

ABSTRACT

Title of Document: HEALING SPACES : INCORPORATING GEMSTONE
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According to the American Institute of Stress, our society has been experiencing high levels of stress and anxiety which contribute to many health and psychological illnesses such as heart disease, chronic fatigue, anxiety attacks, high blood pressure and other illnesses. Since the built environment plays such an important role in our lives, it is important that designers explore ideas for creating places that help to counteract this unhealthy factor of contemporary life.

There are many ways in which scientists have found how one can change the behavioral state described above. One of them is through the use of gemstones and applying them to the human chakra centers. It has been found by those of spiritual practices, not specific to any religion, that the utilization of gemstones and chakra rituals can contribute to both calming and healing. This thesis explores how to utilize these discoveries and to incorporate design qualities that help relieve stress through sensitive and appropriate design. By combining these concepts for architecture and incorporating gemstones and chakras, this thesis will illustrate ways to create spaces where people can come to therapeutically relax and reconnect with themselves and like-minded patrons.

HEALING SPACES:
INCORPORATING GEMSTONE AND CHAKRA HEALING
INTO ARCHITECTURE

By

Meredith Friedman

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
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2012

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Dedication

This thesis is dedicated to my parents and Steve
for their consistent encouragement and love

Acknowledgements

I would also like to thank all three of my committee members for their help, encouragement and guidance in this process:

Professor Quiros for his passion and dedication

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Professor Bennett for his continuous optimism and advice

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1| Introduction

The inhumanity of contemporary architecture and cities can be understood as the consequence of the negligence of the body and senses, and an imbalance in our sensory system. The growing experiences of alienation, detachment and solitude in the technological world today, for instance, may be related with certain pathology of senses. “ “The dominance of the eye and the suppression of the other senses tends to push us into detachment, isolation and exteriority. The fact that...modernist design at large has housed the intellect and the eye, but has left the body and other senses, as well as our memories, imagination and dreams, homeless. -Juhani Pallasmaa

As technology improves, our relationship with the world and others is shifting from personal encounters to digital encounters. According to Science Daily, the average American teenager spends 20 hours a day watching T.V. and using the Internet.

In Juhani Pallasmaa's *The Eyes of the Skin*, the author points out similar occurrences taking place in architecture. Pallasmaa explains that the speed of the Internet's connection to the world makes it the primary means for which people experience the outside. While utilizing the Internet experience, society is able to satisfy its longing to look at photographs of places that are far away. Further, the Internet does not encourage the use of the other four senses that allow us to connect with the surrounding environment and ourselves:

Computer imaging...flatten[s] our magnificent, multi-sensory, simultaneous and synchronic capacities of imagination...Our technical culture has ordered and separated the

senses even more distinctly. Vision and hearing are now the privileged sociable senses, whereas the other three are considered as archaic sensory remnants.

(Pallasmaa, pg 12, 16).

As people desensitize and disconnect from their bodies, they spend the majority of their days living in their minds and forgetting to meditate and reconnect with themselves. (Crichton, p17). How can architects begin to create more spaces that respond to this problem?

While designing a space that engages our senses can center the mind and refocus it on the body, the integration of additional healing elements into the architecture can heighten the therapeutic effects and quicken the alleviation of the stress and dis-ease that affects our society on a daily basis. (Sternberg, M.D., p 2). One category of healing elements is gemstones.

Since the beginning of human existence, the art and science of spiritual practices have found that crystals can heal and calm the human mind and body through a series of rituals and applications. The combination of utilizing these discoveries and integrating them into sensory design serves as the basis for this project

2 | Do Gemstones Heal?

As we will see in the next section, different cultures and spiritual practices have placed their faith in the idea that gemstones are not only pleasing to the eye, but they have the power to energetically heal physical and psychological disorders.

As scientific research gained popularity, it has placed a lot of pressure on these beliefs and has increased skepticism towards these alternative medicinal practices. Conversely, in the last century, discoveries have been made transferring energy from machines through the human body. These have allowed for huge improvements in how medicine practitioners can diagnose and treat illnesses. Some examples include:

- MRIs which allow doctors to take pictures of the organs and structures inside the body use magnetic references and pulses of radio wave energy to create an electromagnetic field that moves through the body and maps a pattern of the frequencies of different molecules in the body.
- X-rays create pictures of our bones and organs by sending free electrons through the human body. When the electrons either attract to or collide with the body's atoms, the atoms release energy and emit light (x-ray photons), which is captured on film.
- Radiation therapy is an extremely powerful type of x-ray that is targeted at cancerous areas to damage and kill their DNA.

Similarly, as gemstones were grounded up and included in the curative potions in 17th century Northern Europe, they are also integral ingredients in our modern day medicine like antacids. Calcium Carbonate, the basic substance found in Calcite and Limestone, and Bismuth, present in Pepto Bismol, are minerals used to treat diarrhea, nausea and ulcers.

In the last century, the idea of using of energy as a healing tool would have been unimaginable. However, as we have seen the ability of energy to affect our bodies through X-rays and MRIs, would it not be plausible to assume that gemstone energy healing could be possible? As ancient eastern healing practices have become popular in the west, there has been an increasing amount of research on the benefits that these practices have on the human body. (See page 29). Perhaps science will begin to look into Gemstone Therapy next.

Gemstones and Faith

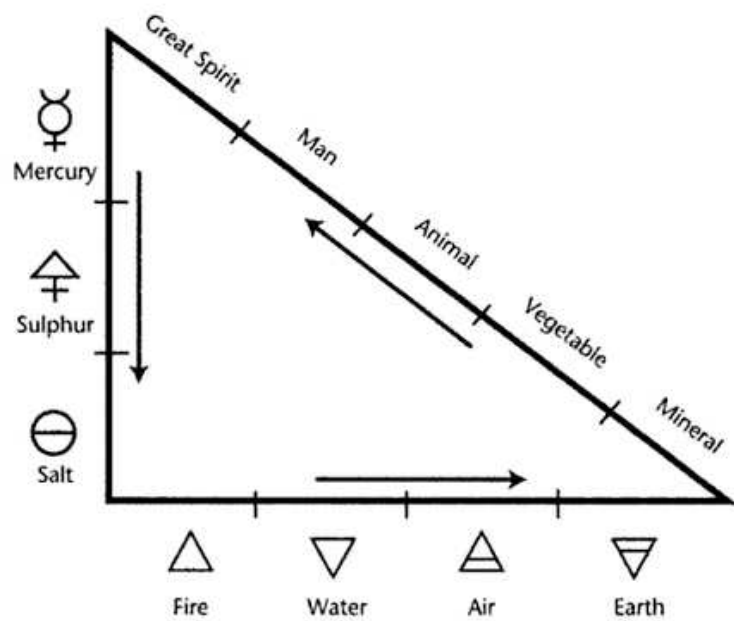
What are these gemstone rituals and when did they begin to appear in cultural traditions?

When looking at the history of spiritual practices throughout different cultures, one can see how mankind's placement of their faith in these crystals has been a longstanding practice. Not only did cultures use crystals as a means to connect and communicate with the Gods, but doctors and healers also used and recommended these crystals to cure different ailments. The following examples demonstrate such cases:

- In The Bible, Amber is referred to as the presence and glory of God in Judgment, purification and sanctification. During the 17th century in Northern Europe, it was believed to be able to help with heart and stomach disease:

The white odoriferous Amber is ... thought to be of great power and force against many diseases...against catarrhs and arthreticall pains, against diseases of the stomach...against diseases of the heart, against plagues , venoms and contagions. The Florentine Physicians are wont to prescribe some few drops of its oyl to be taken in wine for the former purposes. (Walters, p. 11

- Amethyst represents the royal priesthood and kingship and was worn on the breastplate by the high priest ministering to Jehovah-GOD. (Uyldert, 35),
- In the Egyptian Book of the Dead, it was written that one must place a stone on the bodies of the deceased so that they could take it with them on their journey to the Underworld. (Katz, pg 13),
- The Peruvian Indians believed that emeralds were the daughters of their goddess, Umina and they would “bore them as gifts to her shire in order that she might visit.” (Simmons, pg 5),
- The Cherokee Indians wore metal wrapped crystals for protection, energy and power. (Crichton, pg 64).
- The Southwest Pueblo Indians used quartz crystal divination in order to obtain the second sight and speak with the spirits. (Simmons,
- The ancient Greek philosopher, Pythagoras, described the evolution of the universe in his diagram of a triangle. His diagram below starts with stone, followed by plants, animal, man and then spirit. (Elsbeth, pg 5).



The Pythagorean Triangle

This chart illustrates **Pythagoras'** theory of evolutionary development, beginning with the stones of the Earth, and passing through stages toward godhood.

Figure 1 _Pythagoras Diagram
Source: Marguerite Elsbeth, Crystal Medicine, pg 5

Pythagorus' diagram does not seem imply a hierarchy between the elements but shows how man, animals and plants are bound and connected within the stone and the spirit.

Lastly, in the Indian Hindu religion, the commonly used mantra: Om mani padme hum, translated as The Jewel is in the Lotus, uses the gemstone as a representation of the human soul. According to the Dalai Lama

“Mani, meaning jewel, symbolizes the factors of method-the altruistic intention to become enlightened, compassion and love. Just as a jewel is capable of removing poverty, so the altruistic mind of enlightenment is capable of removing the poverty, or difficulties, of cyclic existence and of solitary peace. Similarly, just as a jewel fulfills the wishes of sentient beings, so the altruistic intention to become enlightened fulfills the wishes of sentient beings.” –Dalai Lama, <http://www.sacred-texts.com/bud/tib/omph.htm>

This mantra suggests that gemstones represent the enlightenment and peace within. By holding and meditating with them, they can help us remember how to reconnect with ourselves. This passage also implies that gems, mani and the human body, padme, are one. Interestingly, the human body is made of crystals.

Gemstones and Chakras

Color like stones can play a large role in healing. Science has proven that different colors in space have different effects on the human mind and body. There are two different kinds of color classifications: warm and cool, each of which associated with psychological effects. While “warm colors cause an increase in heart rate, respiration, and blood pressure...increases enthusiasm, [and] encourages action,” cool colors “affect the parasympathetic branch of the nervous system” which slows down the heart, reduces anxiety and “causes the mind to feel calm, yet uplifted and inspired.”(Cite)

Similarly, color plays a large role in the correct selection of crystals for the healing process. It is believed by those who practice the eastern traditions of Hinduism, Buddhism, Bon and other holistic healing methods that the human body is made up of seven different chakra centers, each which are represented by a color. The seven chakra centers affect different parts of the human body and mind. (Reid, Lori, and Sarah Gibb. *Color Crazy: A Guide to Understanding Color* p 5)

Currently, there are several scientists who are researching how to prove the existence of such energy centers. One example is Dr. Valerie Hunt, professor of kinesiology who used an electro-myograph to record the electrical activity of the muscles. She was able to record

radiations emanating from the body at the sites traditionally associated with the chakras and also found that certain types of consciousness were related to such frequencies. (Ozaniec, Naomi. (1999). Chakras for Beginners. Hodder & Stoughton Educational, London. ISBN 0 340 62082 X)

As you can see below, there are seven total force centers, each with correspond with different colors of the rainbow. They are known to be moving wheels of light that are focal points for the transmission and reception of energy. (John Cross, Robert Charman, Healing with the Chakra Energy system p. 17-18)

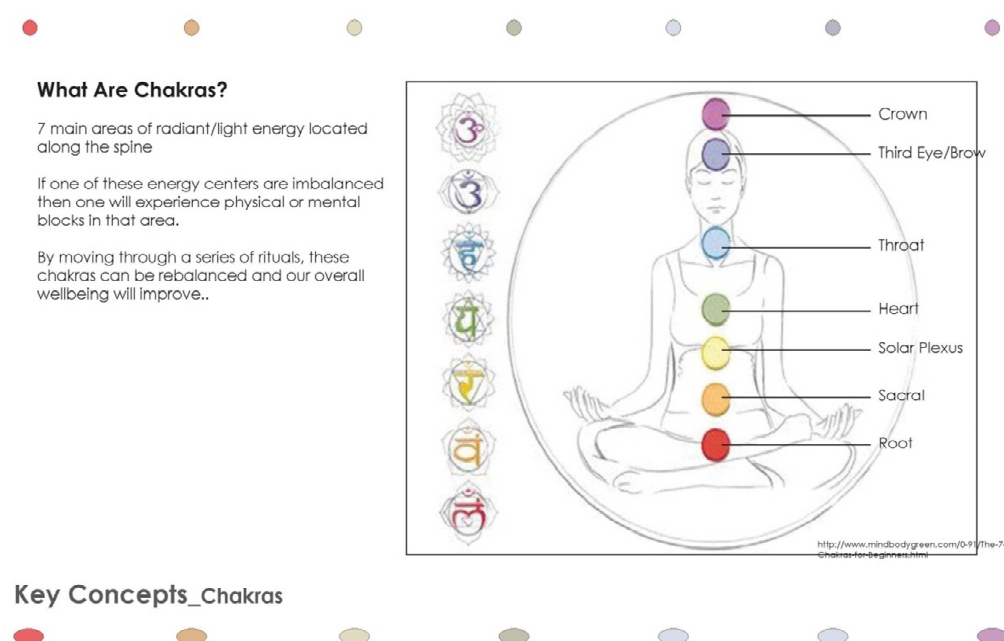


Figure 2_ Chakra Centers

When different kinds of psychological and physical illnesses arise, crystal therapies strive to stabilize and energize the Centers in order to alleviate and cure the ailments. The stone color and shape that are utilized for healing depend upon the location and the type of

pain that the patient is experiencing. Healers can place or hold crystals above the body and individuals can perform certain exercises or meditations in private.

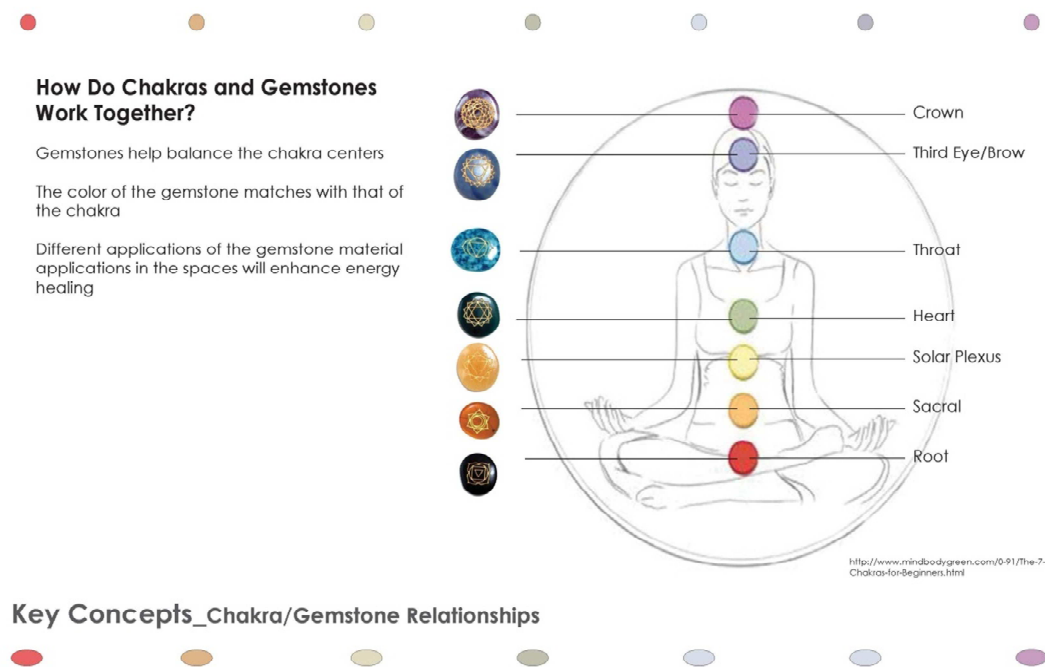


Figure 3_Chakra/Gemstone Relationship

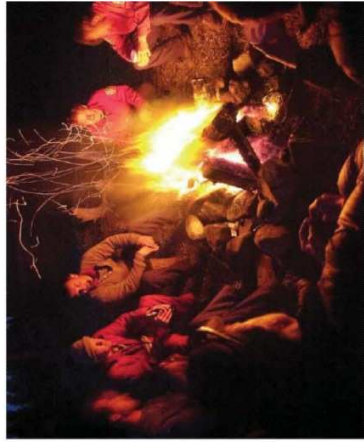
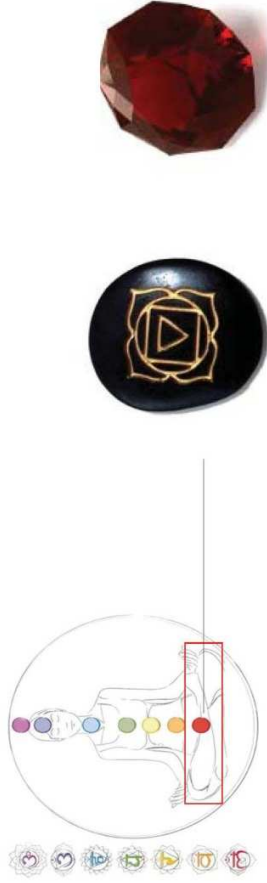
Furthermore, chakras can also be balanced when people engages in specific activities throughout the day. By mixing gemstones with these activities, the amount of time for the centers to be balanced will decrease and visitors will feel the benefits sooner. The following images begin to illustrate such activities and colors and gemstones associated with them.



What Are the Chakra Rituals?

Root_
Chakra of Fire

Rituals_
Meditating by Fire Pit
Working with mud and clay
Connecting oneself with nature



<http://couzens.housing.umich.edu/content/community-many-forms>



<http://conceptualmagicalvisionaries.blogspot.com/2013/09/99-subscription-1.jpg>



<http://www.prevention.com/sites/default/files/images/thumbnail/walking-barefoot-298x232.jpg>

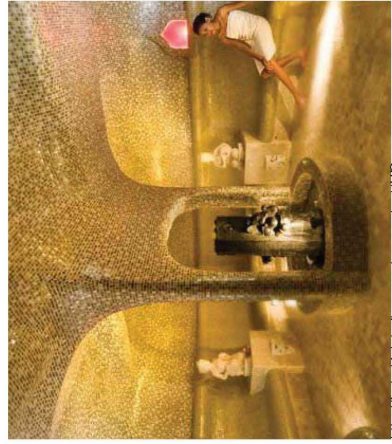
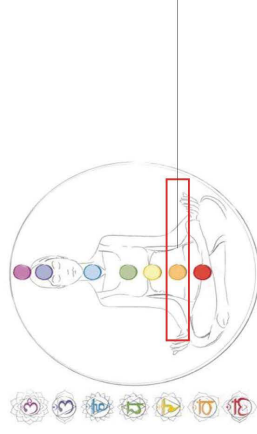
Key Concepts_Chakras_Root



What Are the Chakra Rituals?

Sacral_ Chakra of Water

Rituals_ Hydrating Bathing/Cleansing Oneself



<http://industrialt-boilers.com/wp-content/upb->



<http://szechenyispabaths.com/wp-content/uploads/2012/07/Late-opening-hours-at-Szecheny-Spa-Baths.png>



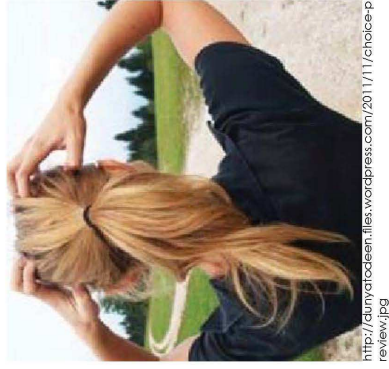
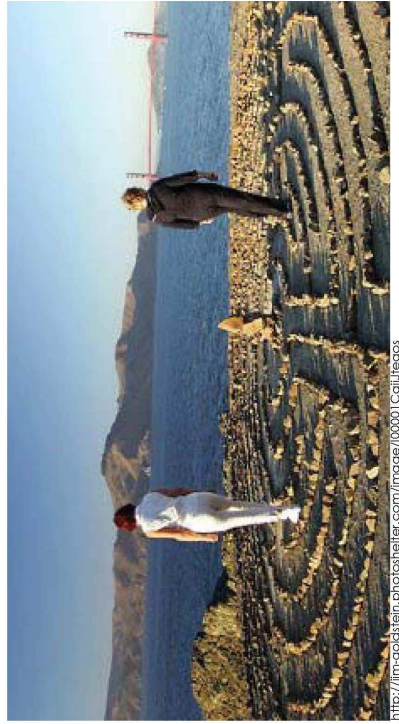
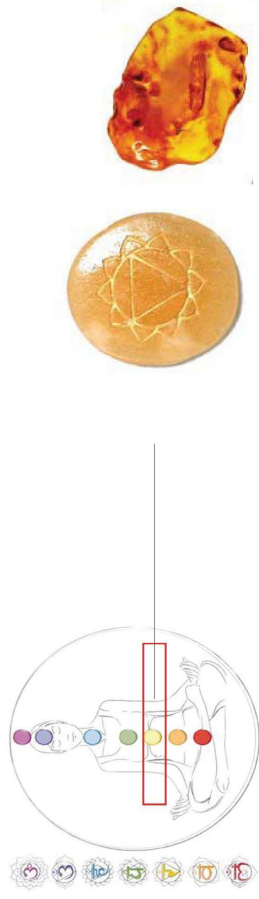
<http://www.theinnerhoman.com/CrystalflowerChakraElkts.html>

Key Concepts_ Chakras_ Sacral



What Are the Chakra Rituals?

- Solar Plexus_
- Chakra of Power and Confidence
- Rituals_
- Walking through labyrinths
- Practicing self motivation exercises



Key Concepts_Chakras_Solar Plexus





What Are the Chakra Rituals?

Heart_ Chakra of Love
Rituals_ Being outside with Nature
Surrounding oneself with natural green



<http://co-creativemag.com/>



<http://getacloxy.com/articles/lush-green-garden-on-the-25th-floor/>



<http://dumyatodeen.files.wordpress.com/2011/11/choice-review.jpg>

Key Concepts_Chakras_Heart

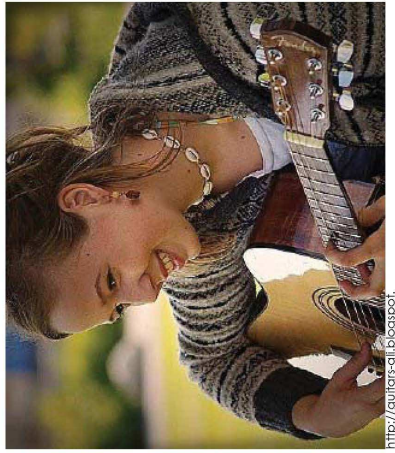




What Are the Chakra Rituals?

Throat_
Chakra of Sound

Rituals_
Singing
Communicating with others
Listening to music



<http://guitars-all.blogspot>



<http://www.zebbz.com/2012/12/x-factor-usa-carly-rae-spencliar-sing-ft-were-a-boy/>



<http://w360.typepad.com/.a/6a00c83452408569e2011570da9334970b-pi>

Key Concepts_Chakras_Throat





What Are the Chakra Rituals?

- Third Eye/Brow_
- Chakra of Creativity
- Rituals_
- Painting, Drawing, Collaging
- Looking at art
- Meditating, Yoga



<http://artsedge.kennedy-cen->



<http://www.zebiz.com/2012/12/x-factor-usa-early-rose-sonenclar-sings-it-were-a-boy/>



<http://www.cdc.gov/features/meditation/>

Key Concepts_ Chakras_ Third Eye/Brow

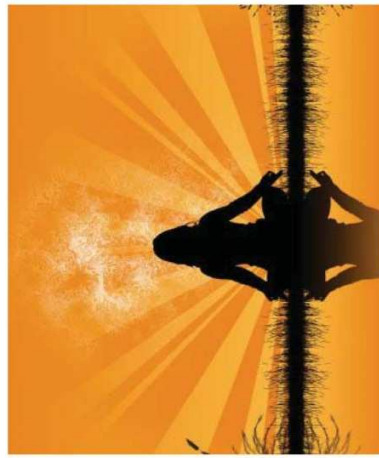
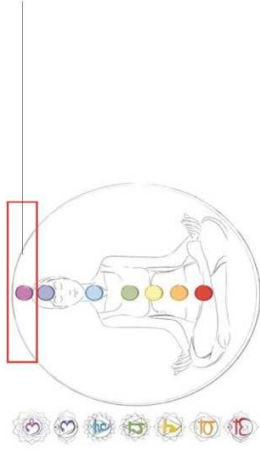




What Are the Chakra Rituals?

Crown_
Chakra of Enlightenment

Rituals_
Meditate at high locations
Reconnect with the sky



<http://collectiveunity.blogspot>



<http://thesessionmagazine.wordpress.com/2017/02/23/morning-motivation-by-gabe-amaya-25/>



<http://eirlu-eolas.org/2012/10/14/it-youre-too-busy-to-meditate-read-this-meditation-makes-you-more-productive/>

Key Concepts_Chakras_Crown



In order to incorporate the healing and balancing aspects of color to the human mind, spirit and chakra centers, this thesis will have the treatment, meditation and exhibit rooms, that can incorporate color to enhance the healing and flow of the practices. It will also have classrooms and multipurpose rooms to educate others about selecting and applying the appropriate stone colors for different ailments. Finally, the project will incorporate color and colored gems in the water, green and fire spaces so that they can be cleansed.

Crystals and the Human Body

As we began to see in the last section, the human physical relationship to gemstones is stronger than many realize at first glance. As stated in the previous section, like gemstones, the tissues, cell structures and DNA molecules in the human body are comprised of crystal structures. (Simmons, pg 6).

In *The Rainbow and the Worm: the Physics of Organisms*, Molecular Biologist, Mae Wan Ho provides both a detailed description of the liquid crystalline continuum in our bodies and how the human body can respond and heal from “subtle energy medicines” (Simmons, pg 7): There is a dynamic, liquid crystalline continuum of connective tissues and extra cellular matrix linking directly into the equally liquid crystalline interior of every single cell in the body. Liquid crystallinity gives organisms their characteristic flexibility, exquisite sensitivity and responsiveness, thus optimizing the rapid, noiseless intercommunication that enables the organism to function as a coherent, coordinated responsiveness, thus optimizing the rapid, noiseless intercommunication that enables the organism to function as a coherent, coordinated

whole. In addition, the liquid crystalline responsiveness, thus optimizing the rapid, noiseless intercommunication that enables the organism to function as a coherent, coordinated whole. In addition, the liquid crystalline continuum provides subtle electrical interconnections which are sensitive to changes in pressure and other physicochemical conditions: in other words, it is also able to register “tissue memory.” Thus, the liquid crystalline continuum possesses all the qualities of a highly sensitive “body consciousness” that can respond to all forms of subtle energy medicines.”

