

Sawyer Baldwin

Norwich University- BS/AS Fall 2019



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Sawyer Baldwin
Norwich University

When I was 9 years old I realized I wanted to be an architect. While many kids were drawing spaceships and racecars, I found myself enamored with drawing floorplans and structures. I was fascinated how rooms and spaces came together. I soon found myself analyzing buildings and the way space, light, and nature interact to create a meaningful environment. I quickly realized I wanted to create spaces that people felt safe, comfortable, and connected to.

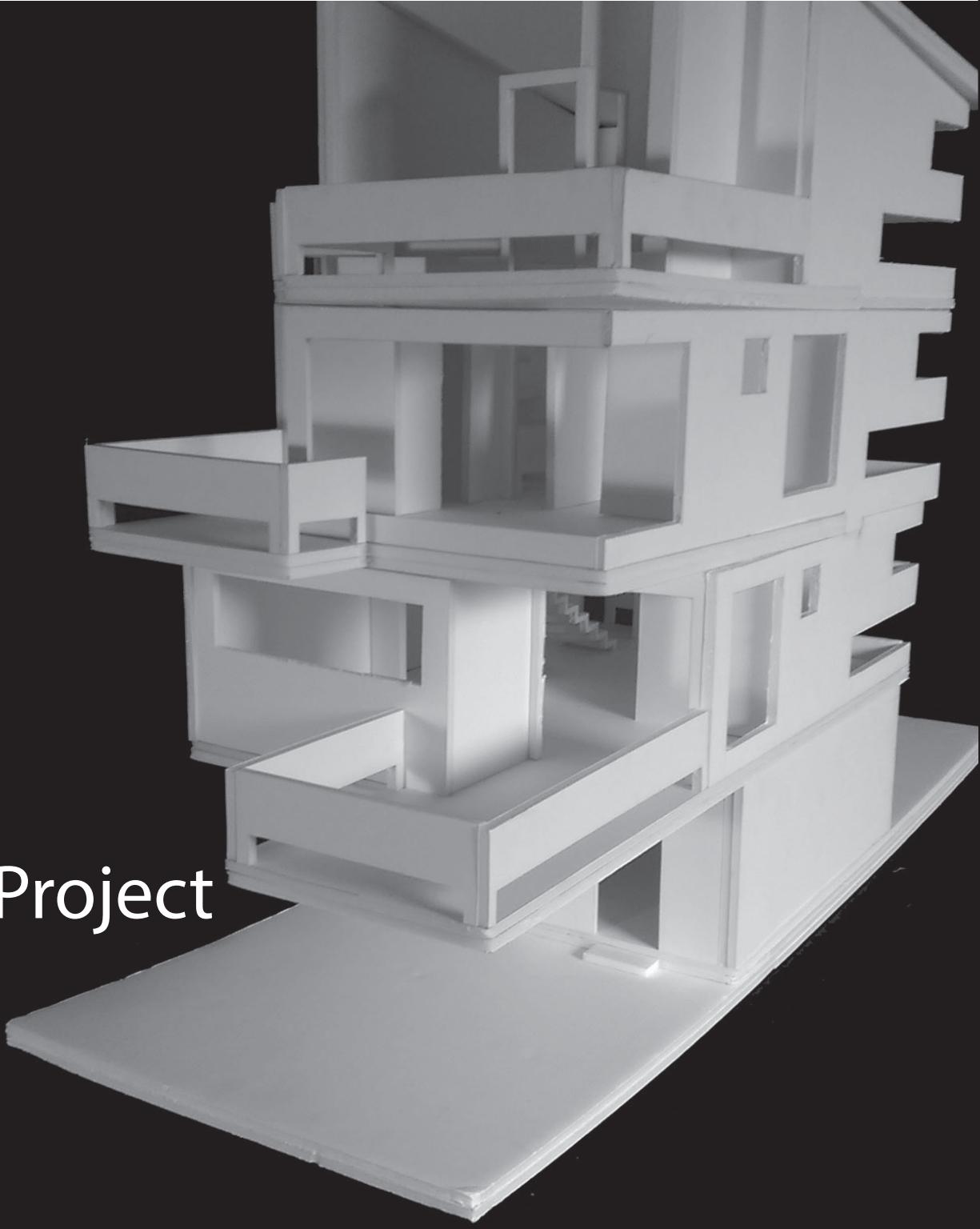
As I gained experience my fascination with architecture and sustainable building practices grew. Early on I understood that humans connect to nature on a deep level, so our habitat should connect and work with nature, rather than working against it. I decided I wanted to work with sustainable building practices to incorporate the real world into our personal environments.

Architecture is in my heart, and it is my passion. I am confident that my love for architecture will allow me to push the boundaries of design and take part in the creation of a new generation of architecture.

Town House Project

Introductory Design

Keene State College
Fall Semester 2015

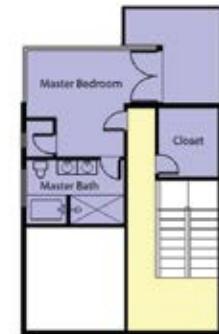
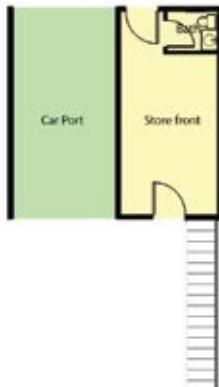




The purpose of this project was to take an existing panel constructed building and redesign it to suit the needs of a fictional client. The building was to be constructed on an empty site in Keene New Hampshire adjacent to other structures of similar programs.

Some restrictions to the project included a maximum of one thousand square feet, the walls shared with other buildings could not be altered, the building could not extend more than fifteen feet past the initial structure and could only have a maximum of four floors.

Due to the small size of the lot, the building was designed



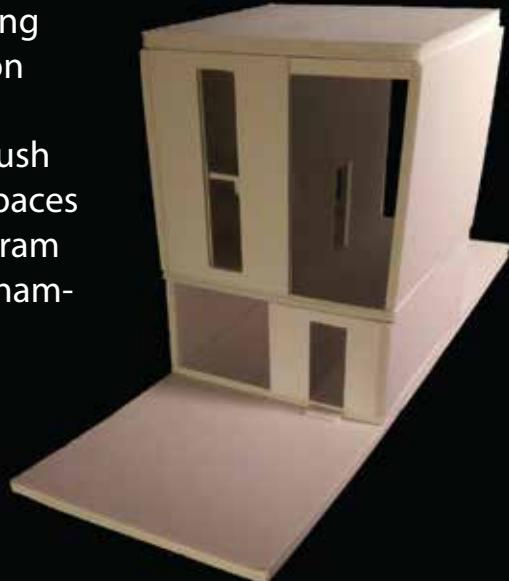
Design Progress



The simplistic shell building provided a blank palate on which to design.

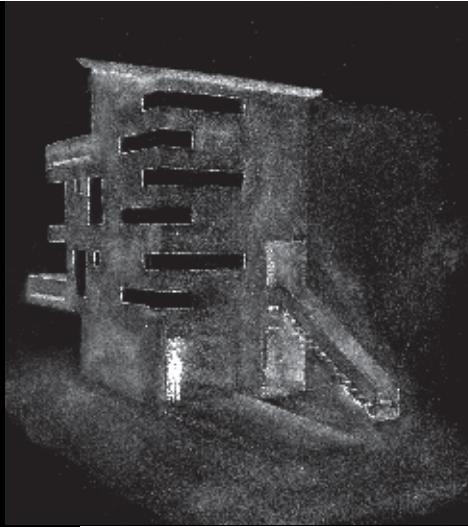
My first exercise was to push and pull walls to create spaces in order to fulfill the program while creating a more dynamic form.

Shell Building



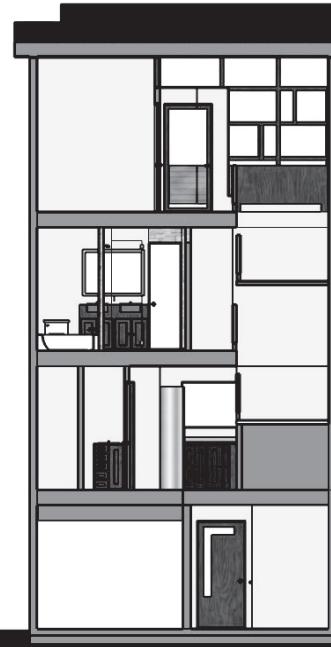
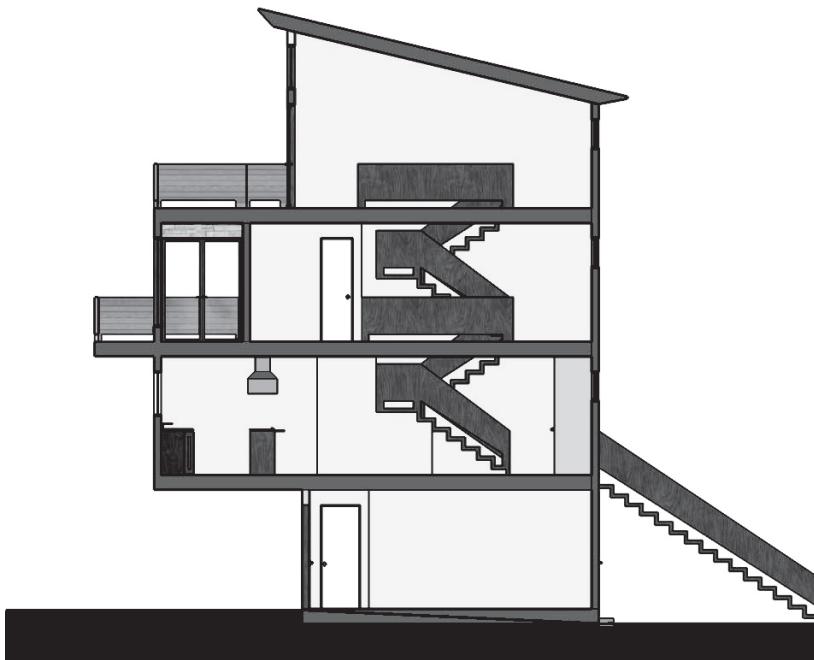
The first idea was to create several terraces so people inside could walk out on any floor. Creating these terraces also contributed to the pixilated look I was searching for.





I designed the building to look pixelated to appeal to a graphic designer. Additionally, I made a three story atrium over the client's living room to appeal to his love of large Christmas trees.

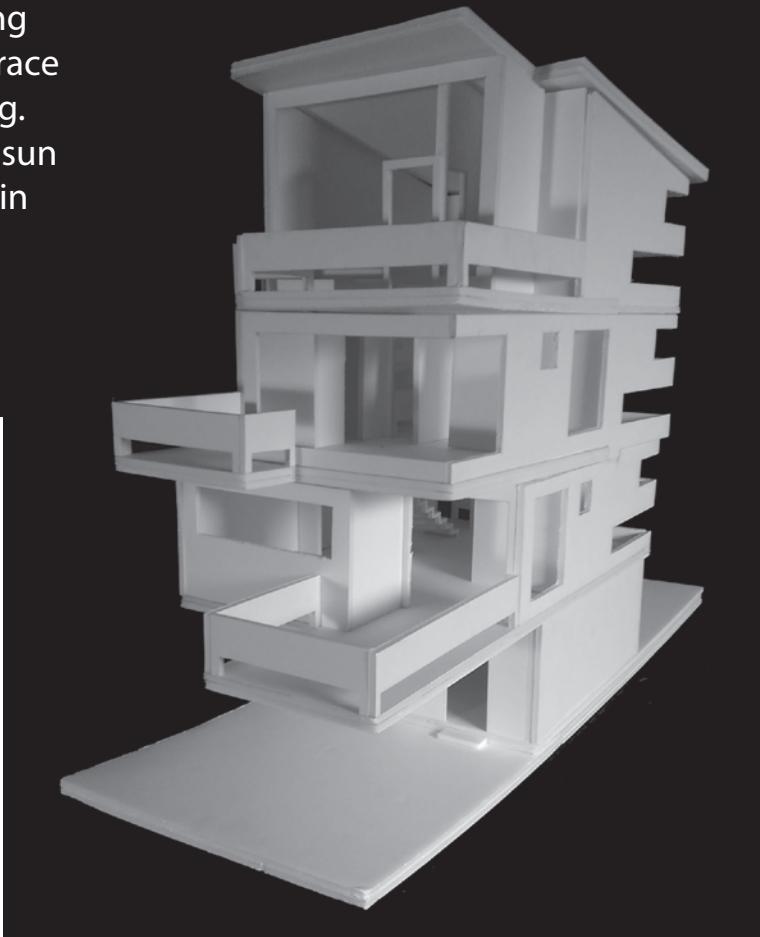
On the top floor there is a small office nook with a balcony so the client can have a pleasant view while working.



Final Design

In my Final design I decided to remove the stairs coming off the second story balcony to allow for additional terrace space, and the roof was slanted to allow snow shedding. Furthermore, The terrace and large overhangs provide sun shading during the summer while allowing heat gains in the winter.

The final design displays a modern building style, geometric shapes and wrap around windows that provide a wide view of downtown Keene. The height of the building reduces the amount of ground space needed which will allow for many other adjacent buildings of similar properties to be built.

