



Curated by Frankie Keene
ARCH 5515 – Arch. & Systems Lab
Fall 2024 Semester Portfolio

Correlated Conservatory

a physical embodiment of
Ansel Adam's photography and philosophy

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*"Life is your art. An open, aware heart is your camera. A oneness with your world is your film.
Your bright eyes and easy smile is your museum."*

-Ansel Adams-

Commission Conditions

Design an art gallery at the Virginia Tech Duckpond celebrating the photographer Ansel Adams.

The client is seeking:

- An iconic structure that showcases art
- Service as a sustainable and environmentally conscious landmark
- A creation that builds on the inherent qualities of natural surroundings to give meaning and foundation to your work

Design Requirements

- **Natural Lighting:** Maximize natural daylighting throughout the gallery spaces to reduce the need for artificial lighting while ensuring artworks are displayed in optimal conditions. This is possibly the most important of all the requirements. Light is the conduit that will control both thermal comfort and illumination of the art pieces in the gallery. See it in a way, as a sculpting tool.
- **Flexible Exhibition Spaces:** Provide a variety of exhibition spaces that can accommodate different types and sizes of art installations, including temporary exhibits and multimedia displays.
- **Material Selection:** Use sustainable materials with low environmental impact, considering factors such as durability, recyclability, and local sourcing.
- **Visitor Circulation:** Design efficient circulation paths that guide visitors through the gallery intuitively, allowing for both guided and self-directed tours.
- **Outdoor Engagement:** Include outdoor exhibition areas or spaces where visitors can interact with art in an outdoor setting, taking advantage of the natural beauty of the site.



Contextual Cues

Virginia Tech Duck Pond



Location: Virginia Tech Campus
Blacksburg, VA, 24060
United States of America
(Northern Hemisphere)
Coordinates: 37.2295° N, 80.4230° W
Elevation: 2029 feet (619 meters)
above sea level (general)

Climate Zone: Moderate

- Borderlines humid continental climate
 - 4 seasons with unique temperature ranges heavily influenced by moisture



About Ansel Adams (1902-1984)

- ◇ 20th century iconic natural landscape photographer
- ◇ Profoundly inspired by Yosemite National Park
 - ◇ Shared his inspiration with society to influence many generations
- ◇ Creative contributor to the Conservation Movement
 - ◇ Pioneer in “employing the power of photography to affect environmental change”
- ◇ Innovated revolutionary exposure and development technique known as the “zone system”
- ◇ Experimented with darkroom techniques to selectively alter film lighting conditions

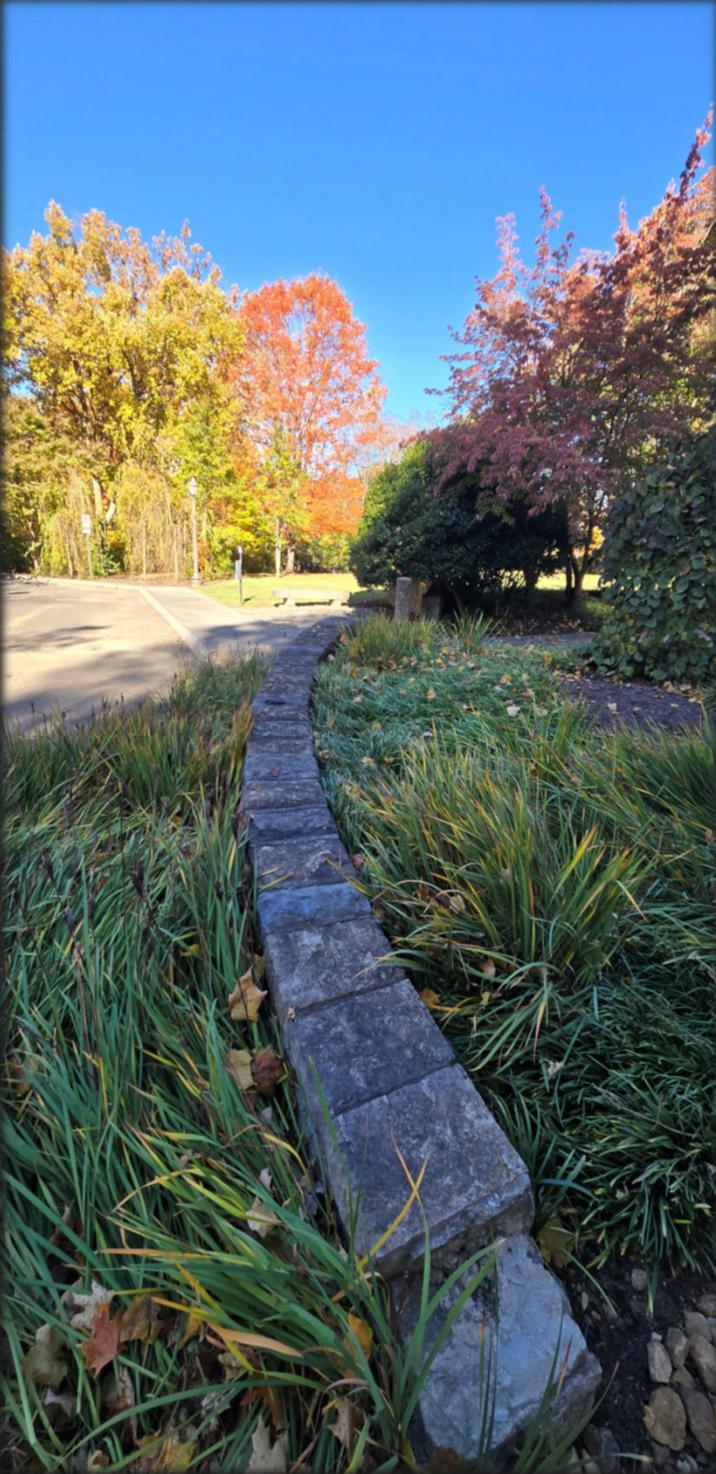
Contextual Cues

Sensory cues

- Free-flowing fresh air
- Blended sound setting of machine and nature
- Interwoven with some parts, disconnected at others

Optical notes

- Natural curves & contours
- Routes form to landscape
- Blue/green/brown color prominence (late summer)



