials found on the site.



Thesis Proposal

Major Project Elements

Patient Rehabilitation

Allocated for patients in a therapy program. Includes: check-in, waiting space, exam rooms, exercise spaces, aquatics area, therapeutic rooftop garden, and access to the central garden.

Community Space

Space for community members to access Blue Lake Regional Park. Includes: Chinook History Gallery, reception, café, lounge spaces, access to the central garden and therapeutic rooftop garden.

Staff Space

Located near all patient activities for quick staff access. Includes: reception, offices, conference room, treatment rooms, extra work space and work station.

Maintenance Facilities

Restrooms, maintenance, storage, etc.



Thesis Proposal

User Client Description

Peak Usage

The building will remain open during normal business hours year-round. Since the therapy program for the facility is based around patients using the building between 4-6 hours, usage in the therapy section will remain at 4 patients daily each paired with a therapist. The community portion of the facility will see peak usage during the summer months but is able to accommodate fluctuating volumes of visitors throughout the year.

Parking

Parking will be allocated west of the facility, with 30 spaces, ADA compliant, designated for all users of the facility. Patient and staff parking will be reserved near the patient and staff entry condition on the north west section of the parking lot.

User/Client Focus

Healing Pathways is an outpatient clinic that doubles as a place for community interaction with the patients and Blue Lake Regional Park. The users of the facility will include staffing, community members and patients part of the therapy program.

ADA Requirements

Since this facility falls under the health care design typology, ADA requirements will be implemented in order to create a feasible building that facilitates health care. These requirements will determine specific dimensions for hallways, restrooms, ramps, railings, etc. and will be defined in the Code Analysis section.



Thesis Proposal

Site Information

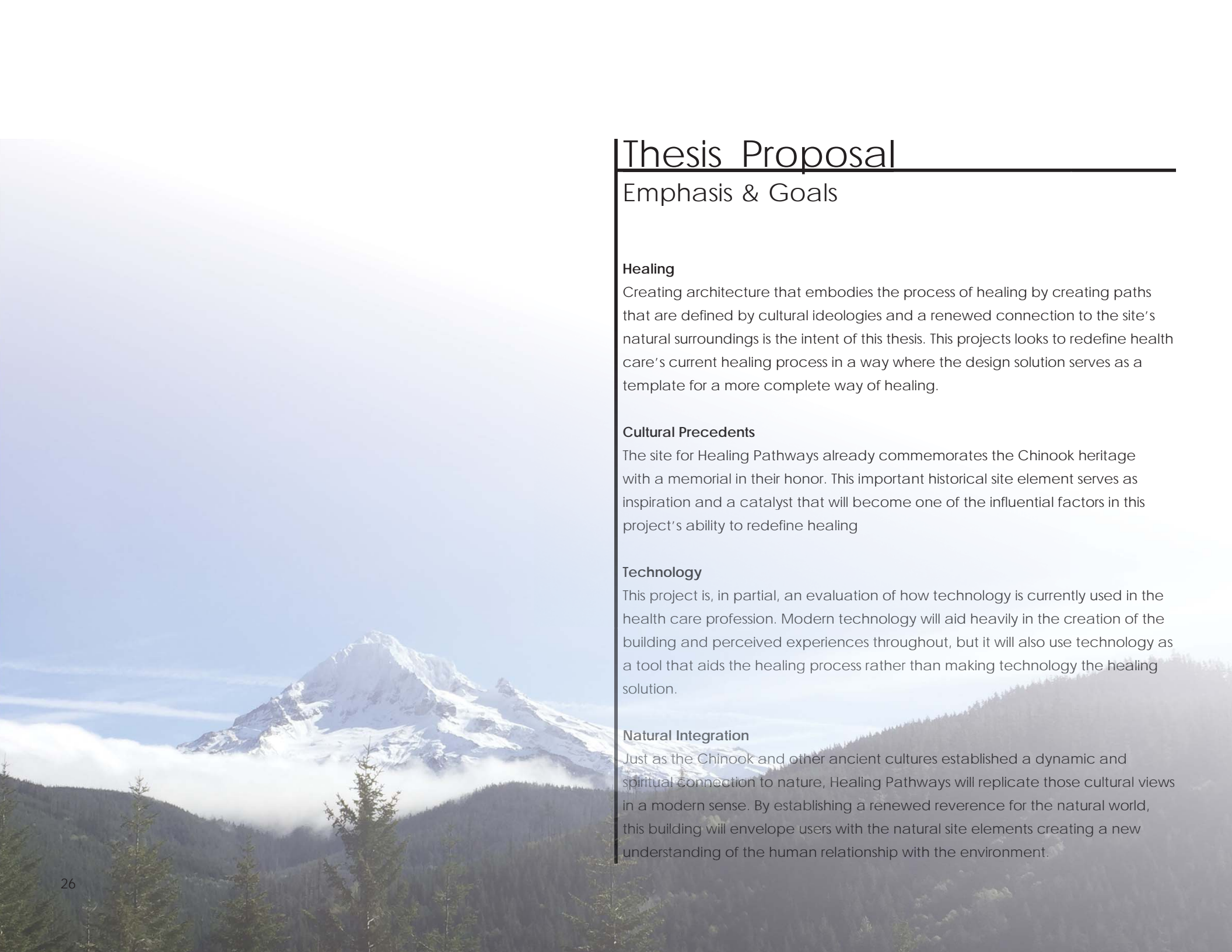
The site for this project resides close to the Columbia River in the north eastern most corner of the Portland city limits. Portland is home to an active demographic of people. Nature beckons one to the mountains, the coast, the dense forests, and the meandering Columbia River. People seeking an immersive, natural experience have to drive no more than an hour in any direction to find a diversely different micro climate. Since this demographic of people are largely active in the outdoors, the opportunity for a physical rehabilitation facility in this context will suit the local people and will have the ability to take advantage of the consistently mild climate of the area.

Healing Pathways will be located on the north-west site of Blue Lake Regional Park which rests on the edge of Interlachen Lake. This park has already established a network of trails, park amenities, and places for community engagement making it a destination for the community. By incorporating Healing Pathways with Blue Lake Regional Park, this project will be able to emphasize the importance of social integration that will become an essential piece to healing. In addition to being an important social component, this site also serves as a great example of being naturally integrated, which makes it the opportune choice for locating Healing Pathways.



Discovery Garden Plant Labels





Thesis Proposal

Emphasis & Goals

Healing

Creating architecture that embodies the process of healing by creating paths that are defined by cultural ideologies and a renewed connection to the site's natural surroundings is the intent of this thesis. This project looks to redefine health care's current healing process in a way where the design solution serves as a template for a more complete way of healing.

Cultural Precedents

The site for Healing Pathways already commemorates the Chinook heritage with a memorial in their honor. This important historical site element serves as inspiration and a catalyst that will become one of the influential factors in this project's ability to redefine healing

Technology

This project is, in part, an evaluation of how technology is currently used in the health care profession. Modern technology will aid heavily in the creation of the building and perceived experiences throughout, but it will also use technology as a tool that aids the healing process rather than making technology the healing solution.

Natural Integration

Just as the Chinook and other ancient cultures established a dynamic and spiritual connection to nature, Healing Pathways will replicate those cultural views in a modern sense. By establishing a renewed reverence for the natural world, this building will envelope users with the natural site elements creating a new understanding of the human relationship with the environment.

Thesis Proposal

Plan for Proceeding

Theoretical Research

Ideas of healing dating back to the Greeks up until modern times will be essential research topics in establishing a historical foundation for the project that adds to the continuum of knowledge that is healing. Also, modern philosophers that deal specifically in the areas of health care, human perception, and the effects of industrialization root this project in line with some of the prolific ideas concerning the human condition.

Historical Research

This research will act as a more thorough evaluation of the healing practices and cultural lifestyles of the Greeks, Chinook, and other ancient cultures. This will create a connection to healing that has been passed on through generations and will also serve as a baseline for a refinement of healing that will be facilitated by architecture.

Programmatic Research

Analyzing the current state of physical therapy facilities will be the starting point of this research portion. Understanding the architectural elements that make healing a burden will be essential in creating design that does the opposite.

Design Research

To successfully create healing architecture, research must be focused around current evaluations of health care design, studies pertaining to patient comfort within facilities, and biophilic design strategies. These directions of design research will provide the appropriate typology contextualization to make this project relevant within the realm of health care design.

Site Research

The site plays a significant role in the final design solution. Natural elements will determine the building materiality, plant palette, building/site integration and be an integral part of community interactions and therapeutic programs. A thorough investigation of the site will result in a building that becomes contextualized with its surroundings by being responsive to these elements.



Thesis Proposal

Design Methodology

The design methodology for this project will be completed through a series of phases intertwining research and design process so that the design solution becomes a direct representation and interpretation of the research gathered.

Stage One

The first stage of the process will be to research the topics listed previously. Compiling a wide variety of research from different perceptions will create a foundation that is rooted to many different ideologies both old and new, making it a project that perpetuates healing as through history.

Stage Two

The second stage will be creating an artistic expression that is a metaphorical interpretation that weaving research together. This weaving will result in an installation of sorts that embodies the research gathered but also will be an expression that becomes a prediction of the architecture to follow in the design solution.

Stage Three

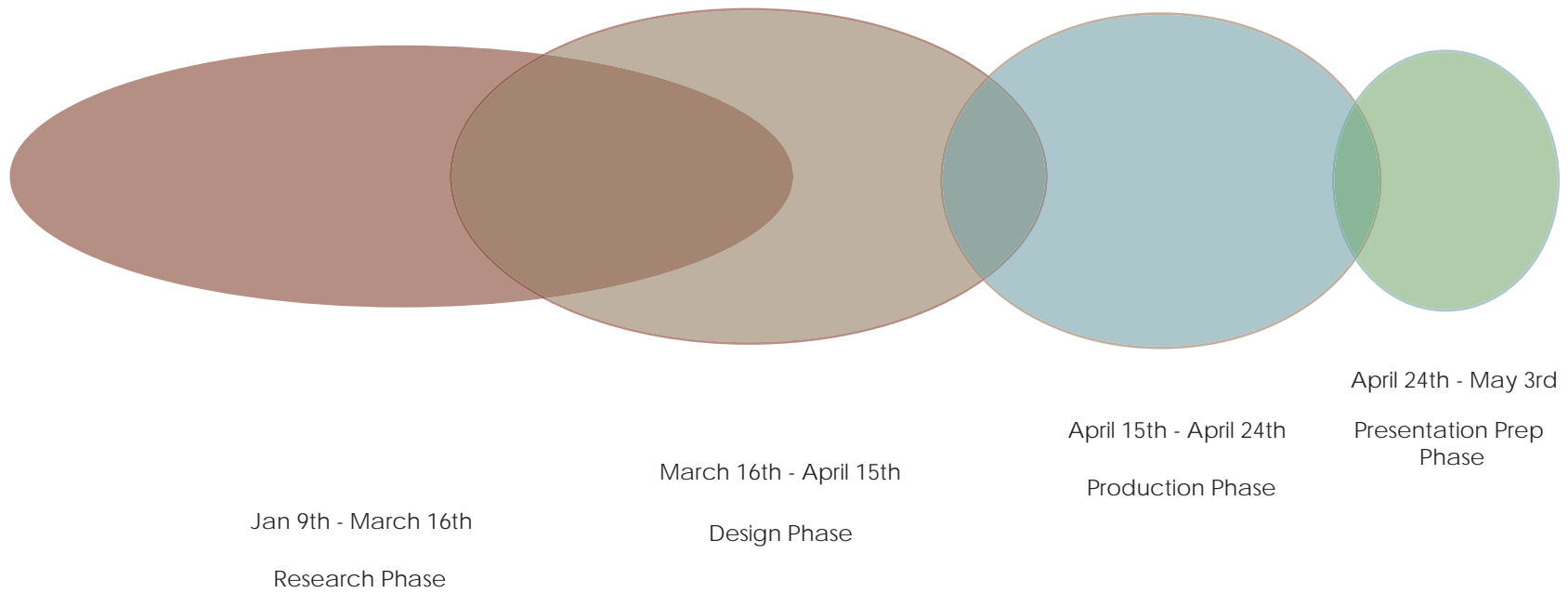
The third and final stage will be focused on designing an architectural expression, manifested from the experience and ideas integrated into the artefact. This architectural expression will come from an intensive process of hand modeling and sketching in order to perceptually understand spatial relationships on a physical level. This investigation will lead to the moves made in a 3D modeling medium that will result in the final design solution.

Throughout this process, stages will be revisited and evaluated as need be. This cyclical process will constantly look to weave research, artefact and architecture into a seamless, metaphorical and physical embodiment of a complete healing process.



Thesis Proposal

Project Schedule



Preliminary Research

Many modern, physical therapy centers today profess a mundane, hospital-like, design language that has become the standard building style for rehabilitation centers. These spaces are often polluted with artificial light, lack engaging views to the outdoors, are confined within the constraints of the building, and often have a stagnant, sterile, hospital odor wafting throughout the spaces. Although the conditions of these facilities may be up to code, ideal by the book, and patients recover at an average rate; there are ways to expedite recovery times through the physical infusion of architecture and nature.

Research has shown a direct correlation between rapid, patient recovery rates and direct exposure to nature. Blurring the line between the natural and built world can create a wealth of benefits for people afflicted with ailments. This integration has been implemented in many designs around the world, but most often, the integration is one that is dominantly visual. The visual presence of nature has proven to have beneficial healing properties in the health care setting. Views of the outdoors, the use of natural light, and the implementation



of various plant life within the interior of a building have been some of the most prominent means of this incorporation. This visual presence of nature is an idea that will be adopted into the design of the facility, but will then further push the envelope of integration. Instead of primarily focusing on the visual presence of natural surroundings, this facility will also place an emphasis on the physical presence of nature.

The physical features will give way to the shape and form of the building while presenting a unique rehabilitation experience to the patients making use of the therapy center. Preexisting physical conditions of the site will provide dynamic rehabilitation conditions. Physical presence of various site features will be adopted into the design of the building which will result in creating a rehabilitation setting that makes use of the natural attributes that will aid in therapeutic recreation. Incorporation of the physical nature of the site will be as much embodied on the interior of the building as well as the exterior. This embodiment of nature will result in an expansion upon an already growing knowledge, through research and exploration, that nature has the power to provide healing benefits in the healthcare setting.

This healthcare facility will create a place that targets musculoskeletal injuries that can be rehabilitated through nonoperational ways. Less, severe types of musculoskeletal injuries would be better accommodated for, in this facility, because of the focus on physically using the nature incorporated into the design. Therapy will target injuries that can be treated through the means of active, physical exercise, yoga, and various stretching techniques. Along with the use of these techniques, therapy will target the use of the contextual nature that will be incorporated into the building both inside and out.

The Effect of Nature

Incorporating the natural world into the design of our health care facilities has proven to yield an abundance of benefits for people recovering from various ailments. It provides a sense of tranquility that translates into stress reduction, better psychological functioning and a positive distraction which can aid in the process of healing. These types of benefits can be seen predominantly on the psychological level, but the benefits also have their implications on the physical level.



There is a direct correlation between the psychological state and physical health of a patient. Research shows that patient exposure to nature has positive, psychological implications which help mitigate the presence of stress, decreases depression or the likeliness to develop depression, reduces anxiety, and can help boost motivation. When the body is burdened with these types of psychological conditions, it begins to severely impact the total recovery time an individual may encounter when trying to rehabilitate. "Patients who experienced the highest levels of depression and anxiety were four times more likely to be categorized in the delayed healing group, compared to individuals who reported less distress" (Gouin, 2011).

Stress is one of the most influential psychological factors that affect a patient's well-being in the context of healthcare. The presence of stress in any amount can have a crippling effect on the outcome of a patient's recovery. "Alleviating patient stress is a significant goal because stress is an important negative health outcome in itself and has a variety of detrimental psychological, physical, and behavioral effects that worsen other outcomes" (Ulrich, 2001). Stress affects attitude, motivation and the overall ability to create a positive recovery setting for a patient. It is crucial that a healthcare facility employs a design response which mitigates the stress within patients. Incorporating nature into the design of a facility can help facilitate the mitigation of stress. The alleviation of stress through nature will result in a more productive, focused therapy for the patient and can help create a positive patient-staff relationship.

Furthermore, nature can provide a positive distraction for the patient by focusing them on their immediate surroundings and take their minds off of the ailments afflicting them. So far, nature has been incorporated into the design of facilities through a more confined setting such as framing the outdoor environment through a view from a window. This distraction can become more than a way to escape from the stress and anxiety of the situation; it can begin to alleviate pain a patient feels by provide a mental escape that refocuses patient.

