

Thesis submitted to the
Graduate Faculty of Virginia Polytechnic
Institute and State University
in partial fulfillment for the degree of
MASTER OF ARCHITECTURE

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LIGHT COLOR & PRESENCE

Marcus J. Brown

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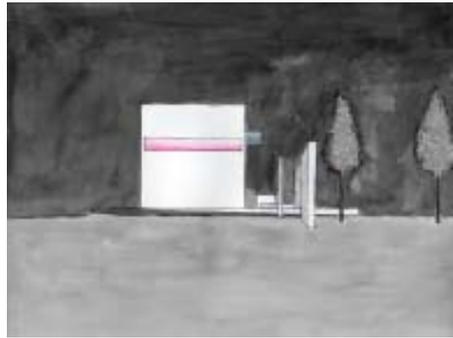
SIGNATURES

Special thanks to my:
Committee members
Faculty
Loved ones
and Peers.



0²

TITLE



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Through the investigation of *INDIRECT LIGHT, REFLECTED COLOR,* and *GEOMETRIC CONSTRUCTION,* and by the awareness and understanding of what allows for *EXPERIENCES* that engage the human emotion, this thesis offers a project which has the power and *PRESENCE* to move the soul.

04

Architecture creates an experiential relationship between person and place defined by the physical elements, ordered and perceived by the senses, and measured by the degree of fulfillment of our expectations of the nature of the place. Light and color are perceived by the senses through the presence of material and are understood through the order of geometry. It is at the highest level of presence that there is spirit. Spirit is what Le Corbusier calls "architectural emotion," that which, "exists when the work rings within us in tune with a universe whose laws we obey, recognize, and respect."¹

As humans, there are certain qualities, which reside within us, allowing us to be emotionally engaged in similar ways. Awareness and understanding of what engages human emotion allows for the creation of places of Spirit.

"It would be good if little places could be set up all over the country, like a little chapel where the traveler or wanderer could come for an hour to meditate on a single painting hung in a small room, and by itself."²

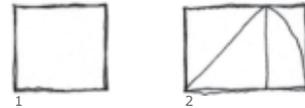
Mark Rothko

Why would it be good to have little places to come to, to meditate? The quote by Mark Rothko presented itself as an opportunity to investigate what is necessary to create architecture that has a presence of Spirit that would lend itself to the journey of meditation and the pondering of the painting. What is required to create an experience that moves the soul? And, what is it that is inherent in mankind that we are all moved in similar ways by specific things? Humans are all made of the same things, we are emotional creatures, we have souls. It is for this reason that we have the same needs of, and responses to our environment.

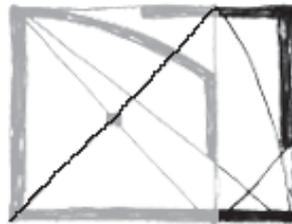
As humans shaping our environment, we try to simulate the things which we respond to in nature. Architecture is one of the most powerful and effective medias used by man to engage and move the soul. And when we have created architecture which does this, then we have created a place of spirit, a place which touches and moves all who experience it.



The question: How to indirectly light a space with natural light?



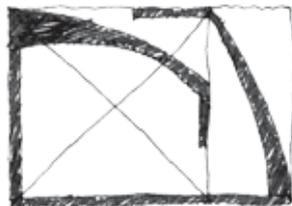
The geometry developed out of the square.