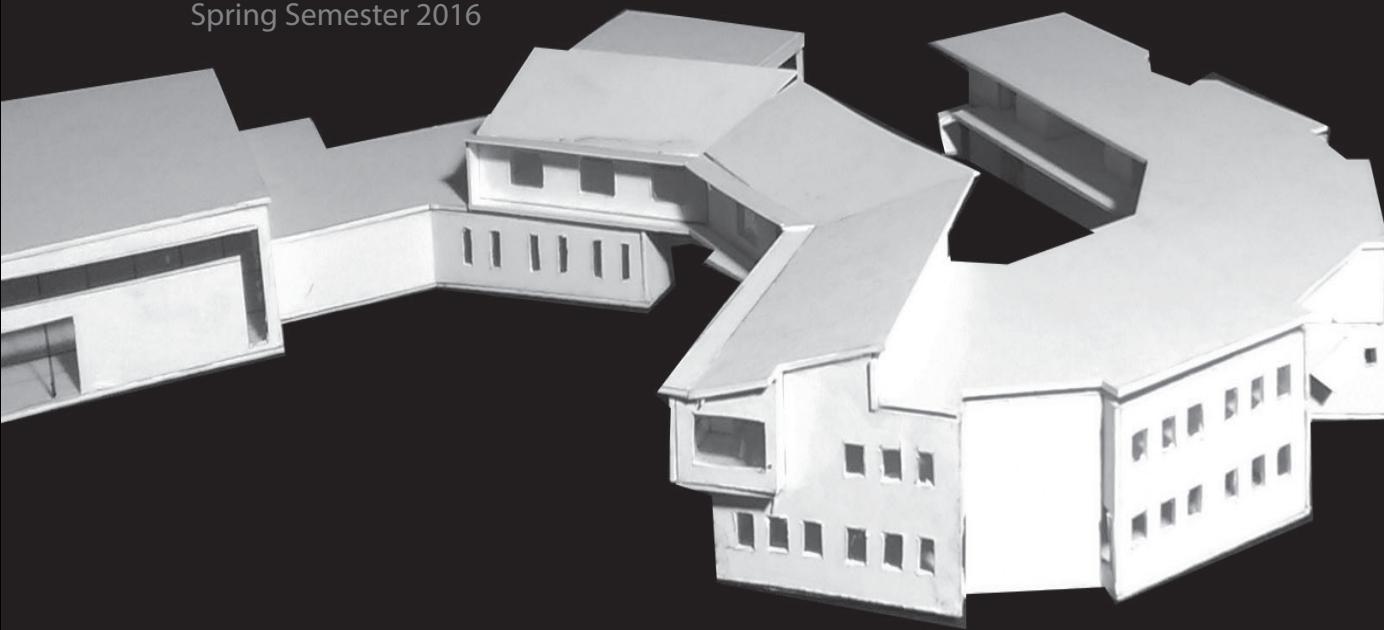


L'Aborde Academy

Collaborative

Design

Keene State College
Spring Semester 2016



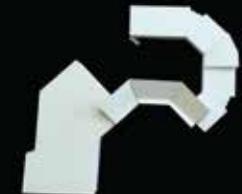
Program

L'Aborde Academy was a collaborative design project in which my partner and I worked with a nonprofit organization based out of Boston. The purpose was to design a building that would offer the impoverished kids of L'Aborde and the surrounding area in Haiti new opportunities in education and in life. The building was intended to help bring the area out of poverty and into a new era of intellectual prosperity.



The program required two classrooms for each grade, kindergarten through eighth grade in addition to an innovation lab which would have laptops and a 3D printer, a library, music and art rooms, a full sized gym, a soccer field and community garden which would feed both the community and the students while also helping to teach nutrition and agriculture.

Design Progress



My initial design was a solid form building with a double loaded corridor. The building was very compact but looked very institutional.

Our second design was done collaboratively. My partner and I integrated our designs into our first bridged building.

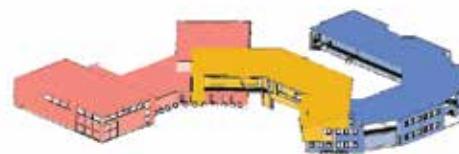
In our next design we looked into other parti ideas and reached a new serpentine shape.

At this next stage we spread out the classrooms in a sharper curve and developed a smaller court-yard within the arc of the classroom areas.

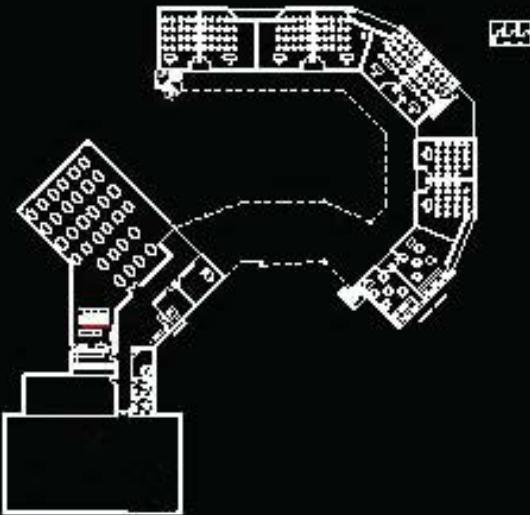
Our last major change was to rotate the curve to enclose the courtyard area and provide a balcony along the classrooms.



The building is separated into community spaces along the left of the site, private classroom spaces in the upper right, and technology spaces in the bridge. All three areas meet in the middle and overlook a large courtyard in the center of the school.

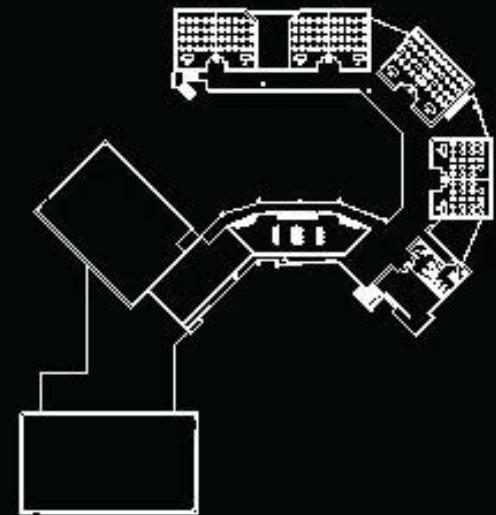


Two major concerns we had to take in consideration were the electrical and water reliability in Haiti. We solved both of these problems, first, by placing a large PV array on the roof of the building so the facility could be off-grid. Secondly, we designed a water collection system at the valleys of the bridge roof. The water is carried to the back of the school and stored in a large cistern by the community garden.

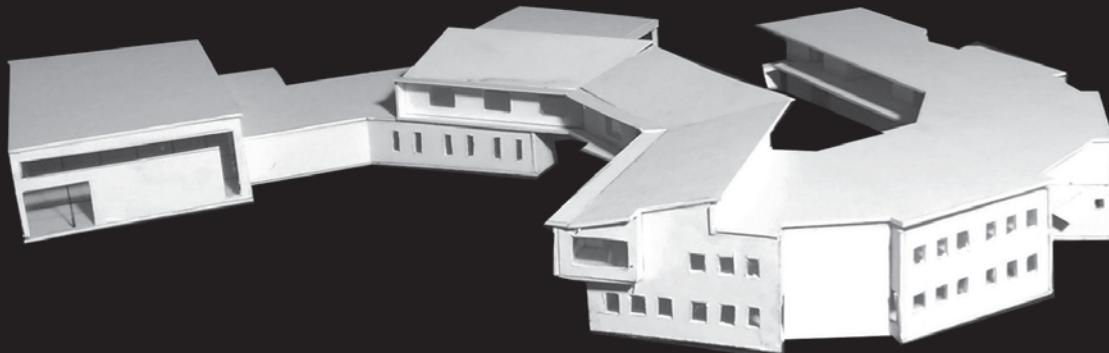


The classrooms were arranged in a semicircular shape where each is connected to a break-out area between the rooms. On the interior of the semicircle there is a balcony instead of an enclosed corridor, this allows for air to flow more freely through the classrooms.

On the bridge there is an Innovation Lab, music room, and art room. We chose to have these rooms most dominant because they are the component that differentiates this school from others in Haiti.



Final Design



Our final design incorporated a central focus on the courtyard. This pavilion has direct access to classrooms, administration, the cafeteria, the community garden, and the playground. The design of this building was intended to allow the students, teachers, and community to interact with each other just as the separate components of the site interact with each other, centered around this common space.

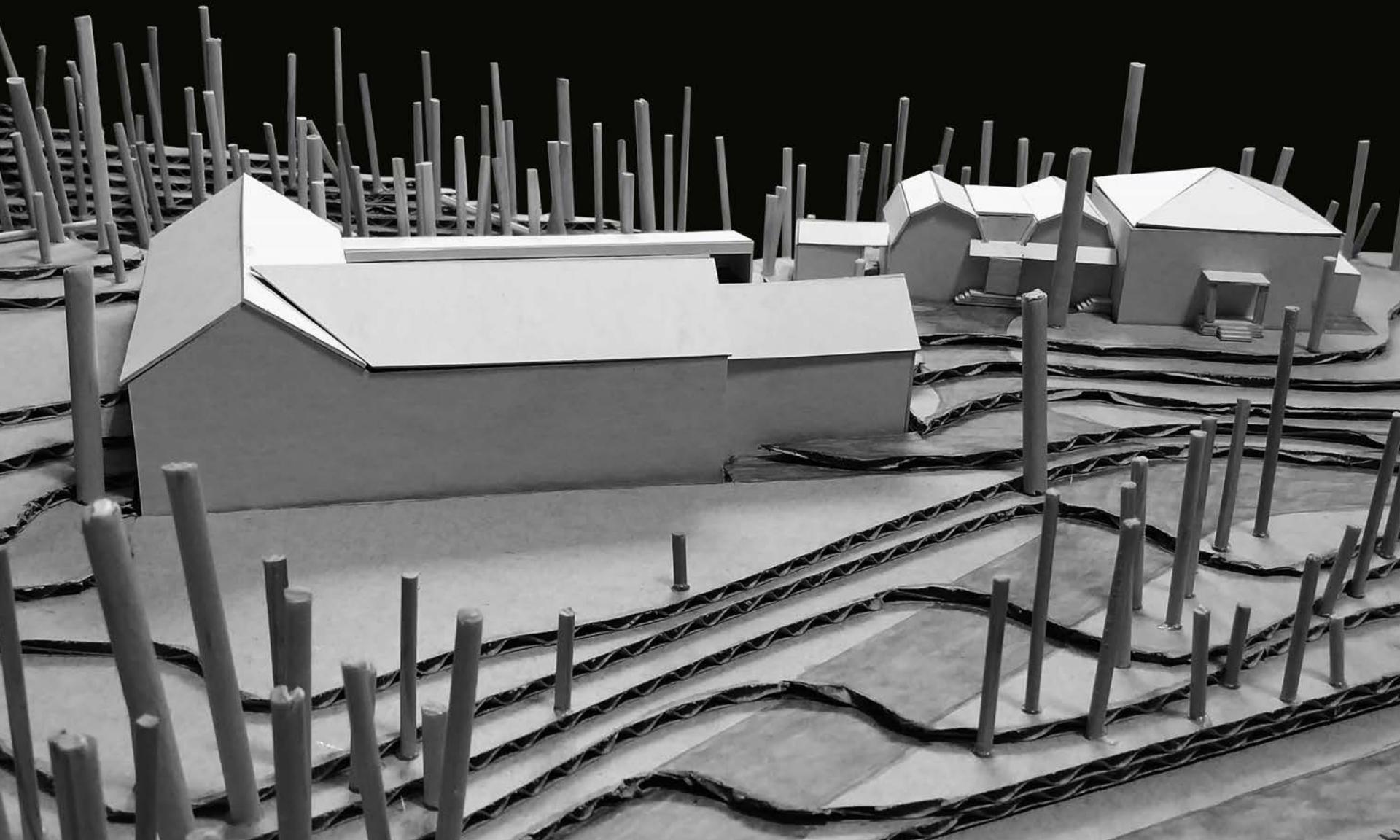




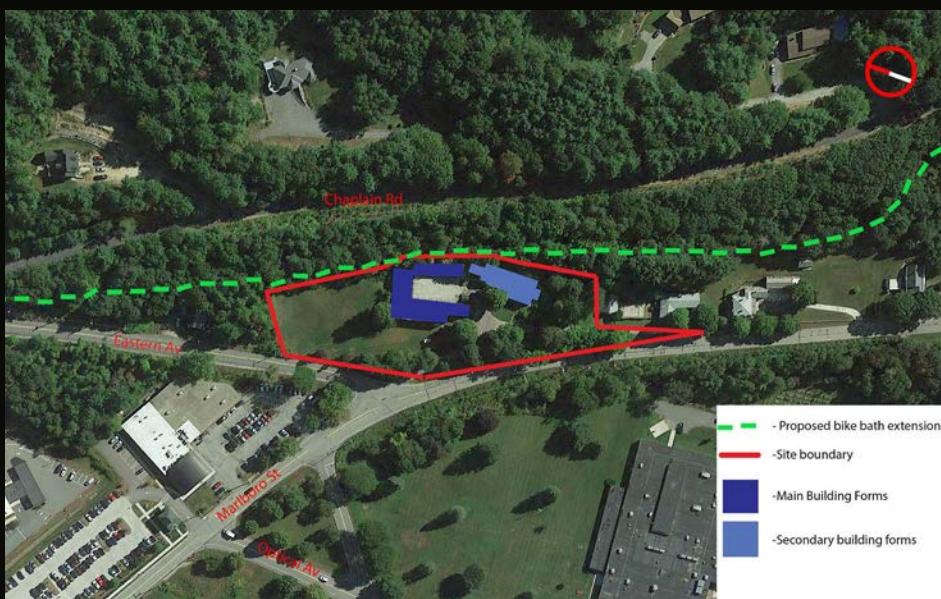
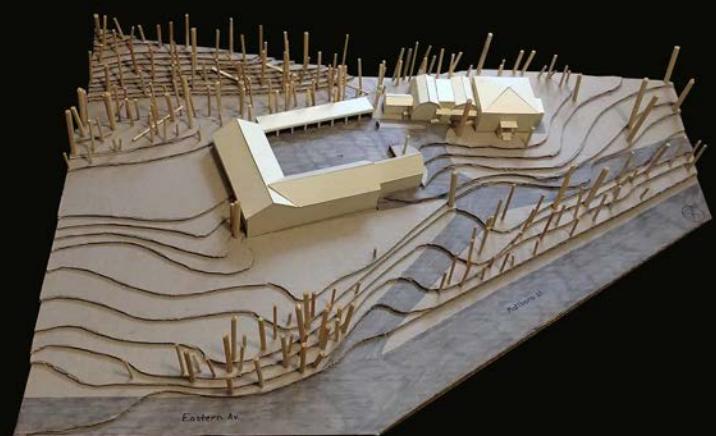
Beech Hill Barn Renovation