The Proposal

Conceptual Crafting

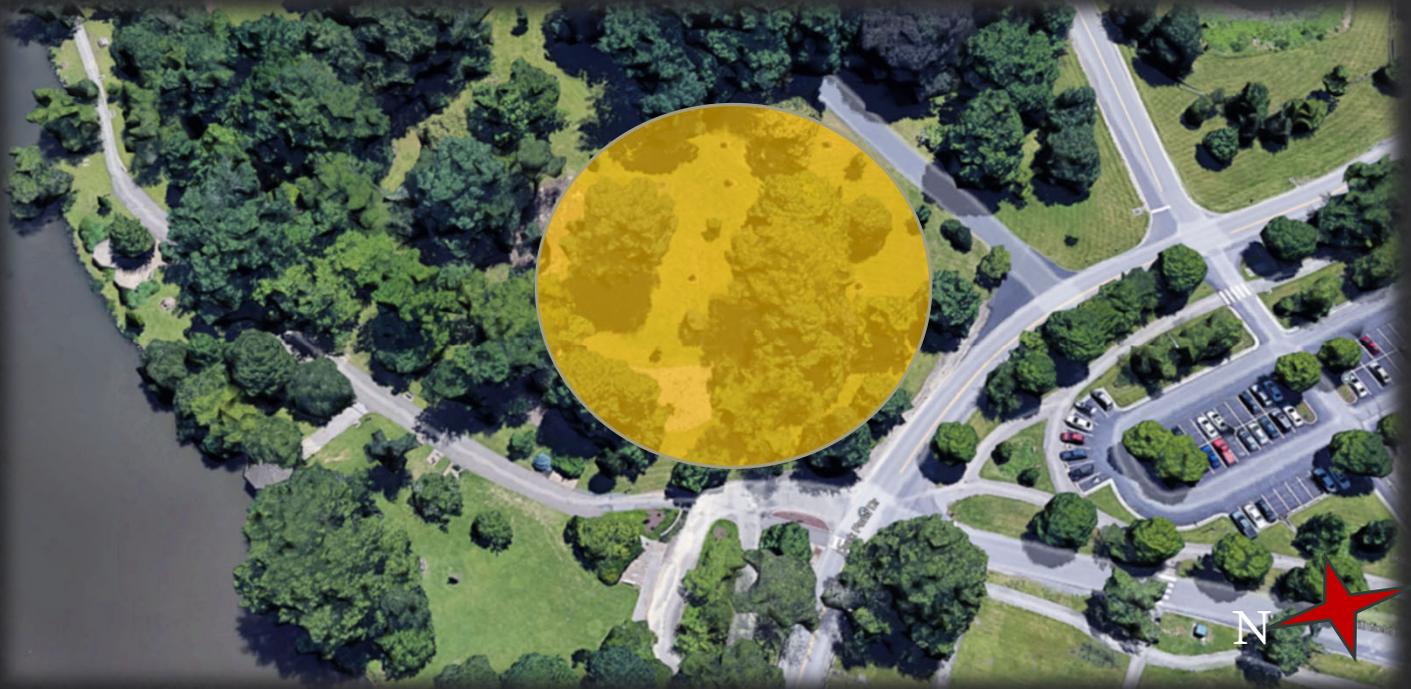
- ◆ The primary approach upon commencement of this commission was to integrate an active listening practice before any conceptual work initiated. Based on the aforementioned design requirements, including principles of organicism, biophilia, and minimalism to the schematic preparation would be a necessary process to accomplish the objectives. The overlapping values found in these methodologies, such as simplicity, sustainability, and material choices, celebrate the natural world and pay homage to the source material. This modus operandi initially constrained development, however, soon encouraged an inner quietness while observing the natural offerings of the Duck Pond that instilled significant insight to the setting. Themes involving circulation patterns echoed around the site became clear and inspired a symbolic understanding of the circle of life and how the nature of life is just a constant recycling of energy.
- ◆ Incorporating thematic elements of nature such as the circle of life into a viewing gallery for Ansel Adams' photography is an approach that seeks to recognize the significance of the natural world in the subject matter. Curation of his works and the programmatic theme revolved around the phases of Life, Death, and Rebirth. Arranging the individual galleries on this understanding hinted towards a form that would illustrate influence of the environment over design. As the conceptual progressed from here, insights from further environmental element observations were adapted into the functional and structural aspects of the order. Potential elements considered at this stage included natural ventilation in mimicry of free-flowing wind, shading devices to assist in diffusion of light inspired by on-site shading, and integration into the existing landscape. In site selection, particular consideration was yielded to underutilized terrain in hopes to remain unobtrusive to both the natural landscape and the existing built environment. Initial leanings were pointed to an inherently adaptable arrangement such as subterranean development which would provide a physical and metaphysical experiential immersion in nature. The primary objective of this consideration is to encourage a natural influence of the selected site on the development.



*"There are no forms in nature.
Nature is a vast, chaotic collection of shapes.
You, as an artist, create configurations out of chaos.
You make a formal statement where there was none to begin with.
All art is a combination of an external event and an internal event...
I make a photograph to give you the equivalent of what I felt. Equivalent is still the best word."*

- Ansel Adams -

Conceptual Crafting



Through an in-depth analysis of the overall location, this site offered the most pragmatic and ideal current terrain conditions. Found on the steep incline between “The Grove” and the waterfront gazebo, this placement presumably provides a pivotal involvement in the adjacent traffic hub, which serves as a junction for the revolving ingress and egress about campus. Situated finding it’s the circulation flow Endeavoring to honor Adams’ philosophy of conservationism, the proposed idea is to take advantage of a clearing of grass between trees on the sharp slope of the hill, building into the earth. This will allow the existing landscape to naturally shape the interior space and overall layout of the building. After significant study of the site, the idea has developed to incorporate a spiral into the burrowed design, symbolic of the natural cycle of life, death, and rebirth. A core pathway will intuitively guide the experience through an ascending spiral, overlapping with itself near the beginning to represent the cycle of life. The layout of this structure provides the option to experience the gallery in the reverse order as well, lending the opportunity to arrange the 3 galleries with photography classified by the themes of life, death, and birth.



Site Selection

Conceptual Crafting



There were previously two large trees, assumingly that used to shade this area. The strong shadow cast by the remaining trunk was reminiscent of a sun dial, following the daily path of the strong southern shine, sparking ideas for involving an imitation of this effect in the design.