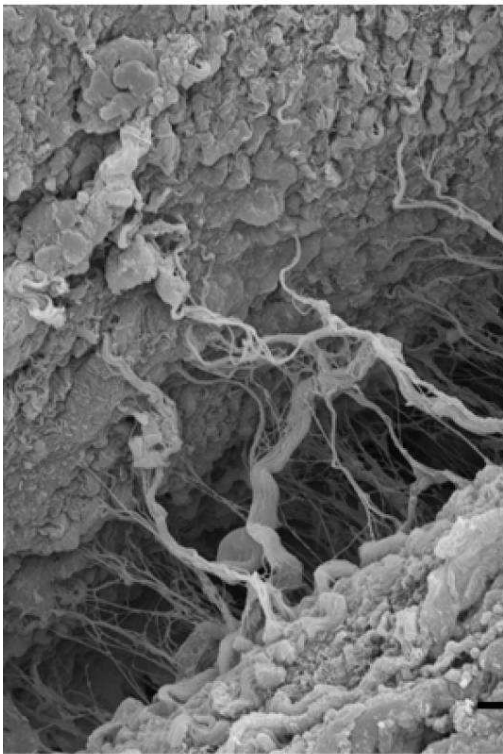
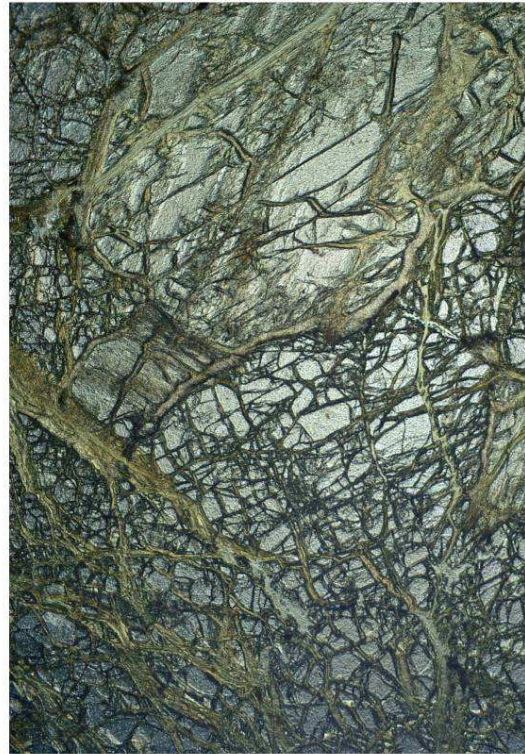


Figure 4 _ Cell tissue from human uterus



Microscopic view of Peridot gemstone

Ho's description begins to illustrate how the activity within the human body is not confined but rather part of "a harmonious activity within a greater harmony." (Stones of a New Consciousness, Simmons, pg 7)

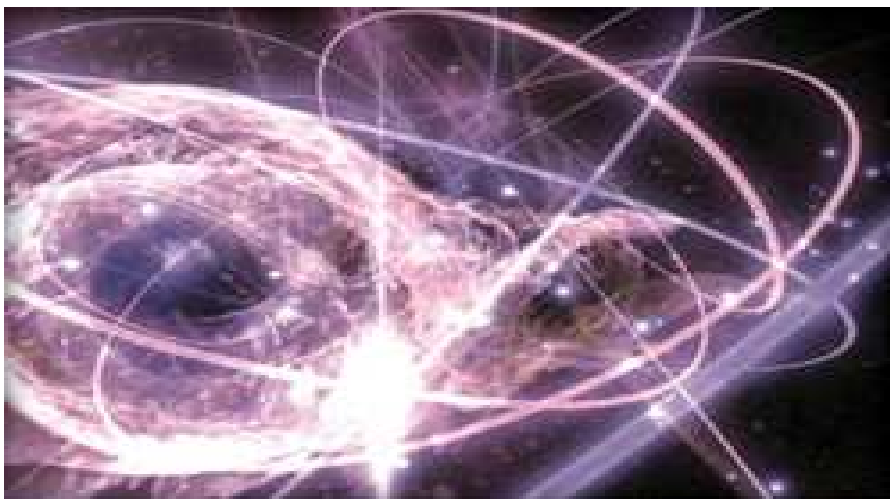
In her research, Ho also begins to explain the permeability of our bodies and how they can interact with and pervade other organisms around us:

With our new view of the coherent organism, think of each organism as an entity that is not really confined within the solid body we see. The visible body just happens to be where the *wave function* of the organism is most dense. Invisible quantum waves are spreading out from each one of us and permeating into other organisms. At the same time, each of us has waves of every other organism entangled within our own make-up...we are constantly *co-creating and re-creating ourselves and other organisms in the universe*.

The evidence that our bodies are made of energy that can permeate and connect with other organisms around us makes it plausible for us to welcome the idea that our energy and the energy of gemstones can interact and affect one another. Similarly, the permeability and interaction between organisms relates to architecture in that large scale and small-scale design decisions support, organize and affect the entity of the building. Incorporating the rituals and materiality of gemstones within the design will not only significantly change the organization and support of the building, but also the sensory and spatial experience.

Now that we see how our bodies are made of a crystalline structure, we can look at them on a microscopic level and see how the crystal structures are the basis of everyone's genetic makeup. (Simmons, 8). According to Robert Simmons' *Stones of a New Consciousness*,

our DNA molecules are made up of hexagonal crystals. Each one of these crystals are found within the nucleus of all of our cells which “carries patterns of information that dictates your body’s species, form, sex, eye and hair color, size, and to some extent your intelligence, talents, gifts, vulnerability to disease and likely longevity.” (Simmons p 8). Another relationship between DNA and mineral crystals is that DNA and quartz both have the capacity to emit light: when one applies a presses or twists a quartz, the crystal will “acquire an electric charge and emit electromagnetic radiation, or light,” a process that is called the piezoelectric effect. (Simmons, p. 8) Similarly, it has been found that the DNA molecule can “emit biophotons of visible-spectrum light on a periodic basis, so regularly that it has been compared to an ultra weak laser.” (Simmons, p 8) The way in which mineral crystals and DNA are made of hexagonal structure and can emit light shows how the two are related on an intimate level. Furthermore, as DNA carries information of our genetic makeup, crystals can hold information that helps humans communicate and organize their days. (Simmons, 4). The next section explains how crystals serve as messengers in our society.



*Figure 5_ Microscopic image of DNA Bio-Photons.
Source : In Search of Our Soul: On the Very Edge of an
Unimagined Frontier-Bio-photons, Andrew Zubriczky.*

Crystals as Messengers

The primary role of crystals in modern society has drastically changed from its historical use. Currently, they are used to hold, measure and provide information, i.e. stones maintain “broadcasting frequencies, in microphones, radios, and other electronic equipment.” Quartz is used to make clocks and silicon chips for computer memory, (Simmons, 4) and tourmaline used for thermometers and instruments detecting depth and pressure under water. (Walters, 18) Crystals are also used for fashion statements and evidence the social status and wealth of different people.

As the modern examples scientifically demonstrate the gems’ abilities to hold information, and historical examples have displayed the faith and devotion that entire cultures have placed in gems to heal and connect human spirit to God. Is it possible to believe, as many in the past, that the natural messages of these stones hold information that can heal the human mind and body? Yes, reintegrating the gemstone rituals and applications into our daily lives, one can begin to find the peace and calm that alleviates stress. The following chapter explores such rituals and explains how they influence the architecture of this project.

2 | Gemstone Rituals

Definition

Before going into detail about the different gemstone rituals that are practiced, it is important to understand how a gemstone for this project is defined. Amongst the numerous definitions of gemstones, Raymond Walters says it best: “There are about 50 stones that are commonly regarded as being gemstones because of their beauty, colour, comparative rarity...[and] healing or magical powers...a gem can really be any stone, everybody can own one, and they have been an important part of history since the dawn of human life.”

(Walters, pg 1) The focus of this thesis is to incorporate the healing power of gemstones and their rituals into architecture. Since all stones are believed to have healing powers, the term gemstone, gem or stone will refer to all stones.

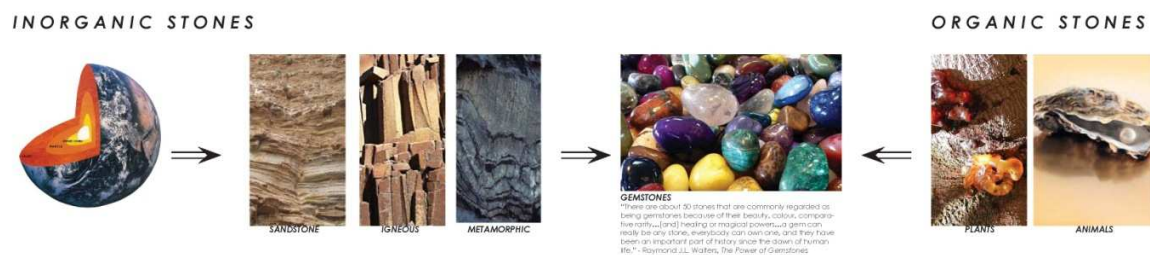


Figure 6_ Gemstone Definition Diagram

Healing

The medical traditions from the past were based off of a culture's spiritual beliefs as well as the natural materials that were available. (Crichton, 63). The endless amounts of stone that filled the landscapes around the world made it an obvious material to use for healing. Although there are no written accounts of when stones were first used as medicine, primitive illustrations from 250 million years ago uncovered by Paleo-archeologists in cave paintings and carvings have shown that human ancestors used to wrap stones in herbs and heat them in the sun before applying them to the body. They also applied warm clay and earth to their medicines to cure illness. (Crichton, 63) As time has passed and the human race evolved and expanded, so did stone healing. There are numerous accounts of their presence in history, each which demonstrate how different cultures have put their faith in their power:

In Egypt, it has been recorded that the physicians of pharaohs believed that clay acted as an anti-inflammatory agent and antiseptic. Cleopatra used the material to preserve her complexion and Egyptians used it as an ingredient to prepare their mummies.

The Charaka Samhita, from the Vedic tradition of India, dated from 7,000 years ago, discusses how stones were heated in warm, aromatic oils in a ritual healing ceremony and applied to the body with herbs for various conditions.

In China, during the Iron Age in the 8th century B.C., there has been evidence of magnetic stones being used for acupuncture. The Yellow Emperor's Inner Classic, provides early written descriptions of Chinese medicinal practices which used the therapeutic heat

therapy of moxabustion. Moxabustion is the application of burning herbs and heated stones directly to the skin at specific points on the body and is hypothesized by Sarah Maxwell, a well renowned massage therapist, teacher and director at the Stone Temple Institute that these writings “may be the earliest known precursor to the modern practice of using warm stones in meridian-based therapies,” something that will be discussed in further detail in the next section about gemstones and color.

The Japanese inserted warm stones into the obi around the waist, to warm the middle section as an aid in digestion, (5) The medicine keepers and elders in Native American tribes called stones, the “stone people” because they believed that they lived and had souls like humans. Furthermore, the Lakota tribe, used stones in healing and referred to all of them as ancient beings and record keepers who provided the answers to the cause of illnesses.

The Greeks culture borrowed heavily from Indian healing concepts through the writings of Pythagoras, who traveled to India and studied the Ayurvedic medical teachings.

The Celts in the northern European regions believed that stones possessed healing and mystical powers. They believed that crawling through or laying on top of a stone that had a hole drilled through it would enable the patient to absorb the vitality of the Earth and assist in healing their disease. In other parts of the northern European region, stones were used as radiators to warm people’s beds and they were used to help women relax and reduce labor pains and spasms.

Currently, this practiced is being revived amongst many other rituals that were previously stated from the past. They include the crystal acupuncture that was present in

Chinese Medicine, chakra meridian balancing, crystal grids, crystal feng shi, crystal meditation, etc.

In order to accommodate and allow for these healing techniques to take place in this design, this thesis will have educational spaces where the techniques can be taught and performed, large spaces such as classrooms, which have access to water and earth so that teachers can demonstrate and prepare the stones for the healing rituals stated above. Smaller treatment rooms will be provided so that people can receive these treatments to their bodies.

Access
assist in
the
healing



to light and air will
clearing the room and
body during the
process.

*Figure 7_ Anadalis Chakra Energy Grid.
Source: heavenandearthjewelry.com*

Meditation

Within the last fifty years, our society has recognized that meditation has an ability to reduce and alleviate stress and anxiety that arises in our daily lives. Its ability to bring about tranquility has been incorporated as a major part of the spiritual practices that have taken place since early history. Although it is not clear when the discipline of meditation first began, it was described in the early writings of the ancient Chinese philosopher, Chuang Tzu in 300 B.C.

(Johnson, 12)

Yen Hui said, 'I'm improving!' Confucius said, 'What do you mean by that?' ... 'I can sit and forget everything!' Confucius looked very startled and said, 'What do you mean, sit down and forget everything?' Yen Hui said, 'I smash my limbs and my body, drive out perception and intellect, cast off form, do away with understanding, and make myself identical with the Great Throughdare. This is what I mean by sitting and forgetting.' (Watson, 86-7)

In Gaston Bachelard's book, *The Psychoanalysis of Fire*, he hypothesizes that early meditation began when humans discovered fire:

We are almost certain that fire is precisely the first object, the *first phenomenon*, on which human mind *reflected*; among all phenomena, fire alone is sufficiently prized by prehistoric man to wake in him the desire for knowledge, and this mainly because it accompanies in him the desire for love. No doubt it has often been stated that the conquest of fire definitely separated man from the animal, but perhaps it has not been noticed that the mind in its primitive state, together with its poetry and its knowledge, had been developed in meditation before a fire. (p.55)



Figure 8_ Meditation in America

Today, the practices of meditation have dramatically increased in popularity in West over the last decade. This rise in popularity led to a large amount of scientific research on the benefits of the discipline. Many have discovered that meditation can prevent certain diseases such as Alzheimer's Disease, schizophrenia, ADHD, and can even curb heart attacks. In an article written in 2011 by Bill Hathway, the author discusses the discoveries by Yale University researchers of the benefits of meditation:

The Yale team conducted functional magnetic resonance imaging scans on both experienced and novice mediators as they practiced three different meditation techniques. They found that experienced meditators had decreased activity in areas of the brain called the default mode network, which has been implicated in lapses of attention and disorders such as

anxiety, attention deficit and hyperactivity disorder, and even the buildup of beta amyloid plaques in Alzheimer's disease. (Hathway, p 2)

It has also been proven that meditation can reduce the healing time in sick patients. Dr. Robert Puff, the author of *Meditation for Health and Happiness* explains that when meditating, the brain produces an increased amount of endorphins, which assist the human body in the healing process. (Meditation for Health and Happiness, p 3)

There are many different kinds of meditation which all aim to achieve the same goal of connecting the human body and mind. Some examples are: restorative yoga, heart rhythm meditation, Ananda Yoga, Yoni Mudra, Vibrational Yoga, stone therapy, etc. Although there are endless ways to meditate, and people are encouraged to make revisions to them/make up some of his/her own. While some of these suggestions are practiced all over the world, some of the most powerful meditation experiences can arise in someone's personal discovery and/or revision of these techniques where necessary.

In order to allow for meditation to be practiced individually, with a group, or as a self discovery, the thesis will have educational spaces for yoga and other classes, small cave-like spaces for private practice, a water feature, green space and labyrinth for individual self-discoveries. It will also have fire where individuals can sit and reflect as our ancestors once did.

Stone Labyrinths

Although it is not clear when Labyrinths first appeared, they have been present all over the world throughout human history. (1) They are catalogued in Pliny's *Natural History* book,

published around 50 C.E. to the Middle Ages. (2) The Chartres Cathedral near Paris holds one of the most famous labyrinths from the Middle Ages. (3) Remains of labyrinths have been found in Scandinavia, and northern Europe, most which were made of “loosely placed rocks lined up in the characteristic pattern.” (Sternberg, pg 105). (4) Labyrinths made up the mosaic floor patterns in Rome, the Mediterranean and in North African countries. (5) They have been carved in stone as far back as 3000 B.C.E during the Bronze Age in Spain and Cornwall. (6) They were used by the Pueblo Indians, the Hopi and the Zuni, from the New World, India, Afghanistan, Java and Sumatra.



Figure 9_ Stone Labyrinth in Chartres Cathedral
Source :<http://www.labyrinthos.net/bibliostonelabs.html>

Generally, labyrinths, unlike mazes have paths without vertical walls. They have seven circuits, which form the pattern that looks like a flower. “The path winds around seven times before reaching the center, and then winds around again in overlapping circuits to reach the single exit next to the starting point.” (pg 105).

The reasons behind widespread use of labyrinths is unknown, however there have been several interesting hypotheses which predict that they served as solar clocks which has a “relationship to the sun and the movement of celestial bodies” (Sternberg, 106), that they marked the steps of a dance and lastly, that they calm and heal. “A labyrinth draws you in and leads you a single, gentle, calming path. It is calming because it forces you to focus your attention step by step on the way in front of you and on your inner thoughts, and drains your mind of all else. “ (pg 107.) The walking helps the body integrate the intention of meditation, one can experience it kinesthetically, mentally and emotionally and the path can deepens his/her resonance with stones. It is also suggested for one to carry a question when entering the labyrinth while holding a stone of choice. As one reaches the center, they can say a prayer, and when they an answer can come to them. (Simmons, pg 73-4).

Moni Fleshner, Ph. D, a professor of Integrative Physiology at the University of Colorado, Boulder, discovered that walking “bolsters the immune response,...in cells that are immediate defenders against infection....enhances the mood [and]...boosts the immune system.” (Sternberg, 121). Although the benefits of labyrinths have not yet been tested, it is possible to see how the walking of the path will be beneficial in fighting infections and enhancing the mood.

In this project, the paths of the labyrinth will be incorporated both inside and outside of the space. Like those in Rome and the Mediterranean, the will be part of the floor, and inspire the circulation of the building. There will be a feature in the green space which will incorporate the “loosely placed rocks” that were present in the early northern European and Scandinavia cultures.

Care

Like the rituals from the previous sections, the early occurrences of purifying and caring for gemstones are still unknown. According to Lu Bourgault, Blue Eagle Ousti Catoui, the author of *American Indian Secrets of Crystal Healing*, that Native Americans have been burning sage, cedar wood or scented hay in order to purify spaces. Although there is no scientific proof, it has been hypothesized by one of his teachers, the well-known Om Shinnah Running Wolf from the Mohawk tribe, that these herbs have the potential to extract positive ions from the air, (the air molecule that has a harmful electric charge) and leave the negative ions, which cancel out the positive ions and neutralize the air in the space. (Bourgault, pg 27).

While purification techniques make a huge difference in the human body and the spaces that we inhabit, it also does the same for crystals. As explained in the previous chapter, crystals have the ability to hold messages about time, water pressure etc. It is believed by spiritual practices that these crystals can not only hold messages but they can absorb the energy from the places it has been and by those who have touched them. Therefore, in order for them to work efficiently and effectively, they need to be cleansed on a routine basis.

(Bourgault, pg 30). The different ways in which to cleanse and charge your crystals are: (1) Leave the crystals under running water for an hour or two, preferably in a natural body of water. (2) Soak crystals in a bowl of water mixed with sea salt for a stronger cleanse. One because needs to such as Selenite be careful several crystals can dissolve in water. (3) Bury them in a pot of dirt, preferably from the ground. (4) Place them on Amethyst, which has the ability of dissolve attachment in humans and crystals. (5) Let them sit under the full moon or under the sunlight at midday. Again, make sure that you do not place crystals such as Realgar, which can

decompose and gems such as Amethyst, Fluorite and Rose Quartz, which can lose their color. Amber responds best when placed under the sun. (6) Hold them over burning incense, which can be held by the person who is cleansing or placed in a singing bowl. (Gienger, pgs 17-25). The rituals for cleansing gemstones are similar to those that charge them. They include leaving the stones out in moonlight, in the sunlight and heating them. (Gienger, pgs 36-40).



Figure 10_ Cleansing Crystal with Sea Salt

Source:

http://www.colourtherapyhealing.com/colour_therapy/crystals/crystals_cleansing.php

As mentioned previously, it is necessary for these gemstones to be cleansed frequently in order to remove any energy that they have absorbed which being used. In the program, the spaces for care will be incorporated in the architecture. While there will be educational spaces and an exhibition space where one can learn how to perform the rituals, the presence of sunlight and moonlight and how they touch the stones in the space will be very important.

Also, the physical connection between the water and green spaces and the gemstones will help cleanse them every day.

As we care for these stones, they will do the same for us. By integrating them into architecture, it can heighten the therapeutic effects in architecture and help alleviate the stress that has been growing today's society. The following chapter begins to translate the gemstone rituals into spaces and formulate the program for the building.

4 | Program

Program Development

Without the appropriate knowledge and tools, one cannot begin to learn how to unlock the healing qualities of these crystals. The program of this thesis is created to facilitate and show someone how to perform, participate and/or learn about the Healing, Meditation and Care of the gemstones. As previously discussed, the meditation spaces will consist of open and elevated rooms for group meditation, smaller enclosed rooms for private meditation,

classrooms, which will provide education on different meditation techniques and a water feature, fire feature and green space for individual reconnection with nature.

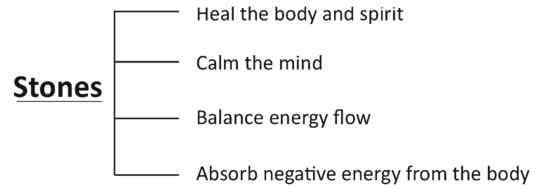
The Healing Spaces will consist of small rooms for private treatment, classrooms for education, a labyrinth for self-reflection and healing and a water and fire features which will be there to set the mind at ease and contribute to well being.

The spaces for gemstone care will consist of an exhibition space to educate visitors on how to cleanse the stones, classrooms which will allow people to have hands on experience with stone cleansing and there will be a water feature, a fire feature and a green space where the stones can be cleansed and charged.

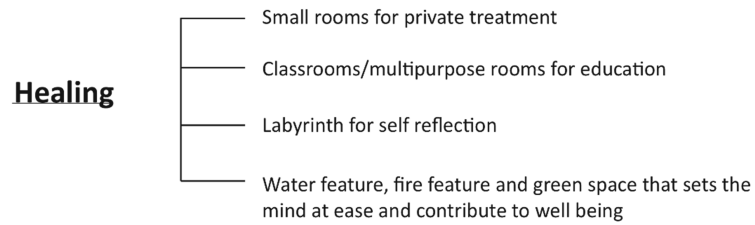
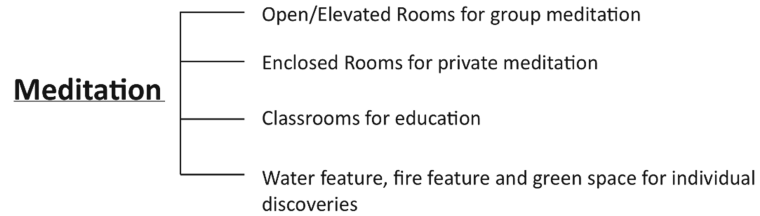
The spaces for color will include classrooms/multipurpose rooms for education about how to choose stones based on their color and a water feature, fire feature and green space which will incorporate different colors that can help balance the chakra energy centers. The gemstone colors will be applied to the treatment rooms, meditation rooms and exhibit in order to enhance the healing and flow of the spaces.

The spaces for choosing will include an exhibit/store where visitors can see and select stones, classrooms/multipurpose rooms where people can learn about the different stone properties and reasons for selecting them and the water, fire and green elements will be places where visitors can both bring and choose stones to meditate with. The following diagrams clarify the previous descriptions of the building program:

Program Development



These elements are achieved in spaces with the following characteristics:



Care

- Exhibit space for education
- Classrooms/multipurpose rooms for hands on experience
- Water feature, fire feature and green space for cleansing and charging the stones

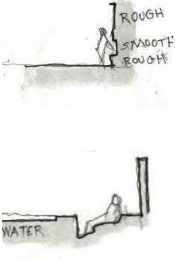
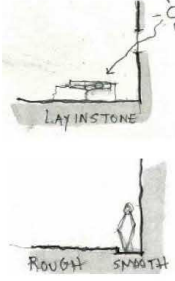
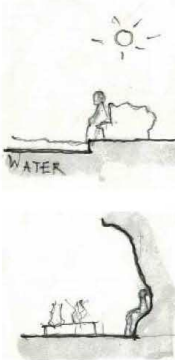
Color

- The treatment rooms, meditation rooms and exhibit stated above to enhance healing and flow
- Classrooms/multipurpose rooms for education about choosing stones based on color
- Water feature, fire feature and green space which incorporate different colors that help balance for chakra/energy centers

Choosing

- Exhibit and Store
- Classrooms/multipurpose rooms for education about different stone properties and reasons for selecting them
- Water feature, fire feature and green space where visitors can experience the stones and make personal selections

Program Square Footage

MATERIAL APPLICATION	PROGRAM
<p>EDUCATION SPACES:</p> <ul style="list-style-type: none"> • LOOSE STONES LOCATED IN WATER, ON EARTH, NEAR FIRE • SIZES RANGE FROM SMALL TO LARGE • TEXTURES RANGE FROM ROUGH TO SMOOTH • GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	<p>HEALING ASPECT SKY/WATER MEDITATION SPACE(1800 sqft)</p> <p>COMMUNITY ASPECT SPECIAL EVENTS ROOM (1656 sqft)</p> <hr/> <p>HEALING ASPECT YOGA STUDIO (1240 sqft) ZEN GARDEN (780 sqft)</p> <p>COMMUNITY ASPECT ART STUDIOS (2 tot. 1350 sqft) GALLERY SPACE (1240 sqft)</p>
<p>TREATMENT SPACES:</p> <ul style="list-style-type: none"> • STONE WILL BE MAINLY APPLIED ON THE FLOOR • TEXTURES WILL RANGE FROM SMOOTH TO ROUGH, THE SMOOTH AREAS CAN DIRECT CIRCULATION • STONES WILL BE WARM AND COLD • GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	<p>HEALING ASPECT PRIVATE SOUND ROOMS (3 tot 1000 sqft)</p> <p>COMMUNITY ASPECT MUSIC/SM CONCERT ROOM (2632 sqft) SOUND RECORDING STUDIOS (1800 sqft)</p> <hr/> <p>HEALING ASPECT TREATMENT ROOMS (3 tot. 1000 sqft) OUTDOOR GREENSPACES (794 sqft)</p> <p>COMMUNITY ASPECT MEDICAL GYM (4515 sqft)</p>
<p>MEDITATION SPACES:</p> <ul style="list-style-type: none"> • STONE WILL BE MAINLY APPLIED TO THE WALL • TEXTURES WILL RANGE FROM SMOOTH TO ROUGH, THE SMOOTH AREAS WILL BE LOCATED AT HAND LEVEL SO THAT PEOPLE CAN TOUCH THE WALL AS THEY WALK • AREAS ON WALL AND SOME LARGE LOOSE STONES WILL HAVE SEATS CARVED IN SO THAT THE CHAKRAS CAN HAVE DIRECT CONTACT WITH IT • GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	<p>HEALING ASPECT GEMSTONE EXHIBIT (1700 sqft) LABYRINTH(2500 sqft)</p> <p>COMMUNITY ASPECT CAFE/RESTAURANT (1380 sqft) GEMSTONE/CHAKRA STORE (1710 sqft)</p> <hr/> <p>HEALING ASPECT STEAM ROOMS/BATHS (3200 sqft)</p> <p>COMMUNITY ASPECT JUICE/ELIXIR BAR (1040 sqft)</p> <hr/> <p>HEALING ASPECT PUBLIC FIRE MEDITATION SPACE (1400 sqft tot) PRIVATE MEDITATION SPACES(600 sqft)</p> <p>COMMUNITY ASPECT OUTDOOR COURTYARD(1472 sqft)</p>
	<p>TOTAL HEALING/COMMUNITY PROGRAM (35,000) sqft tot)</p>

The educational spaces as well as the elements of earth, water, fire and air will be where the activities of care will take place. Each one of them will all be shared by the other parts of the program visually and/or physically.

The following images begin to show how these spaces could look. They are not direct representations of the spaces but a catalogue to help people imagine how some of the places might feel.

Water

Water can be part of the circulation through the space. The can move inside and outside of the the building and over the stones in order to cleanse them.



Source: <http://www.secretgardens.com.au/wordpress/gallery/water-features/>



Source: <http://homeforfuture.com/modern-water-features-for-your-backyard-and-garden.html/modern-and-unique-water-feature-narrow-recycling-fountain>

Figure 11_ Water Precedents

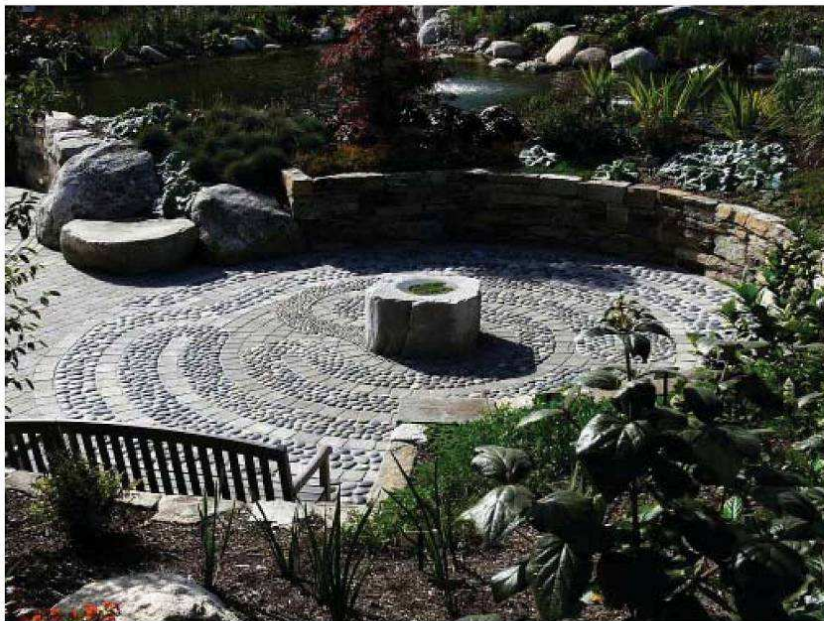
Labyrinth and Green Space



Source: <http://www.aguafina.com/portfolio/spirituallabyrinthlowerlevel/>



Source: <http://skinnylizard.aminus3.com/image/2008-10-16.html>



Source: http://thevermontgardener.blogspot.com/2011_12_01_archive.html

Figure 12_Green Precedents

The labyrinth and green spaces will incorporate all shapes and sizes of stone. The garden in the photograph to the left will show how large boulders can serve as places to sit and meditate, the photograph above shows how the design can connect both the labyrinth and water and the image below shows a simple labyrinth that could be in a

Meditation



Source: <http://blog.quintinlake.com/2009/09/04/photoshoot-glass-walled-meditation-space-by-julia-haensel-architecture/>



Source: <http://www.thedynamicturnaround.com/meditation.htm>



Source: <http://www.reinierdejong.com/2011/03/zin-chapel/>

There will be different kinds of meditation spaces in this design. The image above shows an example of a potential group meditation room which overlooks a green rooftop garden. The second image begins to show how a meditation room could incorporate fire in the center and the image below shows how an enclosed and private meditation room could have light entering from above.