"Those with the nature window view...needed fewer doses of strong pain drugs than the wall view patients" (Ulrich R.).





As previously stated, nature can positively influence the psychological condition of a patient in a rehabilitative setting, but another question still stands; what effect can nature have on the physical condition of a patient? The physical implementation of nature into the design of a rehabilitation facility can add a new dynamic to the therapy program. It can introduce a new approach to therapy where the patient can be physically pushed and challenged towards full recovery through the use of nature.

One example of this type of therapy is seen through a program called Casting for Recovery. This program is specific to the women with breast cancer, who are in all stages of treatment and recovery (Casting for Recovery , 2016) and has incorporated fly fishing as a type of therapy. Casting for Recovery is designed to help patients recover on both physical and psychological levels. The physicality of the program is achieved through the repetitive motion of casting. Exercises assigned after breast cancer treatment reflect similar motions to ones used while fly fishing. This motion helps stretch, rebuild and strengthen soft tissue muscle that is often damaged by the radiation treatment used to eradicate breast cancer. This methodical type of therapy, physically and emotionally rehabilitates the women by connecting them to other survivors and by connecting them to nature. Casting for Recovery is a perfect benchmark for rehabilitation; showing the field of therapy how the use of a natural setting can provide a positive and holistic healing for patients both physically and mentally.

Use of Nature

Visual incorporation of nature has been proven, by research, to have a significantly, positive impact on patient recovery.

"Records shown that patients with window views of trees spent less time in the hospital than those with views of the brick wall: 7.96 days compared with 8.70 days per patient...In summary, in comparison with the wall-view group, the patients with the tree view had shorter postoperative stays, had fewer negative evaluative comments from nurses, and had slightly lower scores for minor postsurgical complications. " (Ulrich R. , Views through a window may influence recovery from a surgery , 1984).

This improvement is monumental and when applied to a larger number of patients, the amount of recovery time spent in a healthcare facility is remarkably

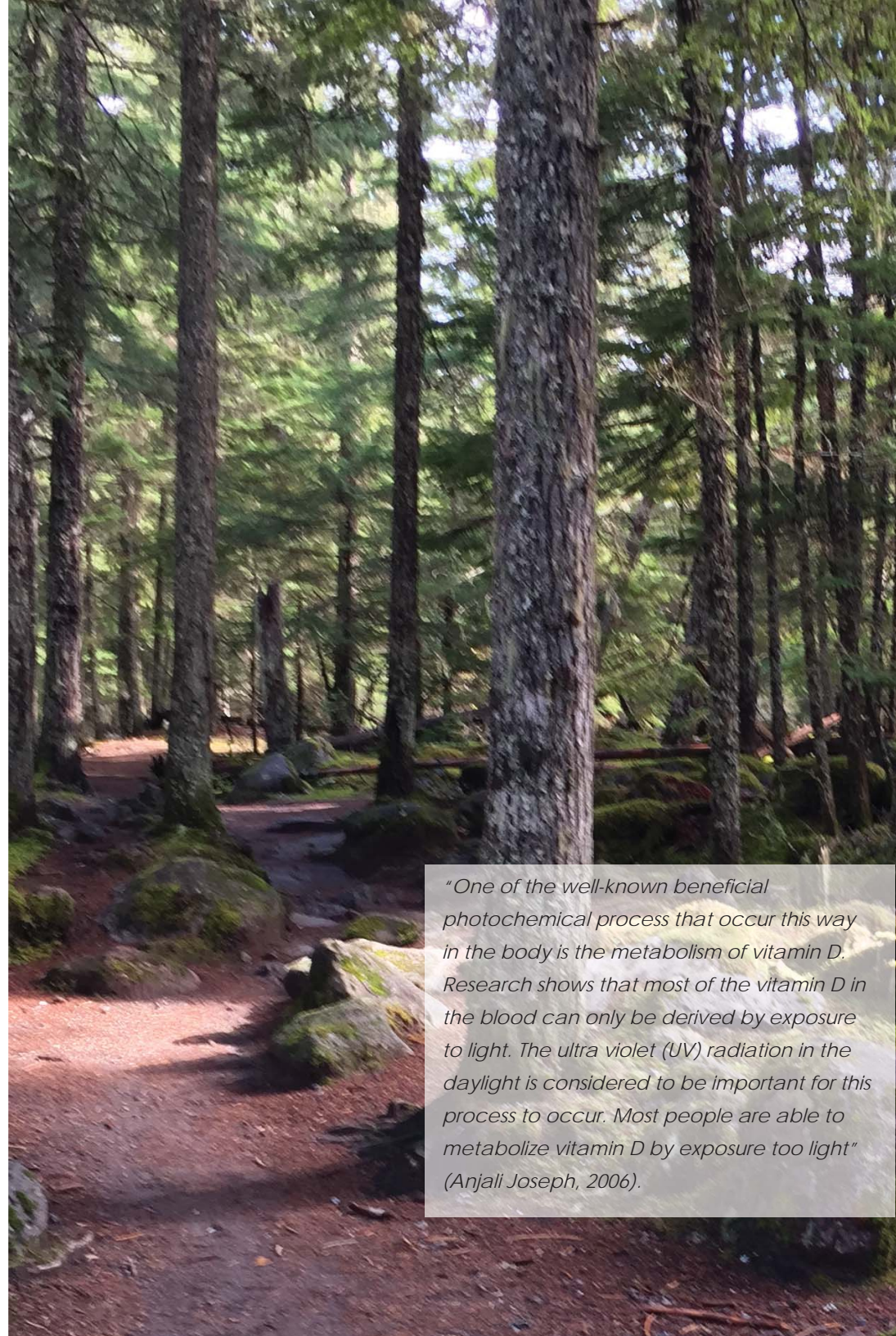


diminished. Recovery rates have been significantly accelerated due to the fact that visually, natural perspectives contribute to lower stress, reduced anxiety, and an overall uplifting, positive experience for the patient. “Notable evidence of negative effects of windowless healthcare environments on outcomes has emerged from studies of critical-care patients. Studies have linked the absence of windows in critical or intensive care with high rates of anxiety, depression and delirium relative to rates for similar units with windows” (Ulrich, 2001). Views to the outdoors create a positive and much needed distraction to patients in a healthcare setting and have proven to be effective in creating a more desirable recovery environment.

Along with creating uplifting, visual stimuli, windows bring in an abundance of natural light which also contributes to the overall well-being of the patient. Incorporation of natural light begins to affect the patients in several positive aspects: performance, mood, and body function. Physical therapy is a motion, based activity which requires concentration and plenty of light for the patient to be able to visually focus on the therapeutic task at hand. Obviously, light is an important factor in this aspect of therapy but the type of light in a space can have a notable effect on patient performance. Artificial light can, at times, be very intrusive and distracting. The light from florescent bulbs has an artificial feel that can be bothersome, harsh and even distracting. With enough natural light, a space can emit a feeling of relaxation, appropriately illuminate therapy spaces and even improve the performance of patients without the use of an artificial light source.

Another benefit to natural light exposure is the body's ability to absorb vitamin D by means of the sun. Absorption of vitamin D can be important to people rehabilitating from a form of bone injury because it promotes calcium absorption and bone growth. With that in mind, incorporating natural light will be a main design strategy used in the design of this rehabilitation facility.

For this project, incorporating nature goes beyond designing great views of the outdoors, the use of natural light and placing plants throughout various parts of the building. The focus of the project is to incorporate nature into the design so that the users of the building have an intimate relationship with the natural surroundings. The goal of this design project is to find the solution that



“One of the well-known beneficial photochemical process that occur this way in the body is the metabolism of vitamin D. Research shows that most of the vitamin D in the blood can only be derived by exposure to light. The ultra violet (UV) radiation in the daylight is considered to be important for this process to occur. Most people are able to metabolize vitamin D by exposure too light” (Anjali Joseph, 2006).



enables architecture and nature to live in unison and to breathe as one cohesive entity. That means being environmentally conscious about the way the design affects the site and also being receptive to how the site can affect the building both externally and internally.

Incorporating nature into the design of a building is not a new concept. Intertwining nature with the building design adds a new level of integration to the concept. The idea that will drive the creation of the building will be primarily based around the physical context of the site and how it can be incorporated, not only externally but internally, into the design of the facility. This incorporation will enhance the design of the facility to achieve a more successful and holistic type of physical therapy.

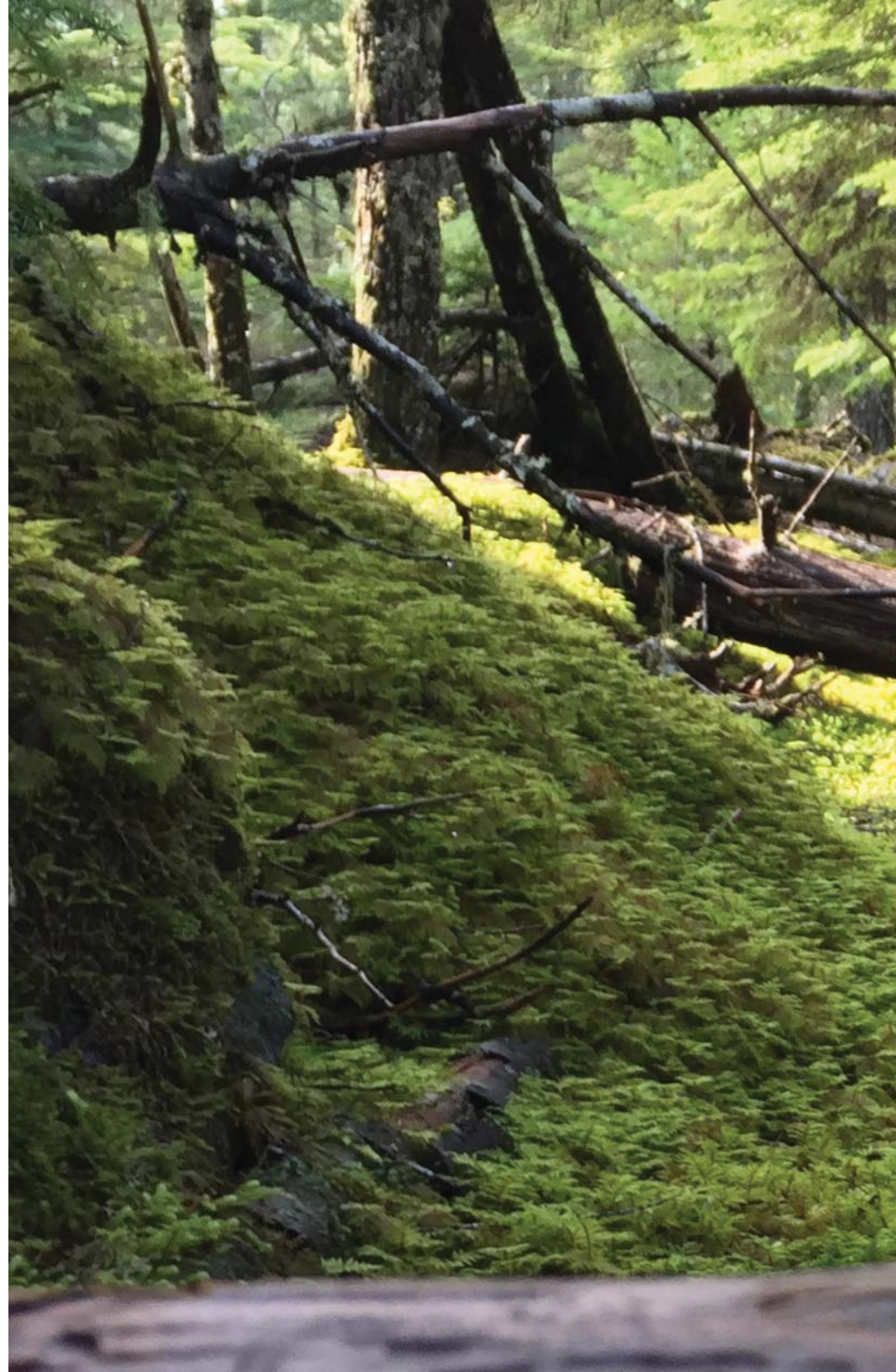
The outdoor environment has the ability to have an incredible, influential presence on physical activity. Natural areas can offer a wealth of experiences and activities for people which makes it an attractive setting for physical therapy. They motivate people to be intimate with the space by being active within it. The design of this facility will take advantage of outdoor areas and use its draw to motivate patients to push the limits of their therapy program. This effect of procuring motivation from a person through nature is something that will be harnessed and embodied inside the facility. Achievement of this integration will be by incorporating the topography of the site into the interior of the building for therapy use. Infusion of nature will also be achieved by designing an element of the building which blends the indoor and outdoor spaces into a single cohesive space.

Conclusion

Adapting nature into architecture has been a timeless design goal of many architects. It is in our human nature to move towards a lifestyle that embodies the natural world that surrounds us. This investigation aims to synthesize research derived from observations and experiments on the healing effects of nature. A rehabilitation facility that carries the embodiment of nature throughout all aspects of design, inside and out, has the potential to achieve this endeavor for a more naturally, infused, built world. This project will create a rehabilitation center that

employs a new style of holistic healing which will expand upon the idea of nature aiding in the healing process.

The main premise of this project primarily focuses on finding a way that not only visually integrates nature into a building, but also develops natural integration on a physical level. As stated before, nature can have a drastically positive healing effect on those in a healthcare facility, but has been mostly explored on a visual scale. The main goal will be to incorporate nature into the design of a building where it is actively present in the process of physical rehabilitation. That means bringing the contours of the area and other physical features of nature into the facility and configuring it in a way in which they aid in a physical, therapeutic context. Integrating nature throughout a building to this degree will benefit patients psychologically and physical by introducing a new, holistic style of physical rehabilitation. The research and design work performed in this project could lay groundwork for a new way of thinking, planning and designing that translates into the advancement of physical rehabilitation facilities and other facets of the built world.





Research

Historical | Theoretical | Social Context

Introduction

Research for this building was compiled from a broad range of seemingly unconnected precedents, that all create the edges of a healing pathway which reframe modern society's idea of healing. Some architectural design gave inspiration for the final design solution of the project but a great deal of inspiration was derived from the work of artists, philosophers, and even the cultural identities of ancestors. The research compilation of this thesis looked at understanding how ancient cultures regard the ideas of health and healing while also homing in on the loss of these ideologies. In addition to studying ancient cultures, this thesis also synthesizes theories from modern philosophers that deal with the philosophy of health, human perception, the human condition, and architecture's influence on the body. This philosophical portion of the research direct deals with the human condition and human experience which rolls over into the last portion of research, the overall theoretical premise. Considering the human condition is an essential part to creating a successful framing of healing. Facilities today lack the humanization factor that is



imperative to healing; connection to natural surroundings, connection to the local community, and architecture that stimulates. The following research is a culmination of all the parts previously listed, synthesized together to emphasize the importance of historical connection to healing as well as bringing into context the importance of considering the human condition when creating health care architecture.