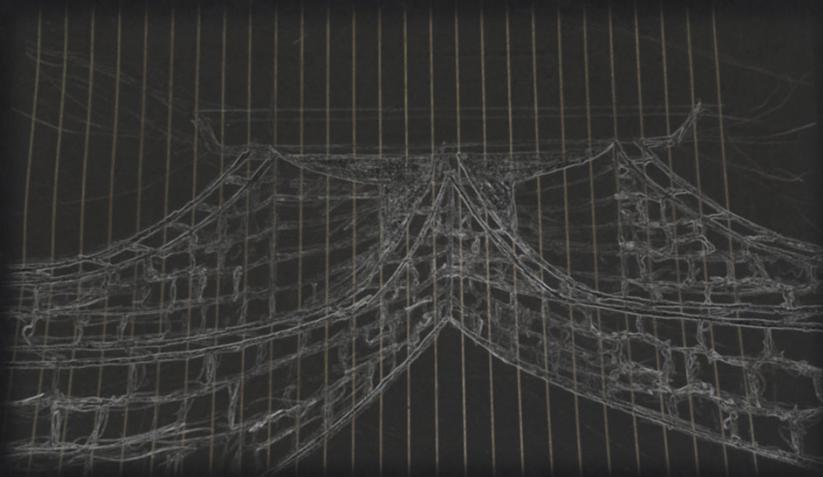
The large open clearing between the landscaping is one of the most well-lit spaces at the Duck Pond. The availability of sunlight at this location aligns with the expectation of natural lighting, making this an ideal condition for an integrated structure that could return some natural elements as an homage to the inspiration.

Selected Site

Conceptual Crafting



Taking signs from the site to influence the design was an unintentional inspiration in establishing a footprint. This stump is what remains of one of the large trees previously occupying the site, lending credence to allowing a design to unfold naturally. The shape of the stump strangely reflected the existing clearing between trees and happened to be near the center of the site. This bottom extrusion gave impressions for a subtle opening, emerging from the ground only at the entrance. The hollowed whole also provided the idea for a central courtyard, with a symbolic tree of regeneration at the center. (ex. Dogwood)



Site Stimulated Source

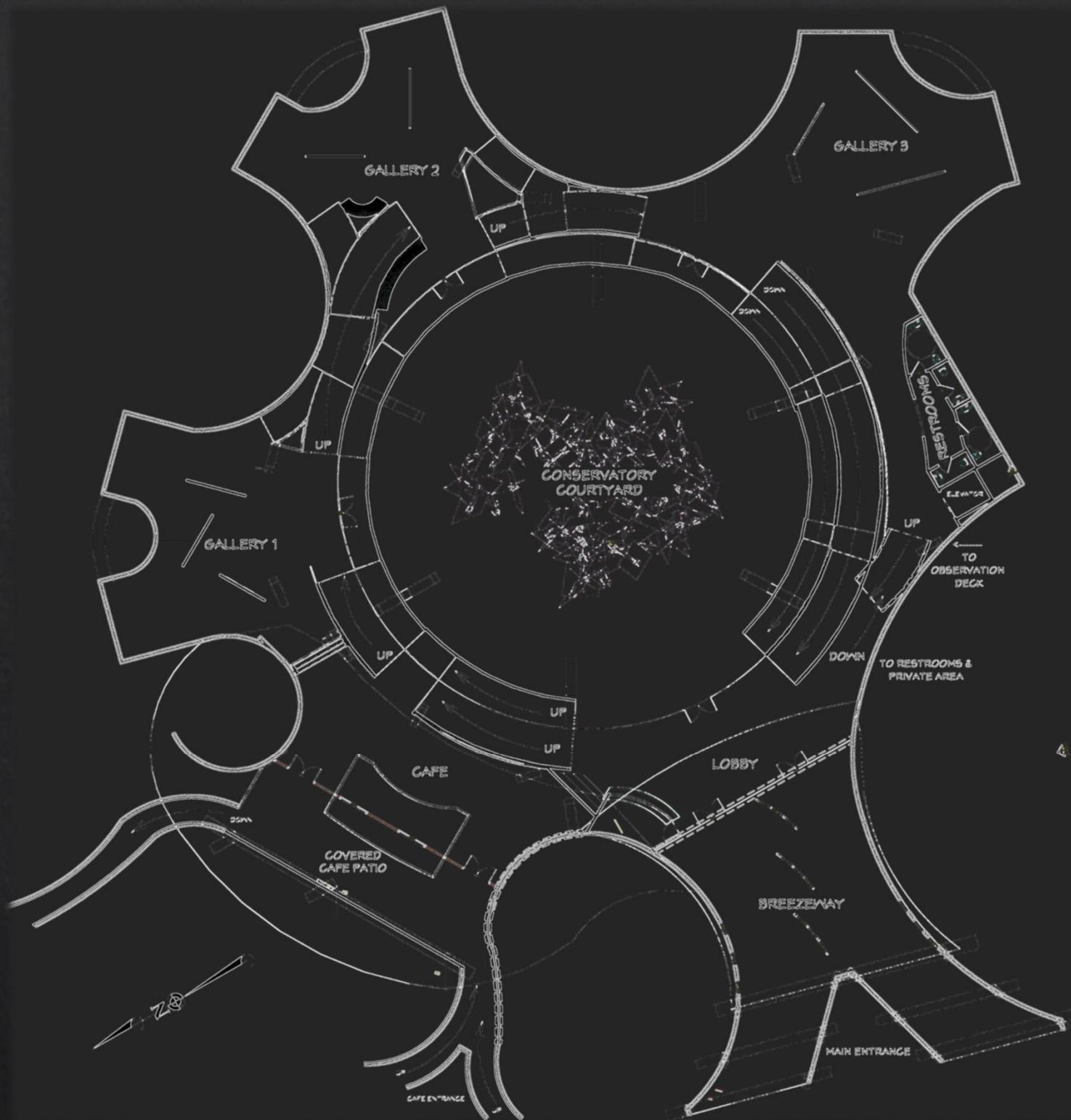
*"A photograph is usually
looked at- seldom looked into."
— Ansel Adams*

Conceptual Crafting



Positioning the entrance on the paved path near the western ingress of the Duck Pond will provide accessibility from the adjacent parking lot for both construction activity and visitors upon opening, and an experiential walk through the park for campus visitors. A double-sided café will be located at grade level, offering access to both gallery guests and pond visitors, with the North facing outdoor side granting a shaded view of the water. At the center of the spiral will be an enclosed courtyard garden featuring a single dogwood tree, representing the renewal of nature. The courtyard will be at or near the grade level of the duck pond, visually accessible from all major areas of the gallery. Considering the significance of light and shadow present in Adams' photography, the central courtyard will provide natural light to the interior to illuminate the playing with intersecting themes on the floor with shadows from the gallery walls. To address ambient lighting, the center of the spiral will be assumed to be encompassing enough to provide natural indirect lighting with specific elements incorporated to maximize diffusion throughout the space. The classification for this space should be considered an skin dominated load as the heat gain/losses are climate driven, factoring solar, wind, and ground as natural offerings to establish a symbiotic relationship with the earth.