Figure 13_Meditation Precedents

Treatment Rooms



Source: <http://www.laurabielecki.com/blog/interior-design/trump-international-hotel-las-vegas/>



Source: <http://ifitshipitshere.blogspot.com/2010/07/amangiri-spa-resort-brings-modern.html>

The depending on the therapy, the treatment rooms in the spaces could be open to the outside or dark and enclosed. It seems appropriate for some rooms such as acupuncture to have stone in the wall as the first image has so that they can help absorb the energy. It colors will play a major scheme in the tyoe of therapy needed for the patron. The image below opens up and embraces the buildings of the city. This shows how healing and peace can take place in the urban fabric.

Figure 14_ Treatment Room Precedents

5 | Site

Site Guidelines

Because a space designed around the healing qualities of gemstones does not exist as a building typology, one major challenge is how to get people to go there. One solution to this challenge is to design it on a place in the city where many people walk by on a daily basis. The site characteristics that are listed below were used as guidelines:

- The site must be easily accessible
- The site must experience heavy pedestrian traffic
- The site must be in a neighborhood that houses a wide variety of ethnicities and age groups
- The site must be in a neighborhood that houses a wide variety of building types

Although there were many cities in the U.S. which have sites that fit these guidelines, Washington, D.C. was selected for a couple of reasons. The initial intention of visitors to make a trip to D.C. is to visit the landmarks there that commemorate American History. (Figure 1) shows that the landmarks that people can visit are distributed throughout different parts of the city. This directs millions of people to go to different neighborhoods that they normally wouldn't visit. Additionally, the high rate of national political types moving in and out of the city makes it a place where constant visitor and resident movement take place at different site locations.

Neighborhood

Given that the purpose of this thesis is to alleviate the rise of stress in our cities, it seems appropriate to select a site in neighborhood that experiences/experienced stress both currently and historically. The high levels of 19th century industrial activity and 20th/21st century redevelopment that took place in Foggy Bottom makes it an attractive candidate. As the following historical description of the neighborhood will show, Foggy Bottom did not look anything like it does today. The urban design that is present today is from the neighborhood's drive to improve and revitalize the area. Its willingness to push boundaries in the past (urban planning of 1960s-70s where designers break the grid,) could be a sign that such a place would welcome this project.

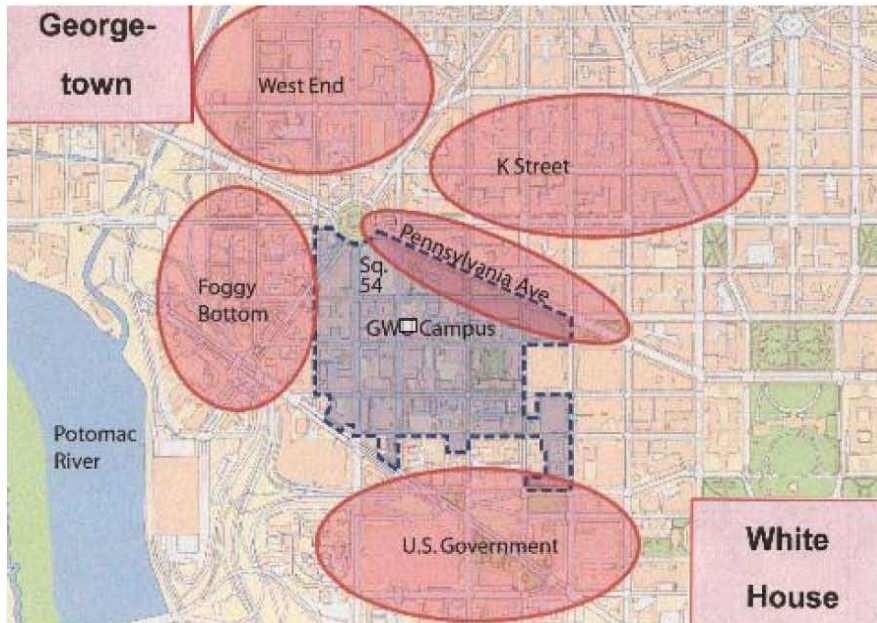
History and Planning

In 1765, the area of Foggy Bottom, previously a part of Frederick, MD was purchased by a German immigrant named Jacob Funk. Funk quickly divided up the land into different lots and sold them to different spectators. When Washington, D.C. officially became the nation's capital fifteen years later, the neighborhood consisted of a few dwellings and residents that came from different classes, races, and backgrounds.

(Sherwood, Suzanne Berry. "Foggy Bottom 1800-1975: A Study in the Uses of an Urban Neighborhood." - *GW Encyclopedia*. N.p., n.d. Web. 19 Dec. 2012.)

(See Appendix for more Foggy Bottom history)

Context Analysis



Neighborhood Adjacencies

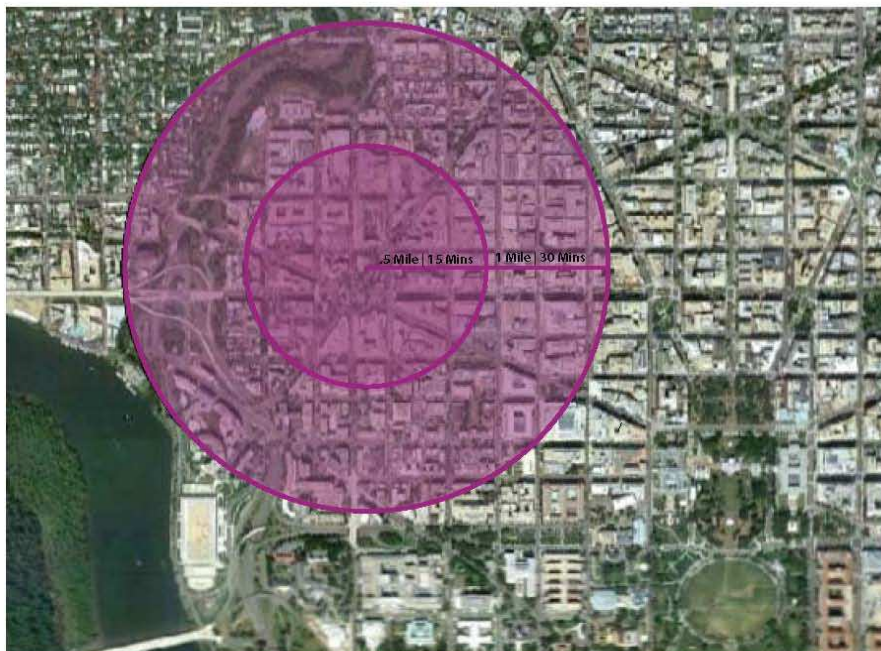


Figure 15_Surrounding Neighborhoods Diagram

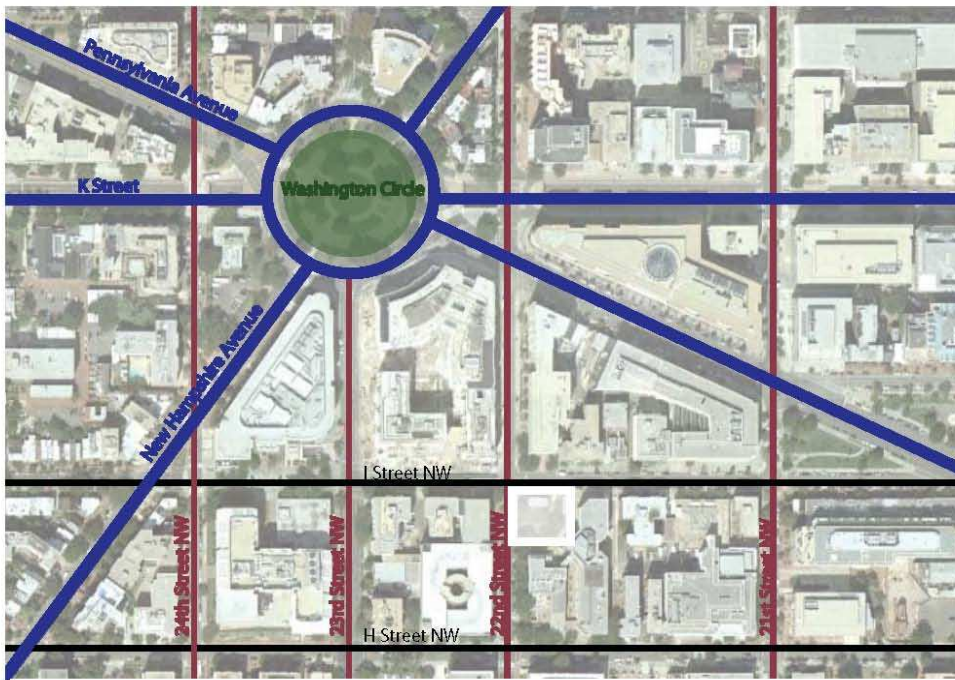
Source_Perkins Eastman Website

Figure 16_Walkability Diagram

Source_Underlay over Image from Google Map

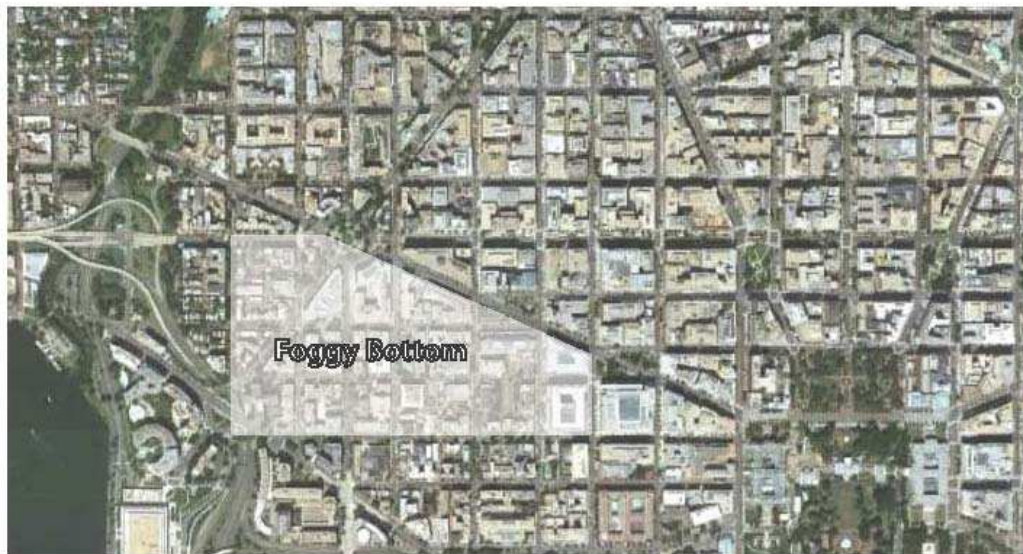


Site Location



Streets

Figure 17_Site Location and Road Diagram
Source_Underlay Image from Google Maps



Neighborhood
 Figure 18_Foggy Bottom Boundary
 Source_Underlay Image from Google Earth

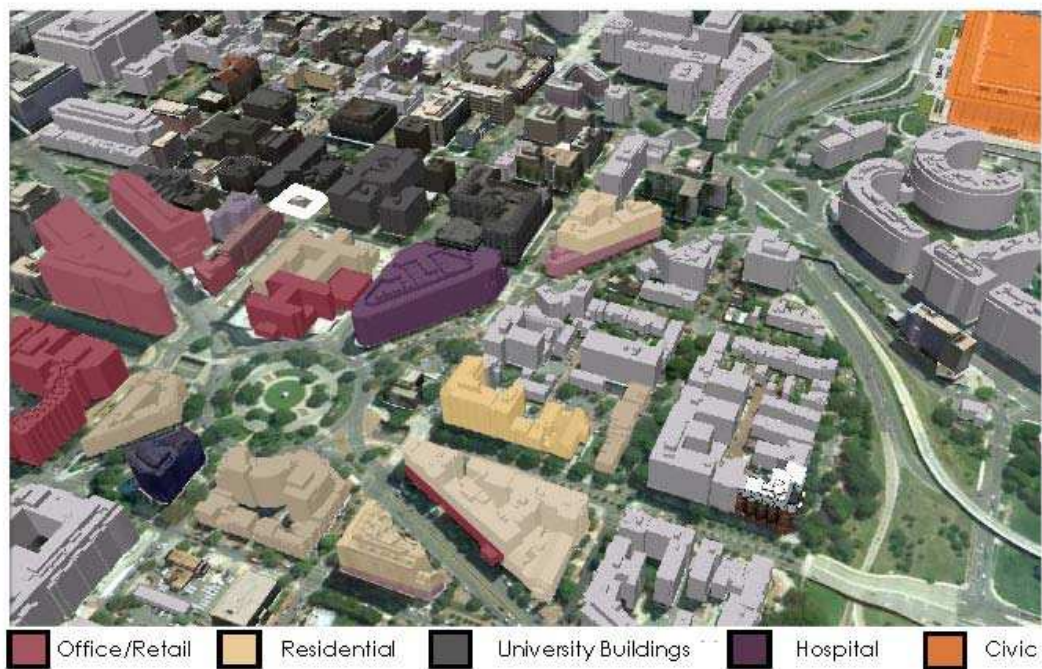
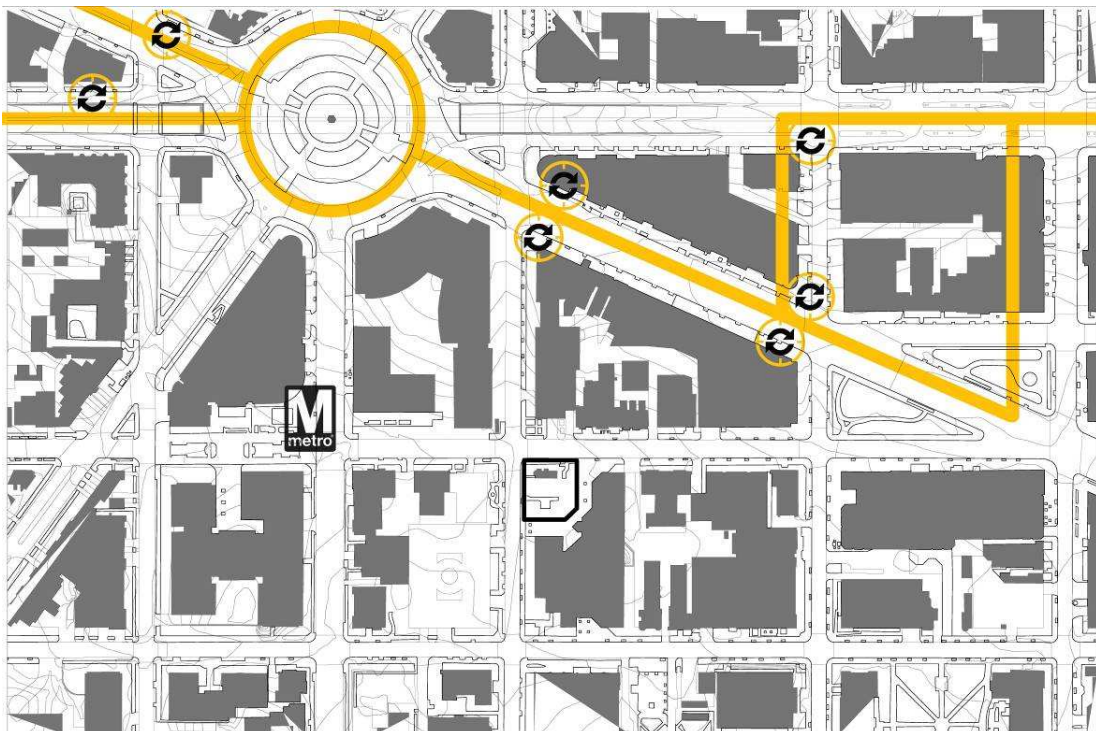
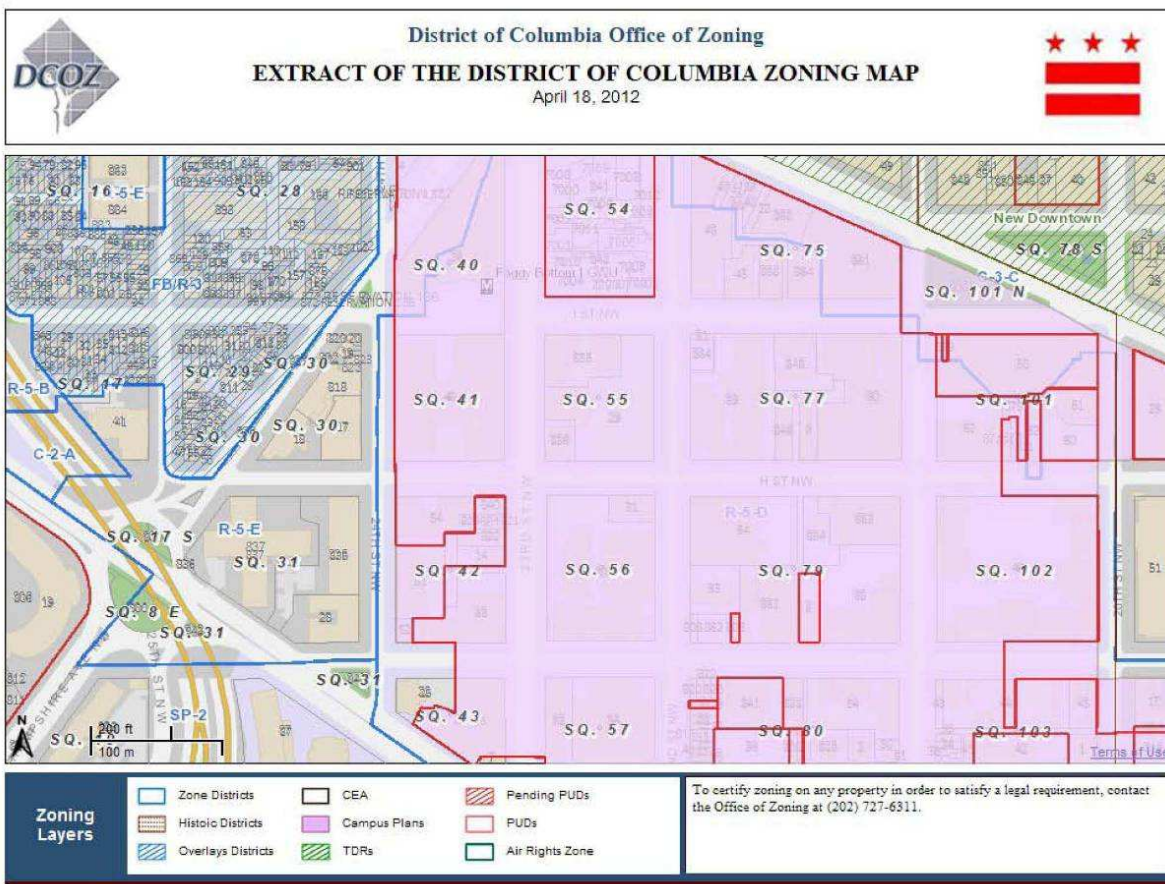


Figure 19_Landuse Diagram
 Source_Underlay Image from Google Earth

The landuse diagram above shows that there are wide ranges of building types that surround the site. The heavy pedestrian traffic of university students, hospital patients and their family members, residents, Kennedy center visitors, and workers by this site gives it the opportunity to be experienced by a wide range of people.

The site's close proximity to parking garages, the Foggy Bottom metro stop on 23rd and I Street NW and the circulator's bus stops along and Pennsylvania Avenue makes it extremely accessible so that people can easily spend time there throughout the day.





The site is located on the GWU campus. Eric S. Selbst, The Senior Land Use Planner and the Campus Planning Office at The George Washington University said that the campus plan rezoned this site from a R-5-D to a C-3-C so that they could achieve the necessary density for Academic/Administrative/Medical uses. The D.C. zoning website states that the zoning for district C-3-C “permits matter-of-right development for major business and employment centers of medium/high density development, including office, retail, housing, and mixed uses to a maximum lot occupancy of 100%, a maximum FAR of 6.5 for residential and for other permitted uses, and a maximum height of ninety (90) feet. Rear yard requirements are twelve (12) feet; one family detached dwellings and one family semi-detached dwellings side yard requirements are eight (8) feet.” -<http://dcoz.dc.gov/info/districts.shtm>

The largest possible building footprint is: $6.5 \text{ (FAR)} \times 13,888 \text{ sqft (lot size)} = 90,272 \text{ sqft}$, larger than the site.

Figure 20_Foggy Bottom Zoning Codes
 Source_ <http://maps.dcoz.dc.gov/>

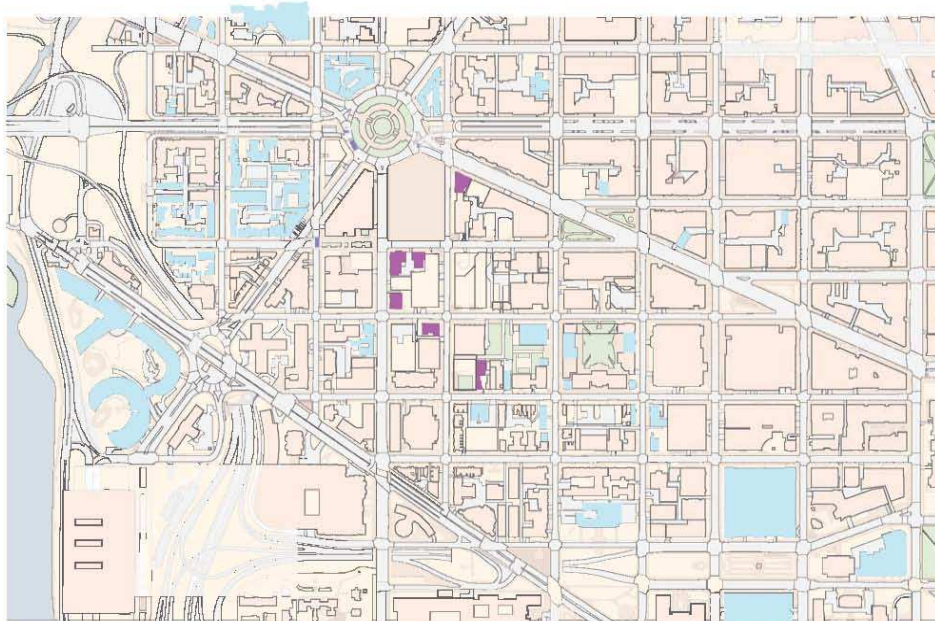
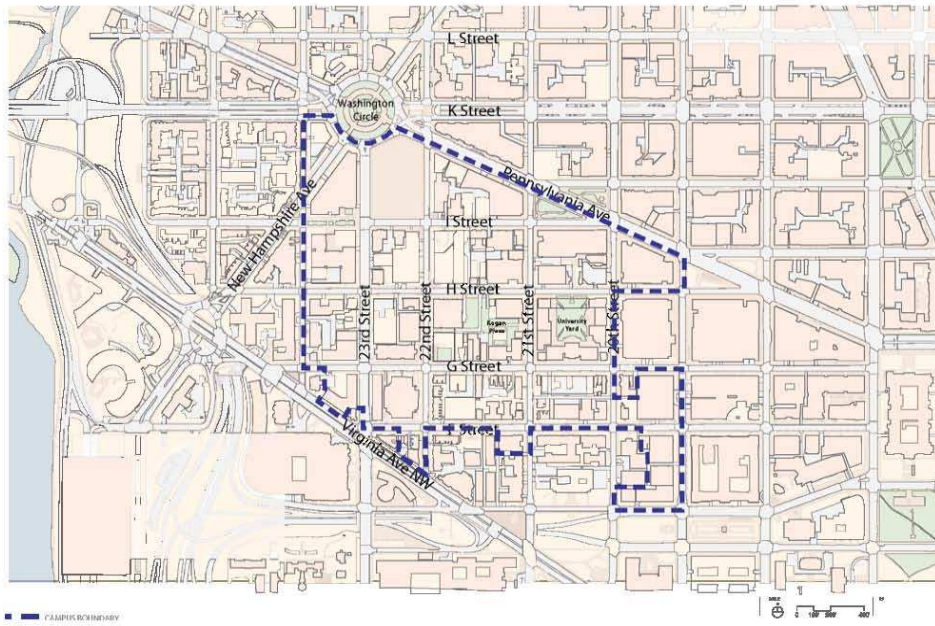


Figure 21_Foggy Bottom Boundary and Parking
Source_Perkins Eastman Website

Site Analysis

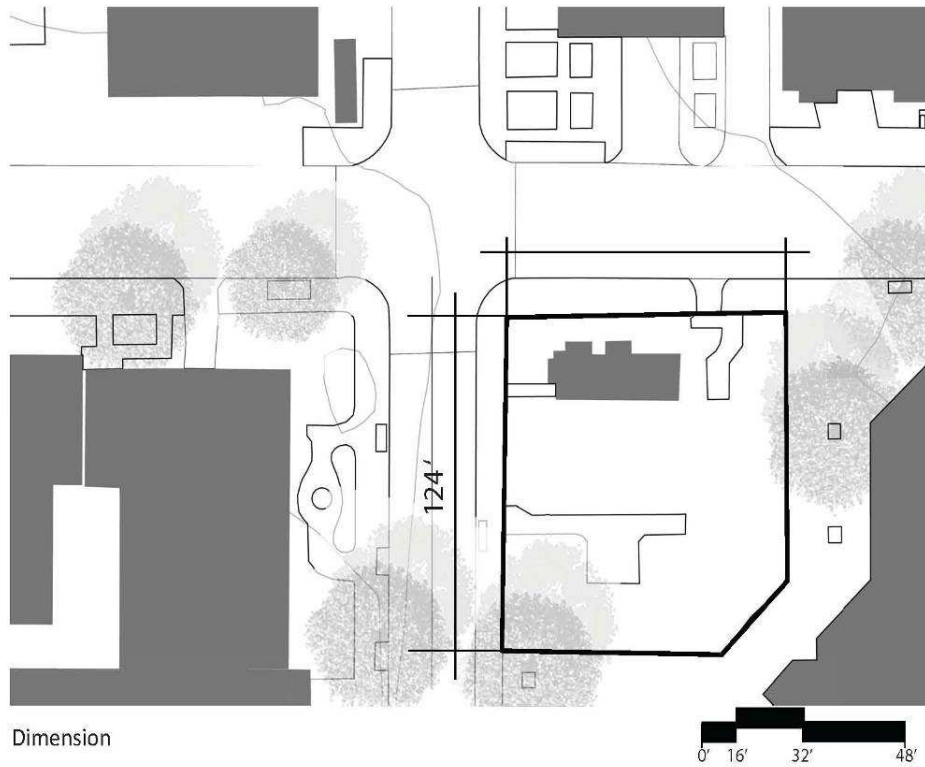
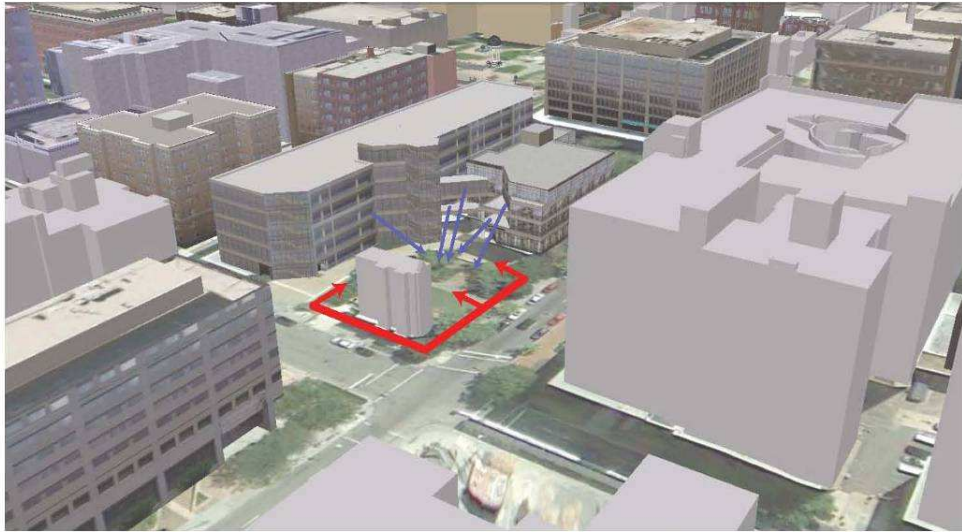
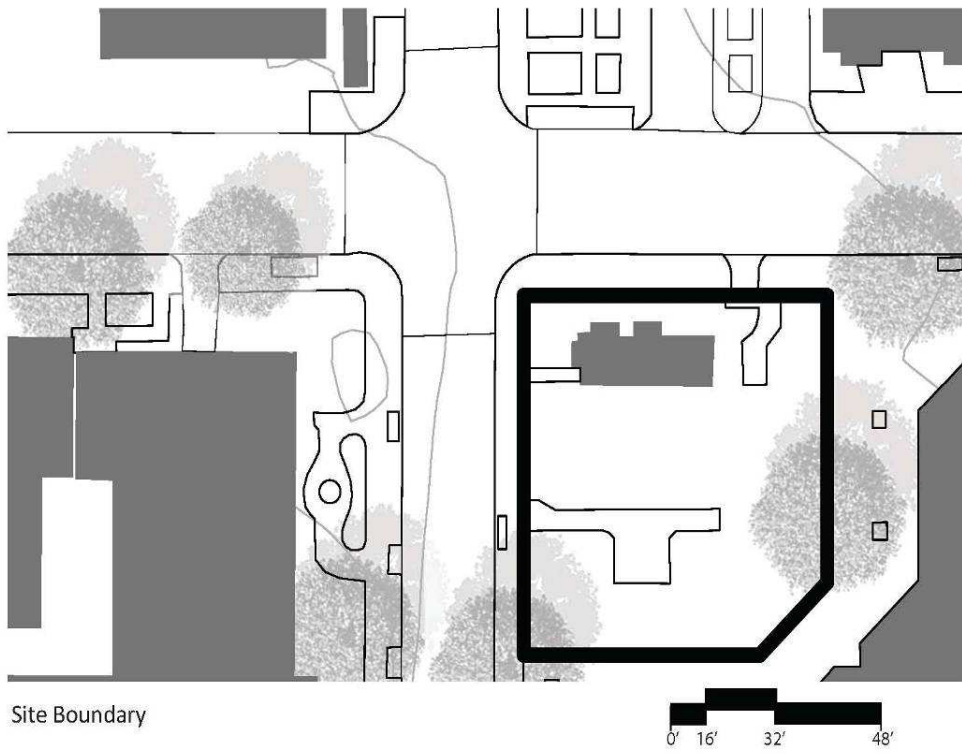


Figure 22_Site Dimension and Pedestrian Traffic Diagram
Source_Underlay Image from Google Earth



Site Views



Site Boundary

Figure 23_Site Views and Boundary Diagram
Source_Image Underlay from Google Earth



Figure 24_Site Pictures

Souce_Image Underlay from Google Earth

After visiting the site and noticing several uninspiring inefficient uses of the land:

- There are two 12 foot wide ramps that wrap around the site.
- There is one old row house whose windows only face the side of the street leaving no connection to the green space to the south.
- Although the space has been landscaped, the wide ramps and wall of the row house hide the garden from the street leaving it empty and unused.