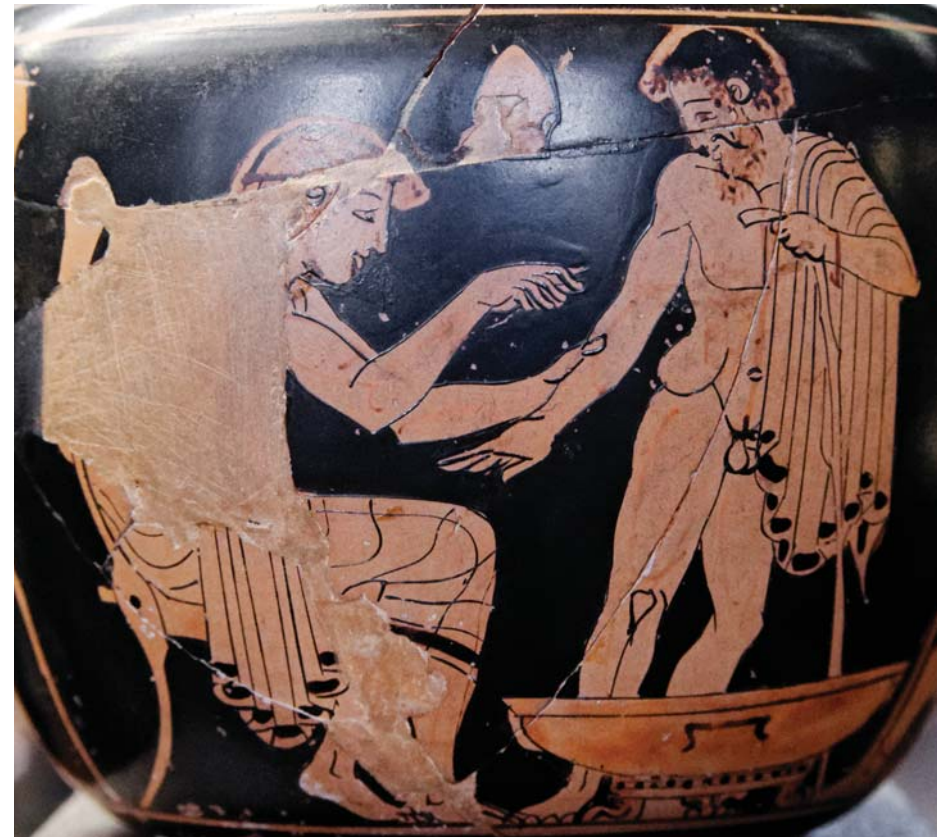
Research

Historical Context

Historical Healing Pathways

Dating back to 600 B.C. ancient Greeks developed existential conceptions of health defined as a constant state of balance between the mind, body, and soul. This is explained through Plat's breakdown of the soul into what he calls the "Tripartite Structure of the Soul", which created a realization that the human body is constantly balancing the rational, emotional, and physical while harmonizing with nature. An unbalancing of one part causes one to fall out of health and experience a sense of lacking resulting in illness. This transcendental ideology of health connected the physical to the psychological, making them inseparable entities of health; one reliant on the other for a constant state of balance. The Greeks strongly believed that the balance of health can be easily disrupted by the physical world, therefore, they placed emphasis on the physical maintenance of the body by establishing health policies through health services provided by the government. These services worked to educate the public on healthy lifestyles by implementing a nutrition system of sorts and creating a social awareness of the natural and environmental factors constantly in interaction with the human body.

Patient treatment, within the Greek health care setting, was very particular back in the time of Plato. The physician was tasked with not only considering the environmental conditions affecting a person's health but also the patient's





daily routine and way of life. Insight into habits both positive and negative informed the physician on what actions needed to be taken to heal the patient or restore what is lacking. This type of evaluation by the physician was thorough but a necessary step in understanding both the patient's physical and psychological maintenance.

Even though they were located across the globe from the Greeks, the Kogi aboriginals, native to the outback of Australia, created a tradition of place making or contextualization through a ritualistic way of naming their surroundings by creating songs while walking along the paths of their land. They created analogies and associations with all aspects of their world in order to create a complete realization of their place within the world. Through this ceremonial singing and naming, the Kogi's reverence for nature and attunement to nature provided them the ability to understand how their environment affects them physically, psychologically, and spiritually.

This act of harmonization with nature and a complete understanding of the whole of a person (mind, body, and soul) as seen through the Kogi and the Greeks is also reflected in the cultural ideologies of the Chinook Native Americans who inhabited the Northwestern Pacific Coastal Region, in what is now Washington and Oregon. The Chinook believed the environment shaped their culture, therefore they established a spiritual connection to their surroundings by weaving the natural world into their own cultural fabric. All rituals, ceremonies and ways of life used natural elements such as cedar, pine, salt/freshwater, salmon, and copper to name a few.

Chinook ideas of health stem from a superstitious and spiritual foundation. They believed every person is endowed with two souls; one large and one small soul. When a tribal member is sick the small soul leaves the body and the shaman must catch and return it in for the sick person to recover. This small soul can also be stolen in an act of revenge, retribution, or flat out murder. As soon as the soul is removed the person who lost it becomes ill until the soul is returned unharmed. Disease for them is considered to be something that is caused from lacking something that balances one's life. In the event that someone became sick, a shaman would embark upon a journey that took them on a path into the wilderness to retrieve the cure for the individual's ailment. For the Chinook shaman, the journey to the cure was always different because individuals experience different types of unbalancing or lacking.

The Lost Pathway

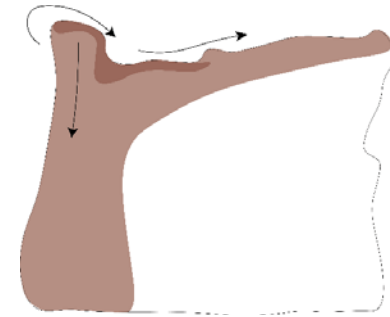
Creating architecture that reframes healing needs to be rooted in a continuum of health-related ideologies that creates a pathway of contextualization through a historical thread. This thread, in particular, connects the healing ideas to several different cultures, spread out across the globe in order to provide a comparison of modern healing views and historical healing views. Through a comparison of old and new healing techniques, it becomes apparent that healing today is focused on efficient results rather than creating a quality healing process.

How come these ancient interpretations of one's health and the sacred connection with the natural world have been lost?

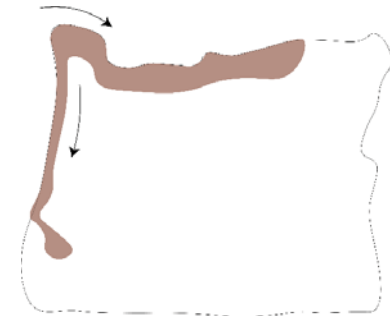
Unfortunately, these pathways of understanding the world established by the Greeks, Kogi, and Chinook were crossed with various events that caused these cultures to lose their transcendental understanding; the Greeks with 100's of years of various wars, conquering, and struggle for independence, the Spanish colonizing the Kogi, forcing them to assimilate, losing all connection to their ancient culture, and the Chinook losing incredible amounts of culture because of the diseases introduced by European settlers that plagued their people for over 100 years. This loss of ideas and ways of life, established by our ancestors, has reverberated through history and the implications of losing these cultures is being felt more every day.

Most recently, the advent of the industrial age in the 18th century has restructured our perception of health and healing, but has also given us an over-confidence which we express through our efforts to use technology for a sense of control and instant results. Even though science yields useful and practical data, it is an incomplete way of viewing the work. It is looking at the world in a statistical sense and eliminating the necessity to view the world from transcendental, non-scientific means. This incompleteness has become ignored by people so that the scientific approach seems rational and logical but when constructed in reality, it is lacking a connection with human condition and experience.

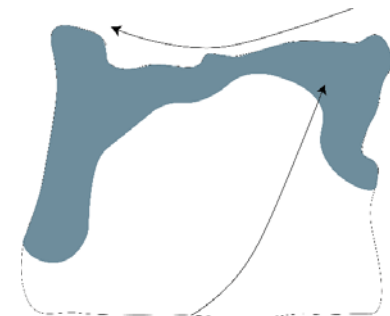
1775-1780
First Smallpox Outbreak



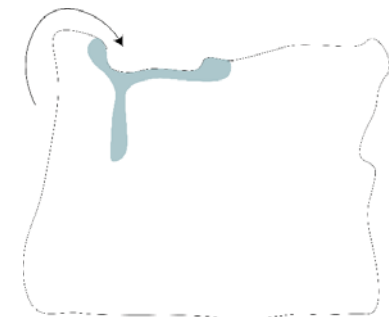
1801-1802
Second Smallpox Outbreak

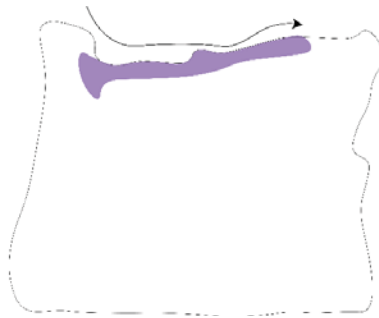


1824-1825
Smallpox or Measles



1830-1837
Malaria

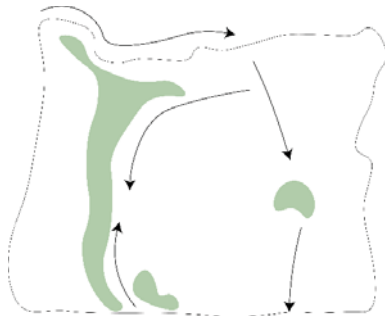




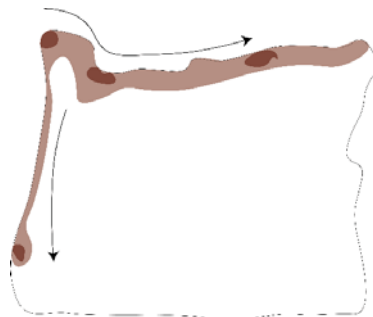
1837
Influenza



1837-1838
Smallpox Outbreak



1844
Dysentery



1853
Another Smallpox
Outbreak

Technology, has been and still is, in most cases, an instrument which has lent itself to a better understanding of the process endured to reach a solution. Unfortunately, this instrument has turned into a crutch for society where now health and healing are affected in a way where man has been intrigued with the notion of creating health, and uses technology as the solution, rather than a means to reach one. Healing has become impacted by technology where our understanding of health has been monumentally progressed, but through this progression, the process of healing has been diminished and the sole focus of, health care has become “to resolve” instead of “to heal”. Even though these words can be synonymous, their context with in my project defines them as two different acts. “To resolve” means finding the most efficient, cost effective, short-termed solution and move on to the next customer. “To heal” means aiding in the rebalancing of an imbalance within one’s life. “To heal” is a process to a solution but not the immediate solution. This process involves realizing one’s place within the world after an imbalance to health which will create a healing process that becomes organic and specifically addresses the patient’s needs. Health care needs to embrace this style of healing, rooted in history, that deals with the patient on an individual and more personal level. Technology has framed an incomplete path of healing by becoming the solution instead of a tool that helps achieve a solution.

“The question is whether science does, or ever could, present us with the picture of the world which is complete, self-sufficient and somehow closed in upon itself, such that there could no longer be any meaningful questions outside this picture”

– Merleau-Ponty



Research

Theoretical & Social Context

Path Finding

In no way is this an attack of using technology, just a realization of the its context within the medical field. Technology has taken precedence over issues such as patient priority and individualization by creating a standardization with in the health care industry. This type of standardization is seen through less and less quality patient/doctor interaction, preconfigured rehabilitation programs for individuals, under stimulating healing environments cut off from social interaction, and a perception of reality created from a scientific bias. In order to find a solution that reframes the use of technology in modern society, research must span a variety of professions that orient their work to understanding the world from philosophical, poetic, artistic, and human focused perceptions.

Hans-Georg Gadamar, modern philosopher of health, states how the doctor used to know the entire family and would make house visits to the patient. This gave the doctor the ability to not only get to know the family but also to observe living conditions which can offer insight into the patients' lifestyles. Just as it was recorded with the Greeks, the doctor was tasked with being observant of a patient that reaches beyond the physical, these observations must be made in order to gain insight to the psychological state of the patient. Even though this type of patient/doctor relationship has lost its



relevance today, it is important that health care design offers an option of spaces that promote patient comfortability with the doctor and the facility.

This perception of comfortability must be established with the patient immediately so that the correct healing path may be embarked on. It is imperative to establish a positive perception of health with the patient. This stage of the healing process is encountered at the beginning of the journey, and without the patient having a positive perception of health, then the healing process will be rendered worthless. Unfortunately, health care design today has taken on a standardization, much like that of the current healing process, where data eliminates the human condition therefore perpetuating a negative patient perception of health and healing.

Health care design has created spaces that are under stimulating, out of place, and out of touch. In terms architecture, health care facilities are designed off a standardized design that claims to heal but only focuses on the functional aspect of health care. These bland buildings offer limited natural light, minimal social engagement, and functionally resolve a patient's injury rather than heal them. The functionalist approach to architecture limits the view of architectural work into the constraints of logic and reason, which neglects the existential context of the design work. This approach ignores the human perception of architecture and eliminates the use of our senses to guide the design. Without our senses, we cannot perceive the world or construct a proper reality because we would not have the tools to evaluate, analyze, and synthesize our surroundings. In a similar sense, health care architecture has become a senseless design style because the design neglects the intimate experiences and moment a user has with a building. Rather, science, and data have become the means to design. A balance needs to be restored and a change must be made, especially in the realm of health care, when it comes to considering the human condition and designing effective healing spaces.

Architecture can be more than a shell for healing, it can become healing. It can provide a pathway of healing that creates a multitude of healing journeys, embarked upon by every individual in their unique way. Architecture is not just a purely experiential. A successful work of architecture fuses together the physical and psychological and creates moments that are felt throughout

the entirety of one's being. The idea that architecture is only present in the visual sense if the product of the technology crisis that is present. Design can look great on paper, in section, in plans, in the mathematical formulas used to reach a solution, but no amount of math and logic will every fully account for the human experiences that will take place with in a building. For a design to be truly effective, it must meld together the old and the new, to create an interpretation of healing that points beyond itself to a collective of healing processes rooted in history. In order to break the mold of current health care design, this thesis will create architecture that challenges current design standards that will reframe the way society heals.

Ultimately, health care has fallen away from considering the human condition. This efficient style of resolving neglects to consider connections the body creates to an individual's surroundings, daily regiment, and social interactions. When a person falls out of balance with health, it creates a disconnection from the way life was by manifesting a new, foreign style of living. Some current health care treatments shroud injuries with synthetic chemical combinations that mask symptoms by a false sense of balance. Health care needs to be focused around healing the entirety of the injury by considering the mind, body and soul just as our ancient ancestors once did. This requires a releasement of how life was, and reframing of the current perception of health care through precedents that cover a range of typologies.

Reframing the Pathway

Constructing reality, creating a perception and realization of the world around us is not only apprehended through scientific evaluation, but also through sensual perception and participation of the world around us. Works such as poetry, philosophy, art, and fictional creations lend themselves to the human understanding of reality. These means of humanistic understanding may not directly point to perception in the world, but through the user's, viewer's, or reader's participation, truths of the world will be realized through a process of relearning to view the world as viewed through the lens of intellectual and metaphorical writings and creations and participation of art work. Writers



such as Ponty, Marcel, and Husserl have put into focus phenomenology's influential presence on our procurement of knowledge while also stressing that understanding of the human condition is at stake; being encroached upon by the developing disconnection from human experience. Martin Heidegger believes this disconnection comes from a "calculative or representational thinking" we have been accustomed to, rather than having the ability to achieve "meditative thinking" which focuses on reality and our existence through an existential lens. Through his art work, Olifur Eliasson strives to achieve the same level of reconnection with the human condition by bringing into focus the act of perceiving the world around us by capturing the "fleeting characteristics of nature." By creating intellectual analyzations that point beyond themselves or art work that drives our attention to a deeper understanding of the world, these writers and artists create tangible realizations of the distance between us and the human condition. The focus of this paper looks at understanding the motivations and anticipated outcomes behind the 2003 exhibition "The Weather Project" created by Olifur Eliasson and evaluate Martin Heidegger's *Gelassenheit* with a final section, integrating ideas already established by these intellectuals, into the work and ideas present with in my artefact.

Olifur Eliasson is a Danish artist who focuses on combining phenomenology with sensual artistic experiences. The goal of his work is to bring into question aspects of art in terms of who decides what reality is, the creator or observer, and the motivation that causes people to interact with a space. These aspects brought into consideration are the lenses through which participants experience the work and therefore because of their participation, they have the ability to contextualize themselves in a space through the art work. This analyzation will begin to breakdown the reasons behind the creation of his work "The Weather Project", through an understanding of his process and the deliberate decisions fueling the creation.

"The Weather Project" was a manifestation that addresses the control a city has tried to place on nature and nature's tenacity to, in some way, overcome man kind's illusion of control. Weather is one of those natural processes that can be experienced throughout a city where nature is "controlled" and "cut off." Weather can shape the city but the city can also be a lens in which



weather can be experienced.

“Every city mediates its own weather. As inhabitants, we have grown accustomed to the weather as mediated by the city. This takes place in numerous ways, on various collective levels ranging from hyper-mediated (or representational) experiences, such as the television weather forecast, to more direct and tangible experiences, like simply getting wet while walking down the street on a rainy day. A level between the two extremes would be sitting inside, looking out of a window onto a sunny or rainy street. The window, as the boundary of one’s tactile engagement with the outside, mediates one’s experience of the exterior weather accordingly” – Olafur Eliasson

In creation of “the Weather Project”, Eliasson intertwined perception and experience in order to create an understanding or realization of the world and its influence on us. The experience was created by transforming a large museum space into a representation of the “fleeting characteristics of nature” through the perception that nature influences us but is “beyond our control”. Eliasson created the piece, by placing a mirror on the ceiling that reflected the floor but also a yellow – orange-ish half disk that symbolized the sun along with light fog that blurred the defining details of the space. This use of fog, light, and reflection made the large, expansive, museum space palpable for the user’s while causing them to literally to see themselves through the art work. Reflection of the user in the piece was meant as a physical representation of the work of the work. The main theme behind this piece, and many other works done by Eliasson, is meant to examine, and reconfigure the body’s relationship to space while also creating an urban atmospheric lens for understanding the reciprocal relationship of the weather shaping the city and vis versa.