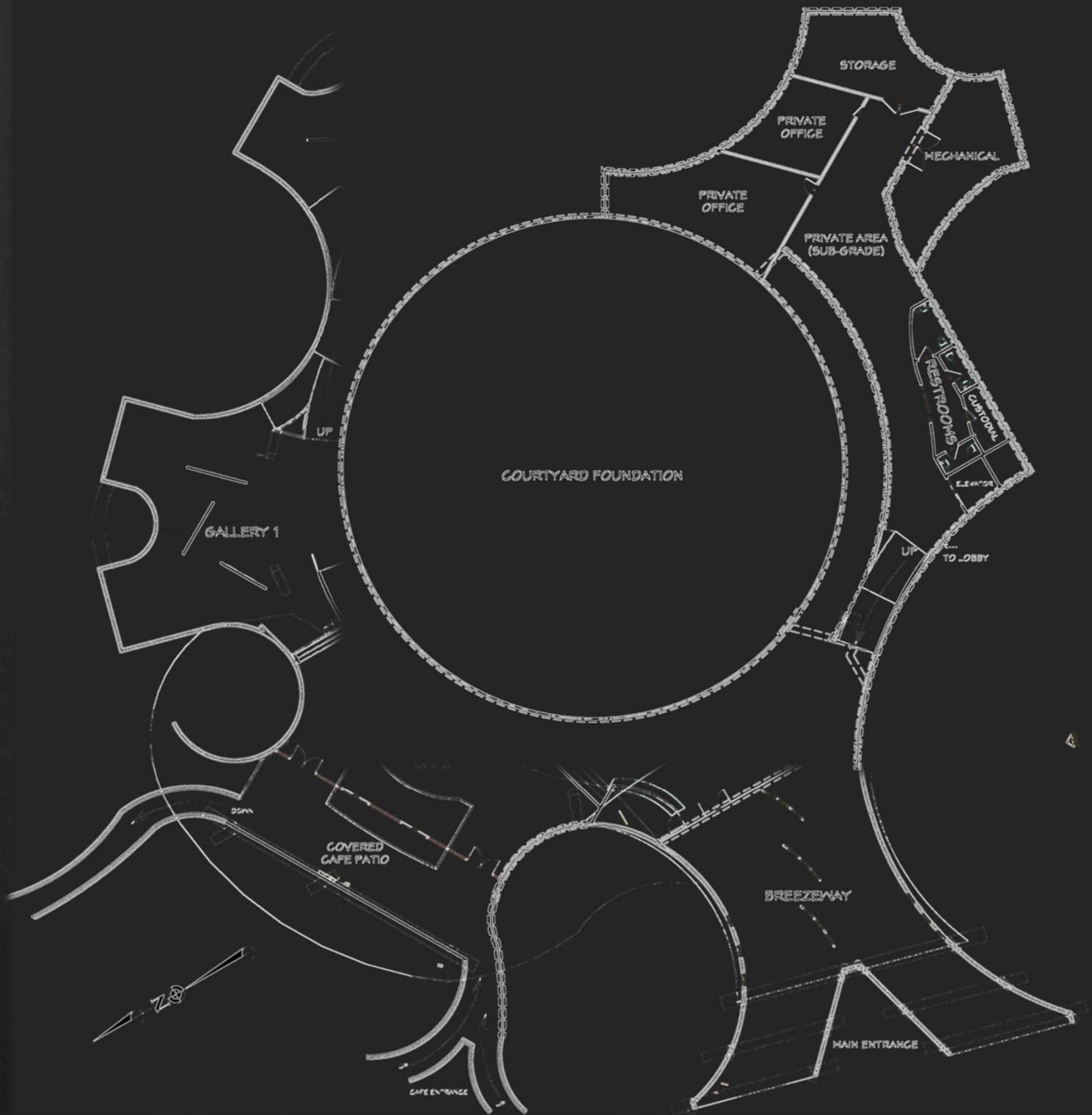
Initial Proposed Floor Plan



Correlated Conservatory Main Floor Program

Public Space	Area	Public Space	Area	Total Main Floor Area
LOBBY	1400 SQ FT	Courtyard	8250 SQ FT	13,250 SQ FT
CAFÉ	1250 SQ FT	Circulation	5550 SQ FT	
GALLERY 1	1600 SQ FT	RESTROOMS (4)	450 SQ FT	
GALLERY 2	1400 SQ FT			
GALLERY 3	1600 SQ FT			