These observations inspired the desire to create a space not only therapeutic to visitors but to society as well. Therefore, the explorations of purifying and reusing water and using wastes from the building as nutrients to feed the green space will be incorporated in the design.

6 | Precedents and Analysis

As previously mentioned, no prescribed building typology exists for the program. While each of the precedents are in different contexts and scales, they provide different options to the design challenges of this thesis: How does one circulate the space? Where are points of movement and gathering? How can one experience water both inside and outside? What are the different thresholds? This section will introduce and describe four different buildings that will be analyzed.

Therme Vals in Graubünden, Switzerland /Peter Zumthor, 1993-6

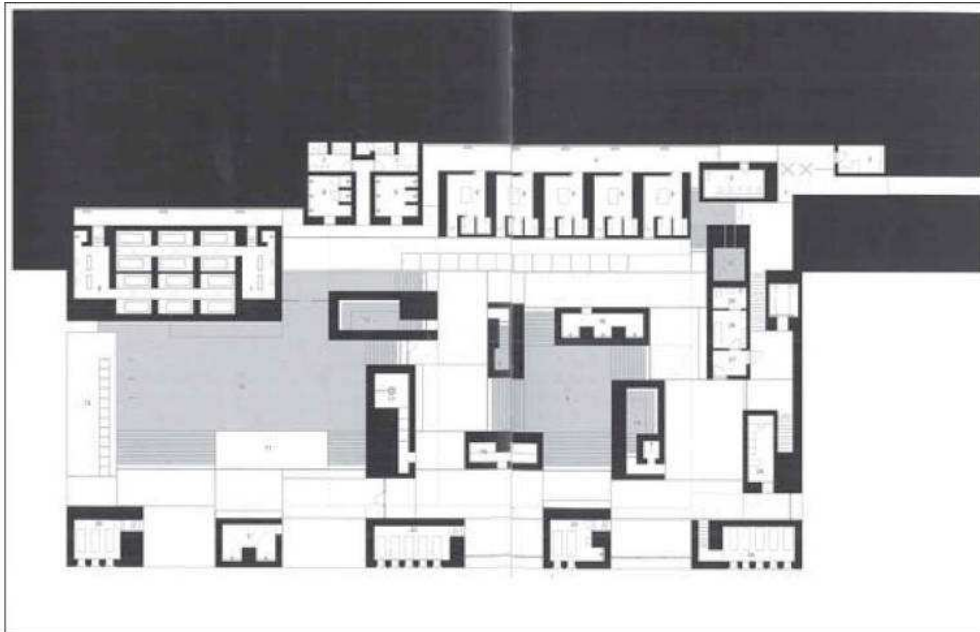
Brief description

Zumthor's idea behind the Therme Vals was to bring people back to nature in order to meditate and find him/herself. He creates this through his study of the different ways of experiencing water. Spaces range in differences in temperature, color and movement.

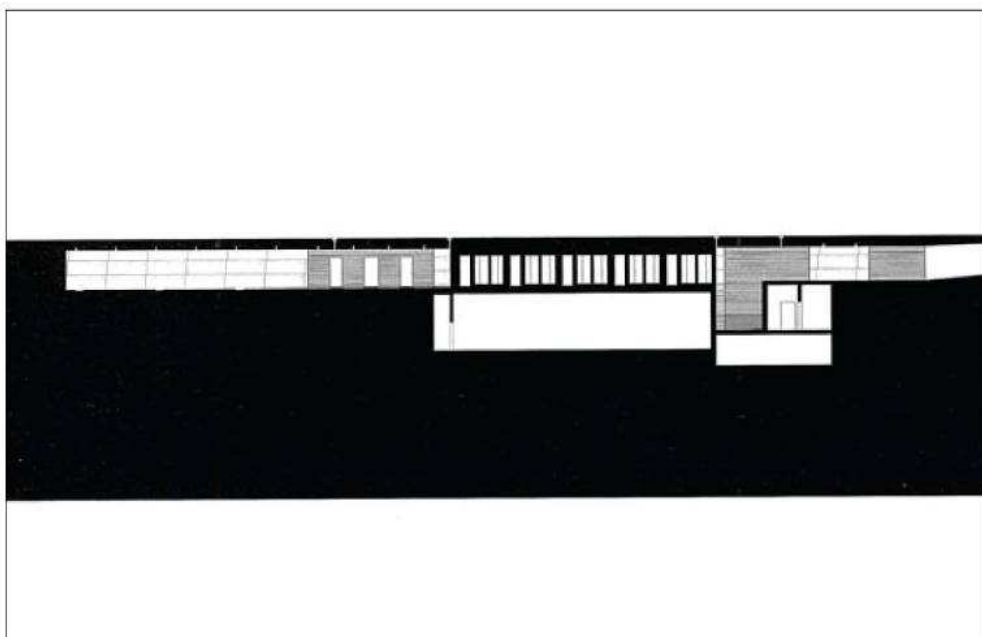
(Zumthor, Therme Vals, p 20)



Figure 25_Therme Vals Interior View
Source_Zumthor, Therme Vals



Plan

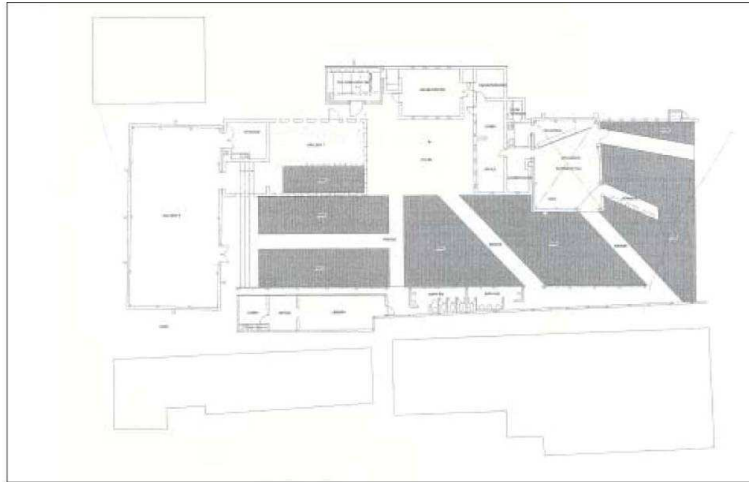


Section

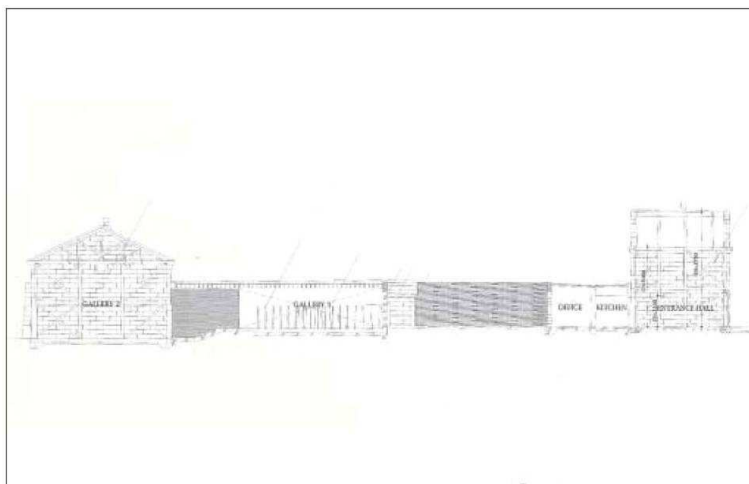
Figure 26_Therme Vals Plan and Section
 Source_Zumthor, *Therme Vals*

Stone Museum in Nasu, Japan / Kengo Kuma, 2000

The goal of Kuma's projects is based around the idea of removing the boundaries and weight of buildings and reconnecting them with the landscape. The architecture of this museum is designed in a way that implies a series of actions in a single space. This effect is created by the application of "small differences in level, inclined connecting planes, light effects, materials differing not in color but in texture and vertical planes." (*Kengo Kuma: Selected Works*. pg 120)



Plan



Section

Figure 27_Stone Museum Plan and Section
Source_ Kengo Kuma: Selected Works. New York, NY:
Princeton Architectural, 2005. Print.



Figure 28_Museum Exterior View
Source_Kengo Kuma Selected Works

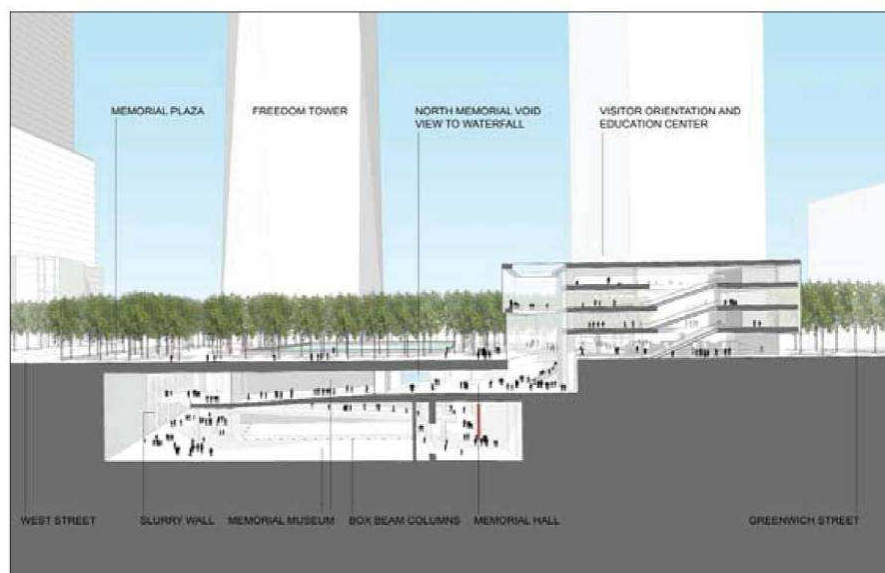
Reflecting Absence, T.T. Memorial in NYC | M. Arad, 12/2013

Reflecting Absence is a memorial museum designed to commemorate the attacks that took place on September 11, 2001. The building is located in a field of trees and has two recessed pools. The purpose of these pools is that they be visible reminders of the absence of the two trade tower buildings. The pools are bordered by a pair of ramps, which leads visitors down to the memorial spaces. The sounds of the pools' falling water overpower the sounds of the city and removes visitors from the surrounding context as they descend into the memorial. At the bottom of ramp, there is another enormous pool that is surrounded by a curtain of water and a wall, which holds a ribbon of names of the deceased.

The memorial plaza is designed to be a mediating space; it belongs both to the city and to the memorial. It is located at street level to allow for its integration into the fabric of the city and encourage New Yorkers to visit it on a daily basis. (<http://online.wsj.com/article/SB10001424053111904353504576569192422618376.html>)



Plan



Section

Figure 29_Reflecting Absence Site Plan and Section
Source_ <http://online.wsj.com/article/SB10001424053111904353504576569192422618376.html>

Church on the Water, Tomamu, Japan | 1985-88



Figure 30_ View of Lake from Chapel.

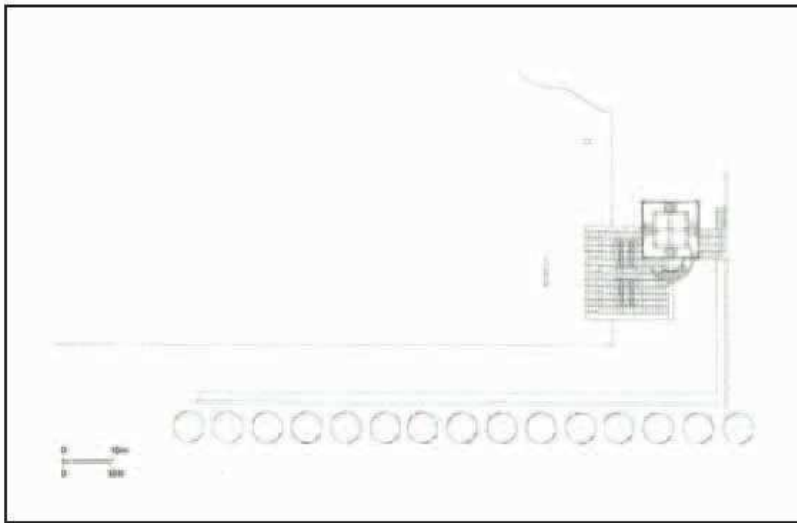
Source_<http://www.mmforsberg.com/blog/2009/12/17/japanese-architect/>

“You cannot simply put something new into a place. You have to absorb what you see around you, what exists on the land, and then use that knowledge along with contemporary thinking to interpret what you see.” –Tadao Ando

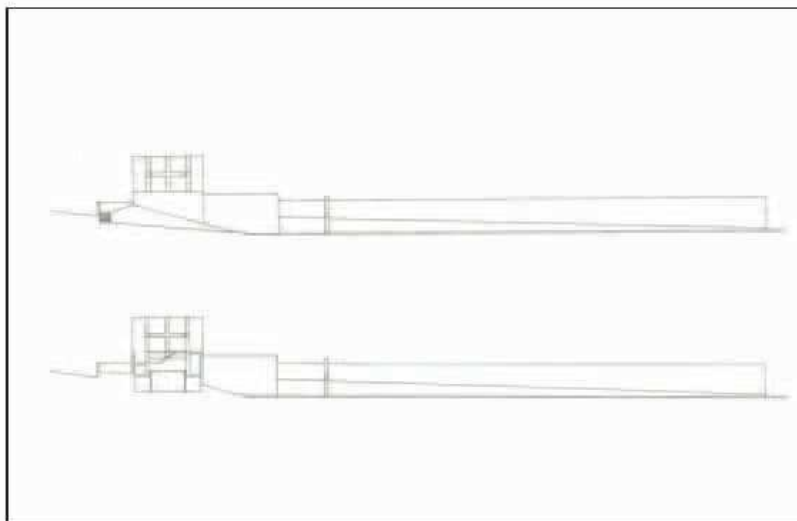
The Church on Water is located on a site, which slopes towards a small river in a clearing of beech trees. Ando successfully incorporates the element of nature through the experience of the building with its different views and building circulation.

To the west, the church is surrounded by hills and trees, the building faces a large pond which steps down towards the small natural river, the entrance of the church pulls the gaze of

visitors upwards to the sky and the building path leads up and around four crosses, and then down the connecting dark spiral stairway into the view of the still pond at the north side of the building.



Plan

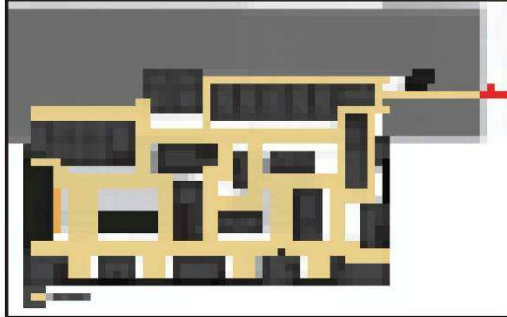


Section

Figure 31_ Church on Water Plan and Section

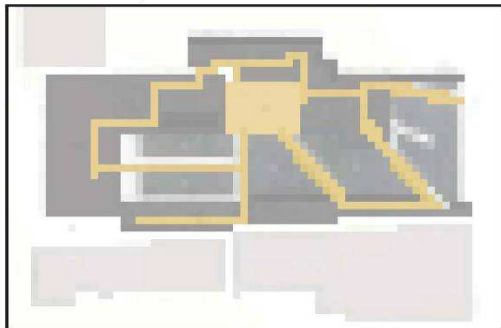
Source_ Andō, Tadao, Vaughan Hart, Jože Plečnik, and Christopher Wren. Places of Worship

Precedent Analysis Diagrams



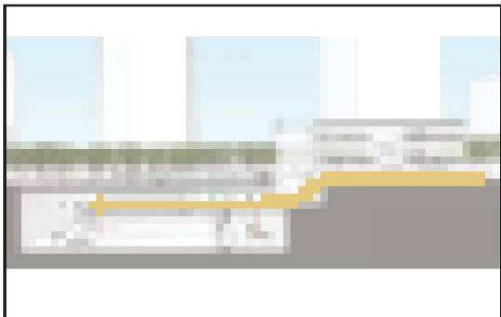
Therme Vals | Zumthor

Zumthor wanted to create a building where people felt like they were meandering through the space. He designed a series of small private rooms which were strategically placed so that it felt like one was walking through a forest. (Insert citation)



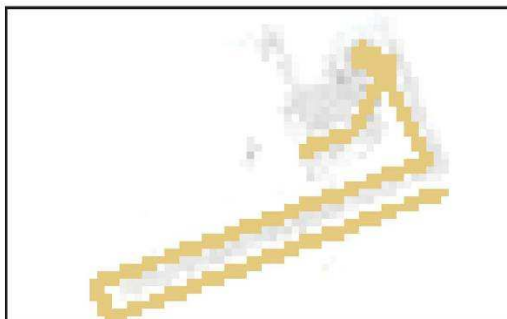
Stone Museum | Kuma

The circulation in Kuma's building is connected by a central space in the heart of the museum. This space helps orient visitors as they walk through the building and the bridges along the water accentuate the location of the tea room. (Insert citation)



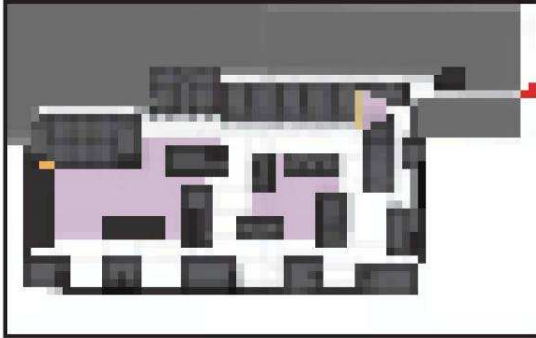
Reflecting Absence, Twin Towers Memorial | Arad

In Michael Arad's Reflecting Absence, the main route of circulation is descending into the ground. (Insert citation)



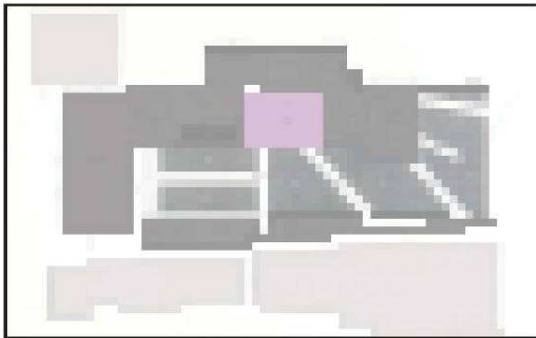
Church on the Water | Ando

When one circulates through Ando's Church on the Water, they both ascend and descend. Also, in order for one to arrive at the view of the cross in the water, they have to circulate through a series of horizontal layers. (Insert citation)



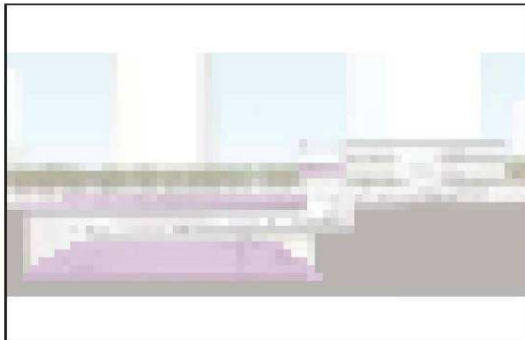
Therme Vals | Zumthor

There are several gathering spaces in Zumthor's Vals, all of which have clear views through the building.
(Insert citation)



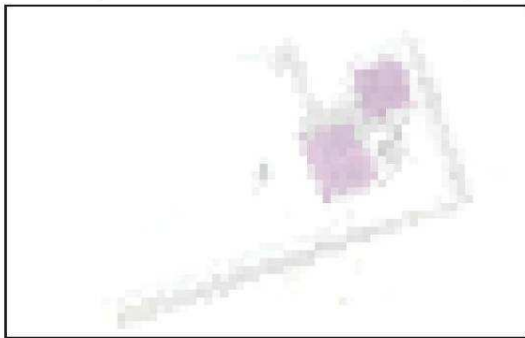
Stone Museum | Kuma

Kuma's museum design has one central gathering space in the heart of the building. This space helps orient visitors through the building.
(Insert citation)



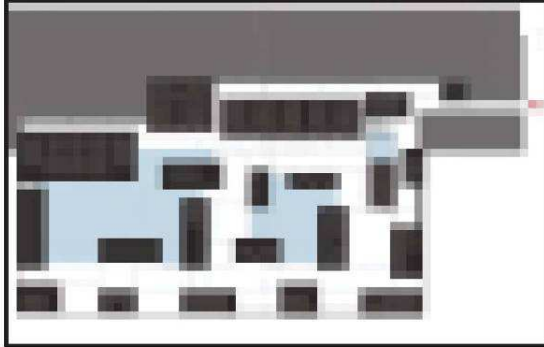
Reflecting Absence, Twin Tower Memorial | Arad

In Michael Arad's Reflecting Absence, the gathering spaces are located on the ground and below ground. Both of the spaces cover the entire building footprint and are focused on the water.
(Insert citation)



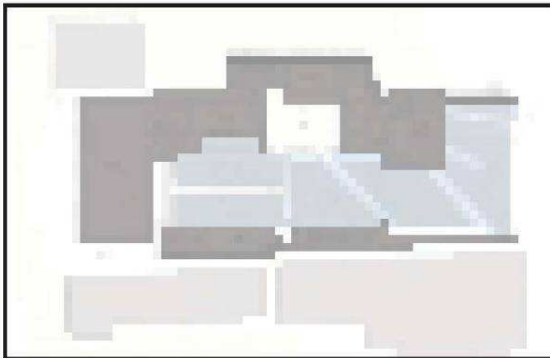
Church on the Water | Ando

The gathering spaces in the Church in the Water are located on and above the ground. Both have different experiences both visually and materially
(Insert citation)



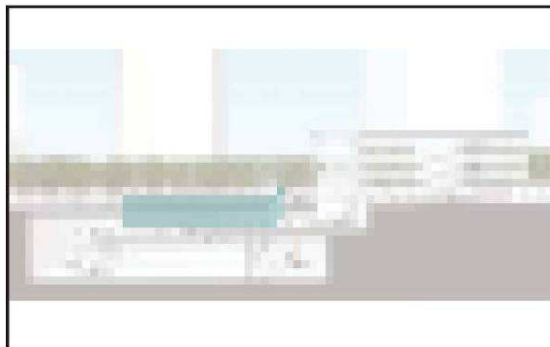
Therme Vals | Zumthor

The water in Zumthor's baths serve as the gathering spaces in the building as well as the paths through which visitors can meander through.
(Insert citation)



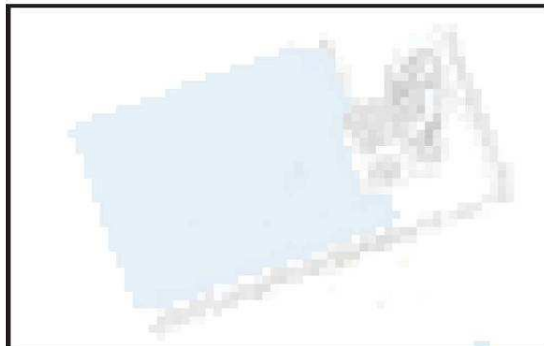
Stone Museum | Kuma

The water in Kuma's museum design serve as visual connectors to the central space in the building. Visitors can circulate around and across the water, while exploring the museum.
(Insert citation)



Reflecting Absence, Twin Towers Memorial | Arad

The water in Michael Arad's memorial serves as the focal point design. As one circulates around and into the ground, s/he always has a connection to it, e.g. through sound and view.
(Insert citation)