Capstone Design Studio

Keene State College
Spring Semester 2017

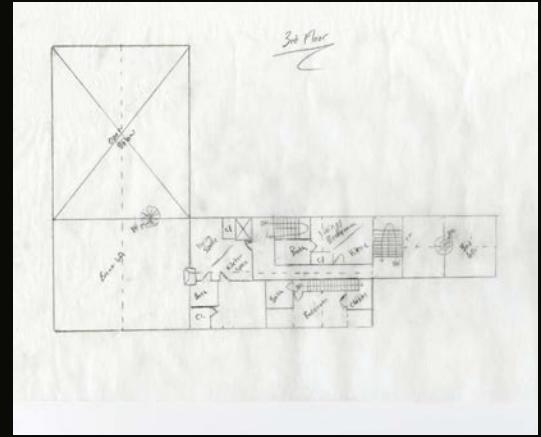
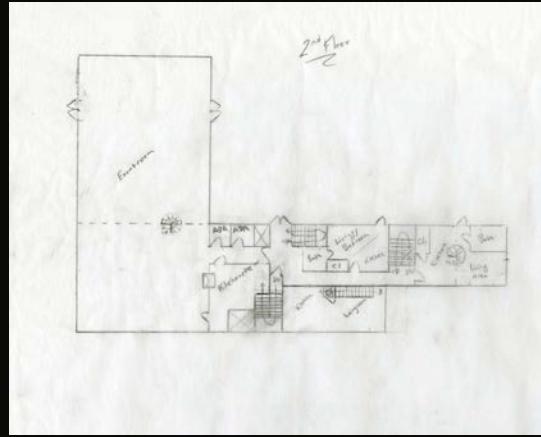
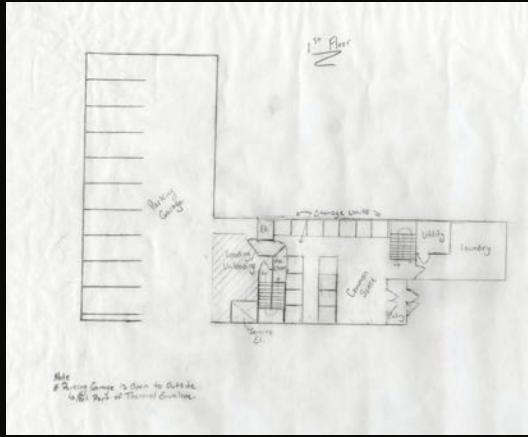


During this project I collaborated with a real client one-on-one to establish their needs. The clients owned a early eighteenth century barn and home , in addition to four apartments built in the early 1900's. The barn was to be completely renovated into a apartment complex consisting of primarily one and two bedroom apartments, storage lockers, event room for weddings and tenant gatherings, a laundry room, and a gym.

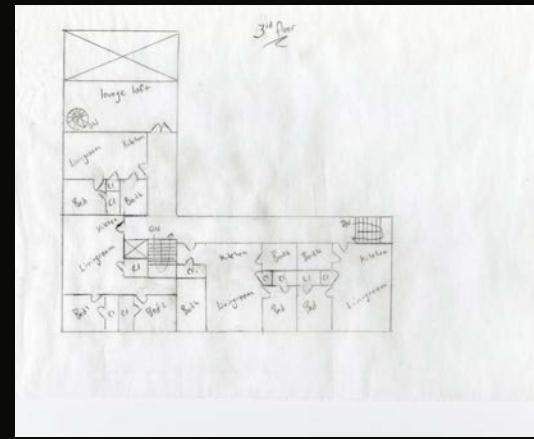
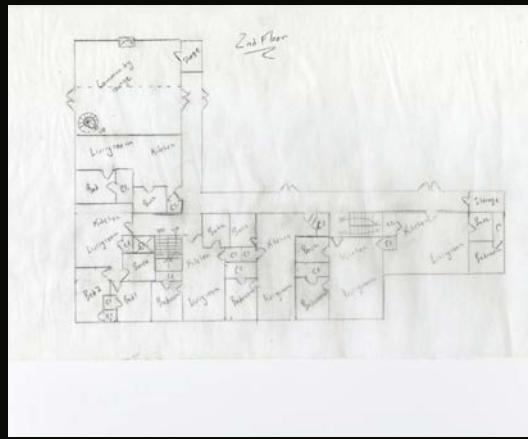
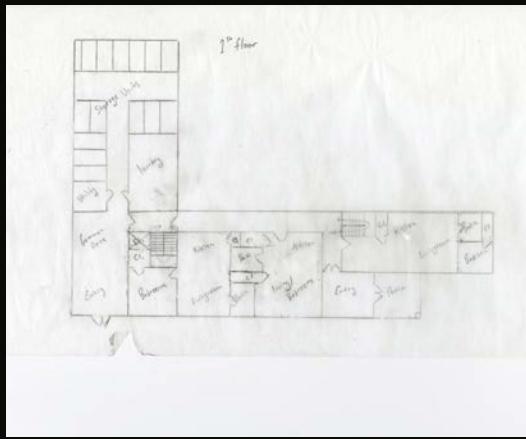


Although this was a design project, my concentration was less on the aesthetic of the building but more on the technical aspects of design. During this studio I did a thorough analysis of the site, town, and topography while fully designing the building's thermal envelope, running calculations to determine the energy input from the PV array, energy consumption, and properly sizing mechanical equipment.

Design Process



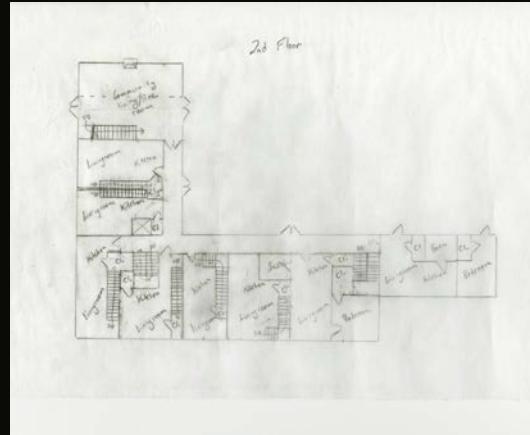
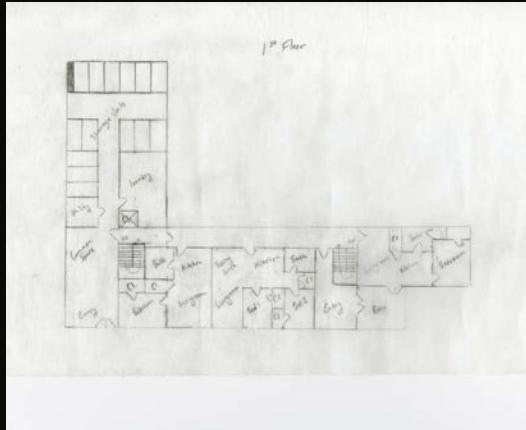
In my first design concept I designed a internal garage on the bottom containing 10 parking spots for the tenants, along with the storage and laundry on the bottom floor. On the second and third floors the event-room took up more than half of the building space but had easy access to an outdoor patio and great views over Keene, NH. When studying the feasibility of this design I found many problems. The first was the parking garage. While the garage would prevent the creation of additional impermeable surfaces on my site, it took up a large section of livable space. In addition, when researching codes and laws for parking and parking garages I found that the width of the building was slightly too narrow to support traffic. The second problem I found was with the event room. This large room took up more than half of the livable space on the second and third floors. As a result, this concept only had nine apartments, making it very difficult to make a profit off a building of this size.



In my final design I removed the original carport and barnyard to create a courtyard connecting the main building and the gym where the original four apartments were. On the lower side of the building I placed a series of carports and outdoor parking for visitors. Wrapping around the courtyard side of the building I placed a hallway extension to provide additional apartment space. Inside the building there was now fourteen apartments between all three floors with the event room accessible from either the second or third floors. In addition, the interior of the building is accented with the structure's original eastern hemlock beams.



Final Design



After my first design I discussed designed possibilities with my client and we both decided that the event-room should be downsized into a small gathering space for the building to provide additional floor space for apartments. In my second design I was able to arrange eleven apartments consisting of a few one bedroom, but mostly two bedroom-two story apartments. On the first floor I moved the parking outside into car ports. As a result I was able to place fourteen standard sized storage lockers. Unfortunately, there were problems with this design as well. Because most of the apartments were two stories much of the floor area was taken up by stairs.



AP212

Norwich University

Spring Semester 2018



Critics: Arthur Schaller, Mathew Lutz

This Studio was divided into four separate parts. The first three parts consisted of Etude projects where we were given vague descriptions of a building from which we were to design small schemes.

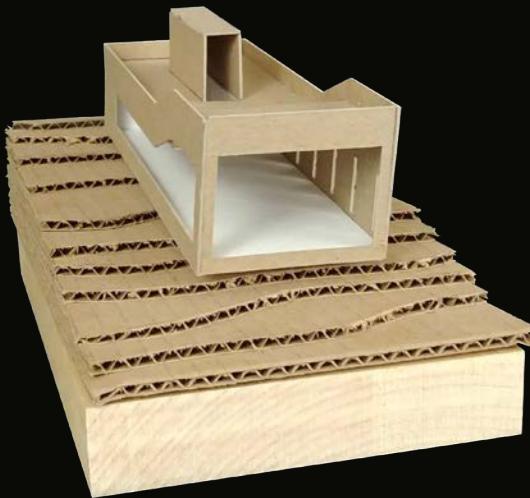
In the fourth and final aspect of the studio we were given one of three sites in Puerto Rico to provide a design for the ACSA competition. The competition for this year was focused on Energy usage/emissions, adaptations to changing climate, and resilience to the effects natural disasters. Our critics chose Puerto Rico as our location following the devastation caused by hurricane Maria in 2017.

Etude 1

In my first etude I was given two descriptions to design separate schemes that would later be reduced into one.

Description 1: "This building seems to float in the air and is supported by a series of slender columns, twice as tall as the building proper, in a seemingly random pattern. In plan, the building is rectilinear with 2 long and 2 short facades. The 2 long facades carry different information both in scale and color. An external open stair system with 3 landings and 1 elevator provide access. Rooftop ventilation and mechanical systems as well as roof terraces exist."

Description 2: "This building when viewed from the exterior seems unified and rather prosaic. However, its internal spacial experience is a complete surprise in its comparison of multi-level and multi-story slots of space, as well as light, and open and closed complex movement systems."



After reviewing my first iterations of this first etude I decided to further my first building design.



I chose to place the building on the cliff so the long slender columns wouldn't make the building look too top heavy. Instead, I was able to place shorter columns in the back of the building and longer ones supporting the front. I also provided a glass elevator that cuts through the rock of the cliff to create a sudden view of the spectacular landscape during its ascent.



In this etude we also explored the interaction of form, light, and color. My main influence during this was color combinations of a southwestern US sunset.



Etude 2



This next etude started with each student writing their own building description, then randomly switching with another person.