Eliasson took two specific ideas (city & weather) and used symbolic elements of both to create a representation the defined the relationship of city and weather. The symbolic representations of the urban and natural are perceived by the viewer which invites them to participate with the exhibit, where the exhibit becomes a sensual and perceptive experience. Beyond exhibiting the apprehension of reality through the sense of urban and natural elements, Eliasson’s creation also addresses the perception of space by incorporating participatory elements: the mirror, the fog, and the light; which gives the





overwhelmingly expansive space tangibility through interaction. All of this is done to contextualize one with the world they live in and create an understanding of the dynamics involved with this complex relationship of city and weather.

Martin Heidegger, through the writing *Gelassenheit*, created instructions for achieving a reconnection with the human condition that would expand man's way of thinking about and perceiving the world. *Gelassenheit* looks to overcome subjectivism which is "setting up the thinking 'subject' as the highest principle of Being, and subordinating everything to the demands of the subject". This embodies an essence of future thinking but is non-existent in the realm of willing. First, we seek to want non-willing, which goes beyond willing and cannot be reached through willing it. That is when we lose ourselves to the essence of thinking. This brings us to a state where man has no will. This act "wakes up" ourselves and is the foundation for a motion towards viewing the world from an existential perspective. "Waking up", as described by Heidegger, is a releasement of things or being open to the mystery which is achieved through a "persistent courageous thinking", pushing the boundaries of established habitual thought; meditative thinking. In contrast with meditative thinking, the traditional way of thinking in Heideggerian terms, is representational and belongs in the realm of willing.

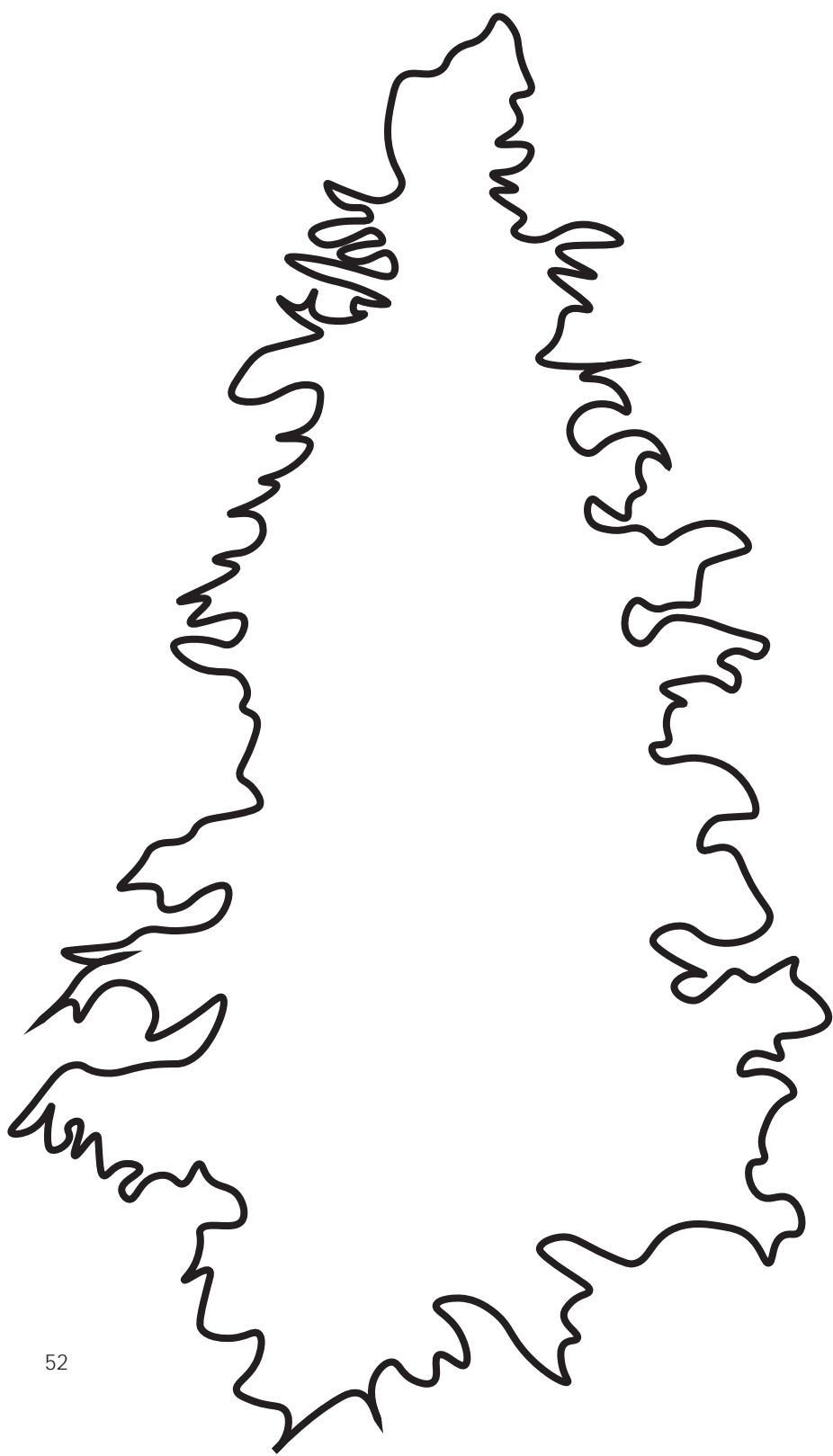
In reaching *Gelassenheit*, a person begins to question everything about themselves; statements, interpretations, beliefs, values to name a few. It directs you to be open to different perspectives which creates an open-mindedness, prepared to achieve an inaccessible awareness that is only reached through relentless dialogue that points beyond itself. This presents the opportunity to convert traditional, representational ways of thinking into meditative thinking. Think without questioning the subject of thought. It becomes a moment of disorientation, suspension which leaves one open to what shows itself. This type of waiting "does not expect, because it does not know what to expect". Once the subject of thought comes into question meditative thinking transforms back to the representational way of thinking. Knowing or thinking of what is being waited for, it becomes an expectation, which then becomes represented in one's mind, transforming one's thinking back to representational.

By threading a perception of technology through various means of constructing





reality such as art, philosophy, and poetics, a reframing of ideas can emerge from the edges of knowledge that is gained through a variety of means and mediums. It is important to use the work of these philosophers and artists as way to understand the importance of creation as a means of connecting to a larger continuum of ideas. In terms of architecture, the design outcome of this thesis will reflect the realizations previously made and collage them in a way where healing and healing environments are understood through the interactions with Healing Pathway's.



The Artefact

Inspired by the research and the culmination of ideas, reality creation, and deeper understandings, an artefact was created in order to artistically express the intended use of the previous research and predict the architectural outcome of this project.

The artefact created is an experience that works to embody a refined process of healing through cultural influences, technology, nature, and reconnection to the human condition. The user is drawn through an experience that establishes a reconnection to a cultural and natural environment, creates a new realization of the user's place in comparison with nature, and elicits a reflection on the current perception of the healing process compared to the process of healing metaphorically established by the initial experience of the artefact.

Upon the initial experience, users enter and are forced to consider the movement of their body in relation to the 4 partially framed forms cut out of thin wooden panels. The use of 4 panels has significant connections to the Chinook culture symbolizing their 4 life purpose ideals woven into my project; strong





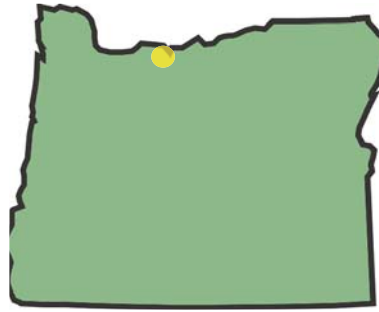
body, clear mind, pure spirit, devotion to the welfare of others. From behind the user, a light will be shining in their direction causing an image of a tree on the back wall with the user's shadow cast in the middle of the tree outline. The partially framed panels and light being cast alludes to reforming our use of technology where it becomes an instrument that can help create a frame of understanding or shed new light on forgotten ideas and perceptions. While moving through the artefact, the smell of the fresh cut wood and shadows of the wooden panels created a feeling of being immersed into a forest. The 4 panels placed at different heights and distances force the user's body to twist, turn, and step over parts of the exhibit while also creating an enticing visual allure through the aesthetics of the piece. The forms, pathways, and emulated feeling of the forest all predict the architecture for this thesis in that it will cause the body to move and provide healing through its integration with nature and connection to a history of healing.





Once the user nears the end of the experience, they are faced with the comparison of the tree to themselves through the shadows cast on the wall. This gives the user a sense of place because it creates a contextualization with nature through the tree. Creating a contextualization is a crucial function of the architecture created for the rehabilitation facility. People who have sustained a significant injury not only need to heal but also need to realize how this injury affects their lives in all aspects of the environment they interact with daily.

Lastly, once exiting the installation, the user is given a chance to look back and reflect on the experience, only to find the four tree panels fully framed and disorganized. This reflection serves as a visualization that symbolizes the framed control functionalistic health care design offers but shows its failure to frame healing in a complete and whole way. This arrangement and framing are representative of the relationship man has with technology. Technology has distorted our perception of the world in a way where we are under the notion that we have complete control. Framing of the pieces shows the influence of technology to construct reality but the disarrangement of the pieces show its inability to properly construct the complete perception of reality. This idea of technology incompletely formulating a true reality bleeds into the health care field through the lack of a healing process.



Site Analysis

Introduction

Site Selection

Selecting a site for this project was a long process because of the conditions that needed to be satisfied for Healing Pathways to be successful. The most dominating draw that guided my decision to design a building in Oregon was the constant mild weather throughout the year. I wanted to take advantage of the architectural opportunities that come from designing in a place that has a moderate climate swing. This opened the door for numerous, unique design options that highlight the natural and complete healing process taking place at this facility.

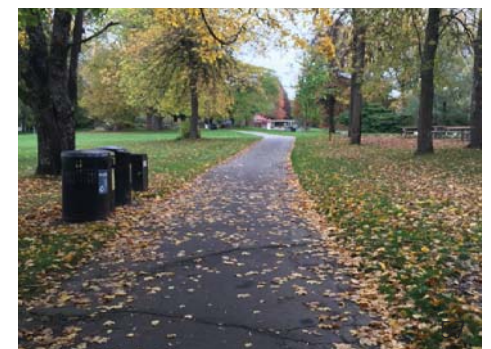
Site Location

Healing Pathways is located, on the edge of Blue Lake Regional Park, in the north-east most corner of Portland, Oregon. The physical rehabilitation facility rests on a steep sloping hill, facing east, looking over Blue Lake and Blue Lake Regional Park towards Mt. Hood. Its close proximity to the downtown area makes it a 30-minute commute from the heart of downtown, but the site's location is cut off from the hustle of the regular city life. This aspect made the site appealing to the integration of natural elements proposed for this project. The maintenance of the park shows the dedication Portland has to preserving nature, making Blue Lake an ideal location to extend natural preservation into our built world used for practical and sustainable purposes.



While having a well-established history of being a gathering place for the neighborhoods around Blue Lake and Fairview Lake, the park also offers a variety of amenities for the adventurous Portlander. The opportunities to be active within the park is endless with its miles of trails weaving through the wetlands area and along the edges of the Lake and ponds. The park is home to a diverse and wide variety of vegetation, making the park a different adventure every visit throughout the year. Its unique location provides lush amounts of vegetation cover from ferns to dense pine trees towering over the site.

The opportunities presented by the site, on the edge of Blue Lake Regional Park, made it the perfect candidate for Healing Pathways. With its dense vegetation cover, maneuverability throughout the park, and open community access, the park offers a wealth of benefits for a facility conducting an outpatient rehabilitation program. Being an outpatient facility creates a unique opportunity to integrate the community into activities and spaces at Healing Pathways, fulfilling the goal of this design to fuse social interactions into the healing process.

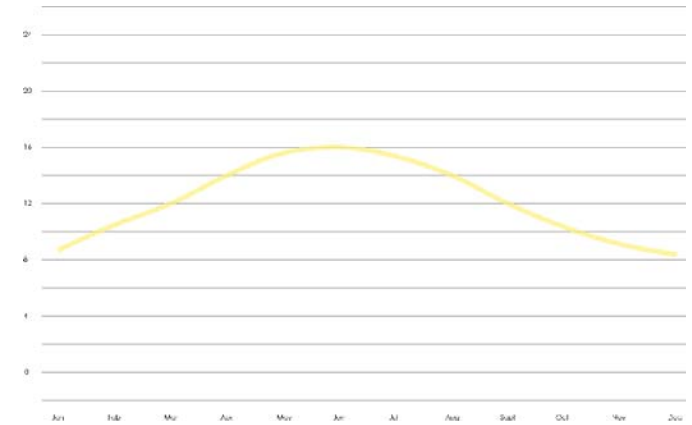
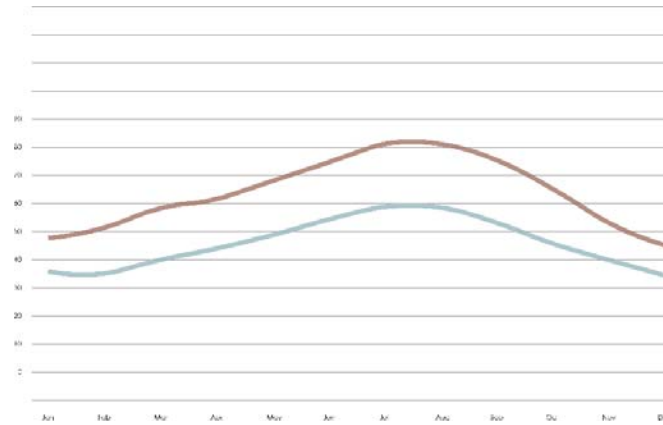


Site Analysis

Environmental Data

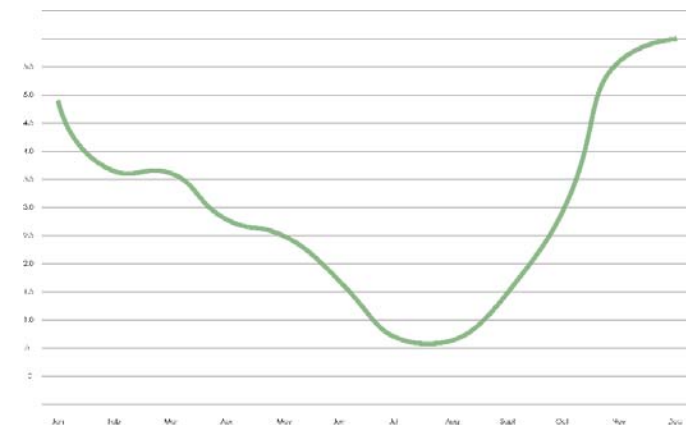
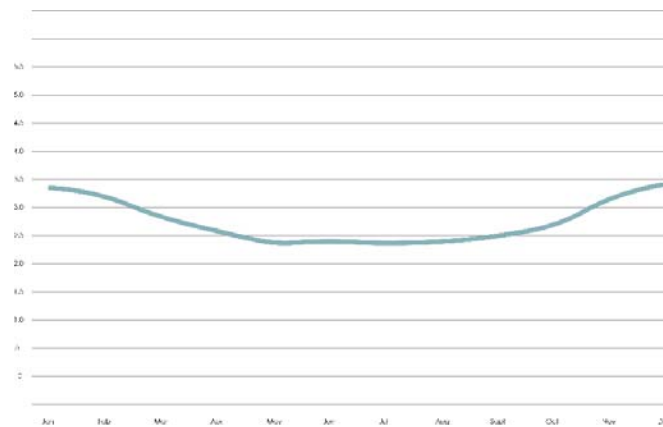
Climate

The climate region is part of the Western Cascades Montane Highlands, which has a mild climate year-round. Winters are cool, wet, and tends to receive rain frequently, especially the higher the elevation climbs. Summer are warm and dry creating a harmonizing balance between the climates of summer and winter.