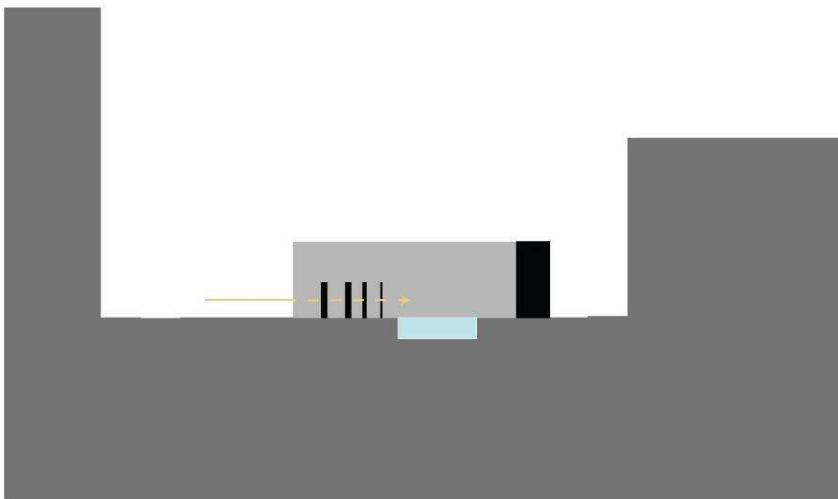
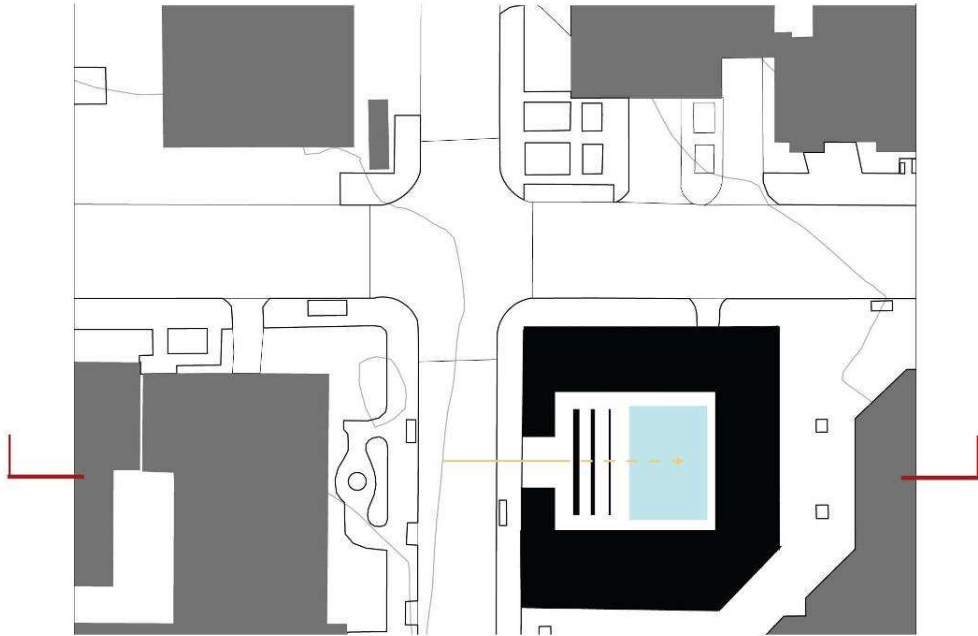


Church on the Water | Ando

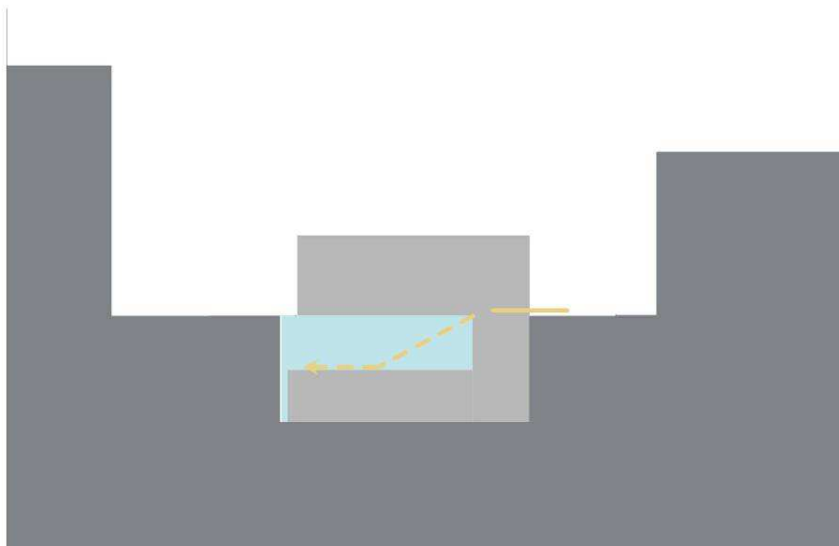
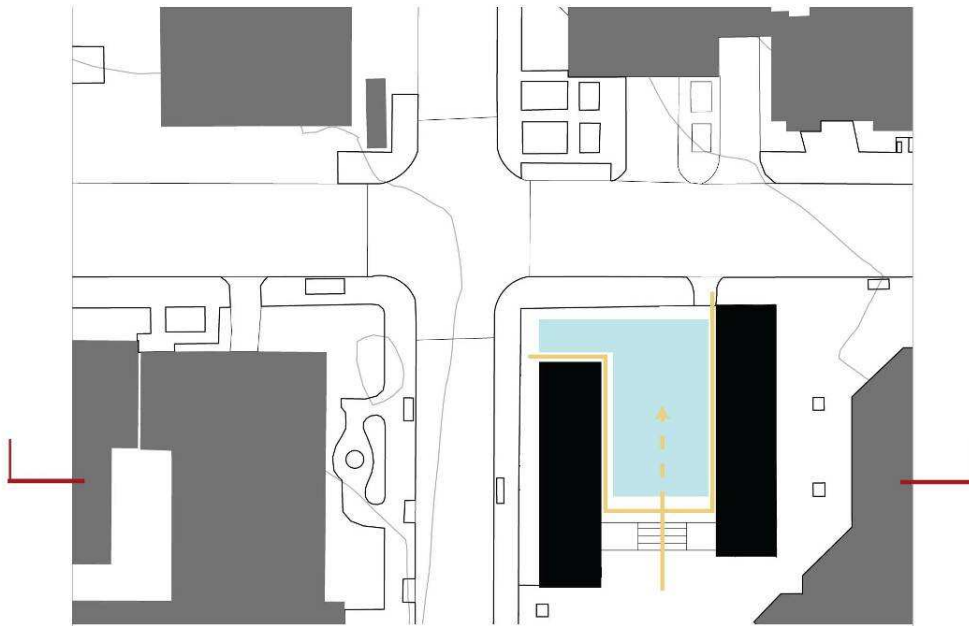
Like the Twin Towers Memorial, the water space in the Church in the Water serves as the focal point of the design. It appears when one arrives, when s/he walks to the building and when s/he descends down to view the cross.
(Insert citation)

7 |Parti Studies

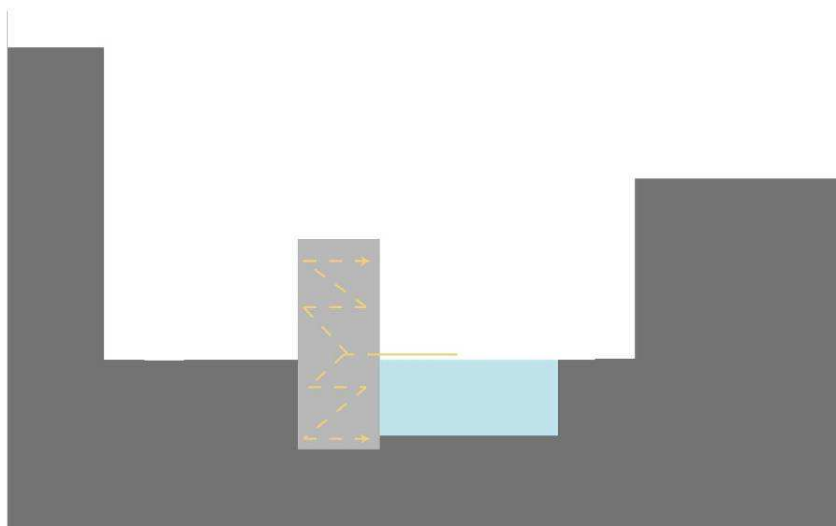
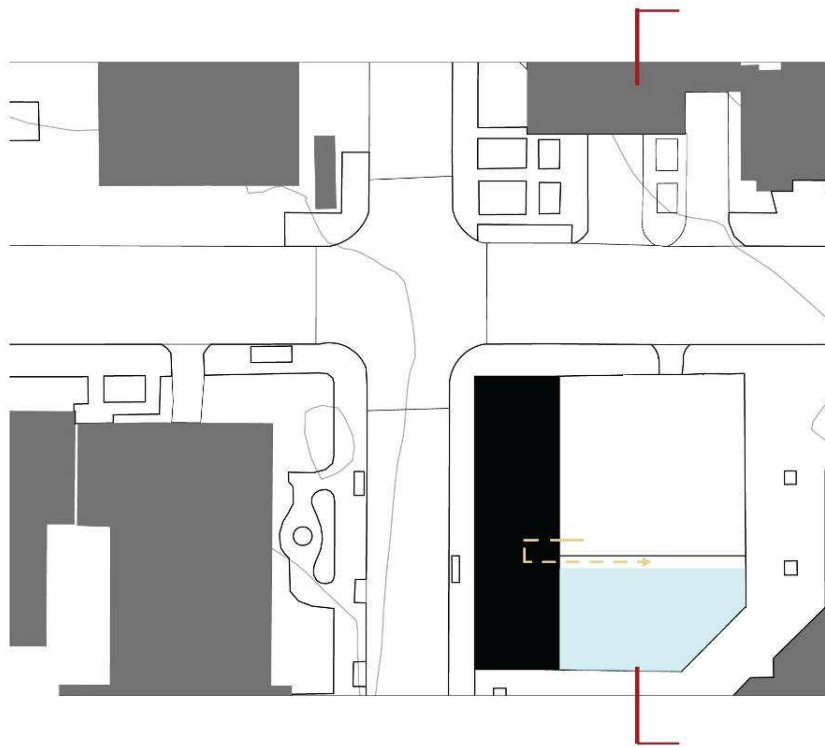
Movement through a series of layers



Descend

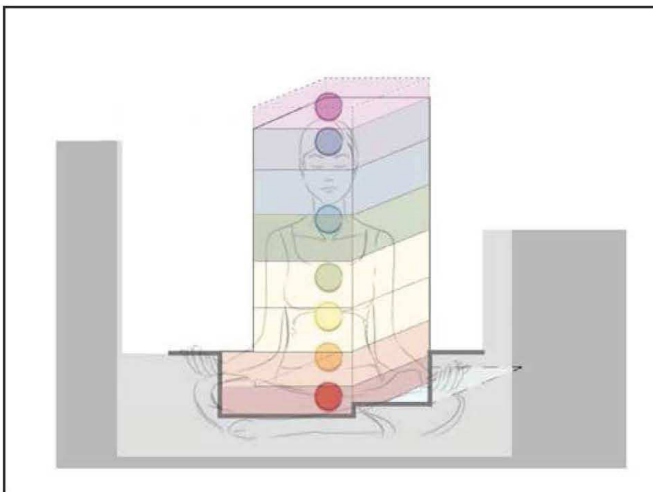


Ascend and Decend

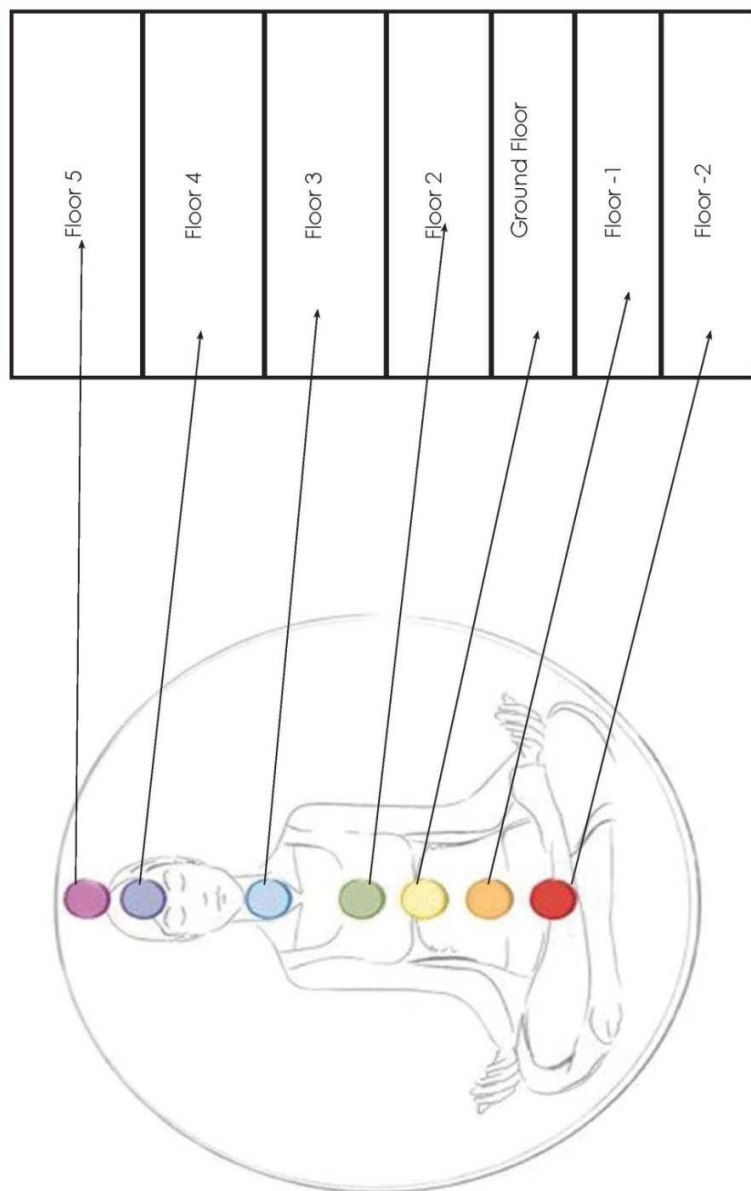


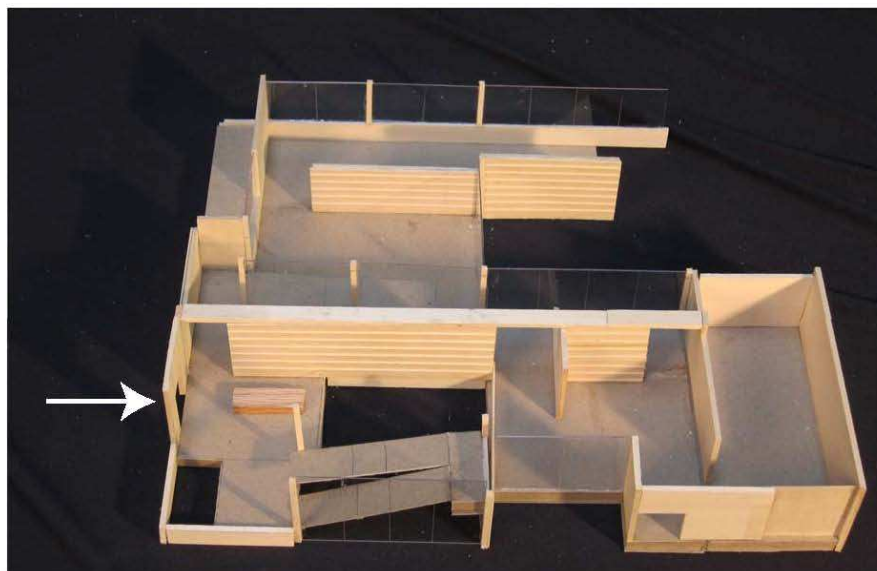
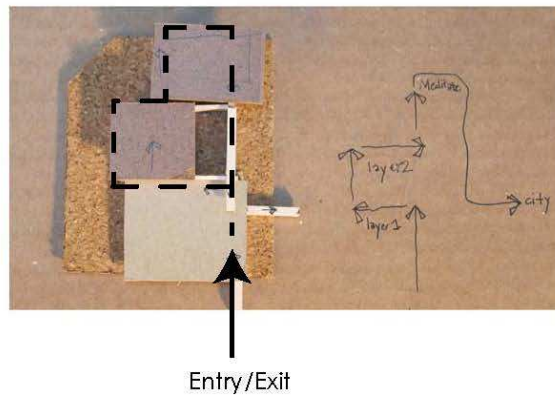
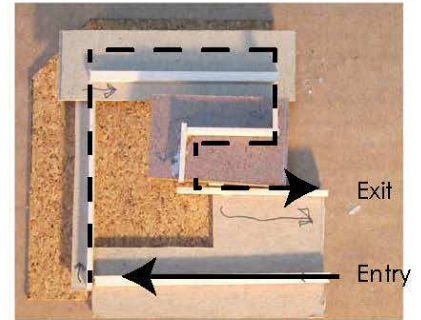
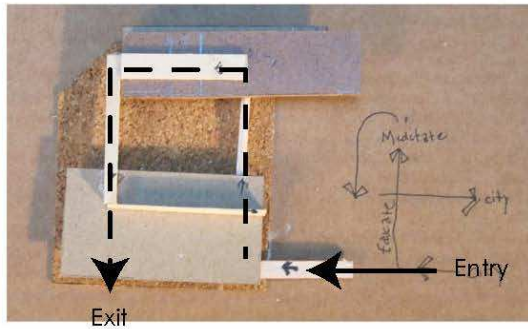
Parti Development

After analyzing the site and exploring different partis, it became clear that the building has to have a larger footprint than the healing program. The way to solve this is to fuse the healing spaces with community center program. This will not only add to the building program, but it will give it a reason for being and will help introduce the neighborhood to such spaces. There will be seven floors, each which will represent the different chakra centers that were explained in chapter one. Each floor will incorporate different color and gemstones that correspond with the different chakra centers. Visitors can choose which space feels most appropriate to them when they come to visit. That way, healing can become an individual decision based on intuition.



Each floor will incorporate different color and gemstones that correspond with the different chakra centers. Visitors can choose which space feels most appropriate to them when they come to visit. That way, healing can become an individual decision based on intuition.





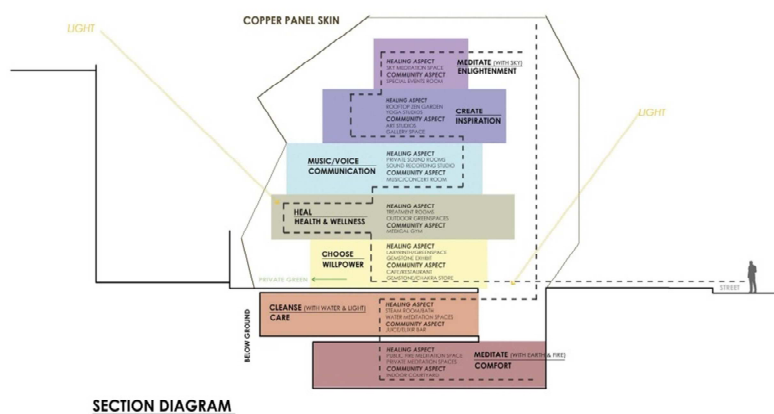
Model Explorations of Building Circulation

















Gemstone and Chakra Interior Explorations




8| Building Development and Design

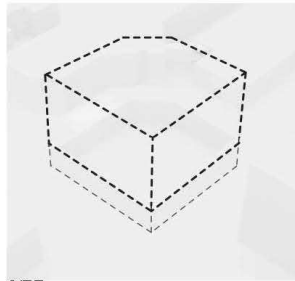
The first and second chakras/root and sacral chakras will be placed below ground so that the connection to earth, clay and water can be enhanced. The third chakra/the Solar Plexus Chakra will be placed at the ground level because it is the chakra of activity, power and making decisions and the Heart, Throat, Third Eye and Crown Chakras will be stacked above in order to take advantage of the light and air that is necessary for each floor.



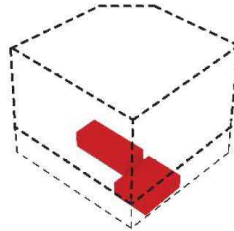
The following chart and diagrams begins to explain each chakra, their relationships to gemstones and how they can begin to be translated architecturally. These are a series of photos and photo collages that are not direct representations of the spaces but a catalogue to help people imagine how some of the places might feel. Each one is based off of the chakras' functions, activity and or color as stated in the table below.

CHAKRAS: SEVEN SPIRALS OF ENERGY LOCATED ALONG THE HUMAN SPINE		COLOR	FUNCTION	ACTIVITY
Crown Chakra		PURPLE/WHITE	CLARITY	<u>MEDITATE</u> (WITH SKY) 
Third Eye Chakra		BLUE	INTUITION	<u>CREATE</u> 
Throat Chakra		TEAL	SOUND	<u>MUSIC/VOICE</u> 
Heart Chakra		GREEN	COMPASSION	<u>HEAL</u> 
Solar Plexus Chakra		YELLOW	POWER	<u>CHOOSE</u> 
Sacral Chakra		ORANGE	NURTURE	<u>CLEANSE</u> (WATER AND LIGHT) 
Root Chakra		RED/BLACK	SECURITY	<u>MEDITATE</u> (WITH EARTH AND FIRE) 

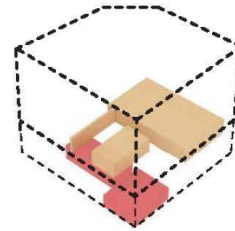
COMMUNITY BENEFIT	GEMSTONE MATERIAL (EXAMPLES)	MATERIAL APPLICATION	PROGRAM
ENLIGHTENMENT	CELESTITE AMETHYST WHITE QUARTZ	EDUCATION SPACES: <ul style="list-style-type: none"> LOOSE STONES LOCATED IN WATER, ON EARTH, NEAR FIRE SIZES RANGE FROM SMALL TO LARGE TEXTURES RANGE FROM ROUGH TO SMOOTH GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	HBLINGA SPECT PRIVATE MEDITATION SPACE COMMUNITY ASPECT SPECIAL EVENTS ROOM
INSPIRATION	LAPIS LAZULI SAPPHIRE	TREATMENT SPACES: <ul style="list-style-type: none"> STONE WILL BE MAINLY APPLIED ON THE FLOOR TEXTURES WILL RANGE FROM SMOOTH TO ROUGH, THE SMOOTH AREAS CAN DIRECT CIRCULATION STONES WILL BE WARM AND COLD GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	HBLINGA SPECT YOGA STUDIO ZEN GARDEN COMMUNITY ASPECT ART STUDIO GALLERY SPACE
COMMUNICATION	AQUAMARINE AZURITE	TREATMENT SPACES: <ul style="list-style-type: none"> STONE WILL BE MAINLY APPLIED ON THE FLOOR TEXTURES WILL RANGE FROM SMOOTH TO ROUGH, THE SMOOTH AREAS CAN DIRECT CIRCULATION STONES WILL BE WARM AND COLD GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	HBLINGA SPECT PERFORMANCE ROOM COMMUNITY ASPECT MUSICIAN CONCERT ROOM SOUND RECORDING STUDIO
HEALTH & WELLNESS	ROSE QUARTZ KUNZITE JADE	TREATMENT SPACES: <ul style="list-style-type: none"> STONE WILL BE MAINLY APPLIED ON THE FLOOR TEXTURES WILL RANGE FROM SMOOTH TO ROUGH, THE SMOOTH AREAS CAN DIRECT CIRCULATION STONES WILL BE WARM AND COLD GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	HBLINGA SPECT TREATMENT ROOM OLD ONE GREENHOUSE COMMUNITY ASPECT MEDICAL GYM
WILLPOWER	YELLOW CITRINE TOPAZ	MEDITATION SPACES: <ul style="list-style-type: none"> STONE WILL BE MAINLY APPLIED TO THE WALL TEXTURES WILL RANGE FROM SMOOTH TO ROUGH, THE SMOOTH AREAS WILL BE LOCATED AT HAND LEVEL SO THAT PEOPLE CAN TOUCH THE WALLS. THEY WALK AREAS ON WALL AND SOME LARGE LOOSE STONES WILL HAVE SEATS CARVED IN SO THAT THE CHAKRAS CAN HAVE DIRECT CONTACT WITH IT GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	HBLINGA SPECT GEMSTONE EXHIBIT (190 sq ft) LATE 19TH CENTURY COMMUNITY ASPECT CAFETERIA/LAUNDRY GEMSTONE CHAKRA STORE
CARE	CARNELIAN TIGER'S EYE	MEDITATION SPACES: <ul style="list-style-type: none"> STONE WILL BE MAINLY APPLIED TO THE WALL TEXTURES WILL RANGE FROM SMOOTH TO ROUGH, THE SMOOTH AREAS WILL BE LOCATED AT HAND LEVEL SO THAT PEOPLE CAN TOUCH THE WALLS. THEY WALK AREAS ON WALL AND SOME LARGE LOOSE STONES WILL HAVE SEATS CARVED IN SO THAT THE CHAKRAS CAN HAVE DIRECT CONTACT WITH IT GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	HBLINGA SPECT STEAM ROOM/BATH COMMUNITY ASPECT JUICE/BLISS BAR
COMFORT	RED GARNET SMOKEY QUARTZ	MEDITATION SPACES: <ul style="list-style-type: none"> STONE WILL BE MAINLY APPLIED TO THE WALL TEXTURES WILL RANGE FROM SMOOTH TO ROUGH, THE SMOOTH AREAS WILL BE LOCATED AT HAND LEVEL SO THAT PEOPLE CAN TOUCH THE WALLS. THEY WALK AREAS ON WALL AND SOME LARGE LOOSE STONES WILL HAVE SEATS CARVED IN SO THAT THE CHAKRAS CAN HAVE DIRECT CONTACT WITH IT GEMSTONE TYPES ON EACH FLOOR WILL CORRESPOND WITH CHAKRA COLORS 	HBLINGA SPECT PUBLIC FREE MEDITATION SPACE PRIVATE MEDITATION SPACE COMMUNITY ASPECT OLD ONE COURTYARD



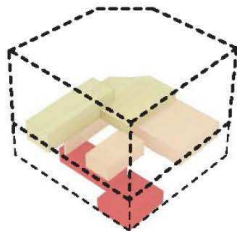
SITE



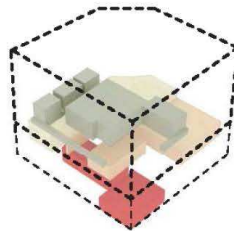
ROOT LEVEL
-30'-0" BELOW GROUND



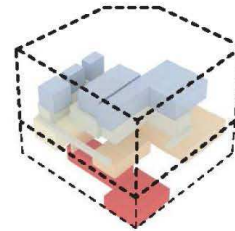
SACRAL LEVEL
-15'-0" BELOW GROUND



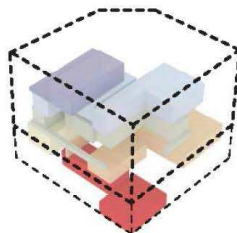
SOLAR LEVEL
GROUND LEVEL



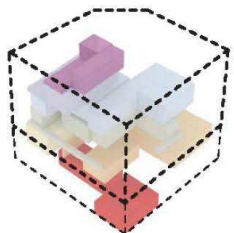
HEART LEVEL
18'-0" ABOVE GROUND



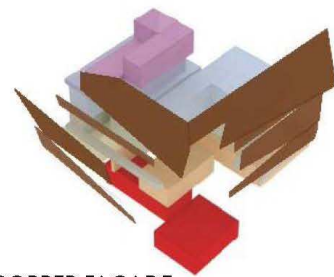
THROAT LEVEL
36'-0" ABOVE GROUND



THIRD EYE/BROW LEVEL
52'-0" ABOVE GROUND

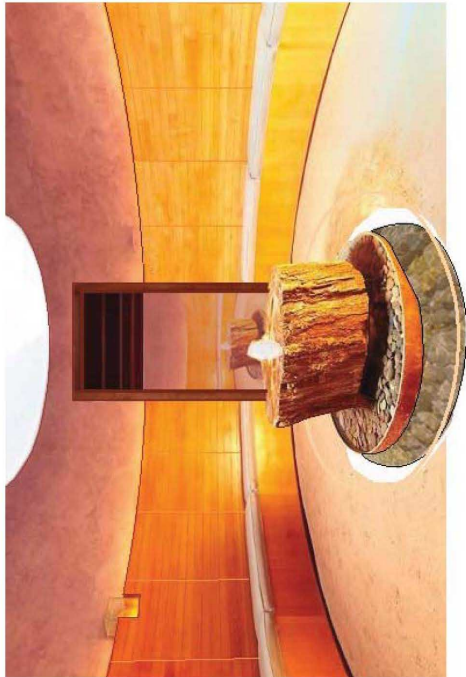
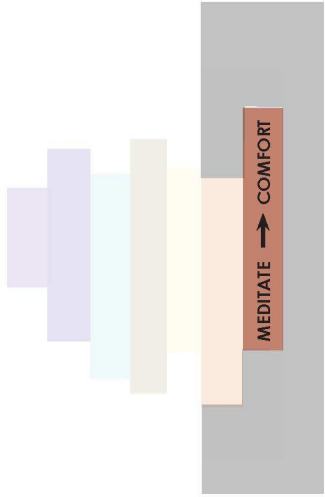
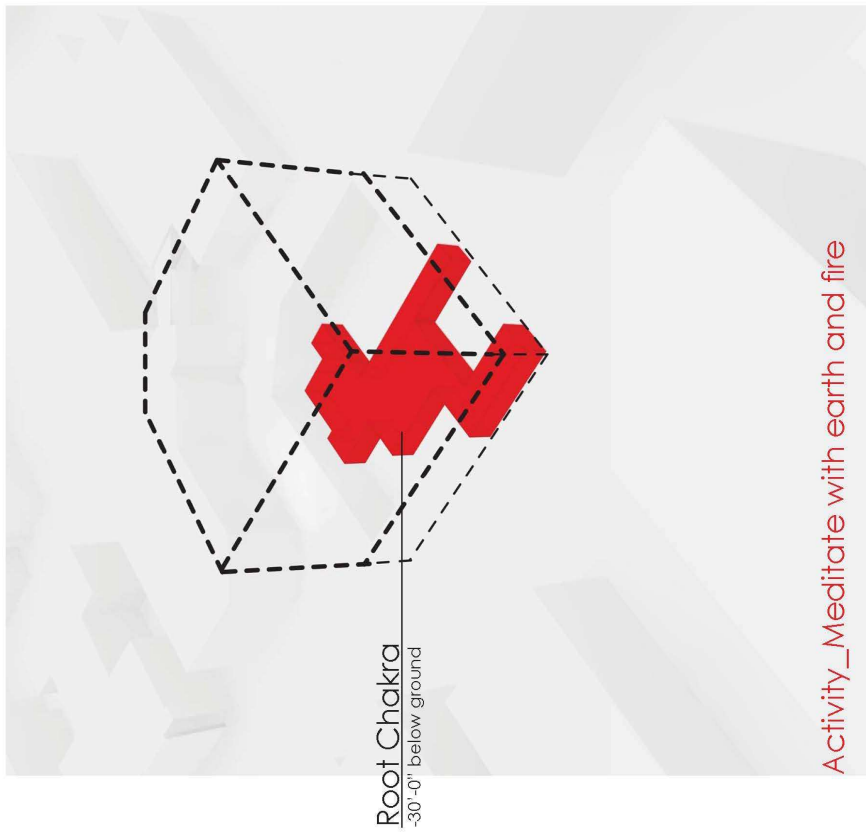