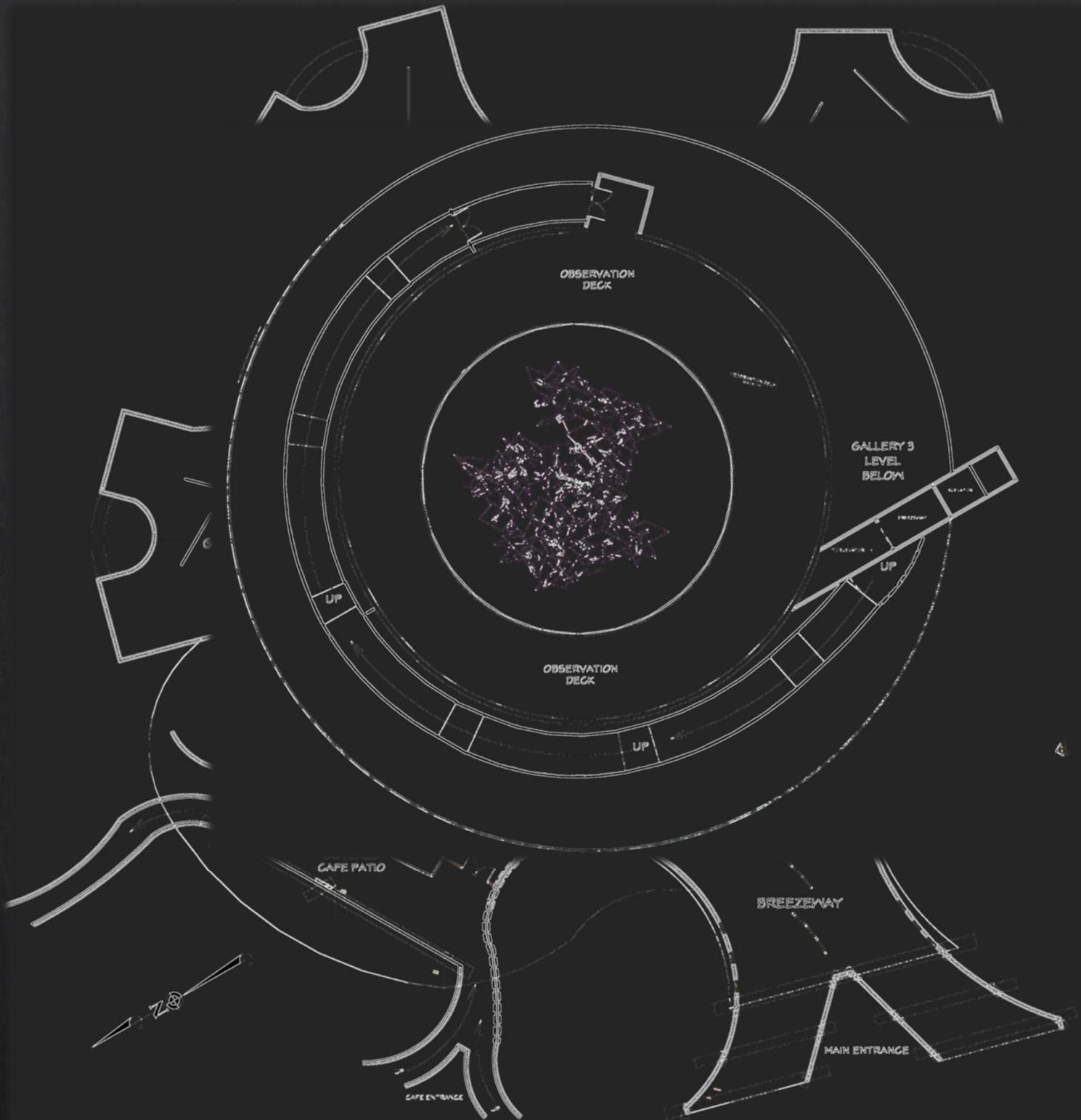
Compelled Creation



Correlated Conservatory Sub-Floor Program

<u>Public Space</u>	<u>Area</u>	<u>Private Space</u>	<u>Area</u>	<u>Total Main Floor Area</u>
Restrooms	300 SQ FT	OFFICES	1000 SQ FT	3,275 SQ FT
Circulation	750 SQ FT	MECHANICAL	600 SQ FT	
		STORAGE	500 SQ FT	
		CUSTODIAL	125 SQ FT	

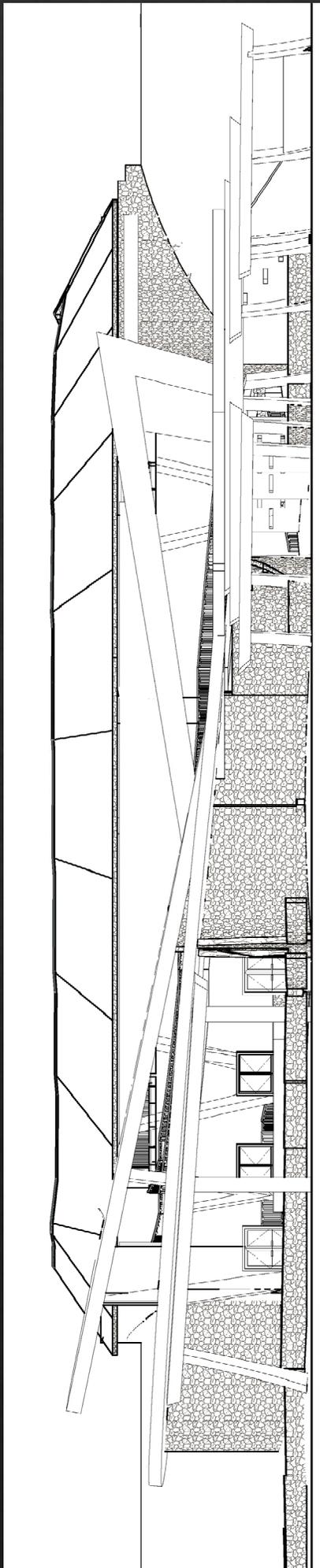
Compelled Creation



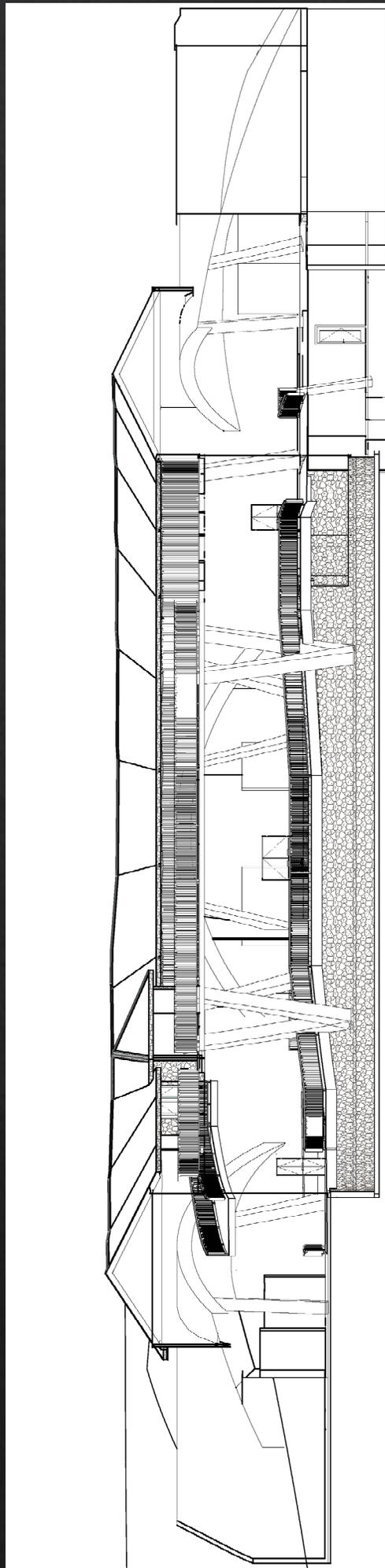
Correlated Conservatory Over-Floor Program

<u>Public Space</u>	<u>Area</u>	<u>Total Over Floor Area</u>
OBESRVATION DECK	4500 SQ FT	5000 SQ FT
CIRCULATION	500 SQ FT	
		<u>Total Building Area</u>
		21,525 SQ FT

Compelled Creation



Front Elevation (WEST)