Soil & Geology

The soil of the park is a mixture of cobbly loam to deep silt loam. Moisture is constantly being absorbed because of the medium amount of precipitation received every year. It is a common occurrence to find large basalt rock around the site because of the lava flows once produced by Mt. Hood.



Site Inventory

Park Amenities

- Soccer
- Softball
- Volleyball
- Basketball
- Disc Golf
- Play Areas
- Discovery Garden
- Picnic Areas
- Shelters
- Paddle Boat Rentals
- Fishing Spots
- Horseshoe Pit
- Discovery Garden



Within the park, there are many amenities people can take advantage of throughout the year. Another unique feature is the city's initiative to promote learning by making the park more than physically interactive, but mentally interactive. The park takes advantage of various learning opportunities such as labeling all the plant species with specific information pertaining to the plant. Park signage makes a point to inform people about ways to keep the park clean and even gives pointers on how to check for stowaway seeds and other plant materials.

The dedication the park has to its context is take one step further where the park has established learning stations specifically for preserving the history of the Chinook culture native to the area. In a way, the park makes a connection back to the Kogi aboriginals in its effort to make a connection to everything within its space by calling it out and making it known.



The immediate surrounding area of the site provides multiple points of interest that entice people to engage with the far west corner of the park making the site for my building a destination within the park. Park features such as bridges are found going across the northern pond on the site and endless winding trails with various difficulty infiltrate all corners of the park. Mt. Hood can be seen perfectly framed by pine trees on the far east end of Blue Lake. One of the more significant features of the park is the memorial established for the Chinook Native Americans on the west side of Blue Lake. This memorial commemorates their heritage while preserving their place in history and on the site with a traditional totem poles, a Chinook artifact, and information about their ways of life.

Site Inventory

Destinations

①



bridges

②



various trail difficulties

③



views of Mt. Hood

④



Chinook Heritage Memorial

Site Inventory

Plants

Maple Tree



Dogwood



Deer Ferns



Birch Tree



Douglas Fir



Seedum



Design Solution

Process Documentaiton

The focus of this thesis has been to create a reframed view of healing through the edges culture, nature, and technology. To successfully intertwine those parts required a rigorous process of research followed by an artistic expression of the research through the artefact, which was then used to predict architectural design decisions, and lastly, translated into a work of architecture. This process of architectural exploration has led to a design that integrates cultural views, natural elements, and technology in a way where the end product has produced a reframing of healing. This process became cyclical at some points in design where new realizations were made that would establish a new understanding of the project. These new understanding constantly altered the project in order to mesh the final outcome cohesively with the research procured as a foundation.

Process Documentation

Artefact

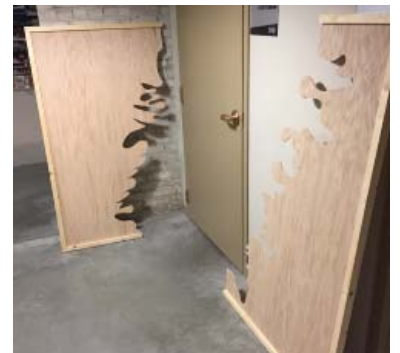
Initial Scale Model



Artefact Stencil



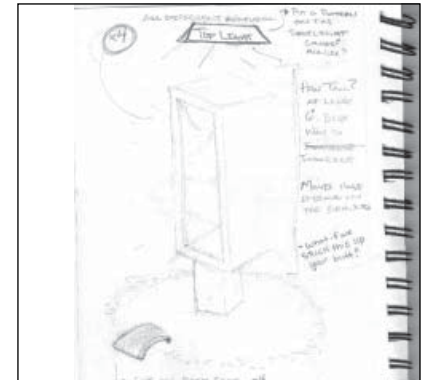
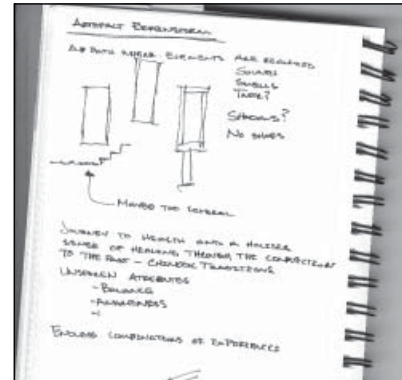
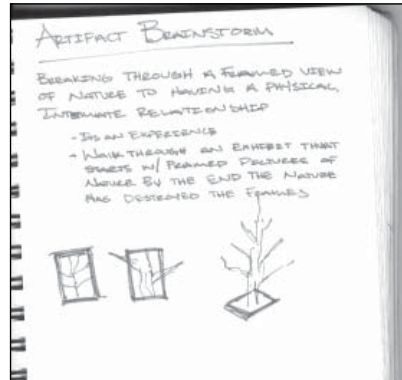
Frame Assembly



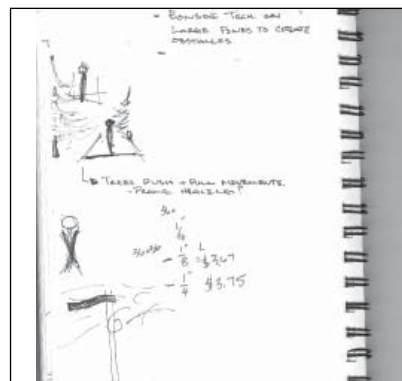
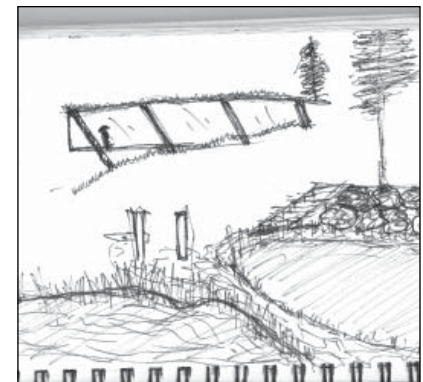
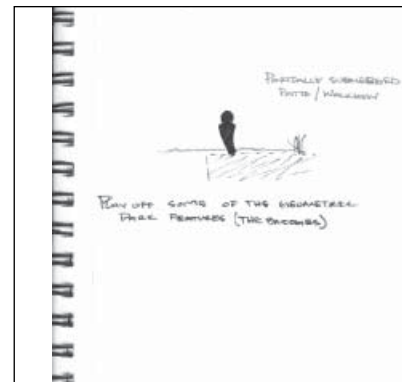
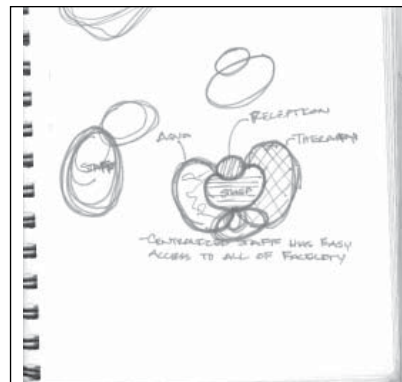
Process Documentation

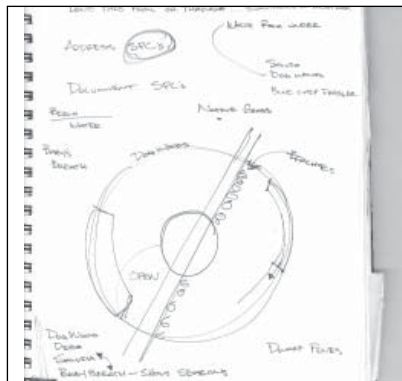
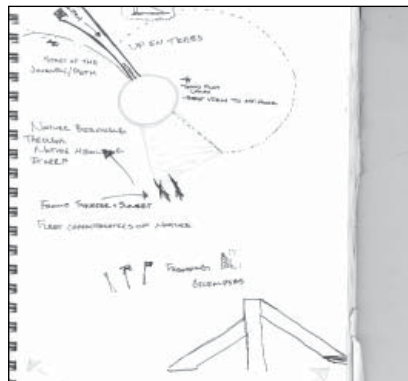
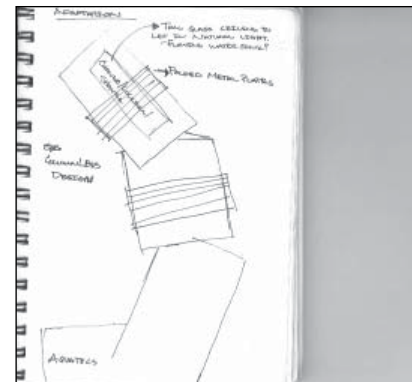
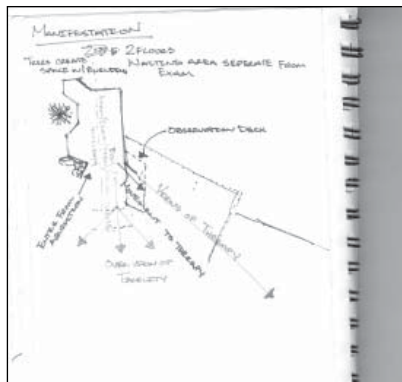
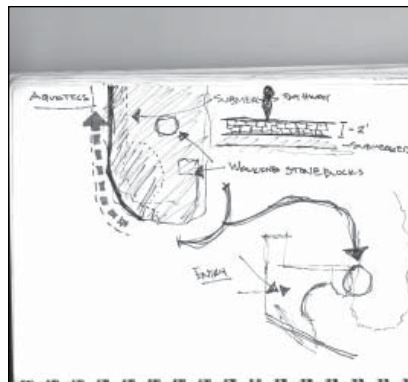
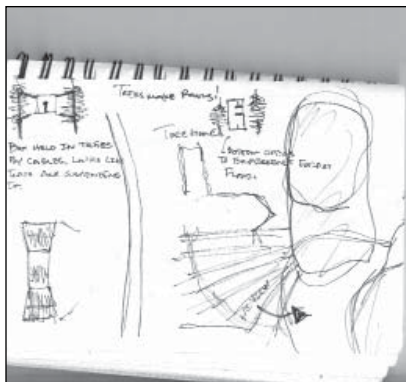
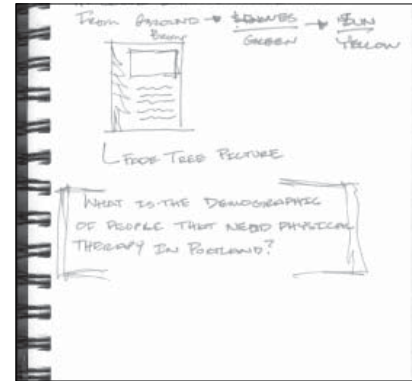
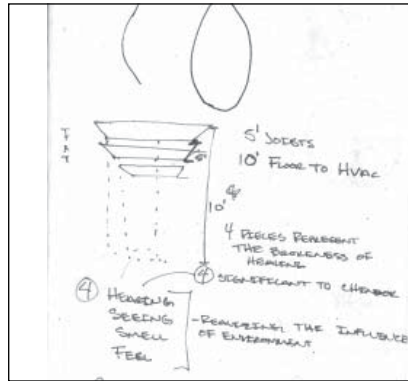
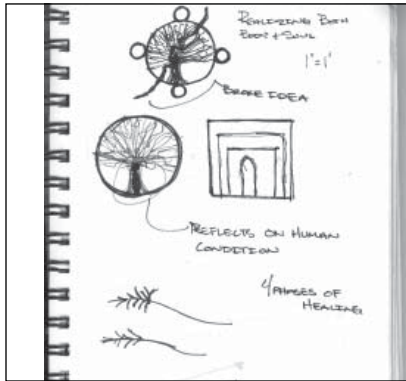
Sketching

Artefact Sketching



Design Sketching





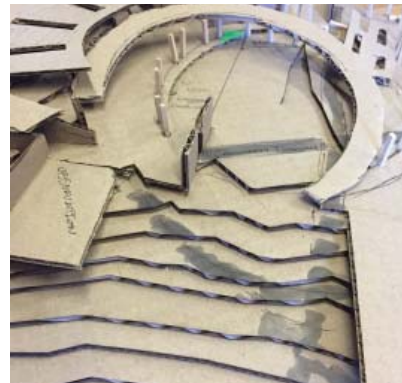
Process Documentation

Modeling

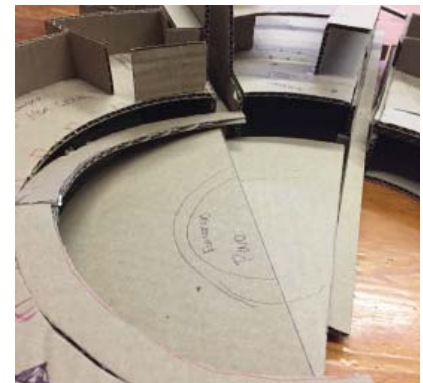
Stage 1 Modeling



Stage 2 Modeling



Stage 3 Modeling





Process Documentation

Final Model





Design Solution



Healing Pathways is a physical therapy retreat and park extension developed around exploring what it means to heal through research of the natural world around us and cultural ideologies foreign and native. This research has created edges that define pathways towards a more complete healing embodied by an architectural expression; challenging the way our society currently heals. Through this extensive process of researching and creation, the final design solution of Healing Pathways embodies a complete healing by becoming the path of healing through its architectural expression.

Site Plan | Site Elements

Roof Materials



Staff Entry

Patient Entry/Exit

Service Road

Parking

Community Entry/Exit

Exit

Service Entry

NE Interlachen LN

Green Roof

Cedar Roof Path

Metal Panel

Skylight

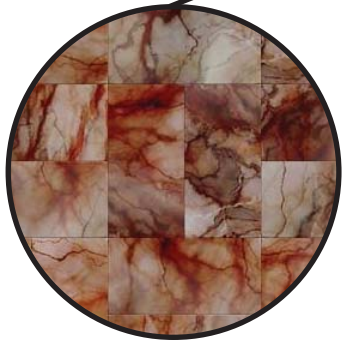
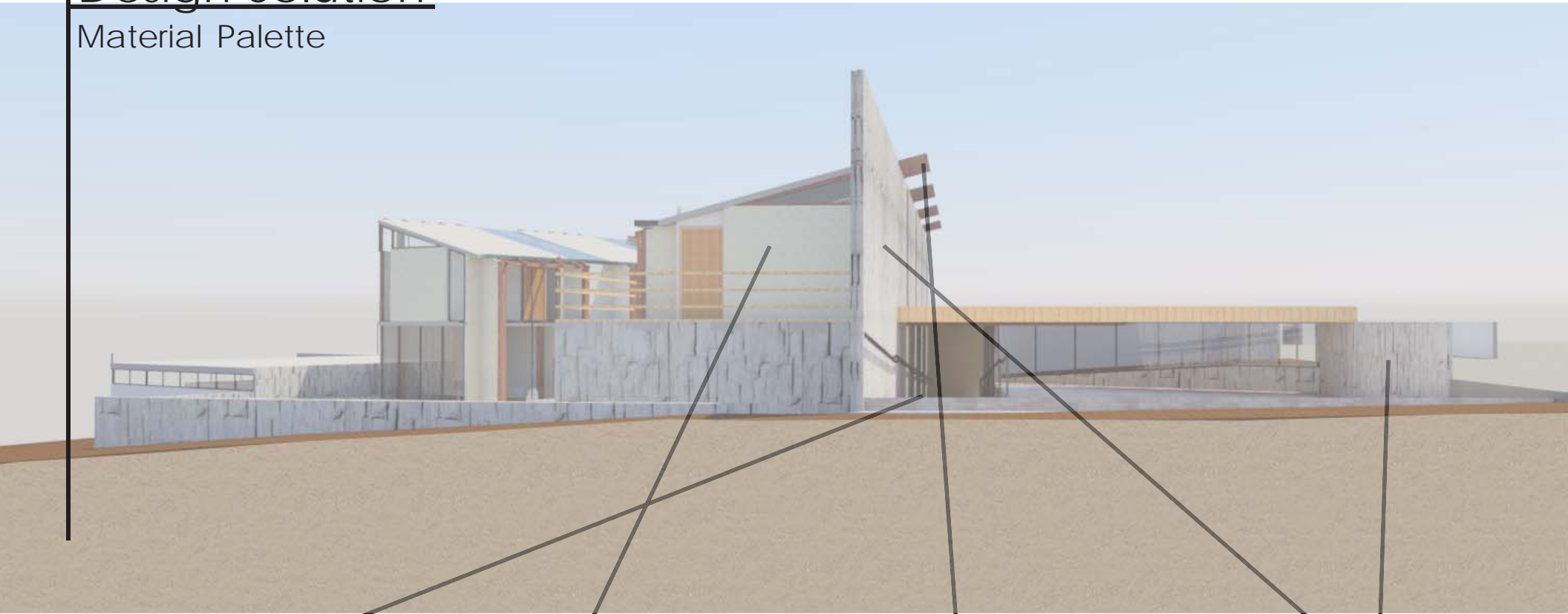
Design Solution

Material Palette

Materials chosen for the building reflect several aspects of the governing ideas embodied with the design, Board formed concrete is the main concrete material for the walls throughout the facility. The concrete brings the cold and heaviness of the mountain into the building; its presence is felt through the concrete, making it perceived inside while only allowed quick glimpses of the actual mountain throughout the building. The marble veneer as the flooring material begin to delineate the healing path within the building by creating a correlation between the circulation path and the marble material. The other major material element present throughout the entire project is the cedar used for the beams and columns. The use of cedar has two significance to this project. It pays homage to the Chinook by incorporating a material they revered as sacred. The Chinook used cedar as an ingredient for everything, even their medicine, so in a symbolic gesture this building pays respect to their culture by make cedar part of the healing process as they once had.