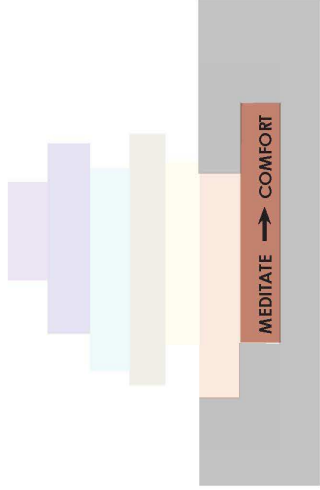
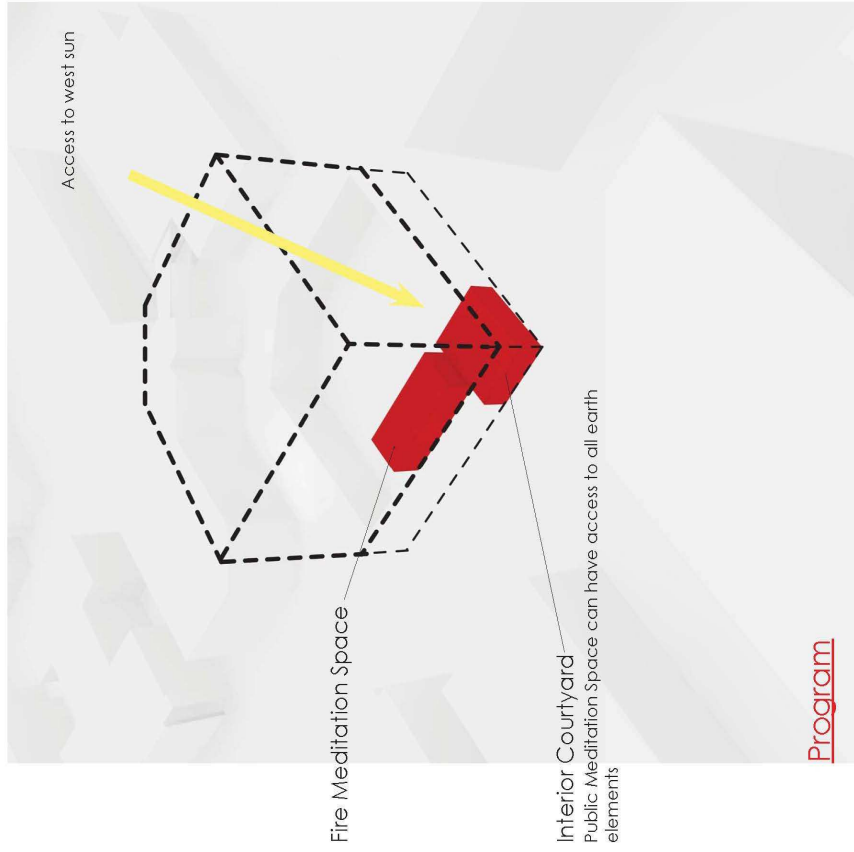
CROWN LEVEL
64'-0" ABOVE GROUND

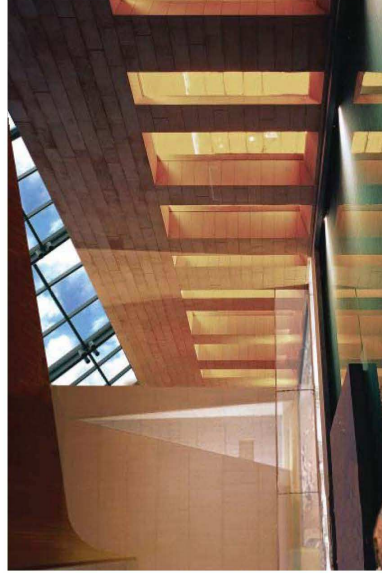
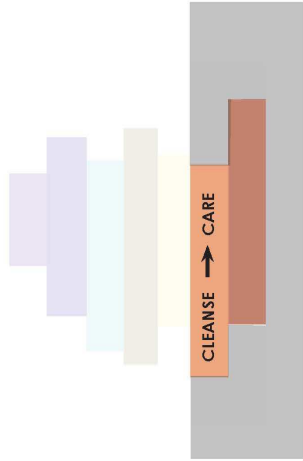
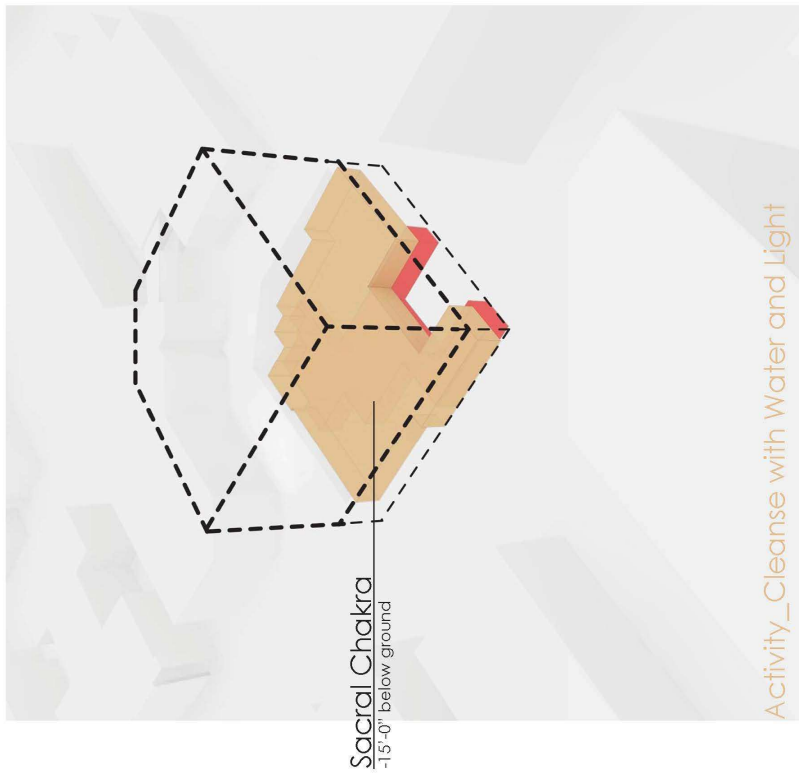


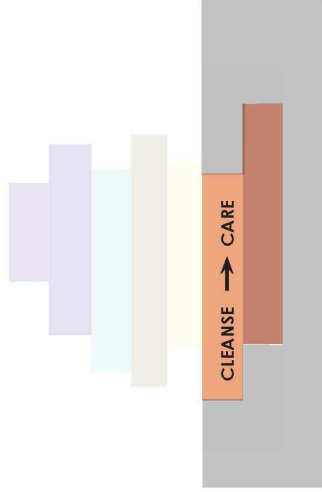
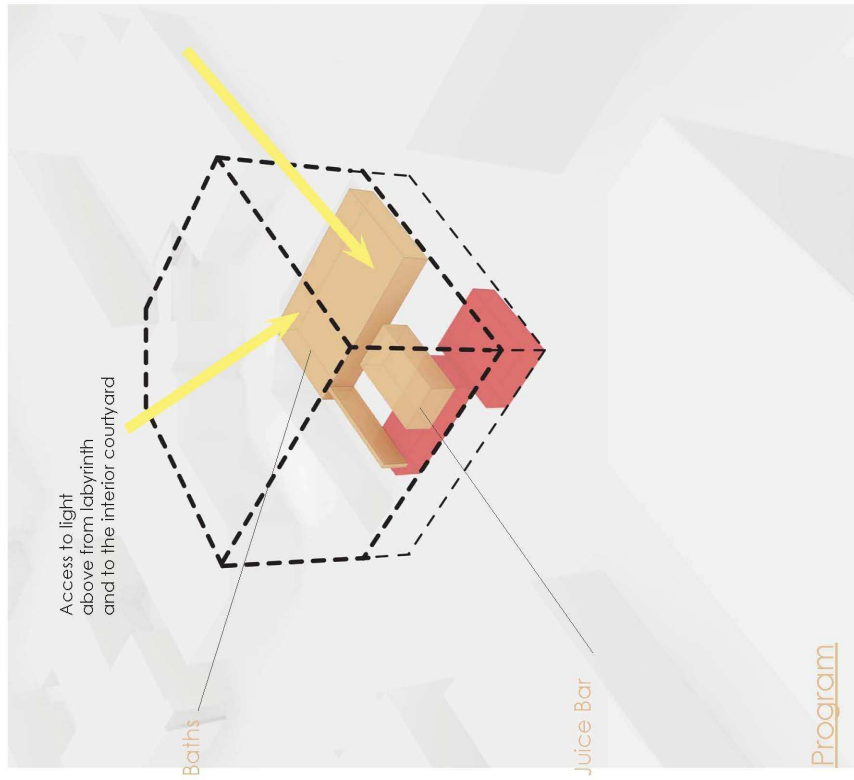
COPPER FAÇADE

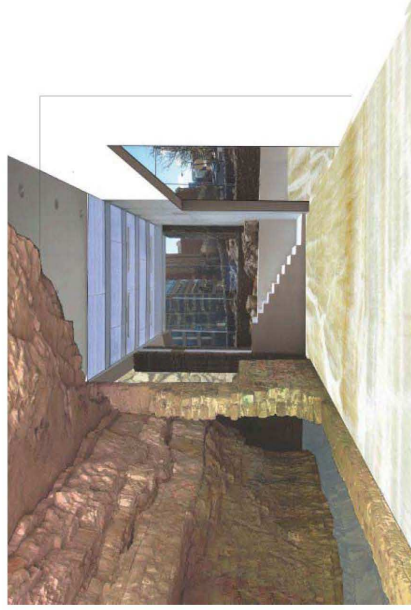
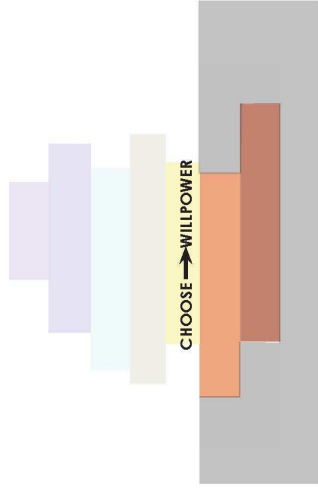
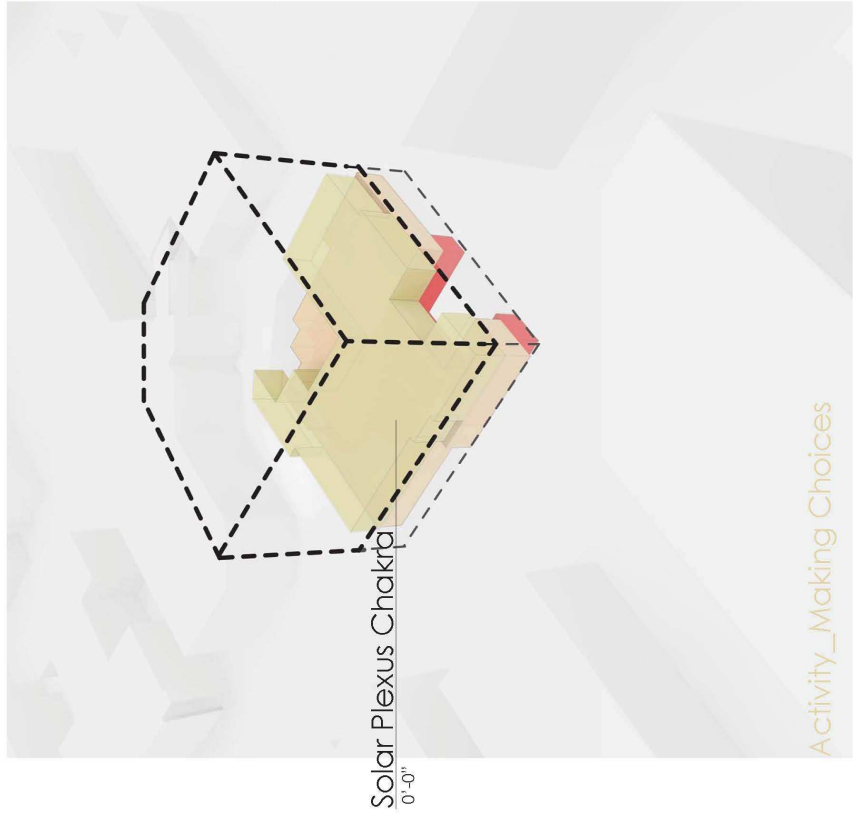
MASSING DIAGRAMS

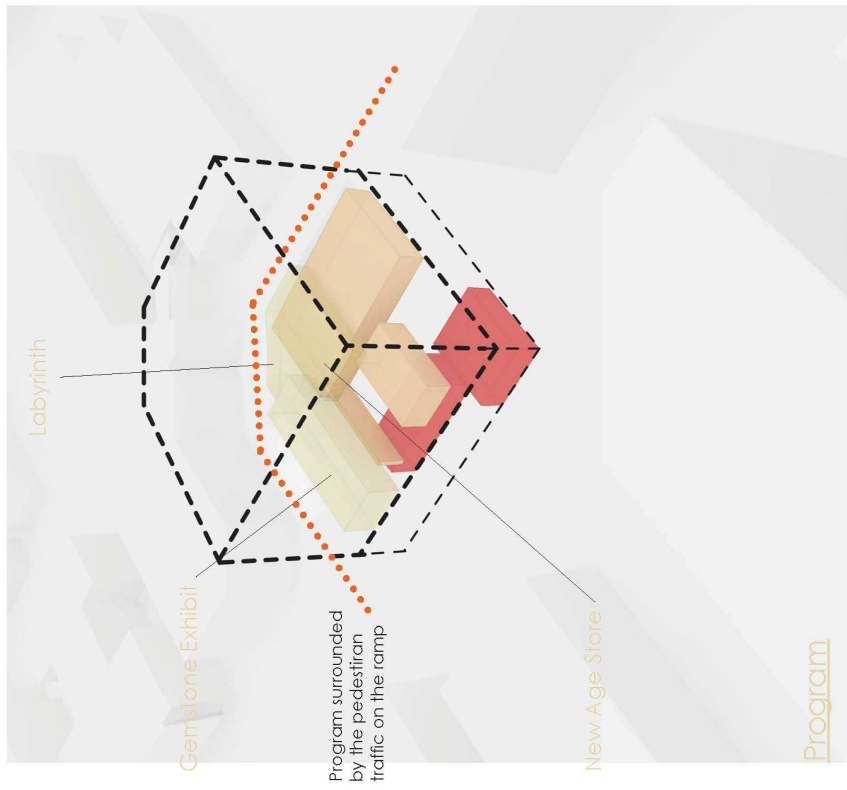
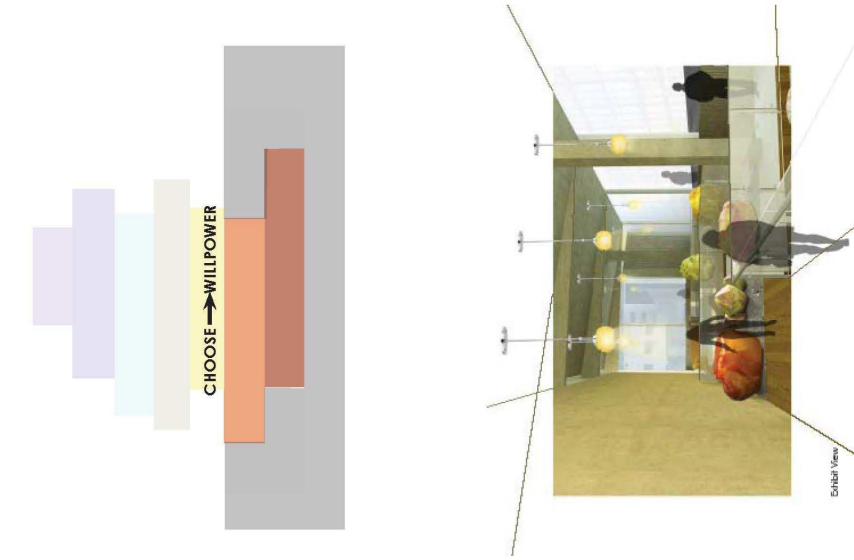


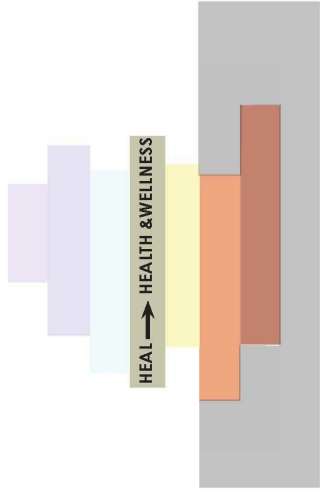
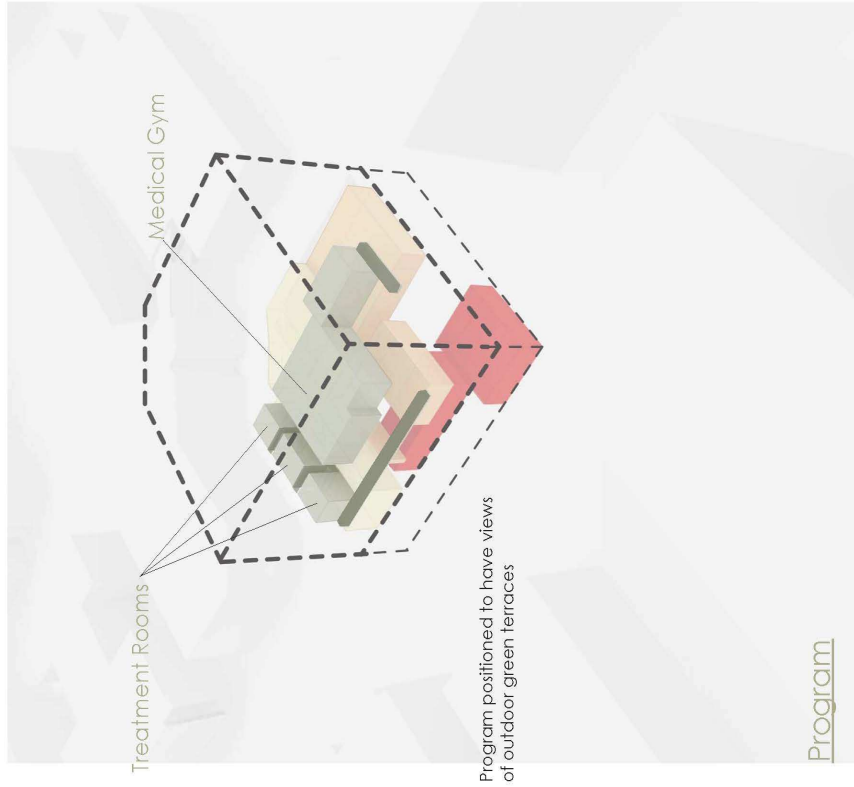


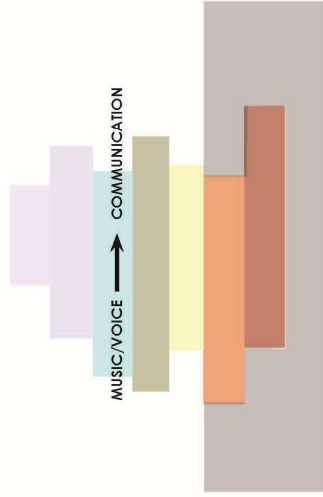
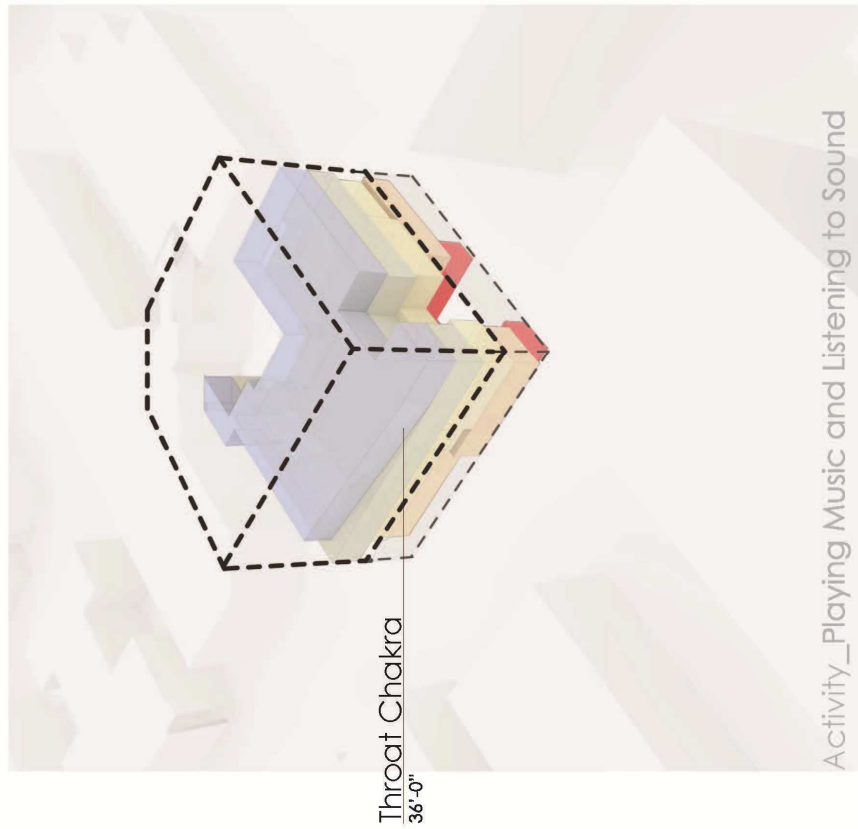


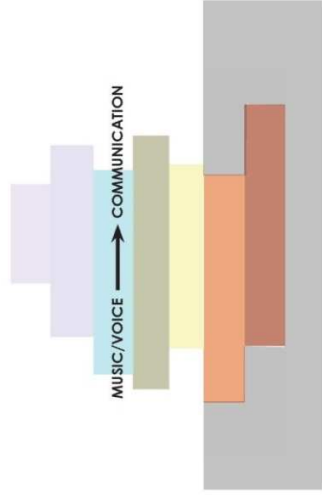
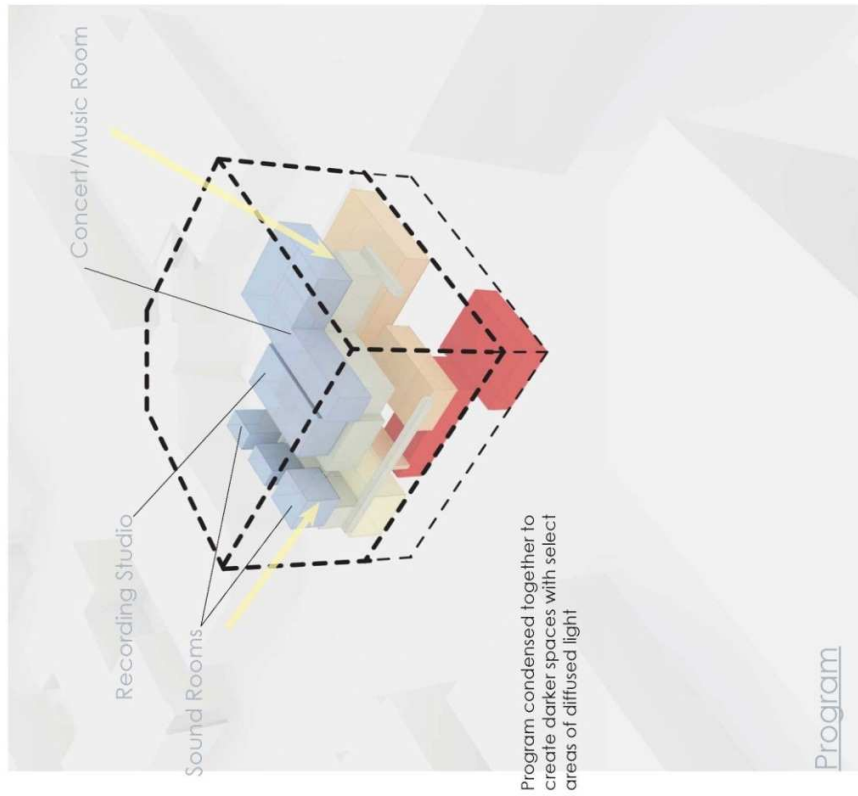


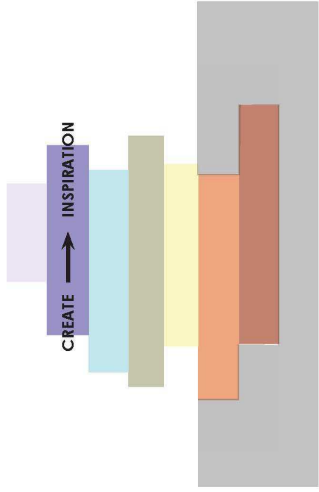
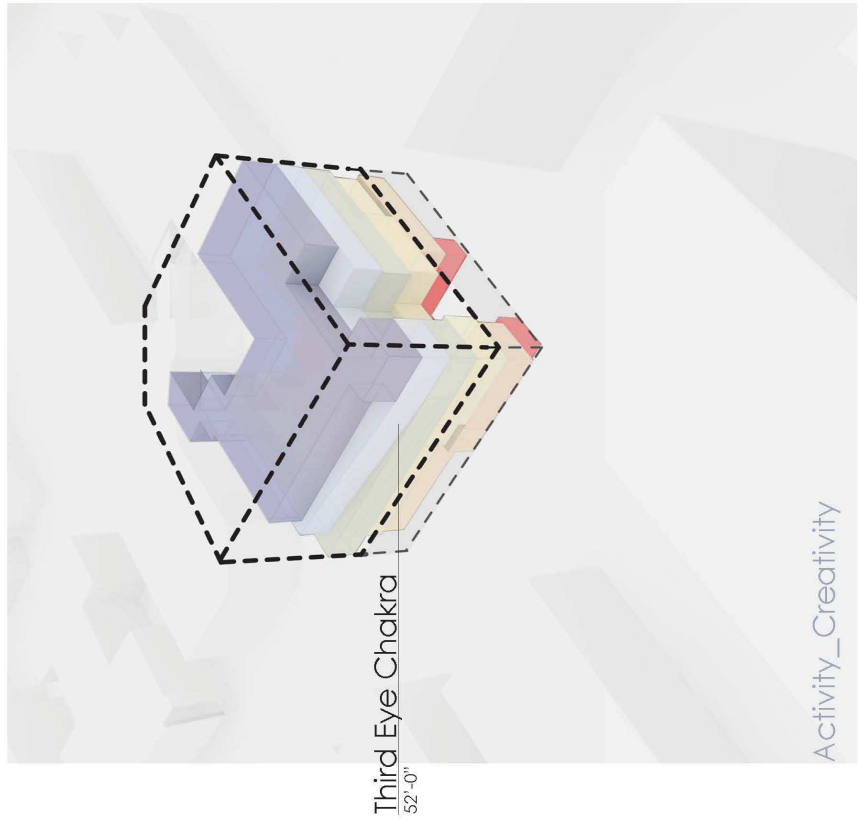