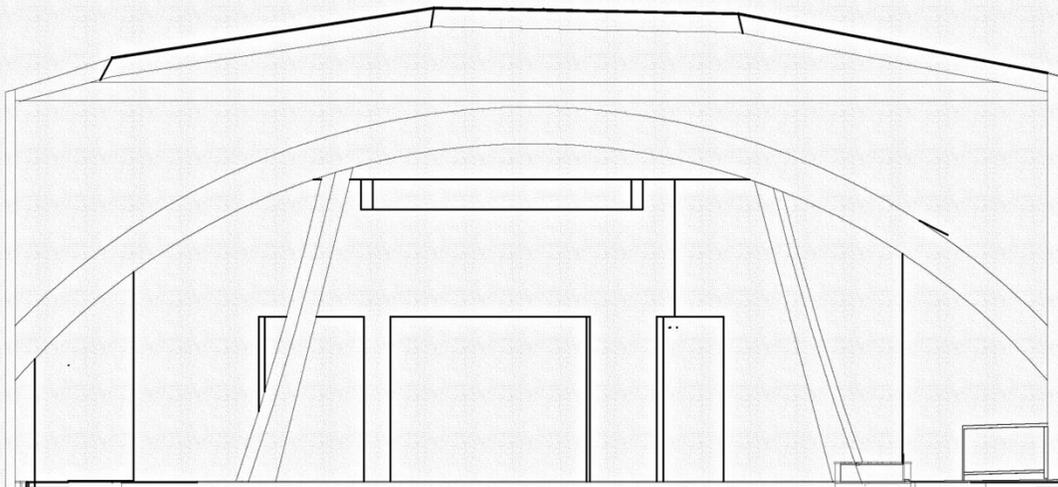


Cross Section; Gallery 2
(WEST)

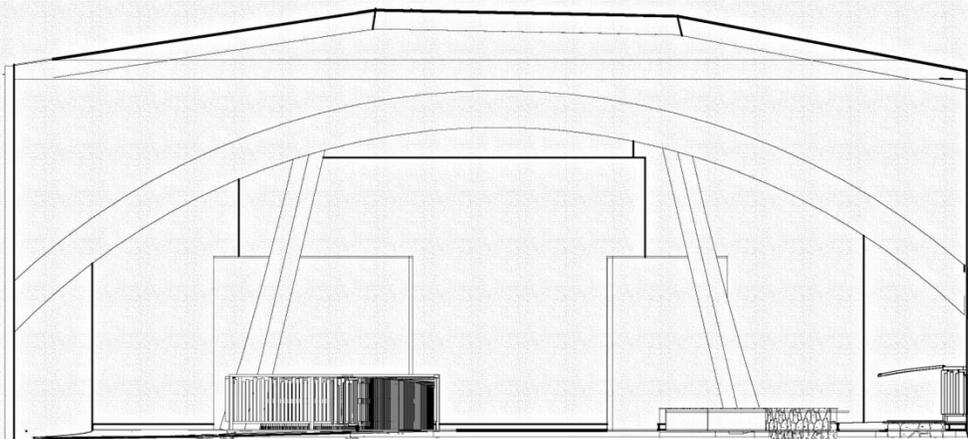
Cleft
Construction

Gallery Elevations

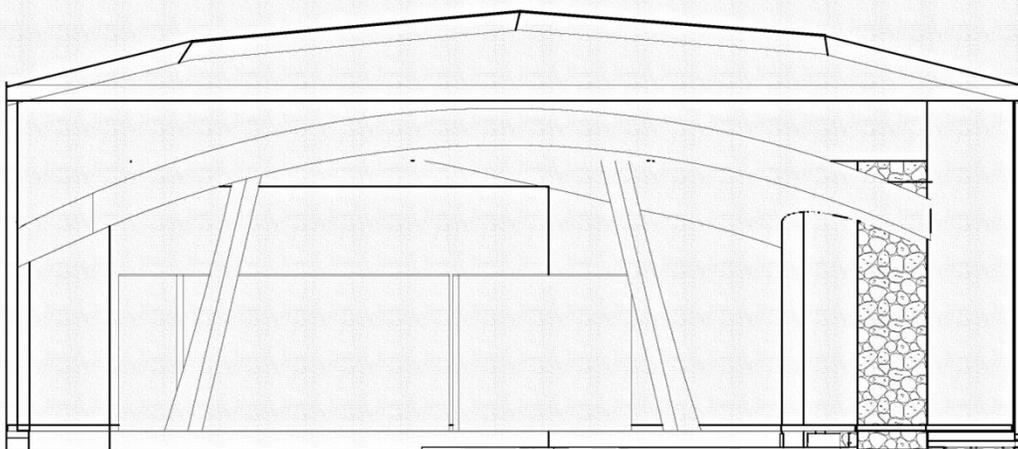
Cleft Construction



Gallery 1 Elevation



Gallery 2 Elevation



Gallery 3 Elevation

Conscious Considerations



Hokie Stone – a grey dolomite-limestone;

The exterior façade on the exposed west/north fronts are intended to match the style of the existing stone retaining walls around the Duck Pond.

Black Willow Wood- a Duck Pond relic;

The support posts seen through the gallery are made of wood from Black Willow trees, a historical species at the site, one of which has become an iconic part of the setting's sentimental past.



Slate Stained Ashcrete– a natural restitution;

Initial consideration was given to slate for the walls and flooring, however due to the subterranean construction, thickened insulating walls were required for structural integrity. Ashcrete is a more sustainable version of concrete made of 97% recycled materials like fly ash and bottom ash, taking burn remains and giving them new life. Slate stained and textured finish are applied to the walls and floors enclose the gallery's perimeter .

Low-E Glass – transparency of tenacity

The interior courtyard is enclosed with thick triple paned Low-E glass curtain walls, allowing for natural sunlight to illuminate the cavernous collection. These walls will help keep the warmth reflected inside during the winter, but out during the summer. The transparent quality ensures a persistence of sunlight with strategically placed openings.