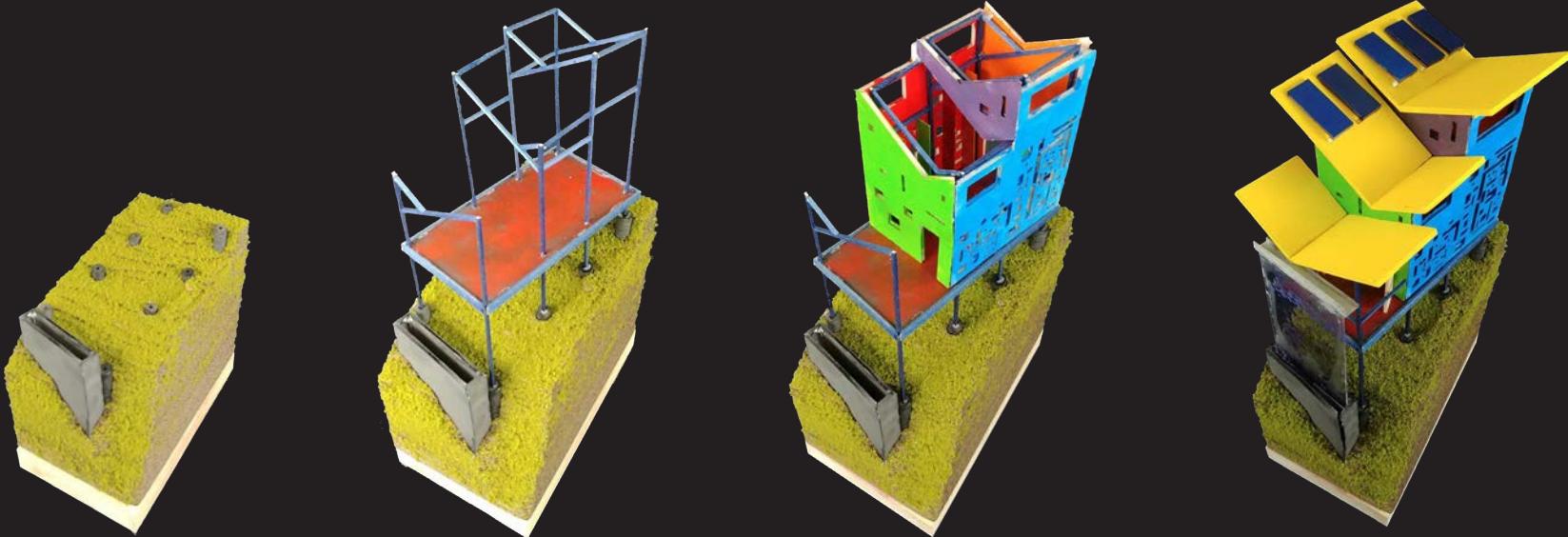
Description: "This building will have three irregular shapes stacked on top each other that help to make the seven different stories. Steel columns will provide the structural supports of the system. Pin connection and welds will be connecting the beams and columns together."



Etude 3

The last etude was designed to be built in Puerto Rico. The mini-project was used as a intermediate exercise between the etude projects and our final semester project. As a result, this etude had to have the energy efficiency and natural disaster resilience aspects required by the final project.

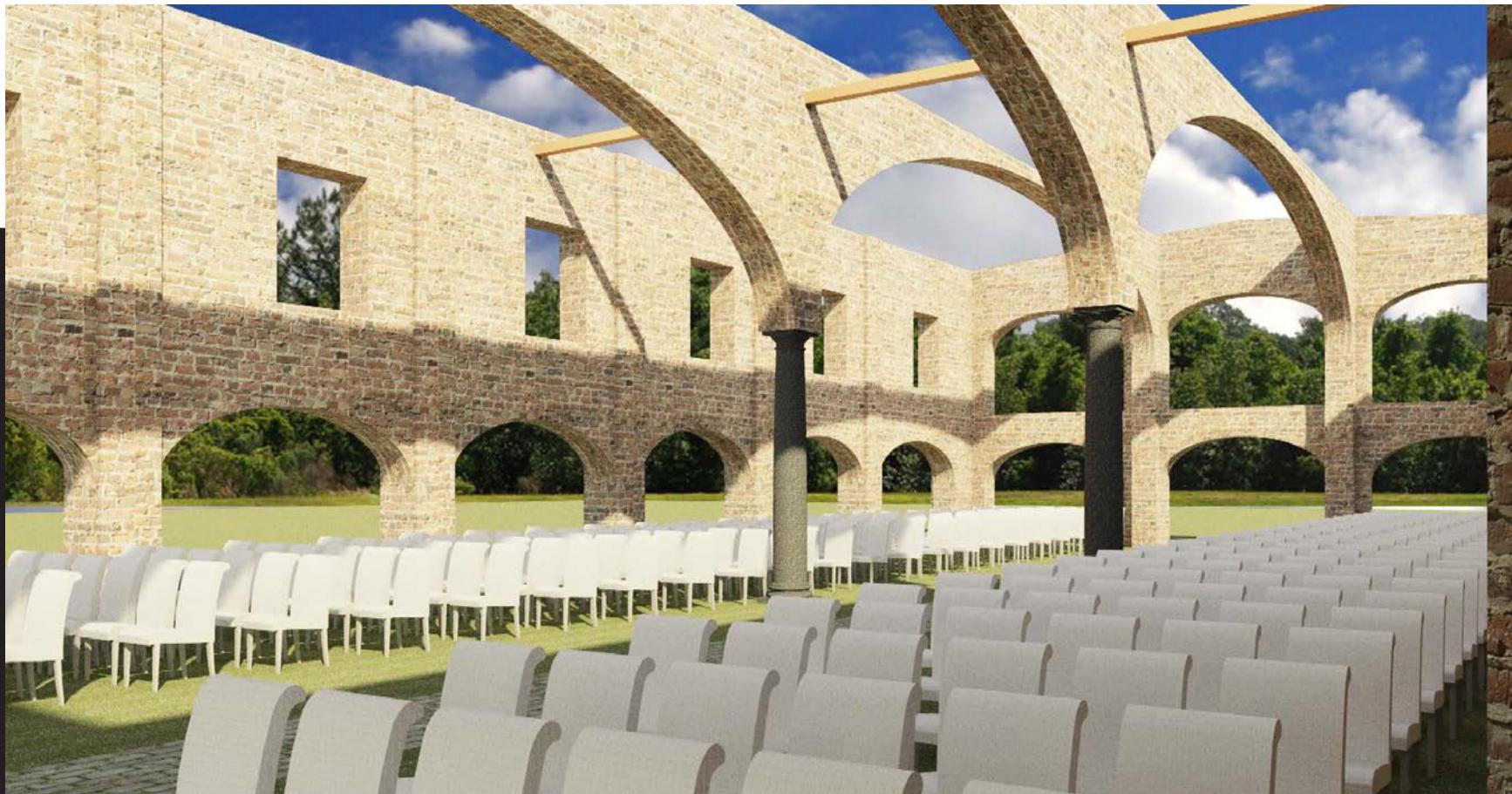
Description: "This building is set atop a hill looking down toward the ocean. The construction will consist of CMU or concrete supported by structural steel. The polychromatic exterior will have fenestrations that provide ventilation/cross winds. The large roof overhangs will provide protection from heavy rains. This building is connected to the islands infrastructure (electrical grid, water supply...ext) however, it has the ability to self sustain."



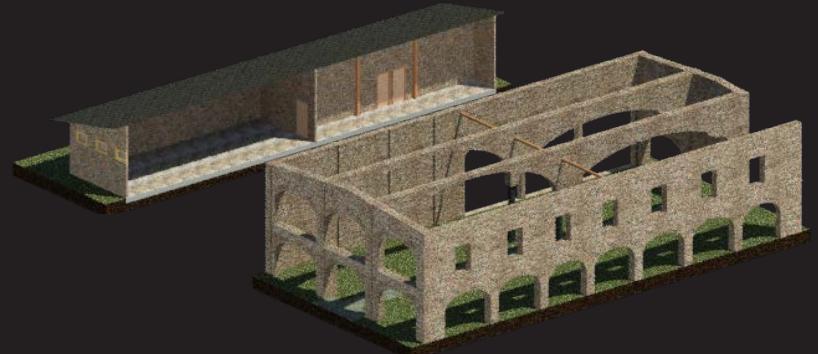
Final Project- The Hacienda

My final project was on a rural site just out of the city San Juan. My task was to design three different spaces. A multi-generational residence, a bed and breakfast containing a kitchen, eating space, and rooms for 25 guests, and a multi purpose space for weddings or other events.

However, the site contained an old decaying ruin of a sugar mill that is referred to as the Hacienda. The building possessed beautiful nineteenth-century architecture with flowing arches and cast iron columns. The most challenging task was to decide what to do with this space.



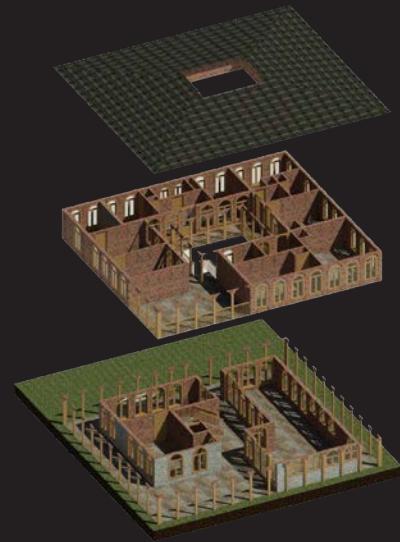
My first thoughts were to place the event space next to the Hacienda to use it as a ruin and a place to take wedding pictures. I felt the decay of the building would provide a unique rustic feel that many couples would seek out. However, after studying the renewal of ruins I found I could create a better wedding venue if I used the ruin as the event space. I used reclaimed wood to brace the existing structure and I placed an addition on a facade that had fallen down to provide a kitchen and bathrooms.



Final Project- Multi-Generational Dwelling

I decided to move the dwelling and the bed and breakfast across the street from the event space to provide a quiet atmosphere for guests.

Both of these buildings were designed possessing the characteristics of the Spanish influenced nineteenth-century architecture. Both were given a central court yard from where all the rooms are anchored. The dwelling was separated into generational sleeping spaces on the second floor, with common living, cooking, and eating spaces on the first floor.



Final Project- Bed and Breakfast

The bed and breakfast was designed with the same architectural style and basic principles as the dwelling. The building is centered around a large courtyard eating area. On the first and second floors the courtyard is surrounded by an veranda providing access to the guest rooms.

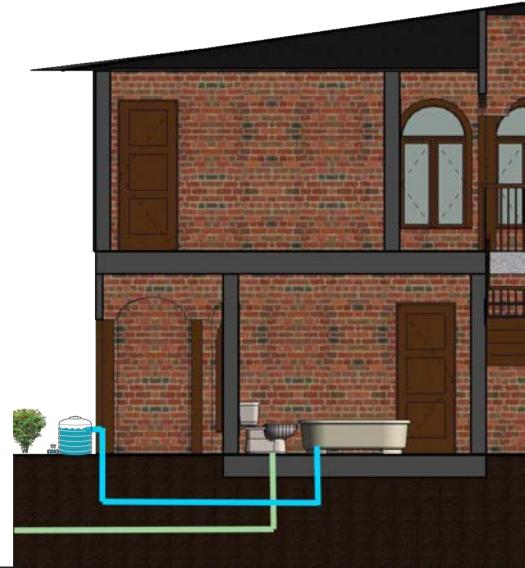


Final Project-Infrastructure



The whole site is self sustaining. Each of the three buildings is supplied with water from the river for showers, toilets, and irrigation, in addition to, rain water collection and gray water storage.

The site has a large PV array that is hidden in a densely planted area and also collects power from a water wheel on the river that is designed to look like a nineteenth-century water mill. The array and water wheel produce enough power to supply the whole site and the neighboring areas.



AP311

Norwich University

Fall Semester 2018



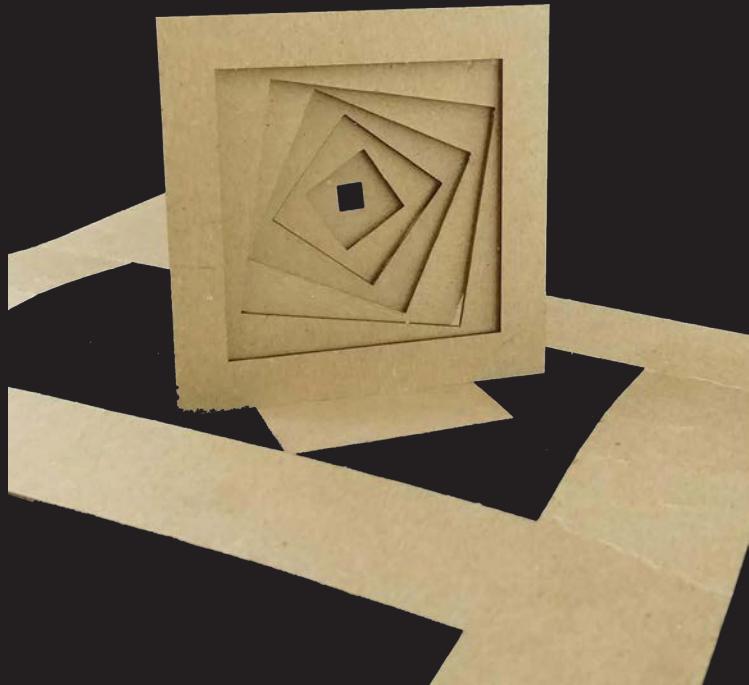
Critics: Wendy Cox, Eleanor D'Aponte

For this studio we designed a nondenominational chapel for the US Army on a site just outside of D.C. During the semester, we explored our own religion/spirituality and created iterations reflective of our views. We used these 3D interpretations of our own ideology along with history, tradition, and culture to create a space that is accepting of all religions and provides areas to mourn, celebrate, and reflect.

Catalyst

Our first exercise during the semester was to write a page on the journey our beliefs have taken throughout our life and use this to create three different reflective iterations.