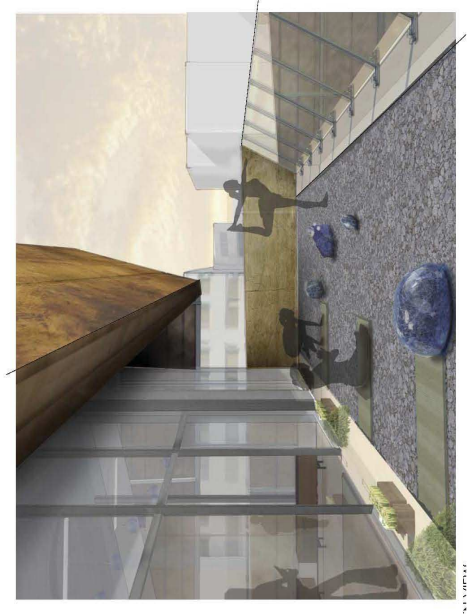
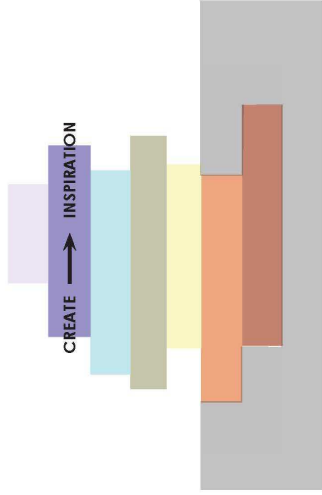
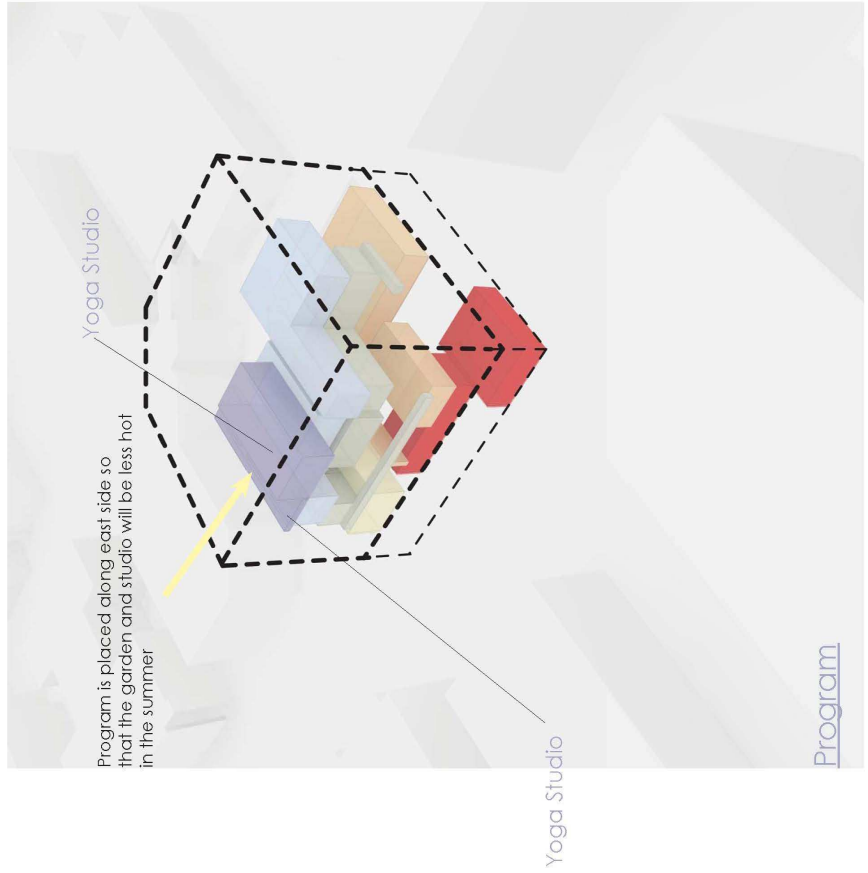


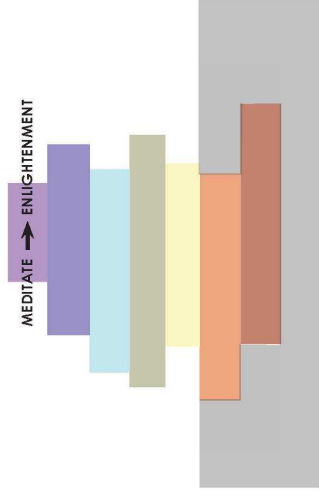
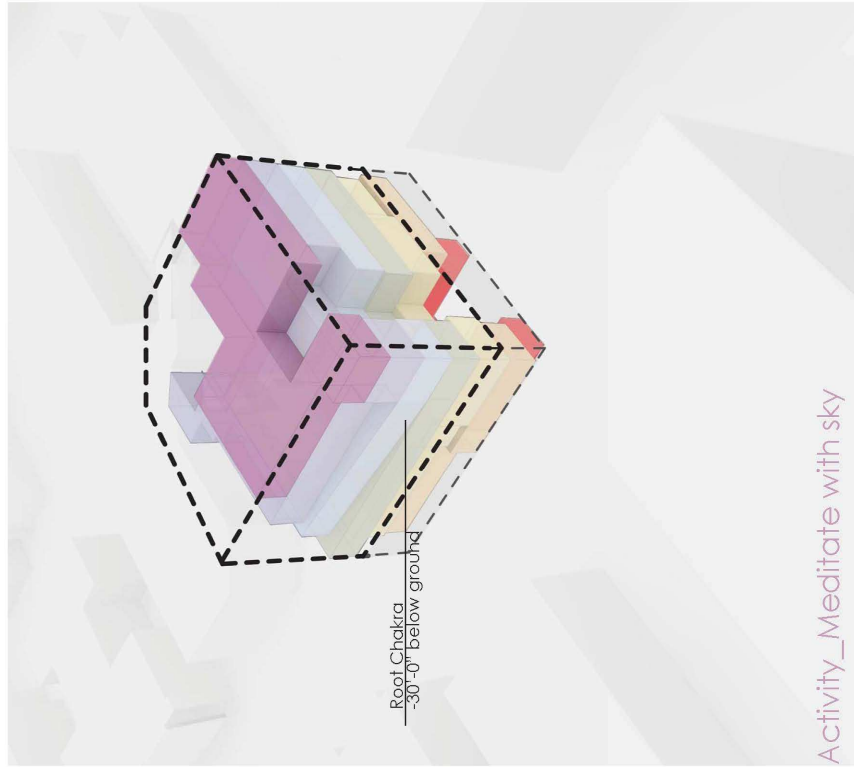


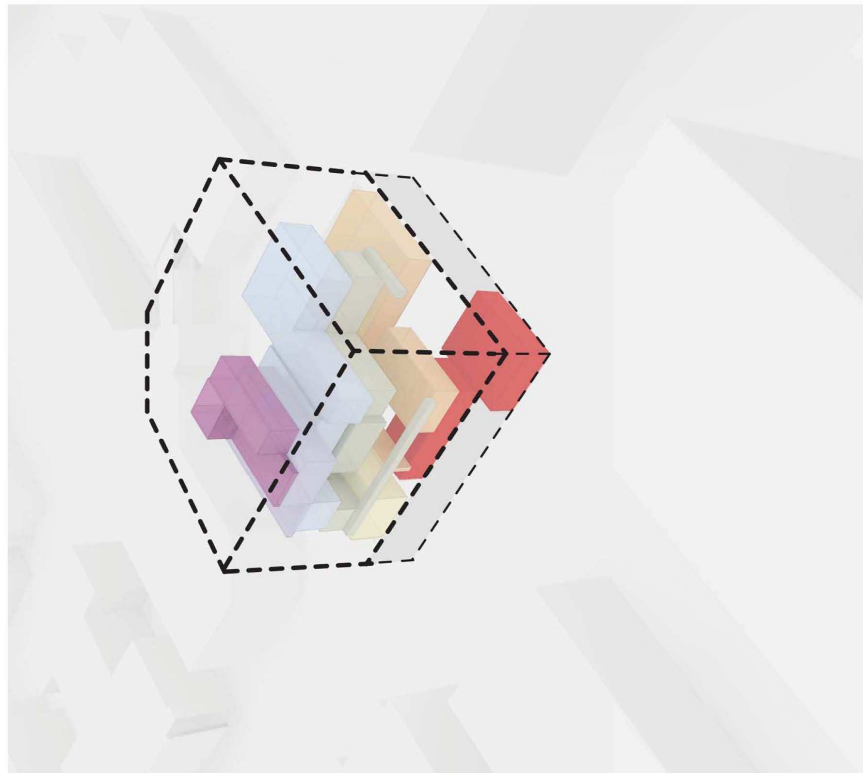
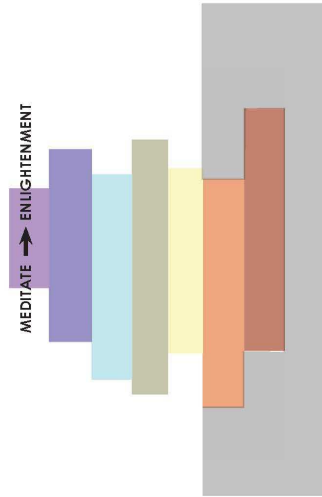