Design Solution

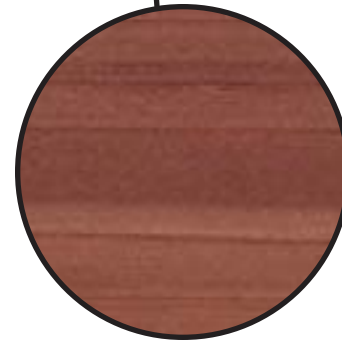
Material Palette



marble veneer



concrete



cedar



board formed concrete ⁷³

Level 1 | Patient Entry



Upon entering the building, the patient is immersed into the hill where they way they once perceived nature is challenged and altered. The earth up past their waist, the ferns greet you with their overgrowth through the building wall, and the sunlight cast down by the cedar beams, directing the patient into the facility. Once the patient is near the end of the hall, they take a right to the reception where they are briefly given a glimpse of Mt. Hood; the end to their healing journey.

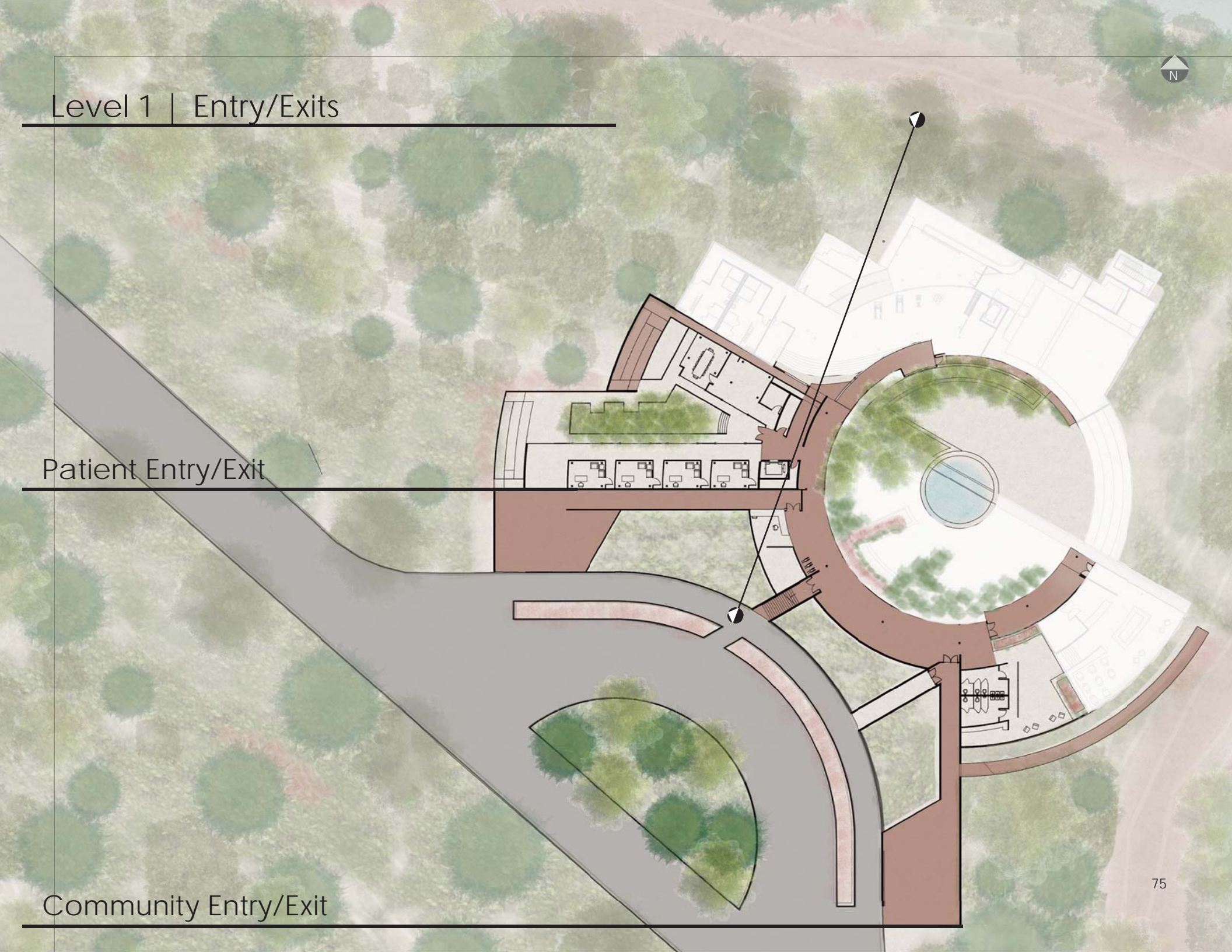




Level 1 | Entry/Exits

Patient Entry/Exit

Community Entry/Exit



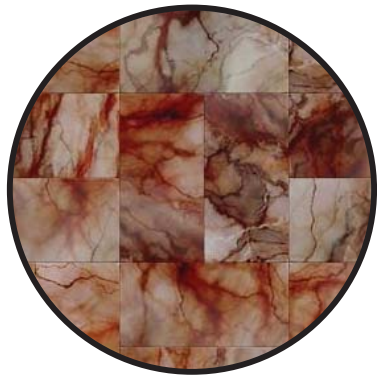
Section Perspective | Patient Entry



Healing Pathways

Circulation

As stated before, the circulation path is a visual symbolization of the healing journey embarked upon by the patient. It defines the fundamental steps to healing by guiding the patient through a process that lays down the foundations to creating the correct therapeutic program for the patient. From this path, the patient will be able to deviate and create their own therapy program, that is tailored to their needs but also guided by history through nature facilitated in this architectural expression.



Level 1 | Waiting Space



After the entry experience, the patient is sent towards the waiting space as indicated by circulation path. The waiting space is comprised of a small indoor space and large outdoor space. Again, the patient is confronted with yet another unnaturally natural experience. The trees of the forest punch through the outdoor space as though they are trying to take back the land once theirs while directing the sunlight in a deliberate manner. This space gives patients option of waiting in private or public, but overall creates a contemplative space meant for self-reflection and evaluation before their meeting with the therapist.



Level 1 | Waiting Space

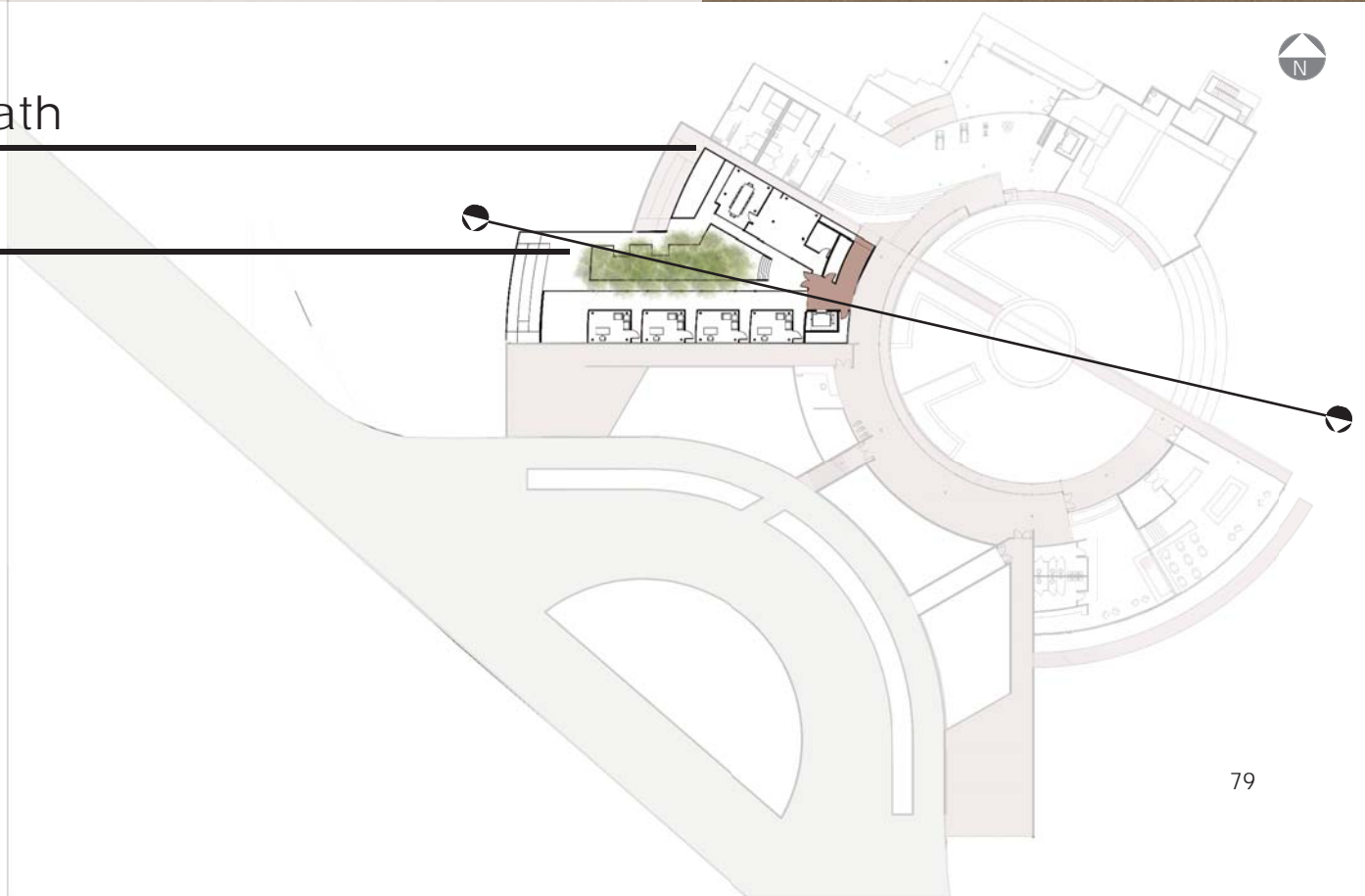


Illustration of the waiting space garden



Ramps to Submerged Path

Waiting Space



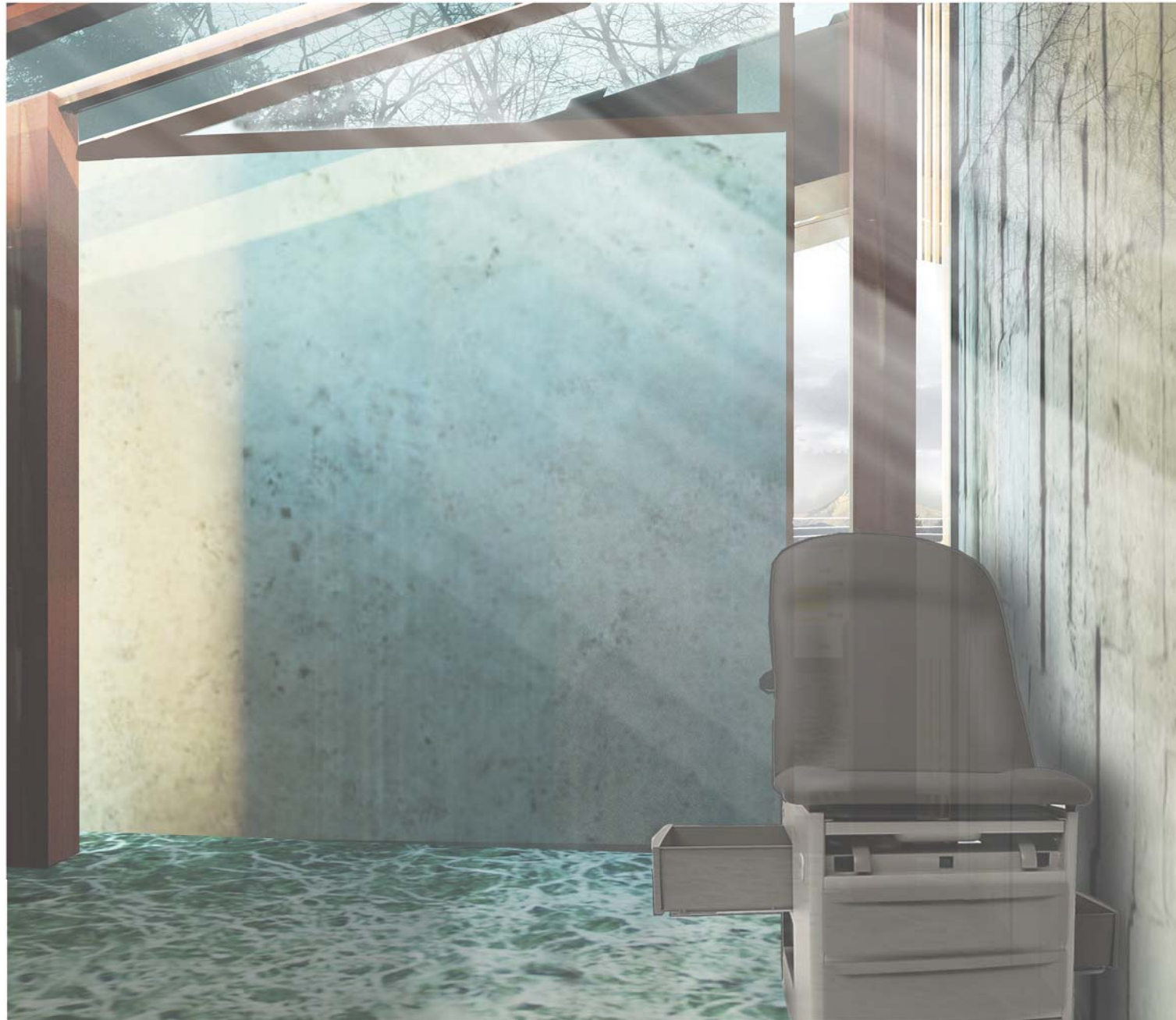
Section Perspective | Waiting Space

The indoor waiting space is on two levels. The second level can be reached by the elevator to the left of the patio entry. The second level is where the exam rooms are located.



Level 2 | Exam Rooms

The exam rooms were designed intentionally so that the light perceived in the waiting space is also the same light shining through the exam room. This technique lets natural light flood the room, but more importantly, it brings the contemplative atmosphere created in the waiting space to the room where they need to verbally self-evaluate with the therapist. This inviting, natural environment is a direct result in the design's intent to create architecture that promotes a positive doctor/patient relationship through the integration of nature.