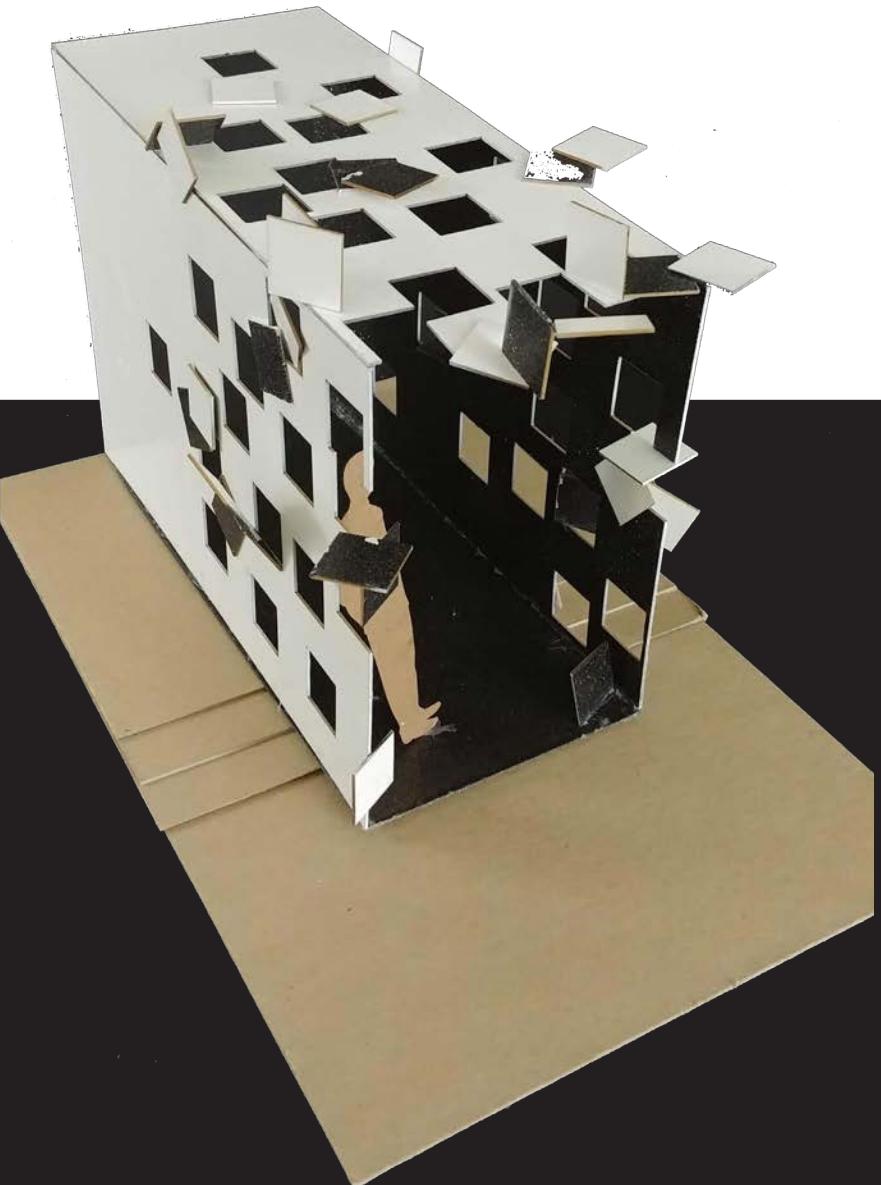
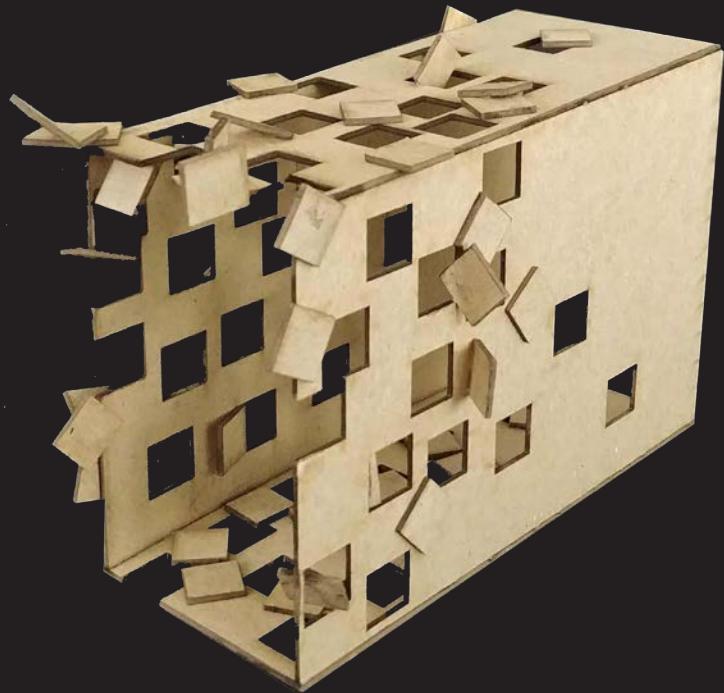
My first design was a path around a sculpture. The idea was that you can choose your path but, you can't touch the focal point, and it appears different at varying points on the path, similar to religion.



My second design was a well that was intended to be set in a reflecting pool with only one path. When you get to the edge of this large well you can see the water cascading down into darkness. It makes you almost fear what is below, but it can't be known what is really there. This design is suppose to be reflective of death in religion



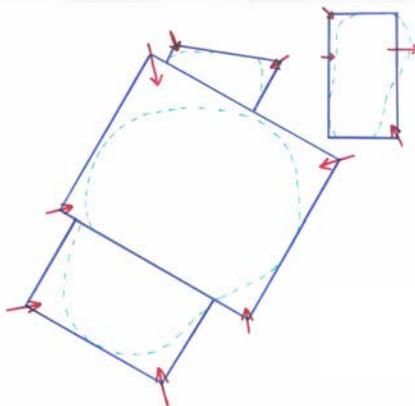
My final design is the one I chose to push further. This design is meant to be placed on a calm body of water. As you look out into the water the structure around you appears to disintegrate or be ripped apart; the same way that the boundary between what you know and believe is not rigid, it blends together and it can make you fear the world.



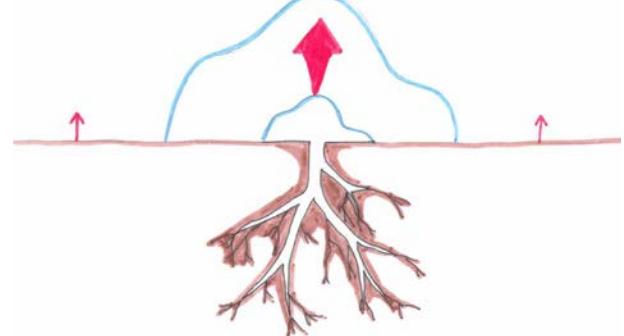
Final Project-Temple of life

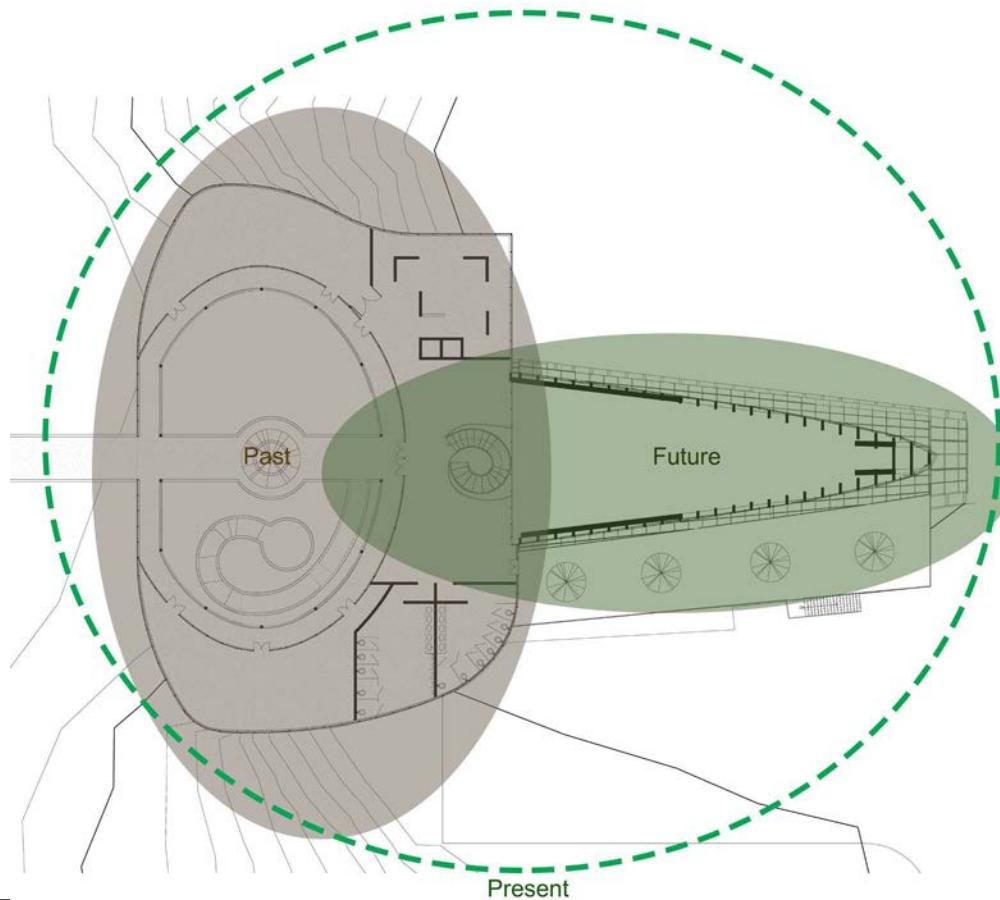
I had quite a few influences when designing this project. The most influencial being my own desire to move out of my comfort zone. At the beginning of this project I acknowledged that my designs in the past have been, for the most part, very rectilinear. As a result, I decided that I would force myself to design with more organic forms.

My first Parti was the idea of a rectilinear metal structure being bombarded by artillery, causing the building to become organic and less rigid.



My second Parti idea was the idea of growth from the earth which also pertains to my third idea.





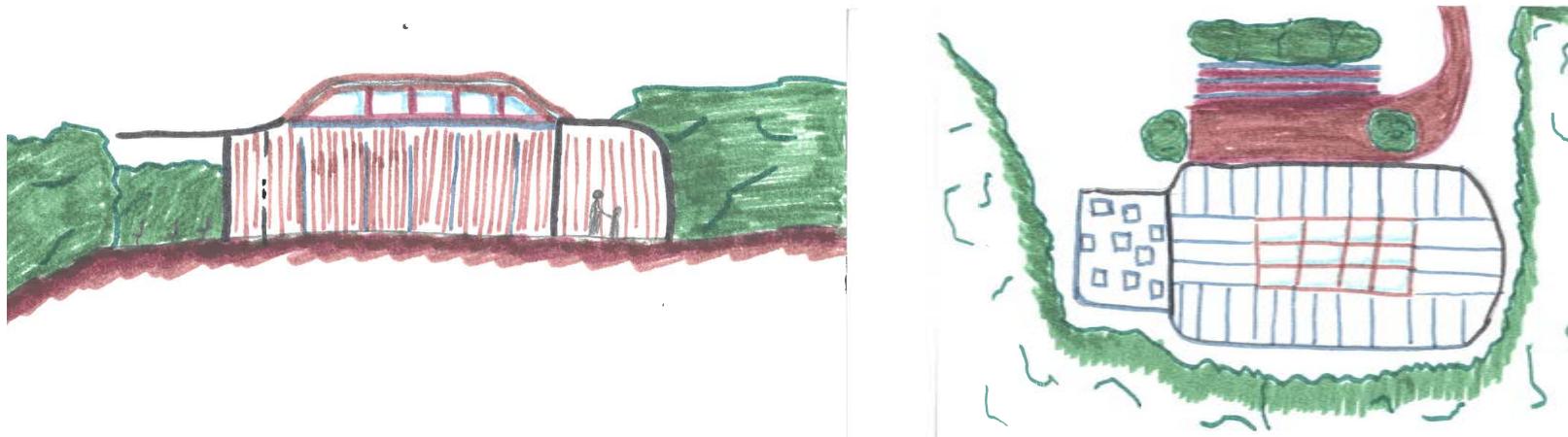
My third Parti is the juxtaposition of past, present, and future; life and death; light and dark; and sadness and happiness.