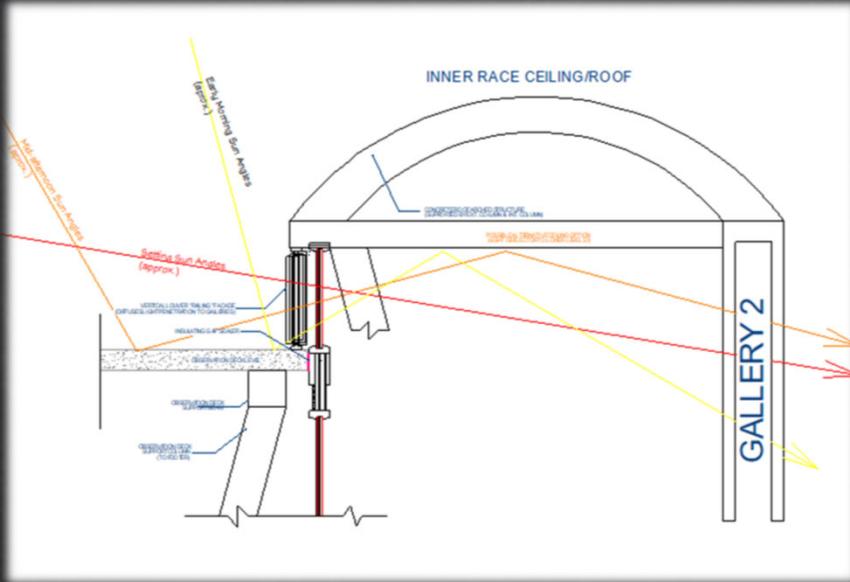


Material Matters

Conscious Considerations

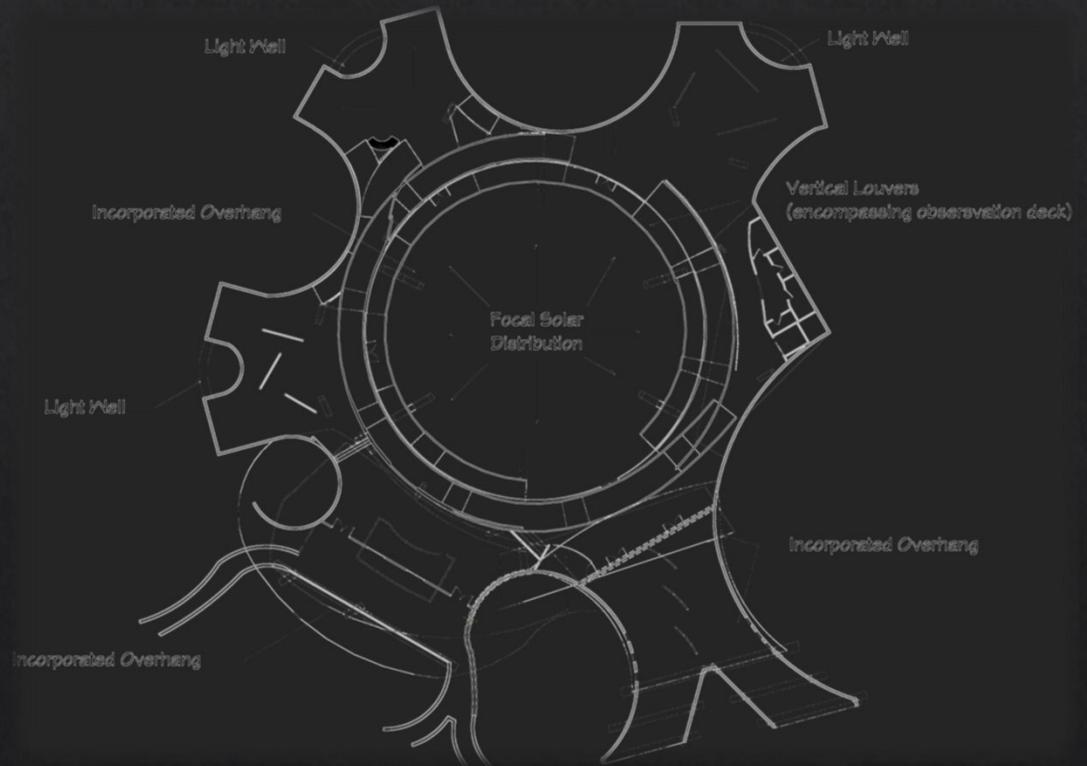
Diverting Daylight

- The height of the deck is set at a calculated position to allow a fluid movement of light into the deeper recesses. With the deck acting as a light shelf, there is an even distribution of sunlight to each space throughout the day. A similar principle applies to the light wells in each gallery, containing an angled shelf to reflect sunlight into the space.
- It is recommended to include artificial lighting in minimal capacity throughout whole structure as opposed to just the private zones that receive no direct light at all and hardly any indirect light.



Calculated Control (Light Control Methods)

- Incorporated overhangs
- Focal solar control/distribution
- Large glass expanses
- Reflective ceilings
- Vertical louvers
- Light Wells

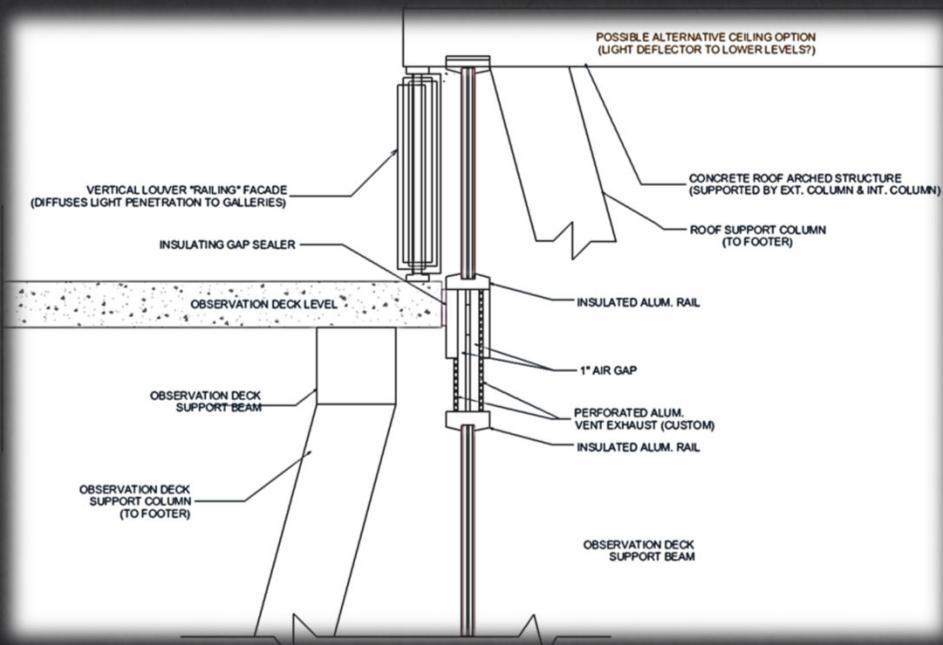


"You only get one sunrise and one sunset a day, and you can't wait for tomorrow. You have to burn with the light you have right now."