Level 2 | Exam Rooms



Restroom

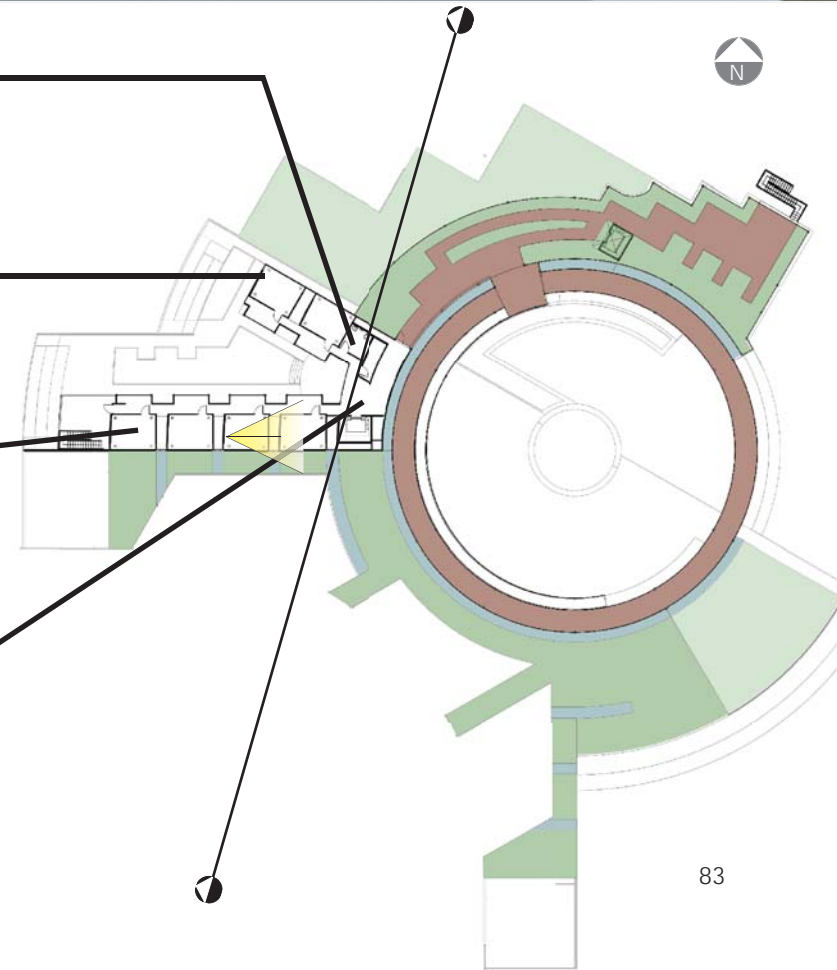
Exam Rooms

- (1) Kinesiology
- (1) Electromyography

Exam Rooms

- (4) Treatment

Level 2 Waiting Space



Level 2 | Therapy Roof Garden

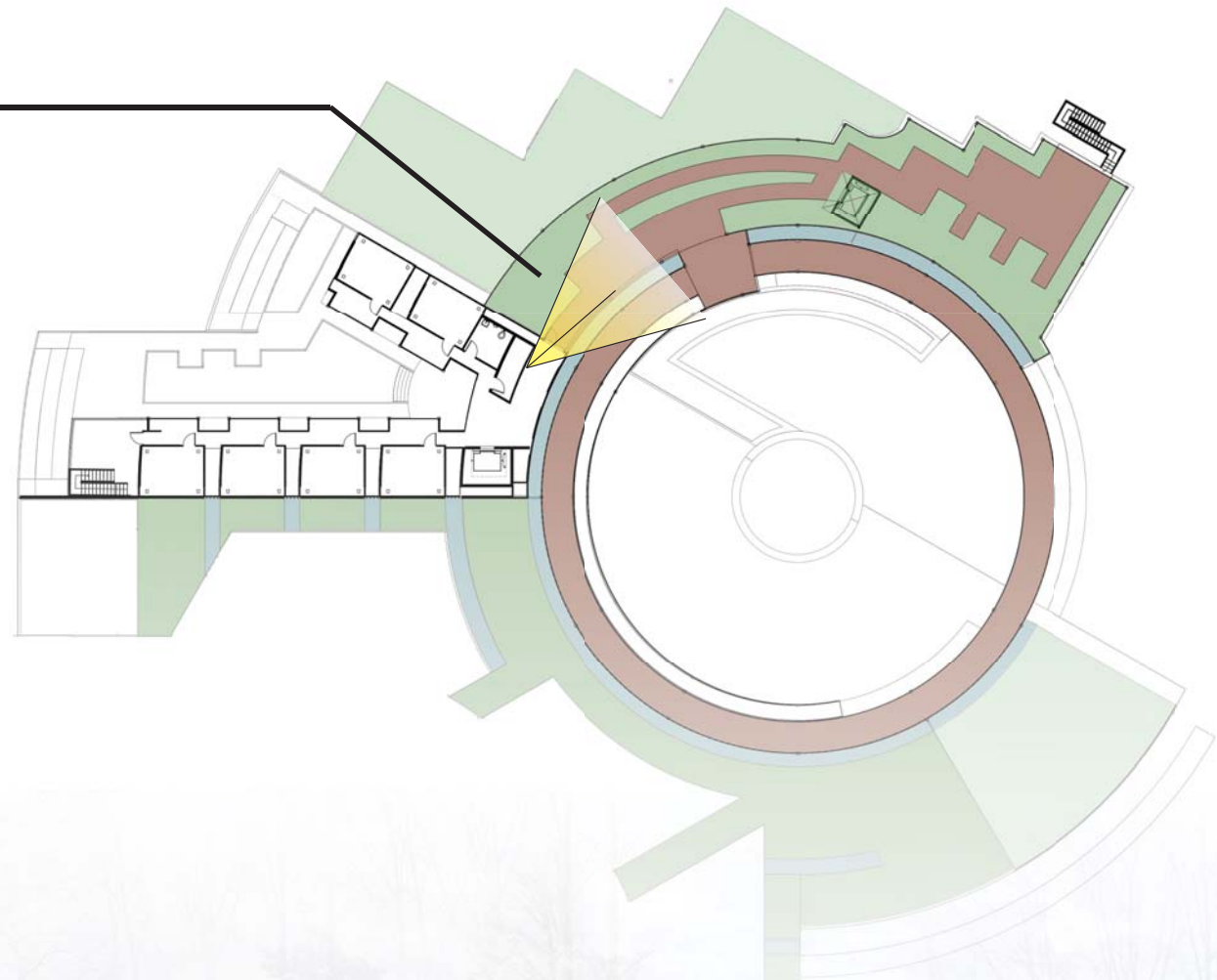
The therapy roof garden over the therapy exercise space is an essential part to the design that links this building to the social context of the research performed. This space was designed to create a place for community member and patients to interact. Therapy patients have the choice to be social active during their session or in a more private setting. This garden adds the social dimension to this design creating a type of healing different from most health care buildings today; socially integrated healing.





Level 2 | Therapy Roof Garden

Rooftop Garden



Lower Level | Therapy Space

Designed to be flexible and open for an array of uses, the therapy space is designed to give users a choice of how and where they exercise. There are many space the start of as public to semi-private to spaces outside that are completely private and focused on the site around the building. Patients are guided to this space by the circulation path but are left to choose how they interact with the architecture.





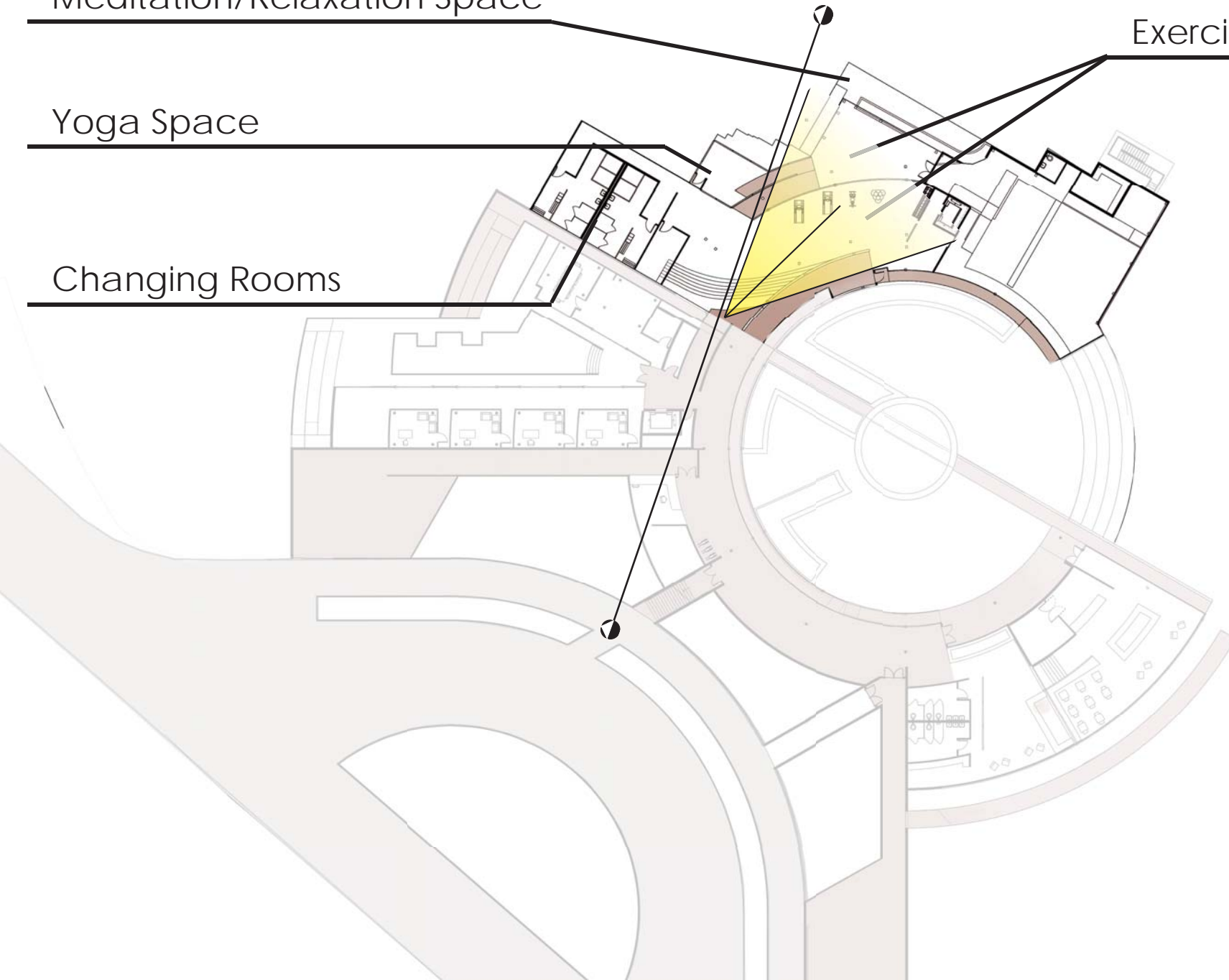
Lower Level | Therapy Space

Meditation/Relaxation Space

Yoga Space

Changing Rooms

Exercise Space



Lower Level | Therapy Space

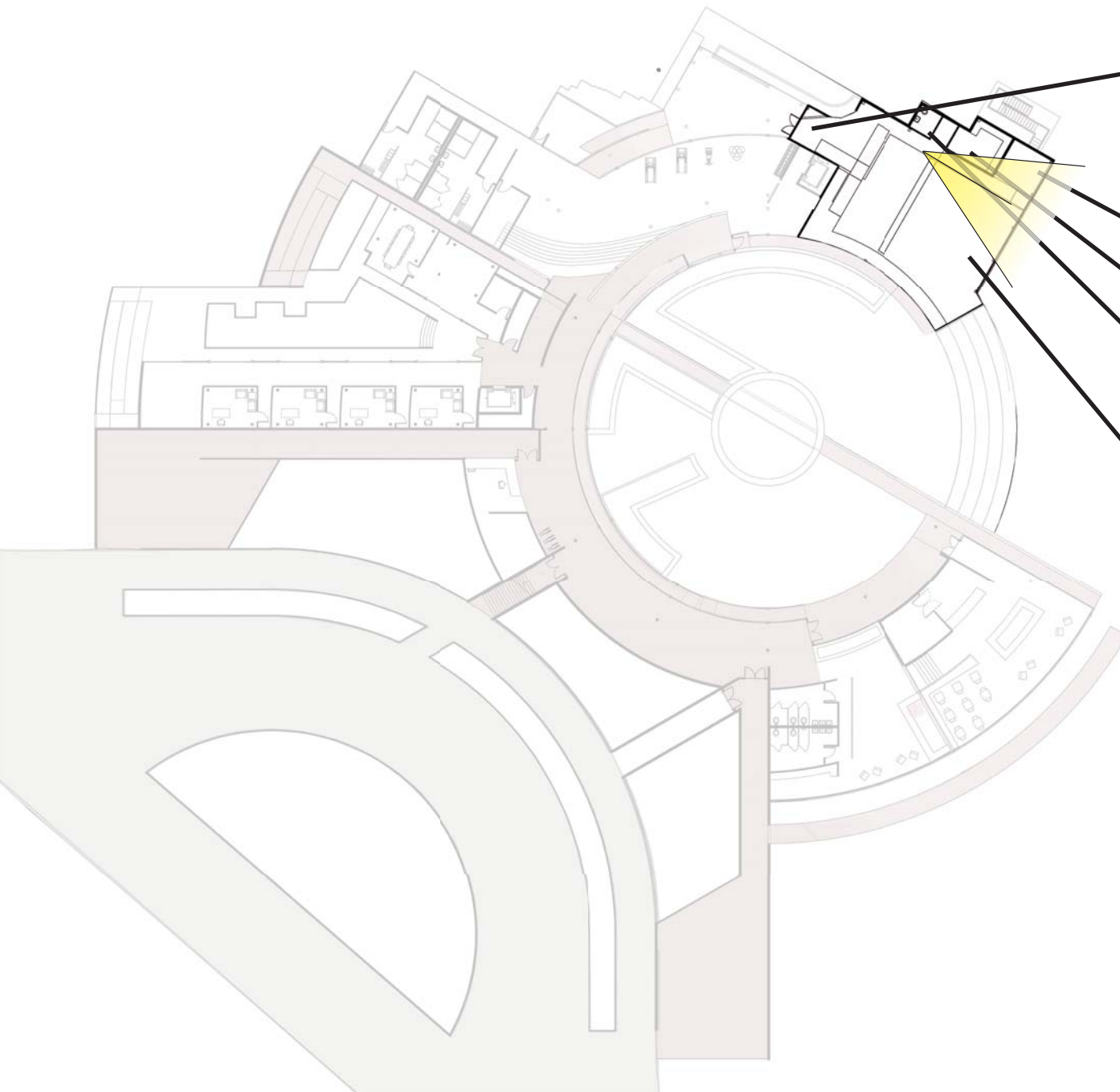


Lower Level | Aquatics





Lower Level | Aquatics



Entry

- towel pick up and drop off
- valuables storage

Whirlpool

Sauna

Restroom

Therapeutic Pool

- 3 Levels at 2 feet, 4 feet, and 6 feet deep

Level 1 / Lower Level | Central Garden

The final stretch of the healing process leaves the patient at the end of their path, given the choice to interact with the facility and its garden, join the community activities, enjoy Blue Lake Regional Park, or take the submerged path under the fountain and to the parking lot. Choice is a powerful aspect to healing. Giving the patient option on how they want to heal will produce the most effective results.



Submerged Path | Central Garden



The rewarding view of Mt. Hood at the end of the path.