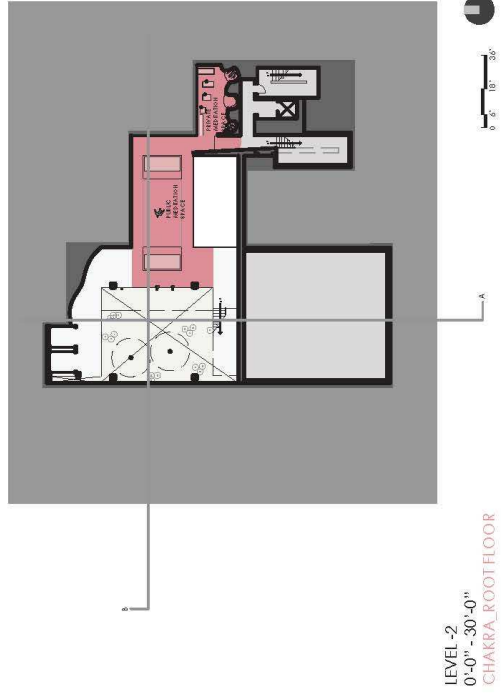


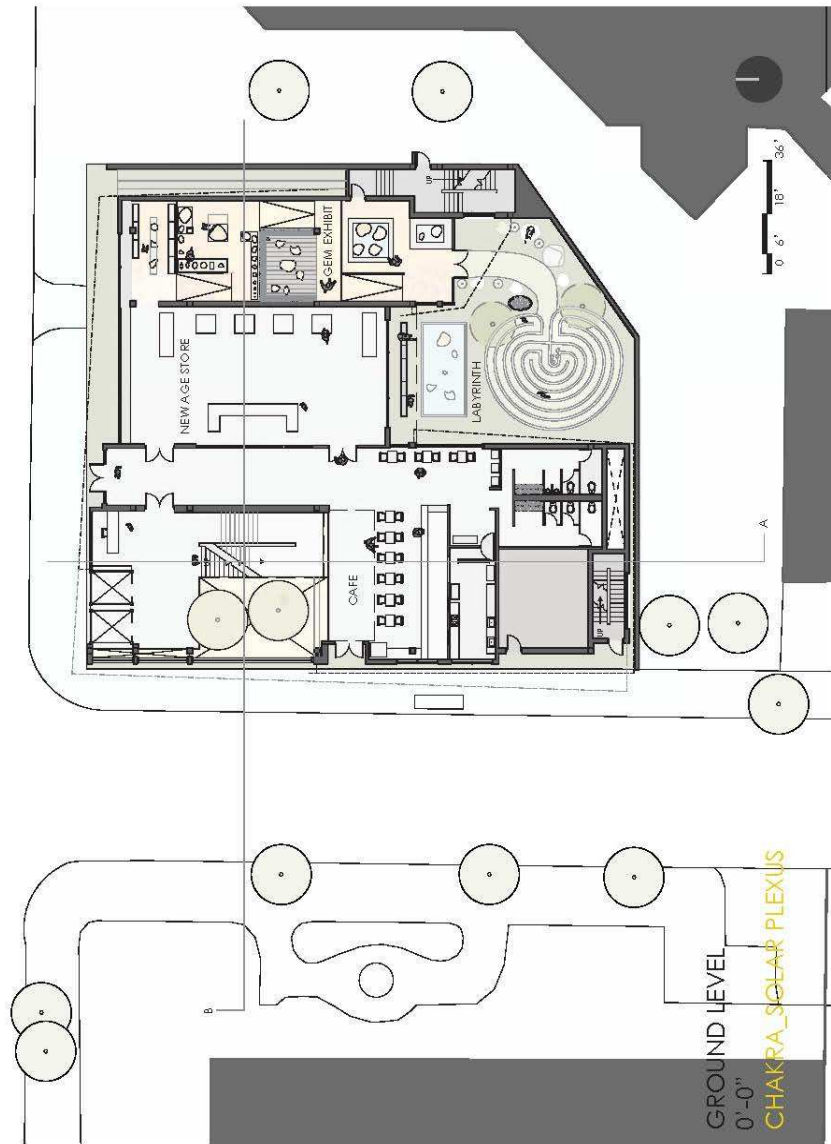


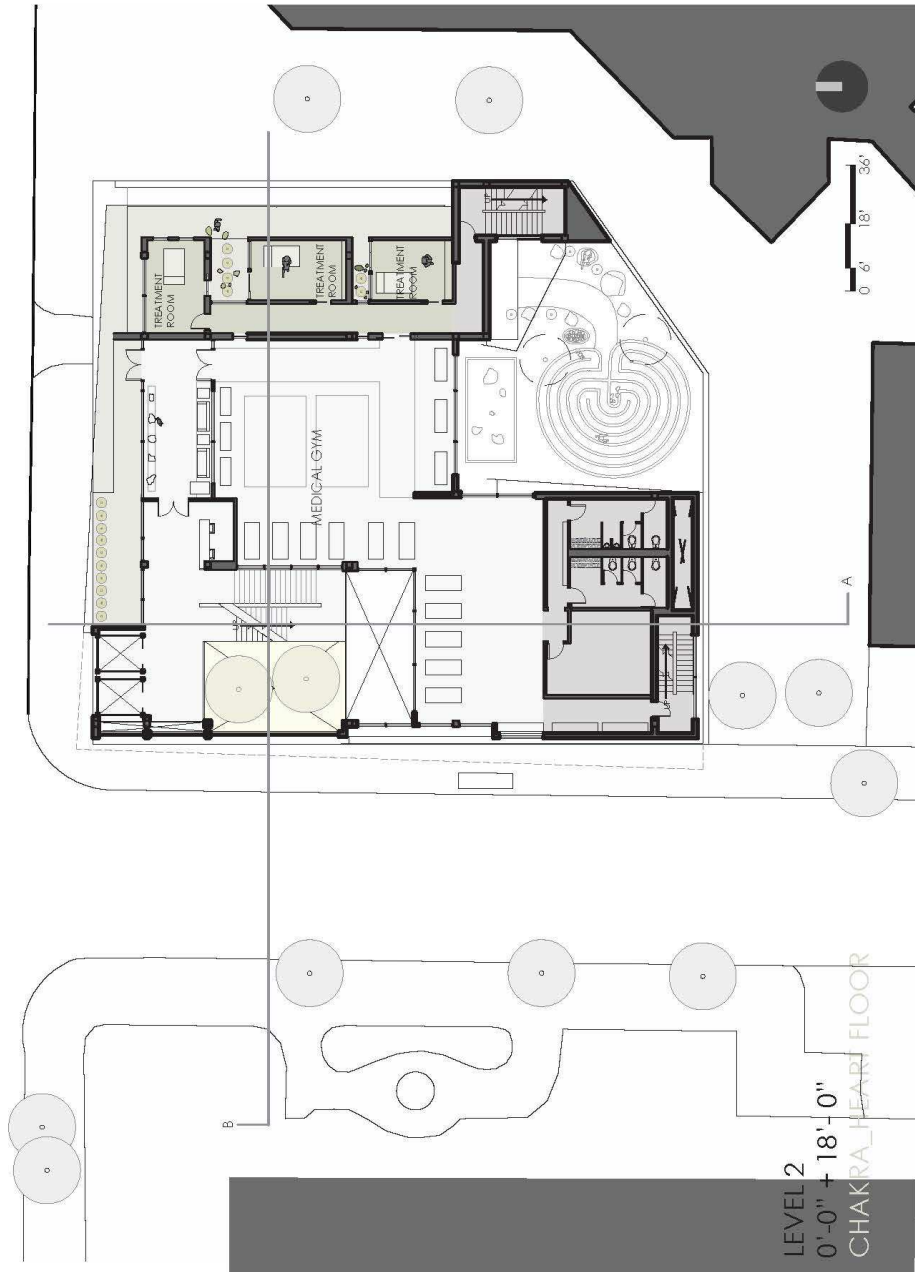


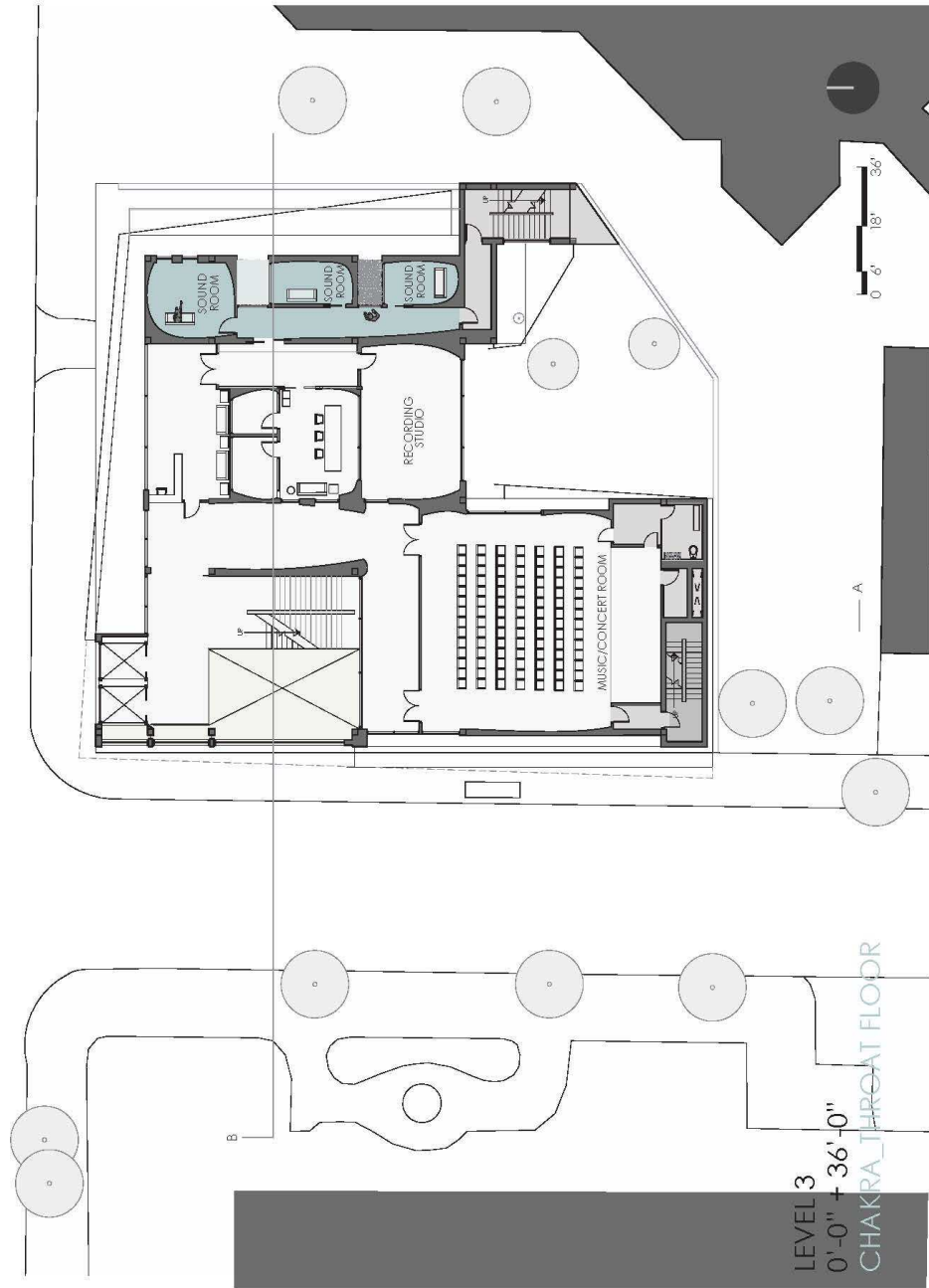


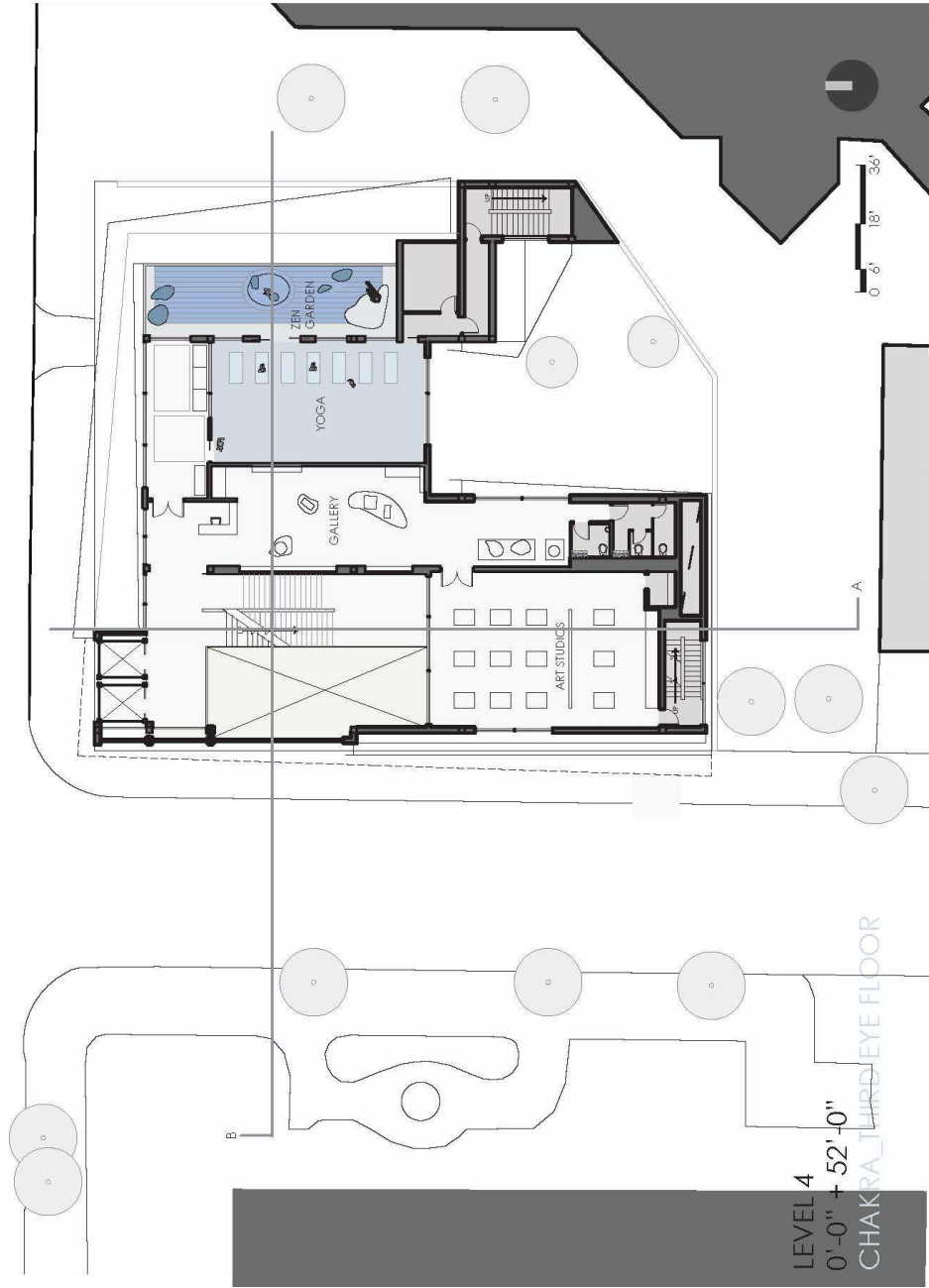


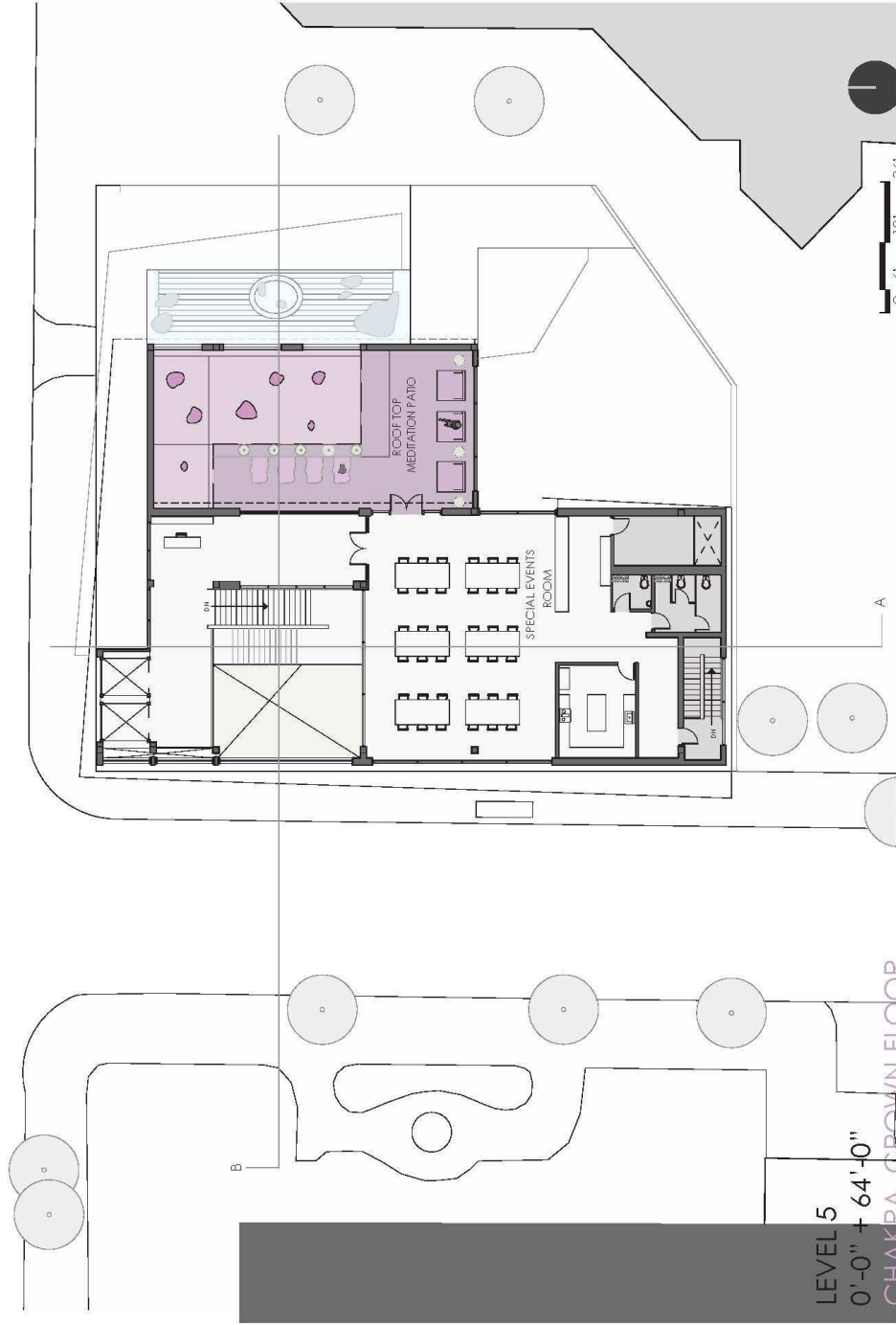






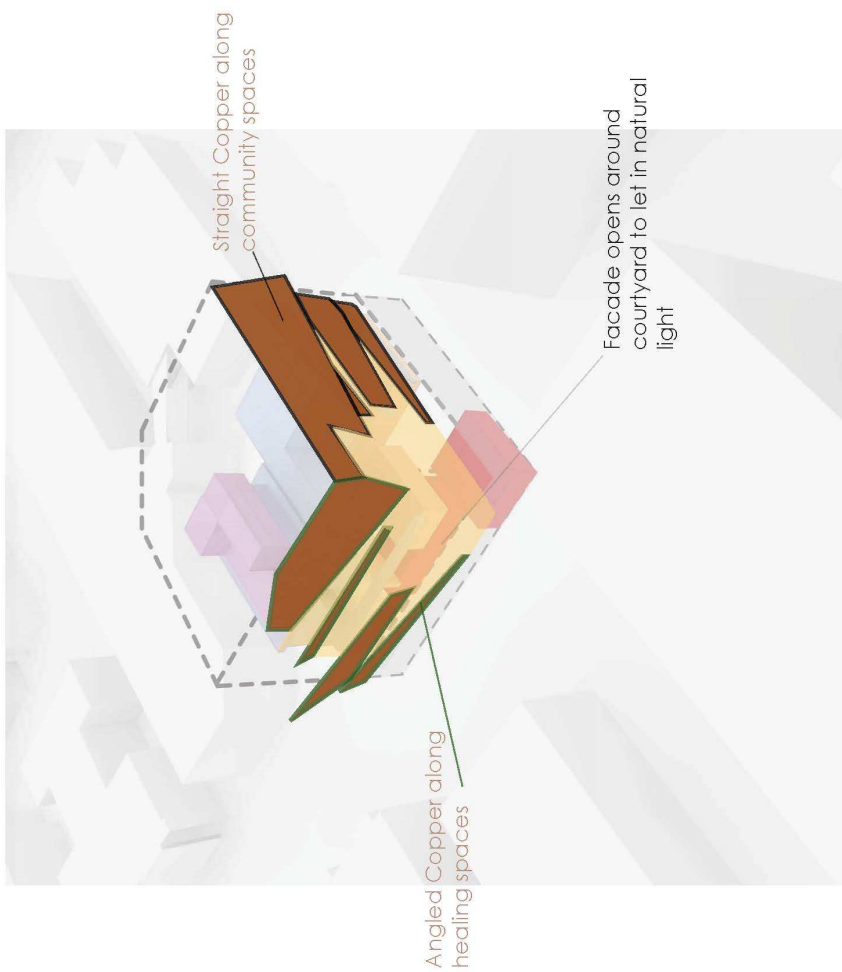
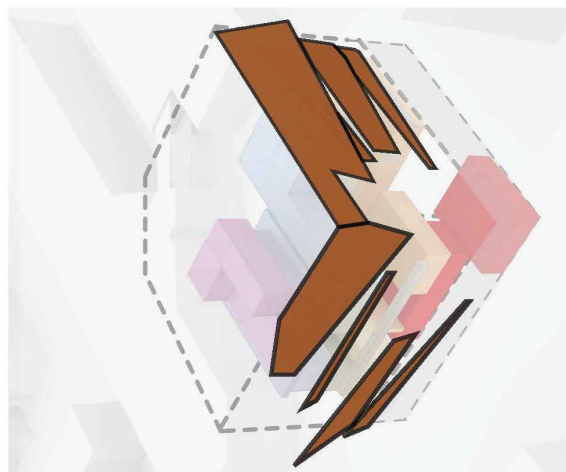




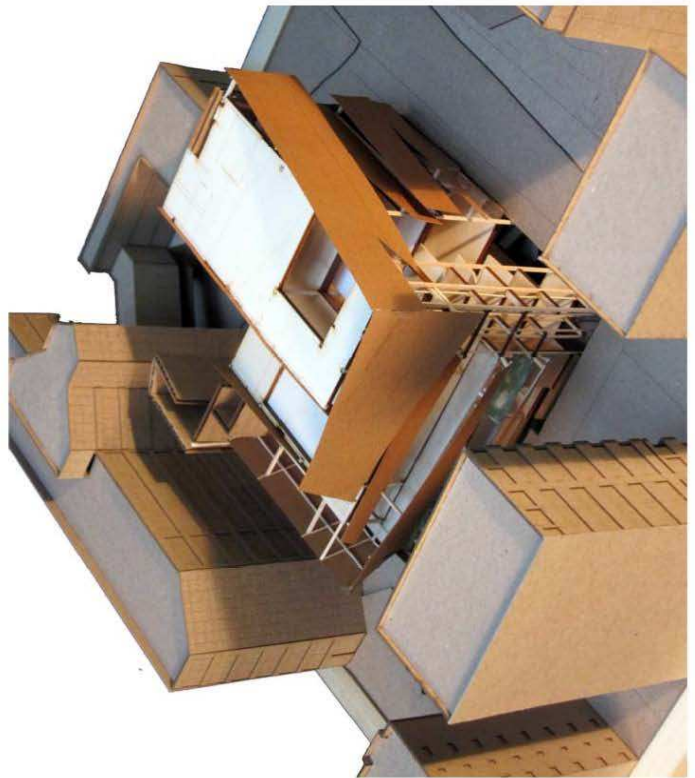
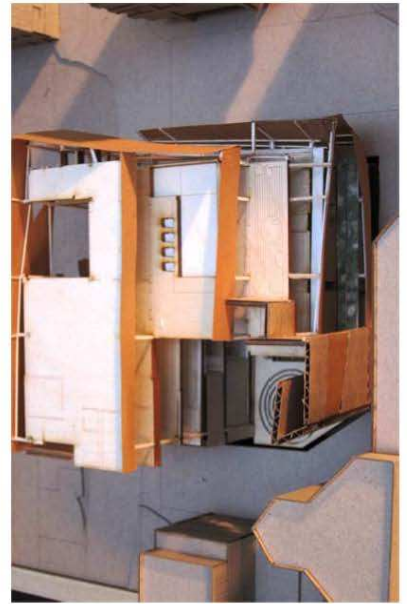
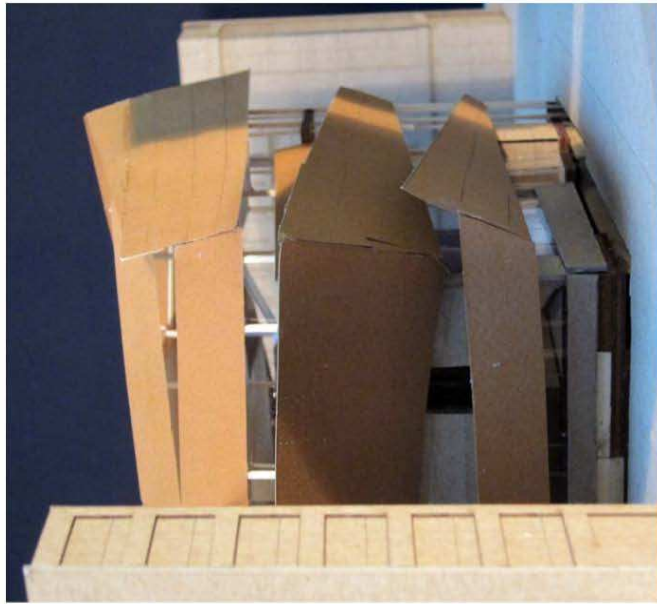








Facade Material_Copper Panels



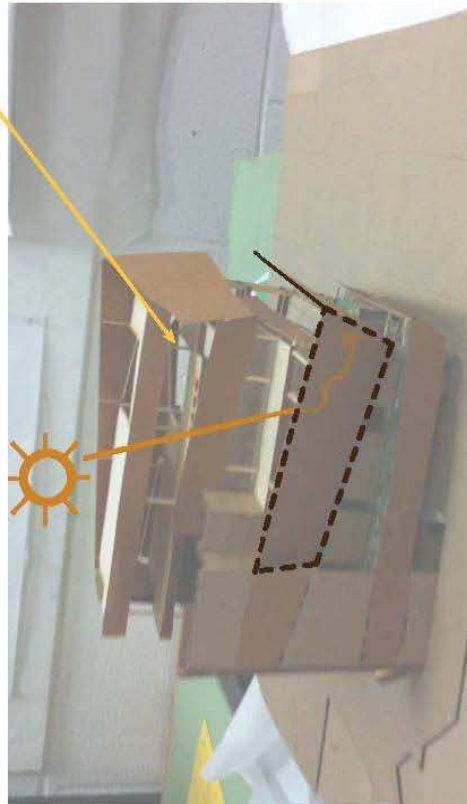
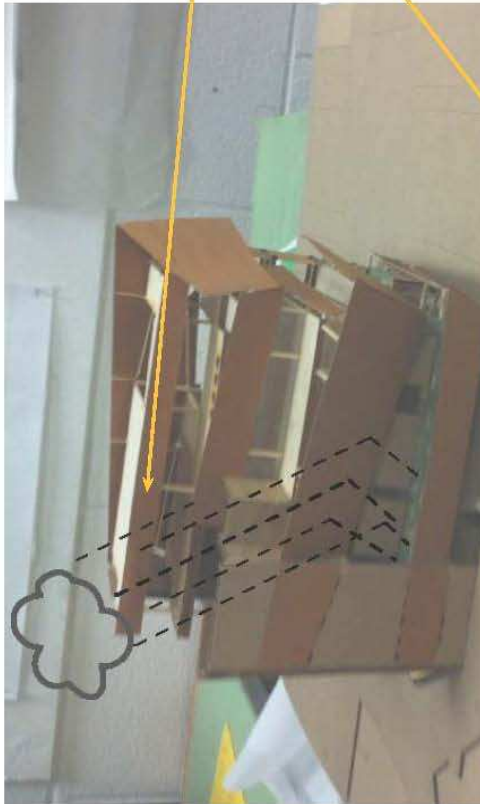
Façade Process

Facade Design:

Angle the copper skin

Exterior: to direct rain water to green spaces

Interior: to creating different lighting effects on each floor in accordance to the chakra needs.



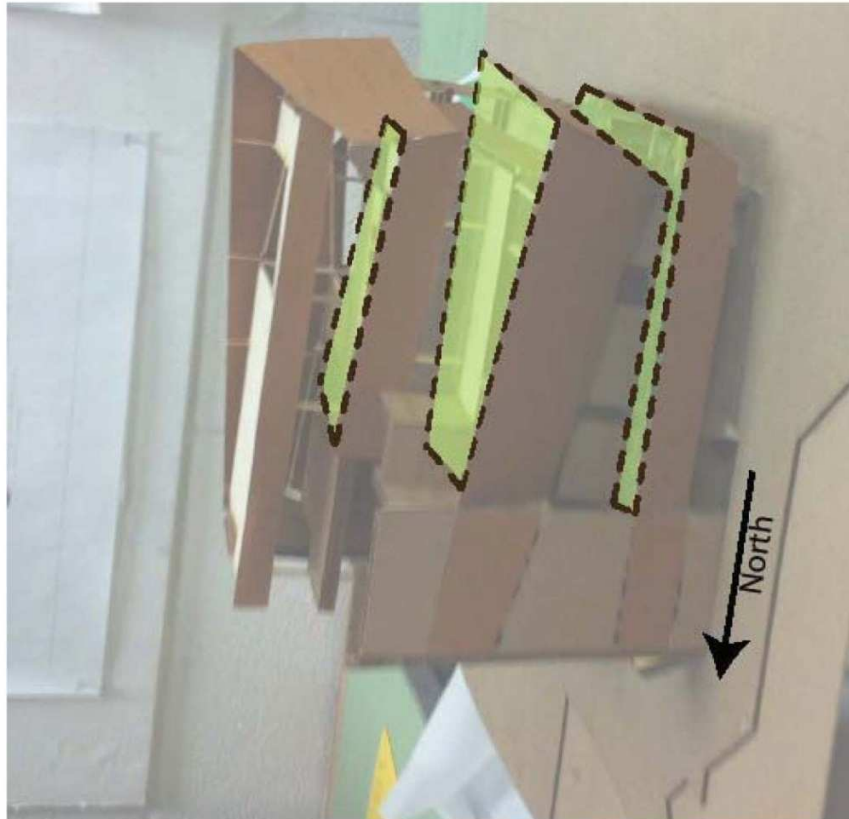
Facade Moves:

Angle the copper skin

- Exterior: to direct rain water to green spaces
- Interior: to create different lighting effects on each floor in accordance to the chakra needs,

Wrap around open spaces on East Side

- Exterior: to provide plenty of sunlight for the green spaces and gemstones
- Interior: to create different moments of feeling enclosed, floating in the air, and within layers, all which correspond to different chakra needs



Facade Moves:

Angle the copper skin

- Exterior: to direct rain water to green spaces
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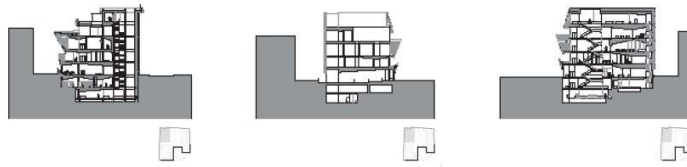
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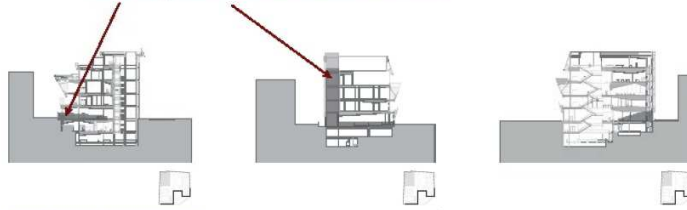
Transparency of Vertical Circulation

- Exterior: to open the building up to the public and stimulate curiosity in pedestrians that walk by.
- Interior: to provide a clear idea of where program is located in the building while giving visitors a brief glimpse of each floor as they ascend to their level of choice.





Concrete along ground level and stairs conceal circulation and movement



SOLAR PLEXUS LEVEL (GROUND FLOOR)



HEART LEVEL_FACADES ARE LOW SO THAT THERE IS AMPLE DAYLIGHTING AND THE GREEN SPACES CAN GET SUN



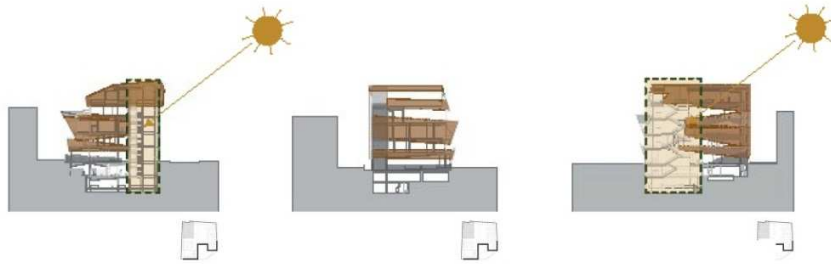
THROAT LEVEL THEY ARE ALSO ANGLED SO THAT RAIN WATER WILL REACH THE GREEN SPACES BELOW



THIRD EYE LEVEL_FACADES ARE ANGLED IN ORDER TO FRAME VIEW TOWARDS OPEN SPACES



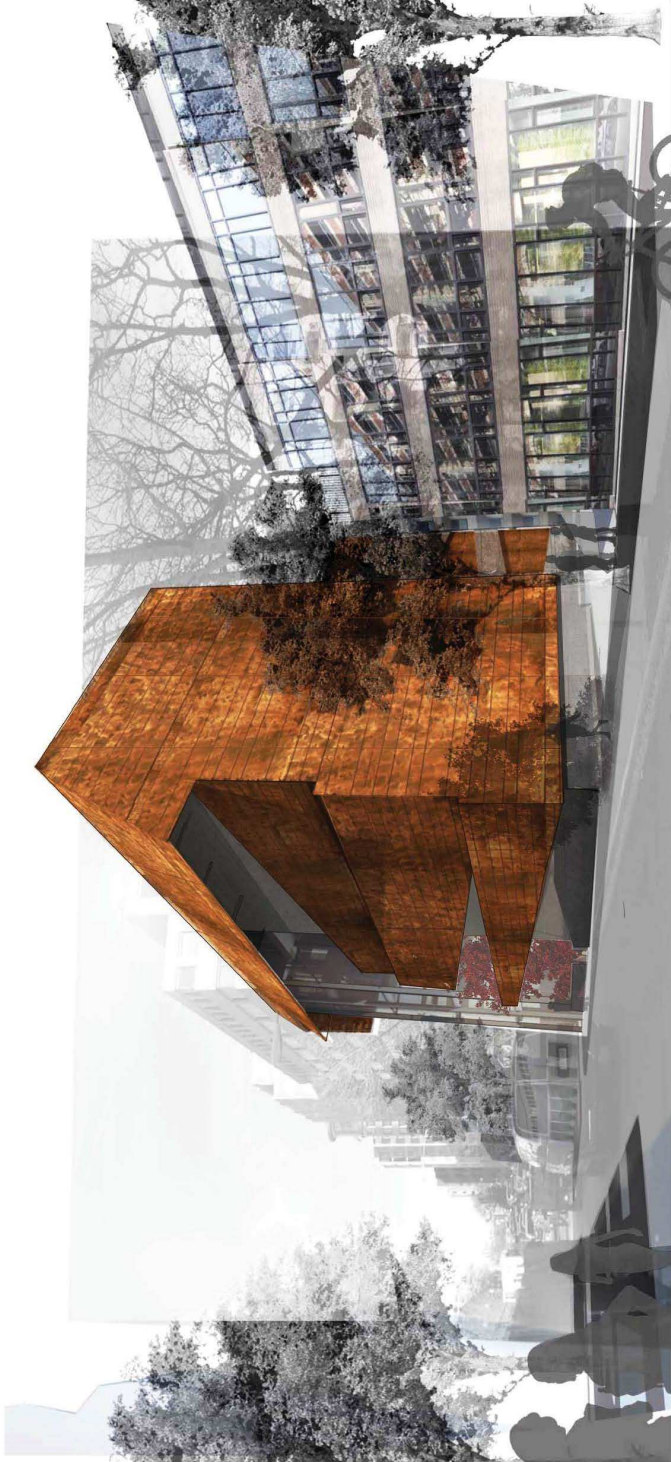
CROWN LEVEL_NORTH, SOUTH & WEST FACADES COVER FLOORS TO ALLOW FOR PRIVACY AND SHIFT FOCUS TO ROOF TOP MEDITATION SPACE



FACADE ANGLES_FACADE IS FLAT ALONG THE WEST SIDE TO REPRESENT THE COMMUNITY PROGRAM

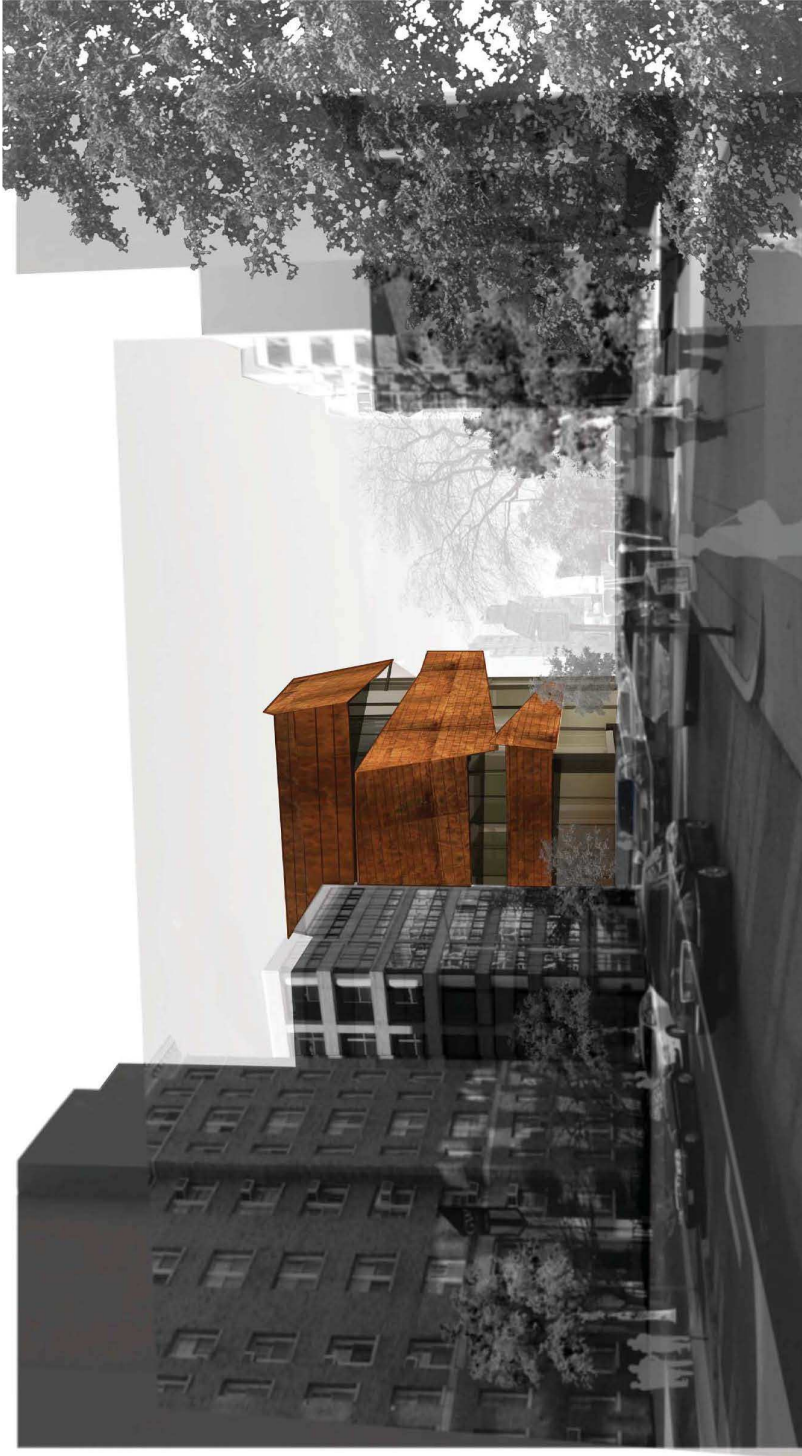


CROWN LEVEL



Community Center Elevations





Building Elevations



Building Elevations

9 | Conclusions

Jury Critique

Fusing chakra and gemstone healing activities with architecture was well received by the jury. The spaces felt believable and there were questions about how the design could be explained to clients.

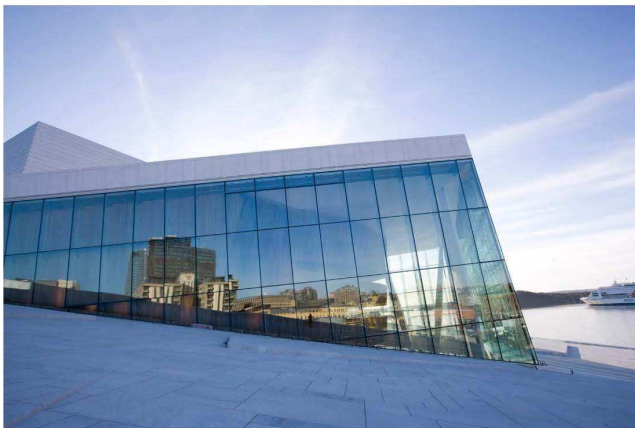
The biggest criticism of the jury was the lack of connection between the interior and exterior representations of the building. Furthermore, they believed that the corner façade did not feel finished. They wondered if the glass could angle in and out like the building skin and grab the attention of the people that walked by. This corner was the only corner of the building that remained opened and the jury felt that it seemed unfinished and unresolved.

In looking forward to the future development of the project, some precedents that will be studied are the Oslo Opera House by Snohetta, and the Trutec Building by Krueck + Sexton. Lessons about their structure and connection to the glass will be applied to the building and help make the façade more malleable.

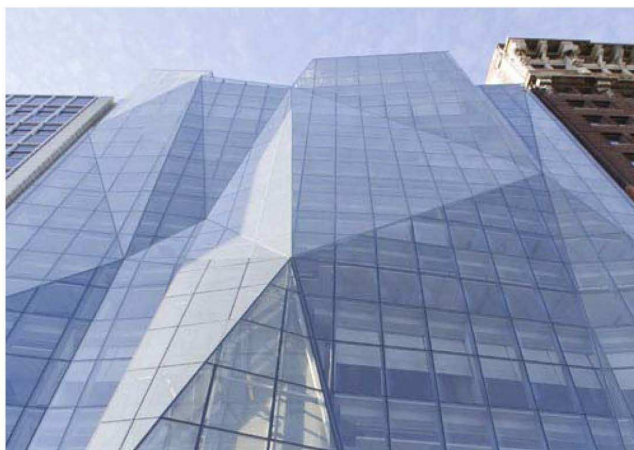
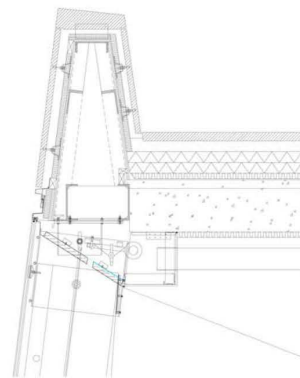
Conclusion

Combining eastern healing practices with architecture is one of many ways to create spaces for people to therapeutically relax and reconnect with themselves during stressful days. As technology has taken over the human world and pushed people to desensitize and disconnect with their bodies, it is important for the designers of the future to continue to explore solutions to these problems and recreate spaces that engages our senses,

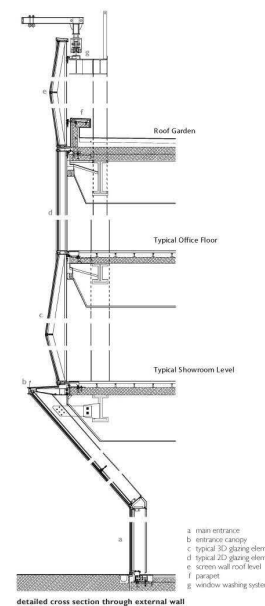
center our minds and refocuses our attention to our bodies and the earth. With the rise of interest in eastern therapies, it will be interesting to see how our future buildings will be re-envisioned.



Oslo Opera House by Snohetta
Source <http://www.architecture-buildings.com/oslo-opera-house-architecture-design-by-snohetta/view-snohetta-oslo-opera-house-large-glass-windows/>



The Trutec Building by Krueck + Sexton
Source: http://www.designrelated.com/news/post_detail/4454/ae7-folded-glass-facades



Appendices

Foggy Bottom History

Foggy Bottom's connection to K Street allowed it to be connected to the center of city and grow as the D.C.'s population increased from 14,000 to 24,000 people.

It soon became the center of industry as limekilns, shipyards and the Washington Gaslight Company dominated the skyline in 1848.

1880- Development of Dupont circle, and a time when industry began to leave the neighborhood due to the change of the economy.

Area becomes dangerous and impoverished. At the turn of the century plans to improve the neighborhood begin

1960s-1970s, urban planning, first PUD in city. Breaks the grid.

(Sherwood, Suzanne Berry. "Foggy Bottom 1800-1975: A Study in the Uses of an Urban Neighborhood." - *GW Encyclopedia*. N.p., n.d. Web. 19 Dec. 2012.)

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