Process

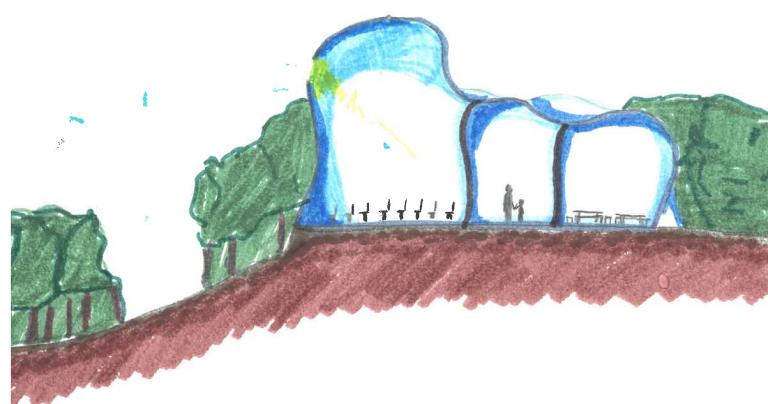
First Drawing:



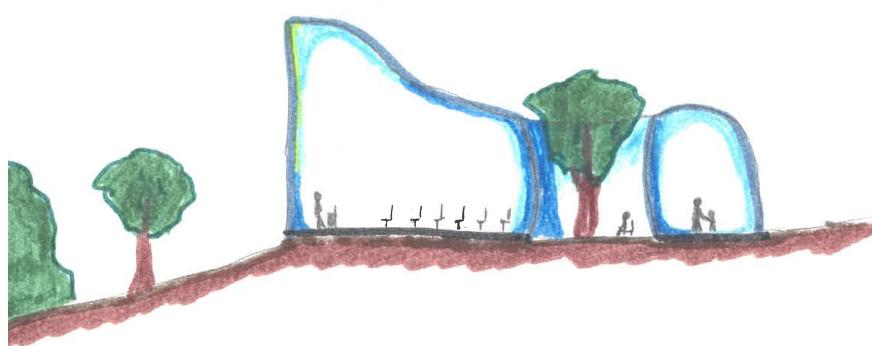
Second Drawing:



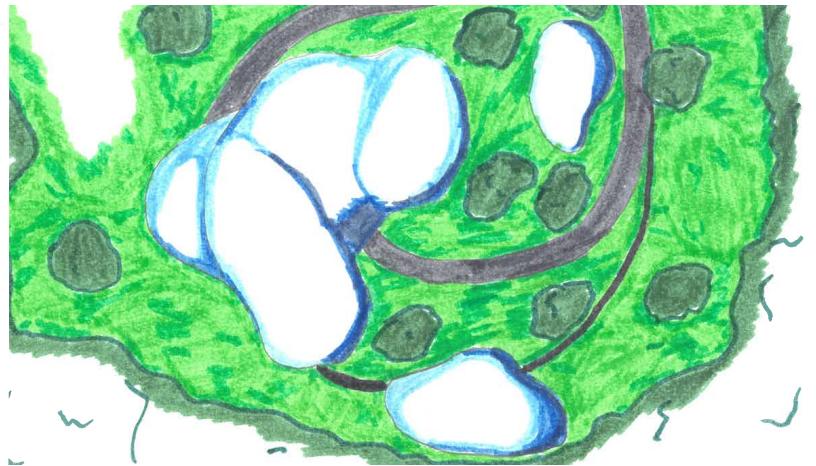
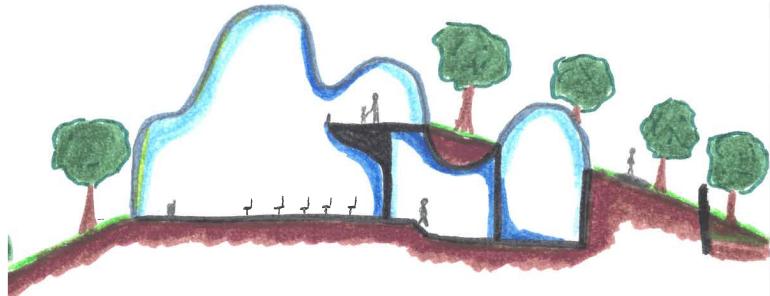
Third Drawing:



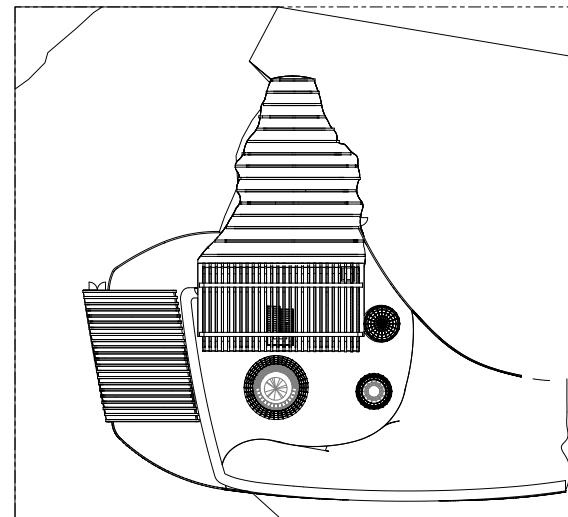
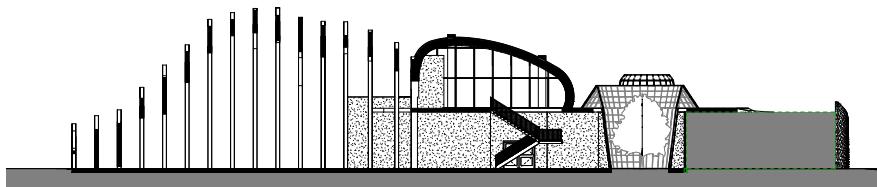
Fourth Drawing:

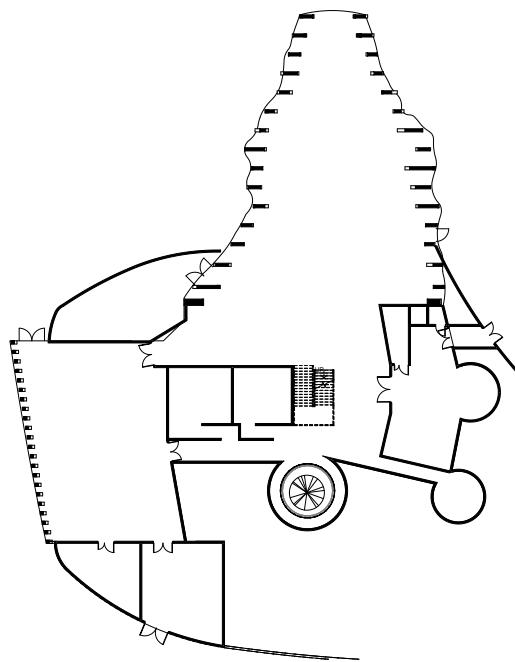


Fifth Drawing:

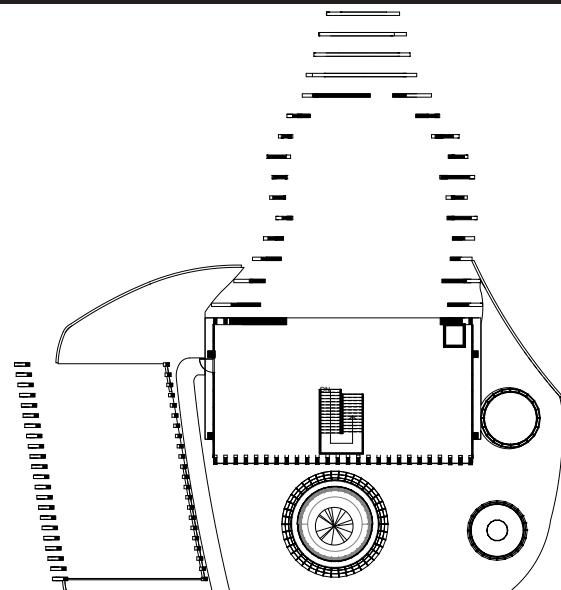


First Full Iteration:





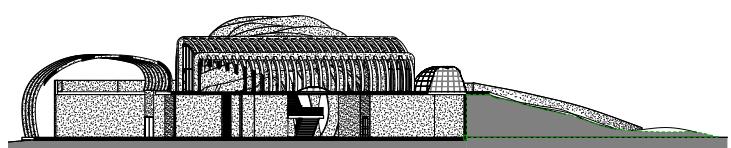
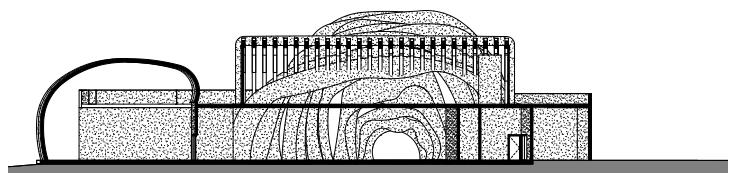
First Floor



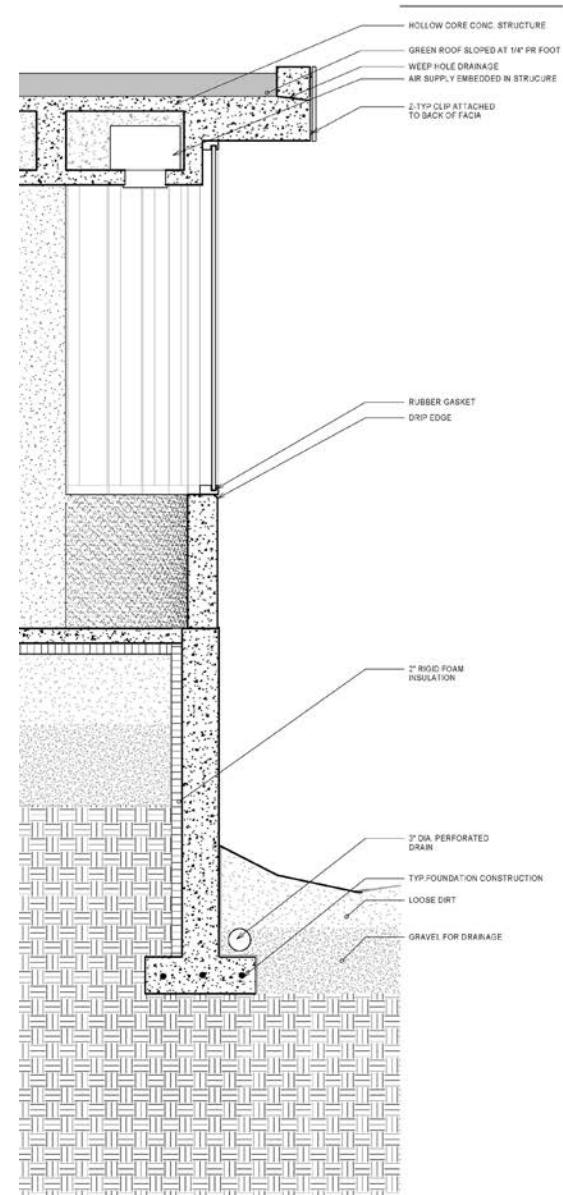
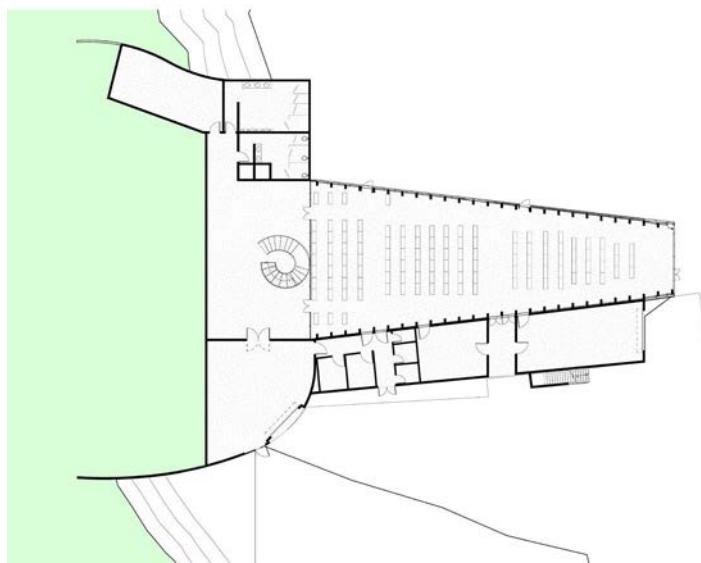
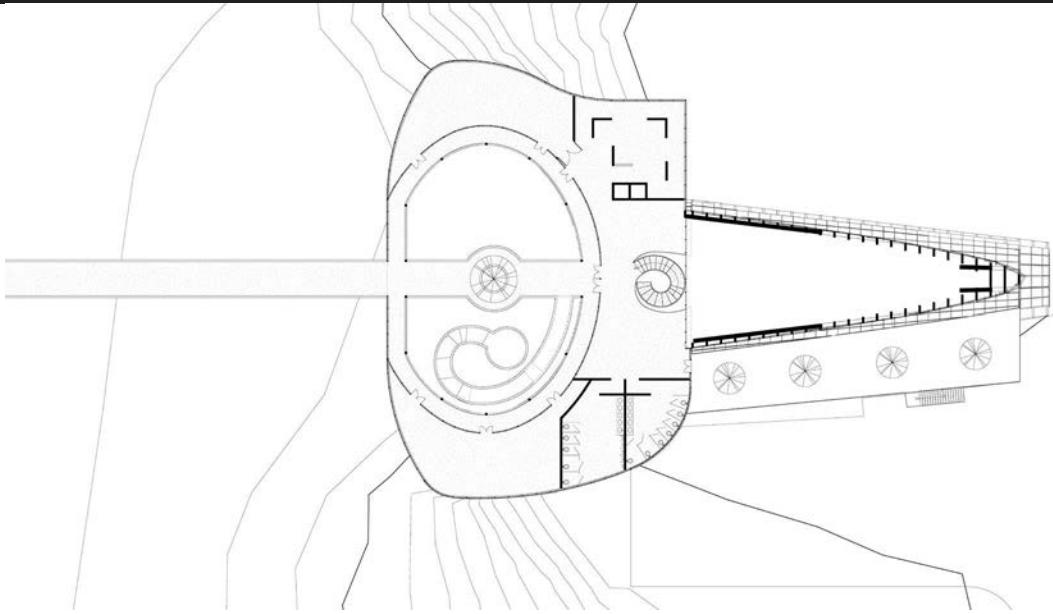
Second Floor