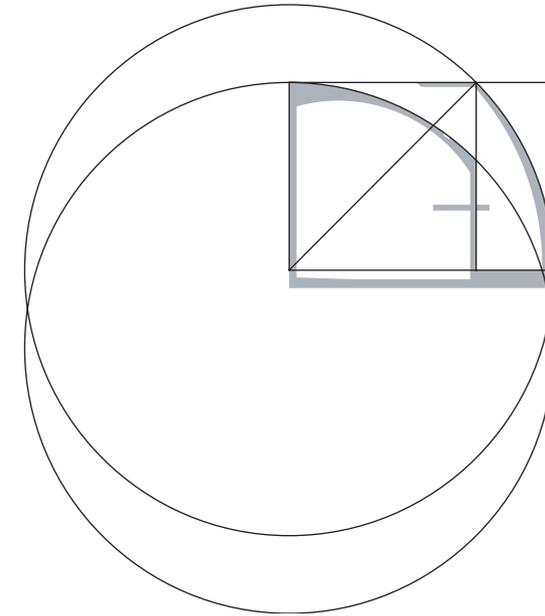
The diagonal of the square defined the dimension of the foyer of the Chapel in plan and section.



The curves come from the radius of the diagonal of the square, again in plan and section.



There are two spaces. The foyer and the gallery.



The underlying geometry, similar to that of the Golden Section, originates from the square. The diagonal of the square rotates down to define the long dimension of the rectangle, and creates the arc that is the curve.

Except for intuition, investigation and observation are the only methods of study which the architect has to find and understand presence, and what gives a building the qualities that allow it to be architecture. Without these tools, buildings would be a series of trials and errors, at the expense of many valuable resources, and potentially the health and well being of the community.

Reflected light and color are a primary investigation of this thesis. Forty-two models that have the same geometric proportions and relationships as that of the Chapel were created to investigate the relationship between reflected color and applied color. The color selection used for the study was confined to the primary and secondary colors. Each combination of saturated foreground color and the reflected background color was evaluated for its intensity in sunlight, its assertiveness against a white field, and its nuance through the changing light of the day.





2. Comparison of the different foreground colors to a single background color.



3. Comparison of single foreground color to different background colors.

The final color selection was made as a result of two factors: how well each color would be transmitted by reflected light and how well it would add to the experience of viewing the painting. Yellow, orange, and red had the best reflective qualities, which are important in experiencing the journey to the painting, because these colors are a contrast to the blue and green colors that make up the painting. So, on moving through the site and Chapel the visitor is visually engaged almost entirely with orange, yellow, and red colors. Upon entering into the gallery space the only visible colors are the blues and greens of the painting. This contrast elevates and intensifies the experience of viewing the painting.



4. Colors selected from the study for the Chapel.



5. No.15 by Mark Rothko, 1957.

A second study developed out of the question of how to indirectly light the painting with natural light.

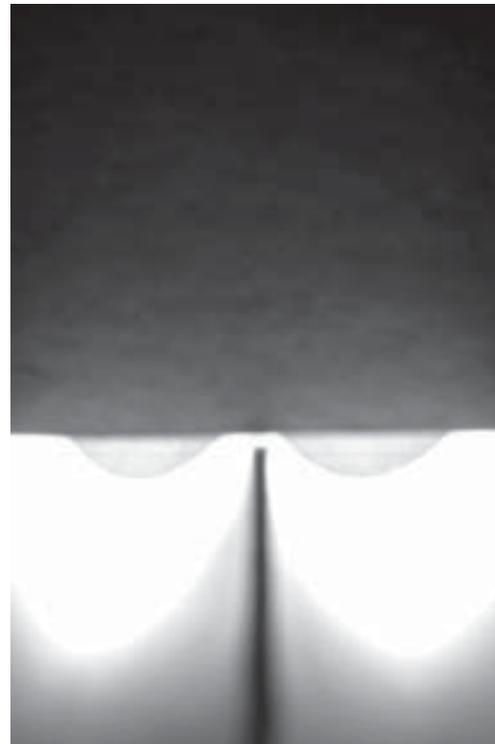
A half cylinder from above brings a stream of daylight into the space.

However the light was too concentrated in one spot and was brought too far into the gallery space.



Two half cylinders from below direct daylight into the space.

Similar to the first example the light comes in too far and is also broken up by the meeting of the two half cylinders.



A separation of the ceiling from the wall allows for a beam of light to enter the space.