Level 1 / Lower Level | Community Space



Level 1 / Lower Level | Community Space

Cafe

Chinook Gallery

Restrooms

Entry/ Exit

Lounge





Level 1 | Staff Space

Conference Room

Extra Space

Restroom

Maintenance

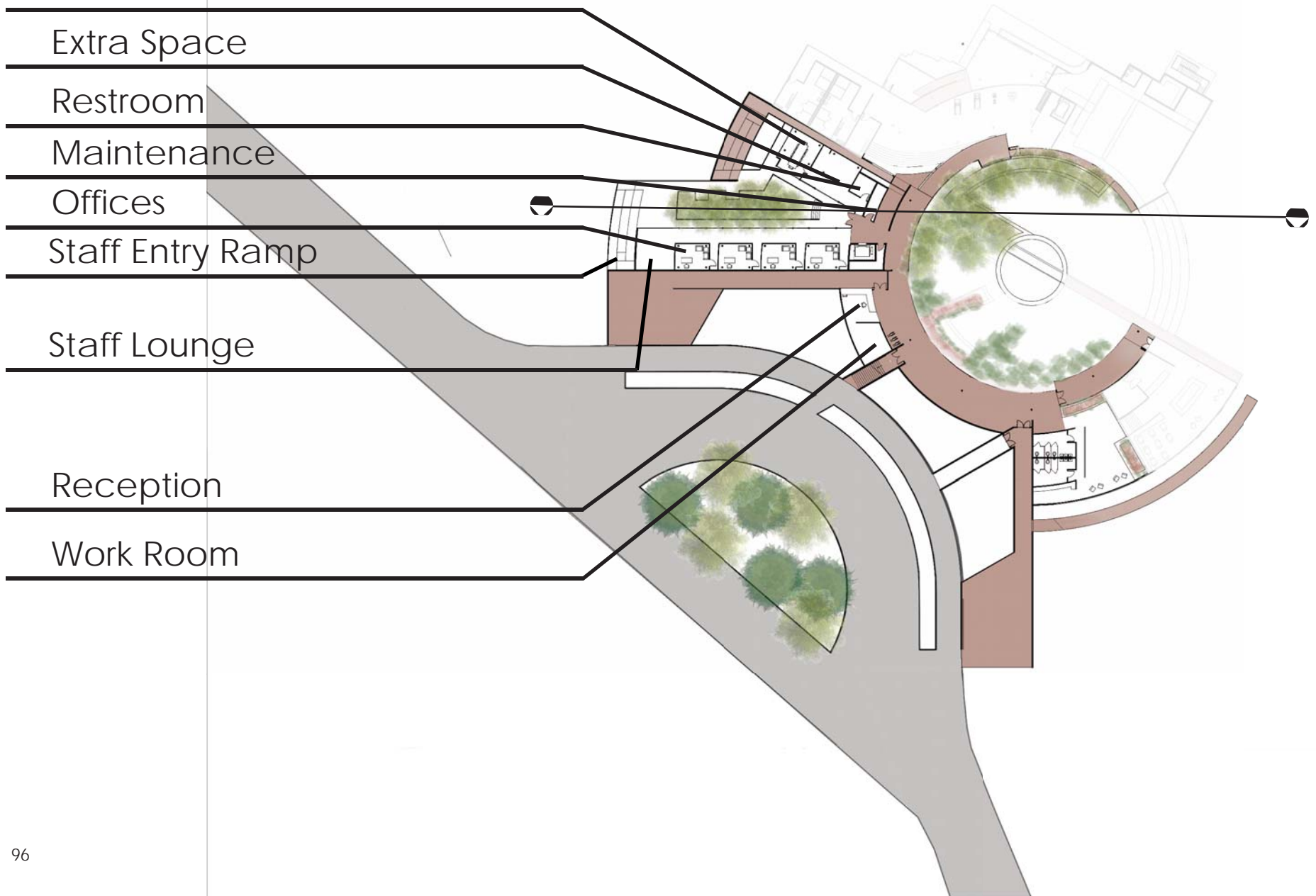
Offices

Staff Entry Ramp

Staff Lounge

Reception

Work Room

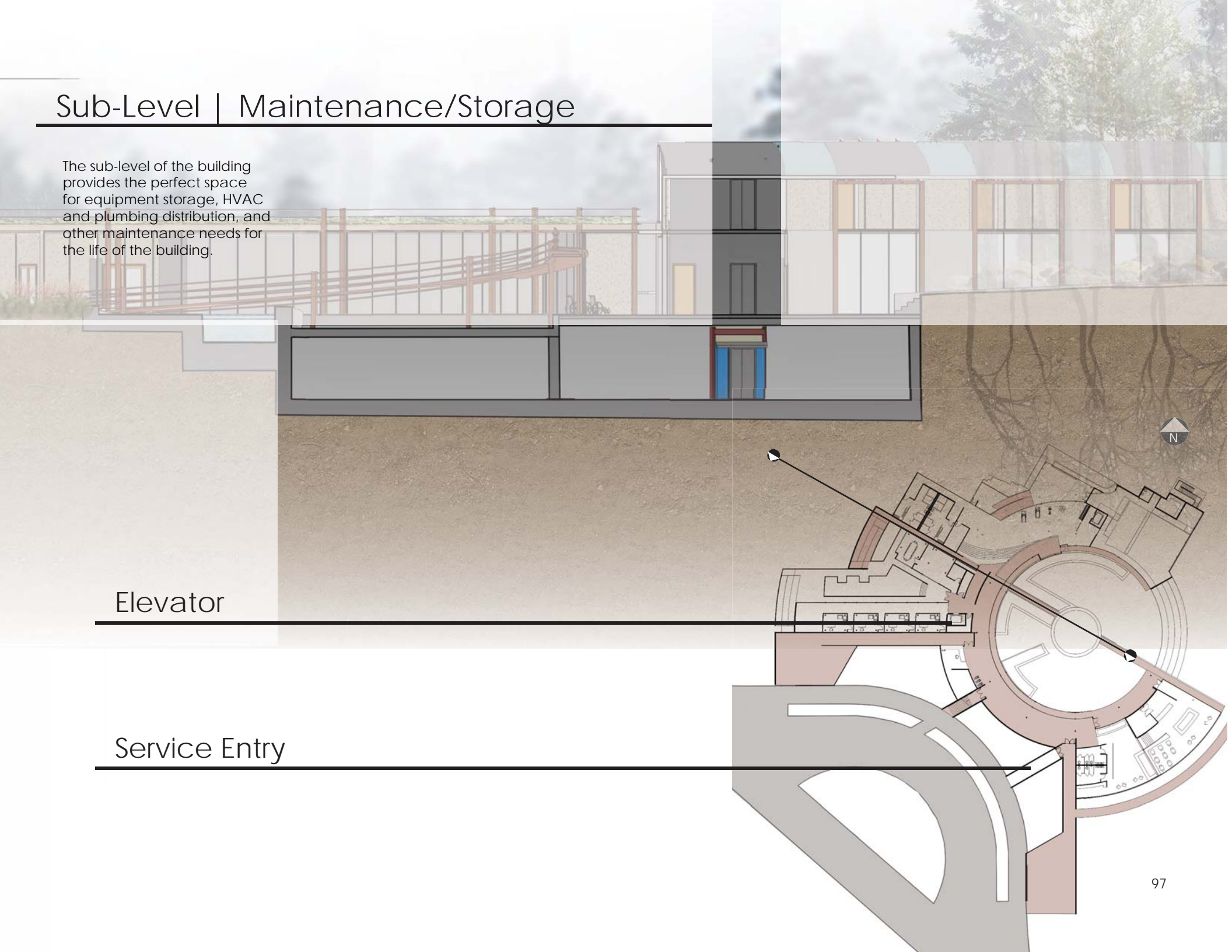


Sub-Level | Maintenance/Storage

The sub-level of the building provides the perfect space for equipment storage, HVAC and plumbing distribution, and other maintenance needs for the life of the building.

Elevator

Service Entry



Performance Analysis

Response to Site

The design solution implemented by this facility, created a contextualization with the site that would render this building useless if designed anywhere else. The views to the building are particular in the way that they begin to lead the users through spaces and establish an ending point to their healing journey. The building is also oriented in a way that makes use of the sunlight to guide users through the building at different parts of the day. For example, the entry hallway makes use of the morning sunlight to create a sense of direction that leads the patient down the ramp toward the interior.

Since the climate of the Portland area is mild for most of the year, the design took a form that receives the natural world around it as though it were born to be a part of the park. The building is constantly being bombarded with natural elements such as sunlight piercing the clouds and entering the exam space, trees and plants puncturing through the ground plane of the patio and reclaiming the land once theirs, and the fresh air infiltrating the building at every point, constantly bring a clean supply of fresh air.

Ultimately, the natural world inspired the design of the architecture. It gave way to a building form that takes advantage of the natural world, not only for its ability to breathe life into the building, through fresh air and natural light, but for its ability to guide the design in a way where it becomes as organic to the site as it is to the healing process it embodies.





Performance Analysis

Response to the Typological or Precedent Research

Many parts of the research conducted for this project, were pulled from various professions and turned into a culmination and continuation of ideologies rooted in history that all deal along the lines of perception and what it means to heal. These ideas together have created a concrete foundation for this building to be designed upon, that is backed by historical evidence. Traditional healing values were reintroduced from the study of Greek health and the ideas of health established by the Chinook Native Americans where the building treats healing with the same kind of reverence it gives the natural world around it.

The design also took inspiration from the style of architecture produced by Tadao Ando. With his attention to detail and his surroundings, Ando was able to create a spiritualistic sense throughout the design of The Church of Light or The Water Temple. These projects both serve as shining examples to this project of how architecture can create a slight disorientation for people that reorients the user to an understanding that points beyond the architecture created.

Lastly, the philosophical precedents of the project have implications that can be seen throughout the entirety of the design. These precedents shifted the view of healing from something that is created to something that becomes a process to a solution. This idea is perpetuated through the architecture and its ability to create a healing path for a patient to follow. This path serves as a guideline but allows the patient to freely embark on their own path of healing derived from the path of healing established by the architecture. The final design became a collage of various professions and ideas about health and healing, meticulously woven together with the natural world and the programmatic elements required for a rehabilitation facility.

Performance Analysis

Response to Goals and Project Emphasis

The primary goal of this project was to create architecture that frames healing in a way guided by the edges created by historical precedent, cultural health ideologies, a renewed reverence and connection to nature, and an integration of community members into the therapy program. This journey to a complete healing has come to a conclusion that has produced, in my opinion, architecture that truly challenges health care design in a way that is backed by research tying my ideas of health and healing back to the ancient Greeks all the way to modern times. This connection to the past through the present take my theoretical question about healing and answers it in a way that offers a solution rooted in an already established, deep understanding of healing.

The design successfully integrates nature throughout the building so that it creates a hyper-awareness with users that begins to re-evaluate their relationship with their natural world and how they contextualize themselves within it. By creating a new sense of contextualization through nature this architecture is able to focus users to become a bit more introspective and understand how the natural world is constantly affecting their body. This natural integration of the design not only happens with the way nature is experienced by the user but how the architecture interacts with the natural world. Healing Pathways creates a juxtaposition with nature that places an emphasis on nature's existence while making practical use of its elements within the programmatic elements. This emphasis redefines user's typical experiences with nature to bring forth a new understanding of themselves and the world around them.

The final emphasis and goal achieved through this design solution was to reorient health care's use of technology. Recently it has become a standard practice to use technology as the solution to health issues. Instead this project makes use of technology so that it resumes its rightful place in society as a tool meant to aid in the process of solution finding. This can be seen through modern building techniques that allows the architectural expression to place

emphasis on the environment. By creating this intimate relationship between the building user, technology and nature, Healing Pathways theoretically has the ability to shed a new light on healing that has been reframed to an attunement to the historical, cultural and natural.

Thesis Appendix

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Thesis Appendix

Image Citations

Pg.14-17

Floor plans-- <http://www.koenvanvelsen.com/en/projects/15/groot-klimmendaal>

Building in the winter pic--- <http://assets.inhabitat.com/wp-content/blogs.dir/1/files/2011/03/Rehabilitation-Centre-Groot-Klimmendaal-7.jpg>

Community space pic--- http://www.bna.nl/wp-content/uploads/imagetx_bnacorporatebe_projects/171/03%20GrootKlimmendaal-KoenvanVelsen.jpg

Pg. 18 – 21

Tadao Ando - <http://www.californiahomedesign.com/sites/default/files/tadaohead.jpg>

Water Temple - <https://s-media-cache-ak0.pinimg.com/originals/29/4e/0b/294e0b45da6dfe096ccc54032f06f269.jpg>

church of light - http://3.bp.blogspot.com/-2NZKDRSLCtk/UFpPZQg3dHI/AAAAAAAAADXs/F9TI6vEsUzM/s1600/tadao_ando___church_of_light_by_insomnia_devil.jpg

Man standing in Water temple - https://c1.staticflickr.com/6/5610/15346441969_4c1e20afb6_b.jpg

benesse house - <http://www.arch2o.com/wp-content/uploads/2016/06/Arch2o-Benesse-House-Tadao-Ando.jpg>

pg. 30

Physical therapy clinic 1 - http://www.adu.edu/sites/default/files/styles/hero_lg_landscape/public/physical_therapy_skills_lab.jpg?itok=8CCXNt1p

Physical therapy clinic 2 - <https://healthcenter.uoregon.edu/Services/Physical-Therapy>

Pg. 32-33

CASTING FOR RECOVERY LADIES - http://www.bcpartnerships.net/wp-content/uploads/2013/06/DSC_0070-Resized.jpg

Fly fishing - <http://tsoilcity.blob.core.windows.net/oilcity/2015/02/SG2A0618.jp>

Pg. 38

Man with nature coming out of chest - <https://www.pinterest.com/shalomo/visionary-art/?lp=true>

Pg. 40 – 41

Greek medicine image - https://upload.wikimedia.org/wikipedia/commons/6/6c/Medicine_aryballos_Louvre_CA1989-2183_n2.jpg

Chinook shaman - <https://s-media-cache-ak0.pinimg.com/736x/2a/48/de/2a48de0a7a4a0e96ca7697e428af5f24.jpg>

pg. 45

Church of light 2 - <http://www.tcccanada.org/2016/12/20/article-01/>

Pg. 46

Girl standing in rain - <https://s-media-cache-ak0.pinimg.com/564x/96/09/60/960960b58b7dde0aa827cb883793d8a8.jpg>

Pg. 46-48

Olifur Elaission (sun shot) - <http://twentycentgroup.tumblr.com/post/119690936637/lopera-the-weather-project-di-olafur-eliasson-%C3%A8>

People on ground - <http://scalesofperception.tumblr.com/post/61560136850/the-weather-project-olafur-eliasson-via-1-2-3>

Pg. 50

abstract art - <http://www.metalndvst.com/blog/2015/10/30/talent-crush-steve-demyan>

Project Installation

Healing Pathways

The Journey to Completely Healing

How can edges between nature and culture grow the framework for complete healing through architectural expression?


For centuries, our ancestors' views of health were derived from what they knew from the world around them. Greeks considered health to be a combination of body, mind, and soul, which comprised the whole of a person. Conversely, Chinook Native Americans divinely believed in a balance of the mind, body and soul which required a specific, attunement to their natural surroundings. Our ancestors' sense of health and healing came from their ceremonial and ritualistic attunement to their bodies and nature.

The awareness established by our ancestors created a sense of complete healing, that was an understanding of how their bodies were affected by their environment. Through the study of these cultural precedents, natural cues from the surrounding environment and a focus on physical rehabilitation, the pathways of this thesis created architectural design that acts as the framework for re-envisioning what it means to completely heal.

The journey towards complete healing derived inspiration from traditional Japanese architecture style. Anso's new interpretation of this style of design that emphasized the use of simple architectural expression to draw attention to things overlooked or taken for granted. The direct placement of materials and forms coupled with juxtaposition design techniques, Anso is able to create architecture that points beyond itself.

Healing begins with personal contextualization, which requires a thorough evaluation of one's self compared to the world in their current injured state. This contextualization of one's self was something the Chinook Native Americans understood as seen through their ritualistic and ceremonial interactions with the environment. They understood the environment shaped their existence, and because of this, they developed a spiritual reverence for nature.

Nathan Evermann | Arch 272 | Design Thesis 1 | September



Space Legend

Level 1: Entry, Waiting, Community

- A. Entry
- B. Reception
- C. Waiting Space
- D. Office
- E. Staff Lounge
- F. Conference Room
- G. Café Terrace
- H. Auditorium

Level 2: Entry, Waiting, Community

- A. Reception Path
- B. Bath Rooms
- C. Staff Offices

Level 3: Therapy, Aquatics, Community

- A. Café and Lounge
- B. Changing Rooms
- C. Triage Space
- D. Outdoor Communal Space
- E. Aquatics
- F. Sauna
- G. Wrappool
- H. Fish

Section Perspective

Therapy Space

Section Perspective



Therapy Space



Previous Studios

Arch 271 - Fall 2013 | Urness, Cindy

Projects

Tea House | Fargo, North Dakota

Arch 272 - Spring 2014 | Booker, Darryl

Projects

Dance Studio | Moorhead, Minnesota

Dwelling Project | Cripple Creek, Colorado

Arch 371 - Fall 2014 | Martens, Steve

Projects

Fire Station | Fargo, North Dakota

Cultural Center | Minot, North Dakota

Arch 372 - Spring 2015 | Srivastava, Malani

Projects

E-Fargo | Fargo, North Dakota

Arch 471 - Fall 2015 | Bakr M. Aly Ahmed

Projects

Highrise | San Francisco, California

Arch 472 - Spring 2016 | Gelye, Paul

Projects

Urban Renewal | St. Gilles, Belgium

Arch 771- Fall 2016 | Barnhouse, Mark

Projects

Wetlands Research Complex | Ulen, Minnesota

Identification

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Creativity has been a passion of mine for as long as I can remember. It was all sparked by reading the comics Calvin & Hobbes and then trying to emulate their perfect interpretation of what being a kid is like and how much better it is than being an adult. This spark of creativity ignited into a flame when I was introduced to Legos. That is when my creative spirit truly flourished. And from then on I was always creating and designing, large or small, if I could think it, I could create it. This fuel drove my passion for designing to pursue a career in architecture. Along with a passion for design and architecture I have an affinity for traveling, adrenaline induced activities, food of all kinds, good beer, and most of my close friends and family. Their unwavering support through this experience made this journey possible and has created one of the most memorable times of my life.