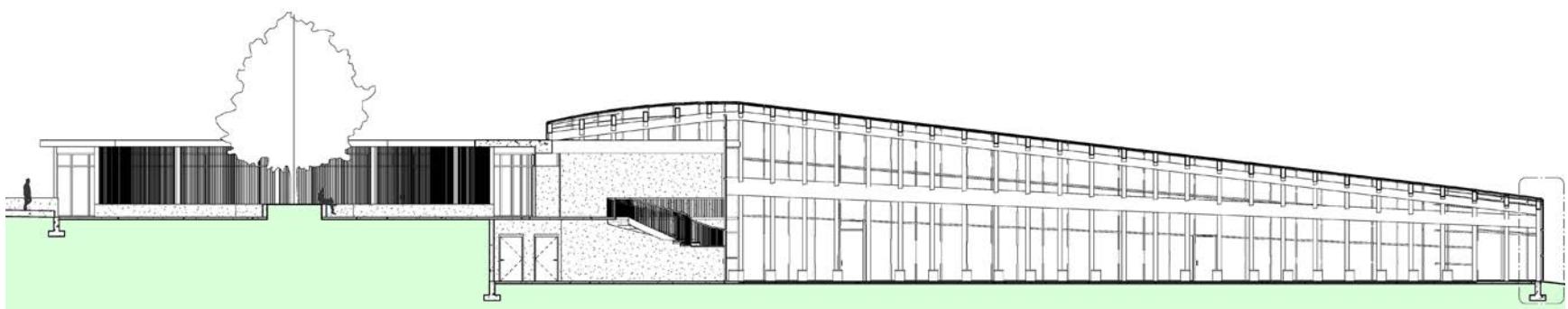
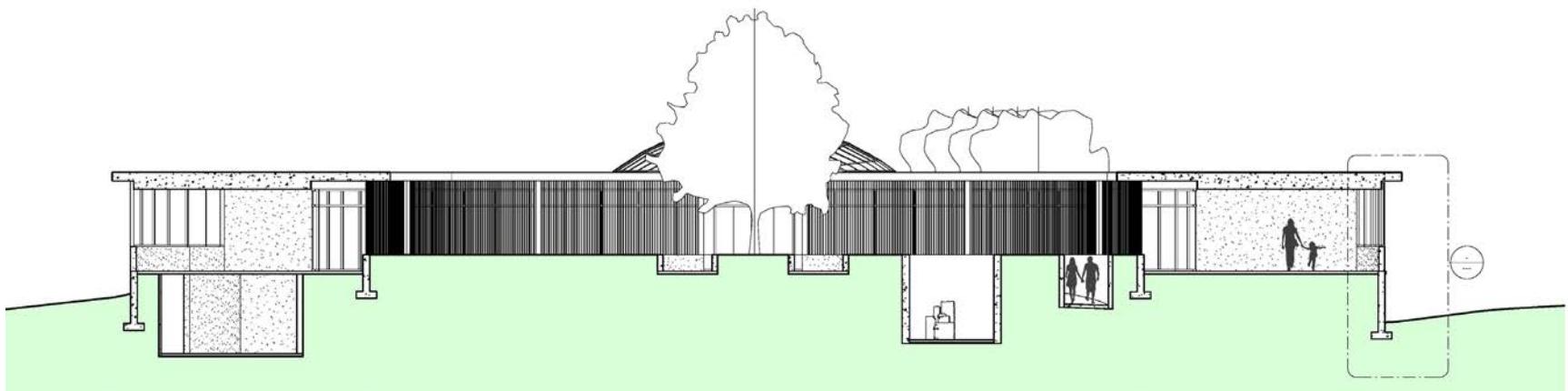
In my first full iteration, I combined all the aspects of my previous drawing into the building while trying to keep an emphasis on my Parti ideas. Unfortunately, the building did not work well together and seemed chaotic.

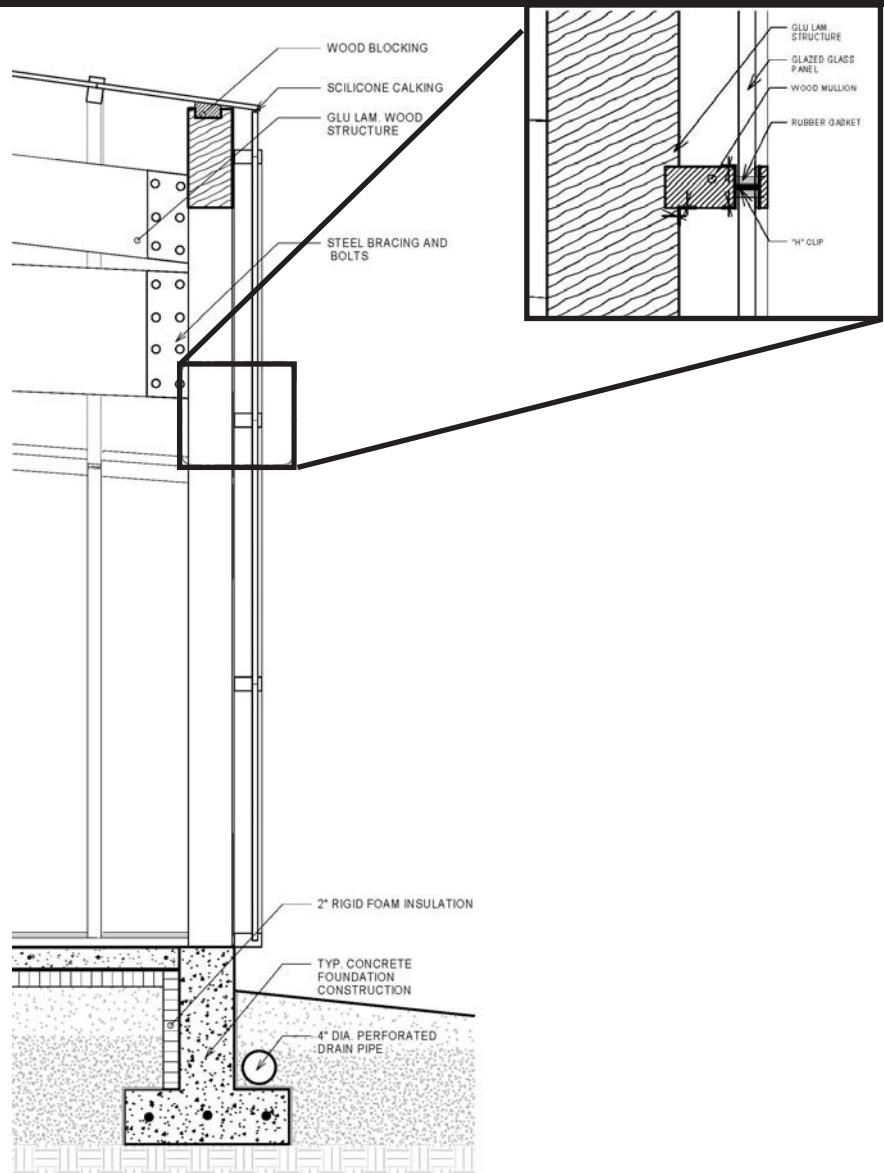
I decided to pull the building apart and reconfigure the components.

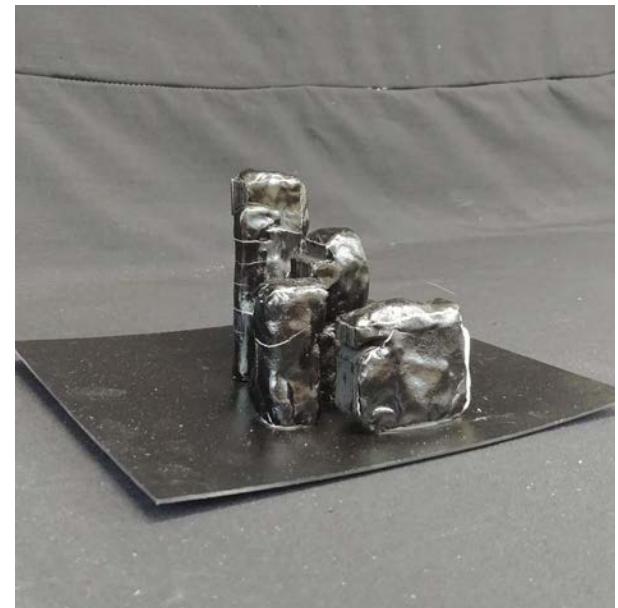


Final Design









The final project is focused around a tree that is representative of life. While in the same courtyard, off axis from the tree, a spiral walkway descends into the earth where the visitor is met with a series of dark marble sculptures. If looked at from the right angle, these marble sculptures display a cut out of a soldiers cross; this represents death. The point I intended to convey in this juxtaposition is from death a new life is birthed.

AP412

Norwich University

Spring Semester 2019



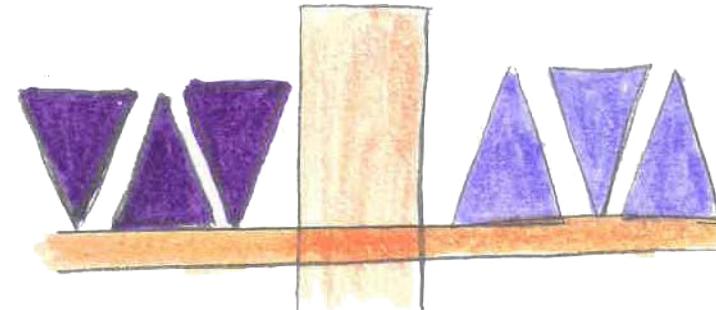
Critics: David Woolf, Gregg Gossens

For this studio we designed a mortuary complex as a continuation of the chapel project during the previous semester. Each of us was given the chance to select our own site and research the rituals, burial traditions, and challenges of burial and ceremony traditions that came with each site. I chose to place my building on the highest cliffs in the world, the cliffs of Moloka'i, Hawaii. In addition to having a awe-inspiring site, the Hawaiians believed the cliffs were heavenly; they were often incorporated in burial ceremony, which influenced my decision.

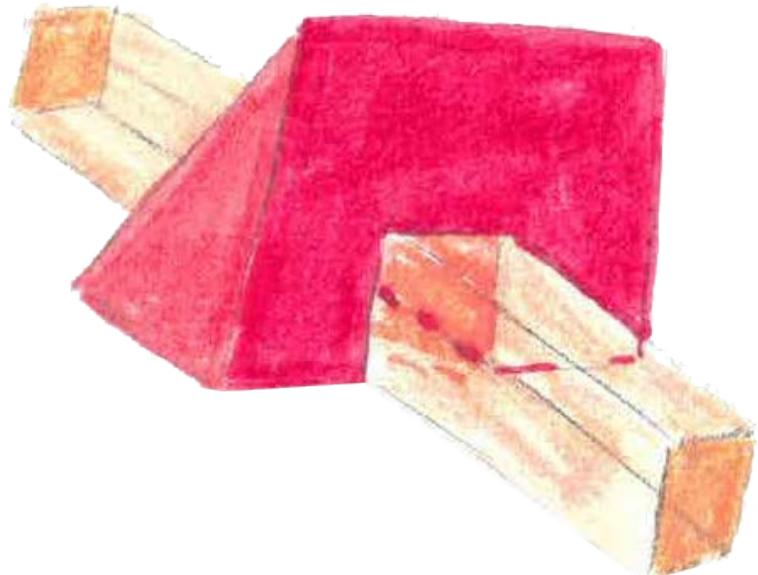
Parti

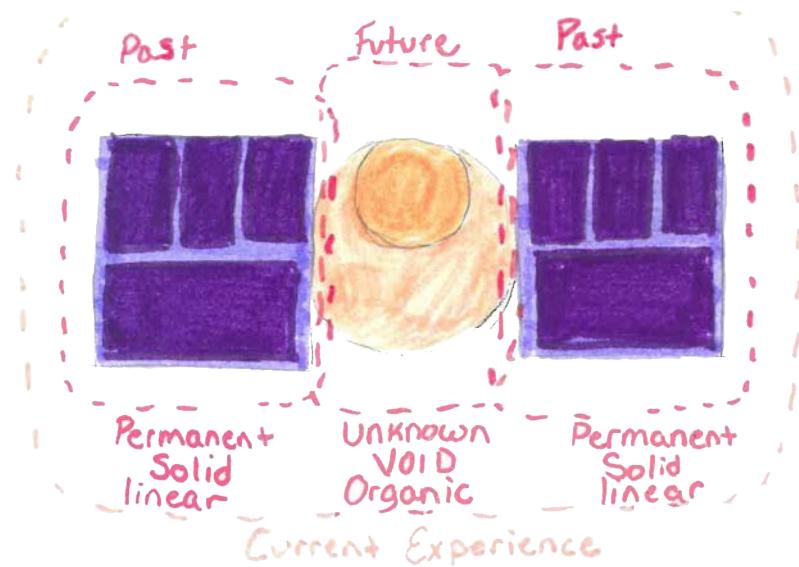
The first design aspect of this project was to formulate Parti diagrams. I started with three concepts with the first and second evolving into the third and my Parti model.

In my first diagram, I placed my private and public spaces separated by a joint courtyard set into the earth and overlooking the cliff. Dug into the earth a long hallway connects all the spaces together, acting symbolically as a balanced weight between life and death.



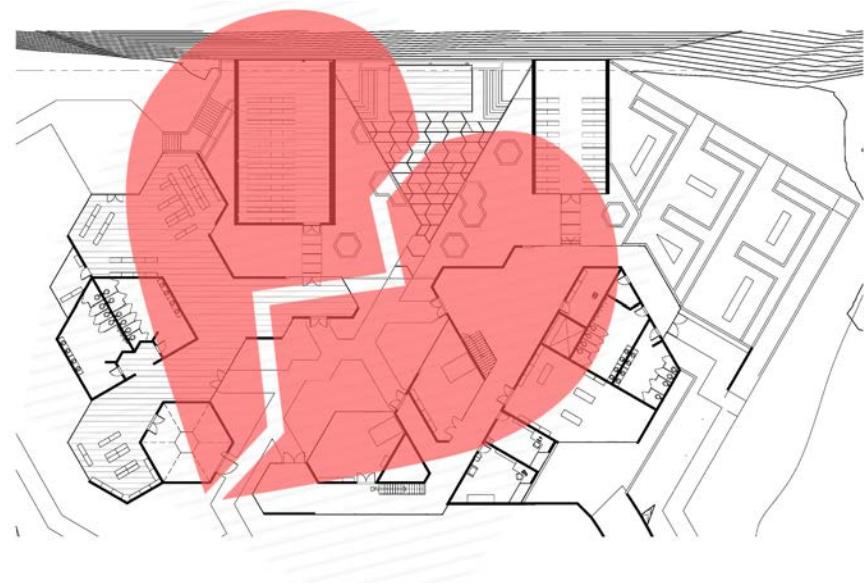
My second diagram primarily focuses on the main ceremony space. It represents a cold and hard building being intersected by a beam of light, which would be a glass hallway.