— Ansel Adams

Illumination Ruminations

Conscious Considerations



Calculated Control

- Intake: Main Entrance: West
 - Opposing East side
- Stack Effect
- Bernoulli's Principle
- Solar Courtyard
- Perforated Ventilation

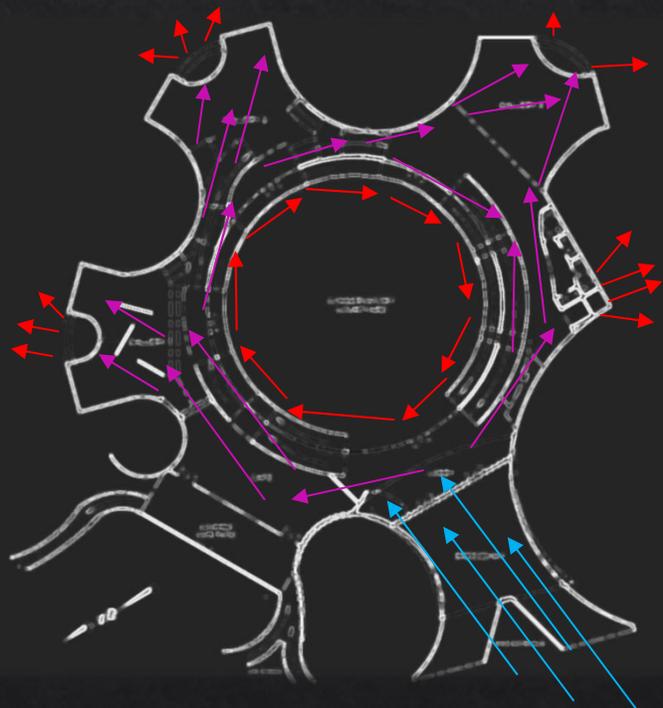
Natural/Passive Ventilation

To fully embrace the authenticity of nature, established by the programmatic theme, passive ventilation is proposed to create the impression that the building is alive and breathing.

With the front entrance aligned to the primary oncoming wind forces, there is the opportunity to treat the tunneled entrance as an air funnel, simulating a deep breath through the nostrils. The air can then circulate around the entire building as it pushes fresh air throughout, looking for an escape. The idea is to have a perforated ventilation system around the top of the glass curtain wall that will naturally draw the air through.

Aeriform Arrangement

This is an interpretation of how the Stack effect and the Bernoulli's principle would interact with this floor plan. Providing an escape for the heat in strategic locations (in theory) should help direct the incoming fresh air from the west front. Coupled with the thermal blanket provided by the heavy exterior walls, heat should be naturally drawn to these escapes. The wind front is effectively acting as an internalized force air system, cycling around to the top (entering from the bottom), providing even distribution throughout the whole.

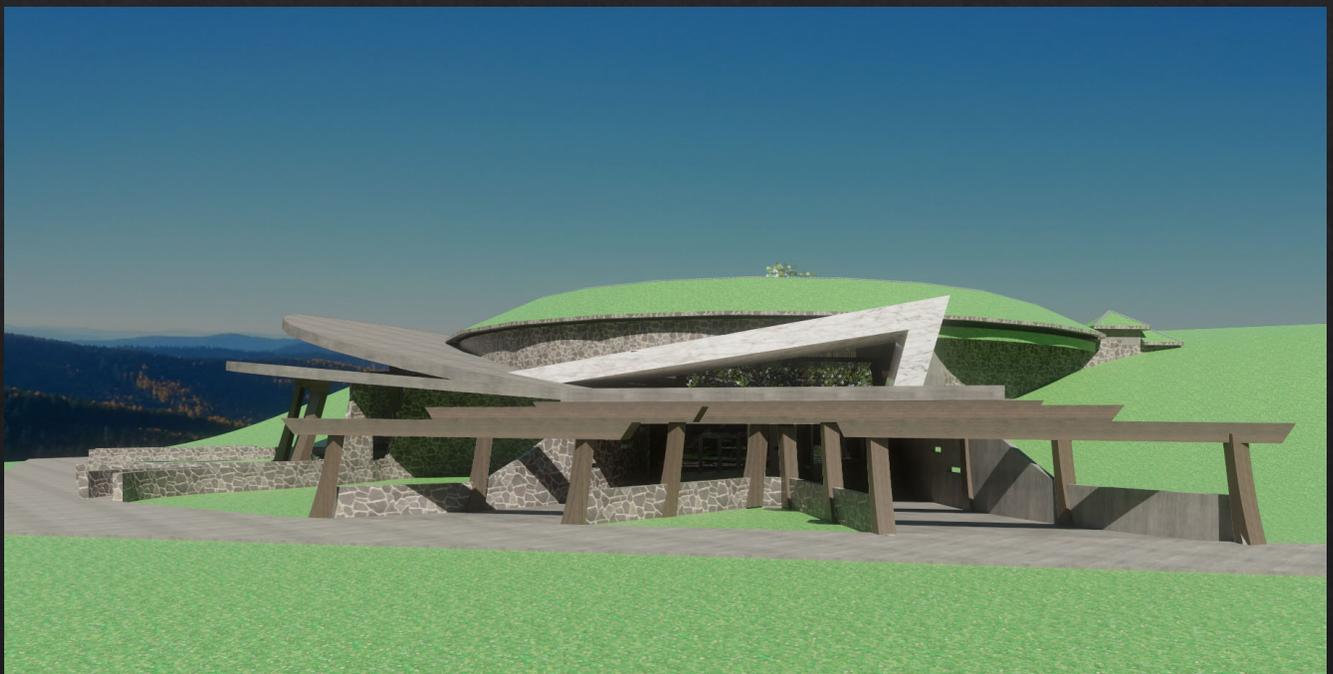


Aerated Atmosphere

Collective Character



Main Entrance



Main Entrance

Rough Renderings

Collective Character



Cafe



Lobby

Collective Character



Gallery 1



Gallery 1 – Courtyard View

Rough Renderings

Collective Character



Gallery 2



Gallery 2 – Courtyard View

Rough Renderings

Collective Character



Gallery 3



Gallery 3 – Courtyard View

Rough Renderings

"It is all very beautiful and magical here---a quality which cannot be described. You have to live it and breathe it, let the sun bake it into you. The skies and land are so enormous, and the detail so precise and exquisite that wherever you are you are isolated in a glowing world between the macro and the micro, where everything is sidewise under you and over you, and the clocks stopped long ago."

— Ansel Adams