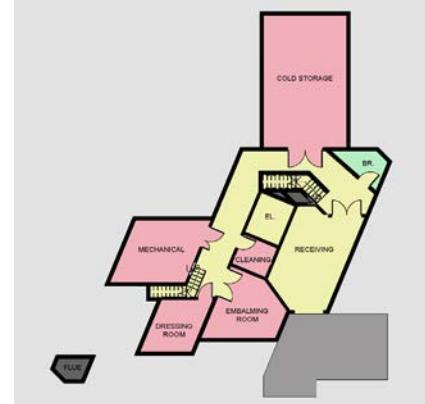
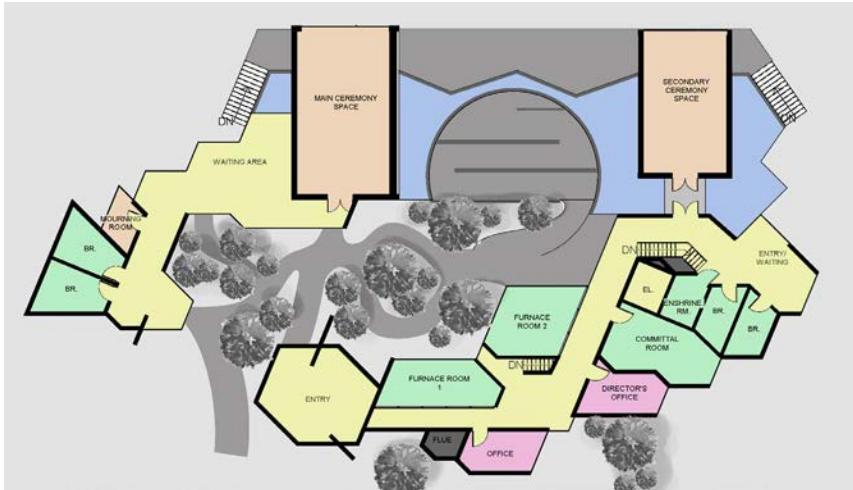


My third parti idea began to incooperate organic components into the design, as well as a past, present, and future concept.

As I started to develop my design I decided to use another concept of the broken heart. Both the time and heart concept remained through my final design.



Design Development



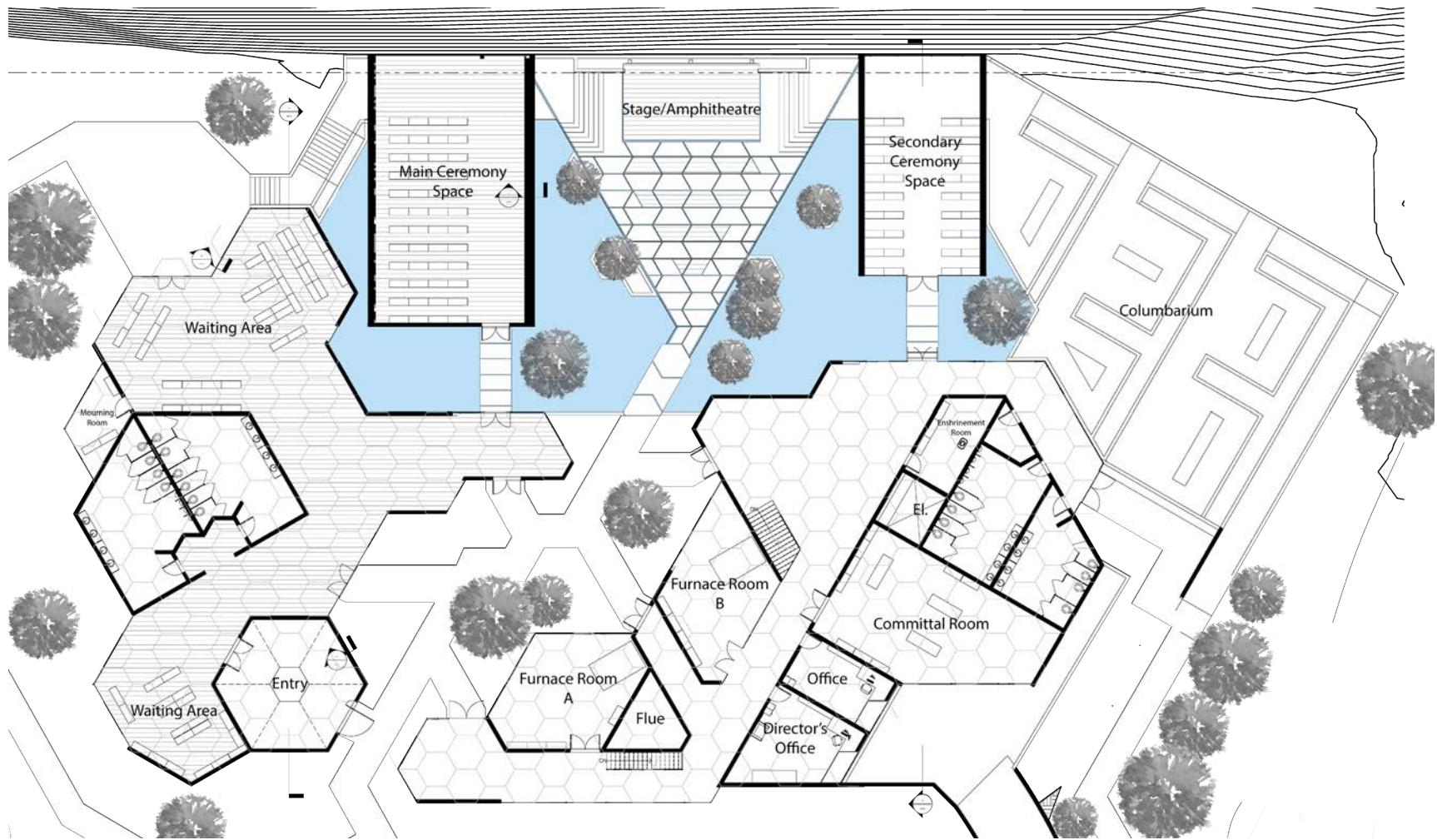
At the start of my design development I decided I wanted to try using a grid. The grid I ended up using at the start of this project was a 30-150 degree diamond grid. However, the angles created from this grid were very sharp.

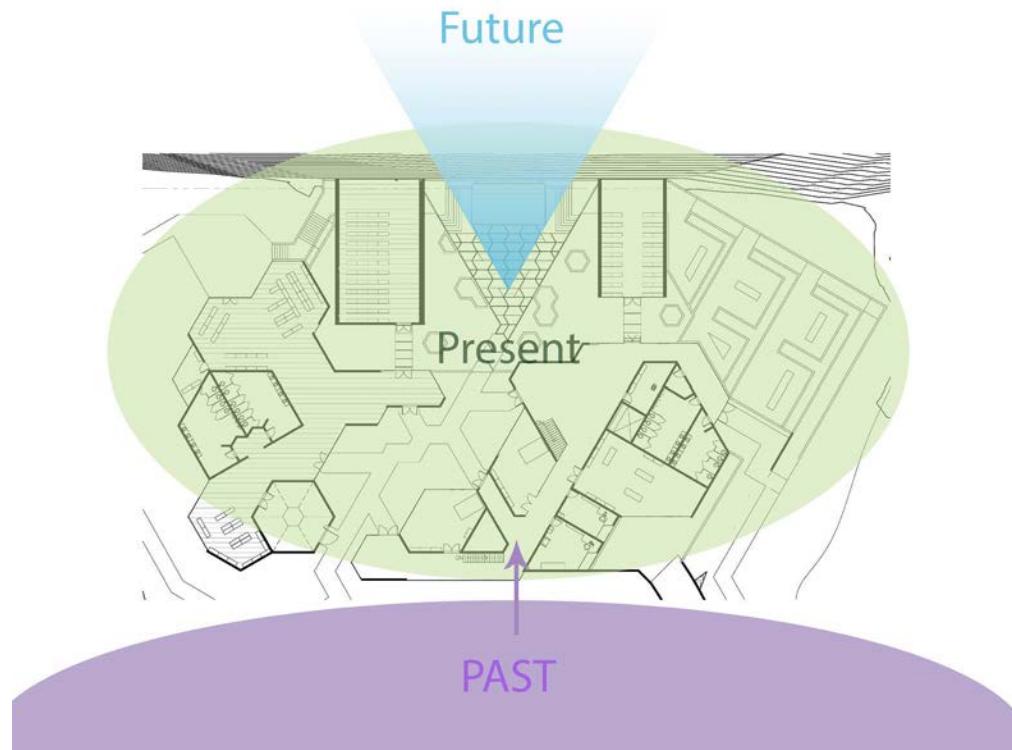
In addition, I felt the organic components of the plan worked in opposition of the rigid aspects rather than with them.



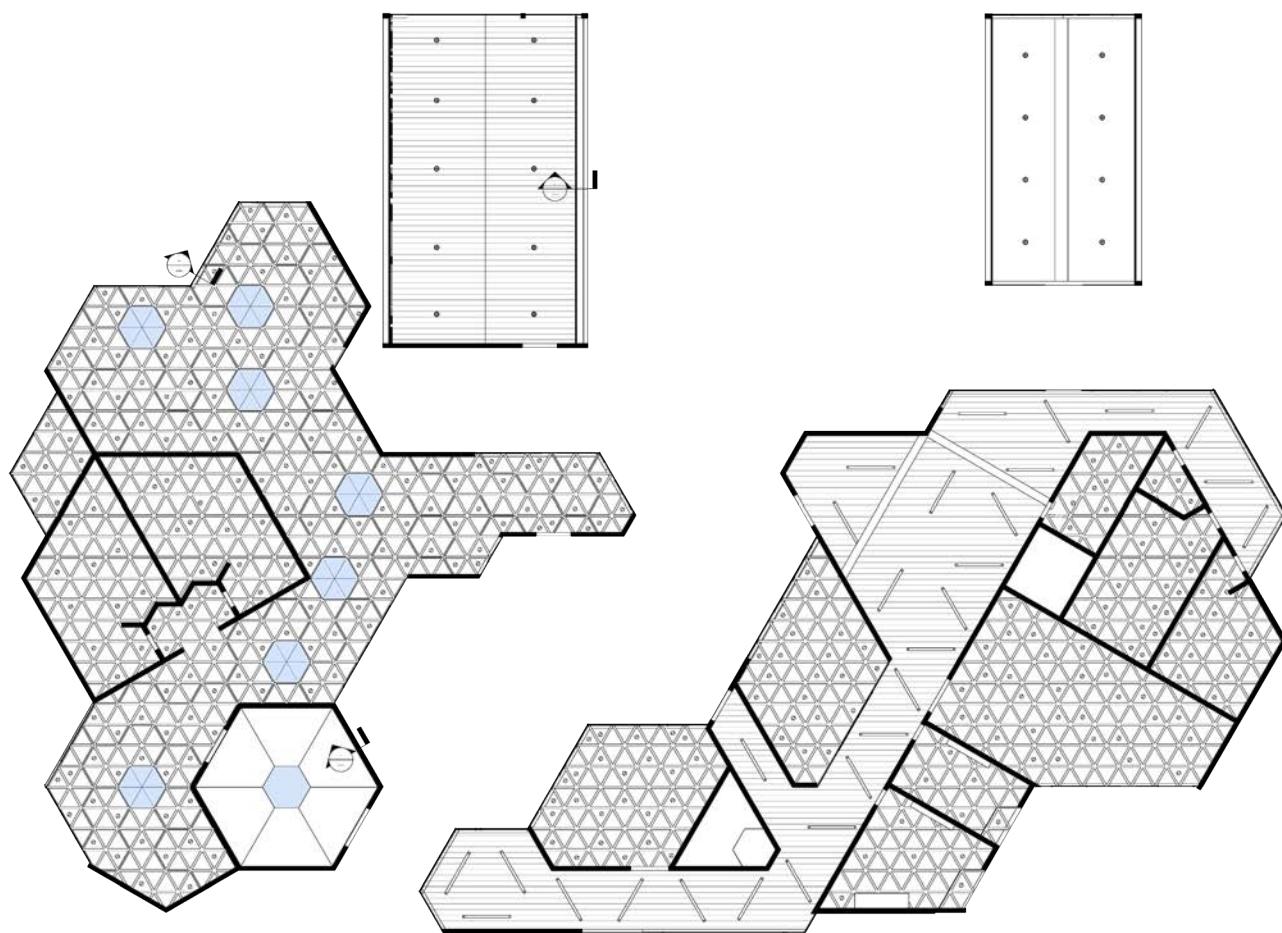
Final Design







In my final design I decided to eliminate the organic components of the building and redesign my past, present, and future concept. In addition, I changed my grid pattern from a diamond to a hexagon which provided me with a more natural geometry and flow.



The buildings' structure is comprised of a hexagonal concrete waffle slab in the ceiling and thick concrete walls alternating with external glazing and a geometric mullion system.