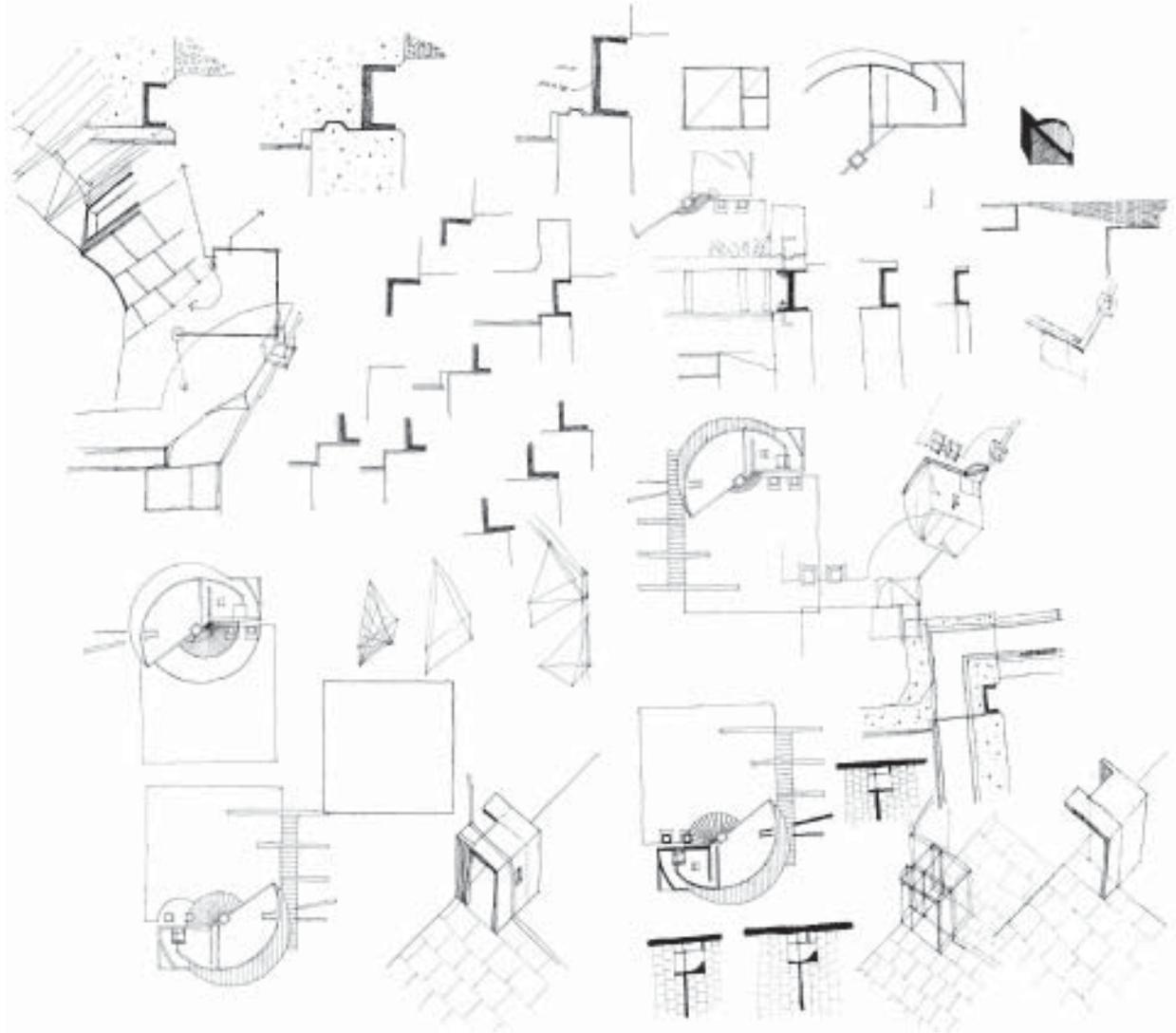
Unfortunately direct light enters the gallery space and takes away from the experience of viewing the painting.



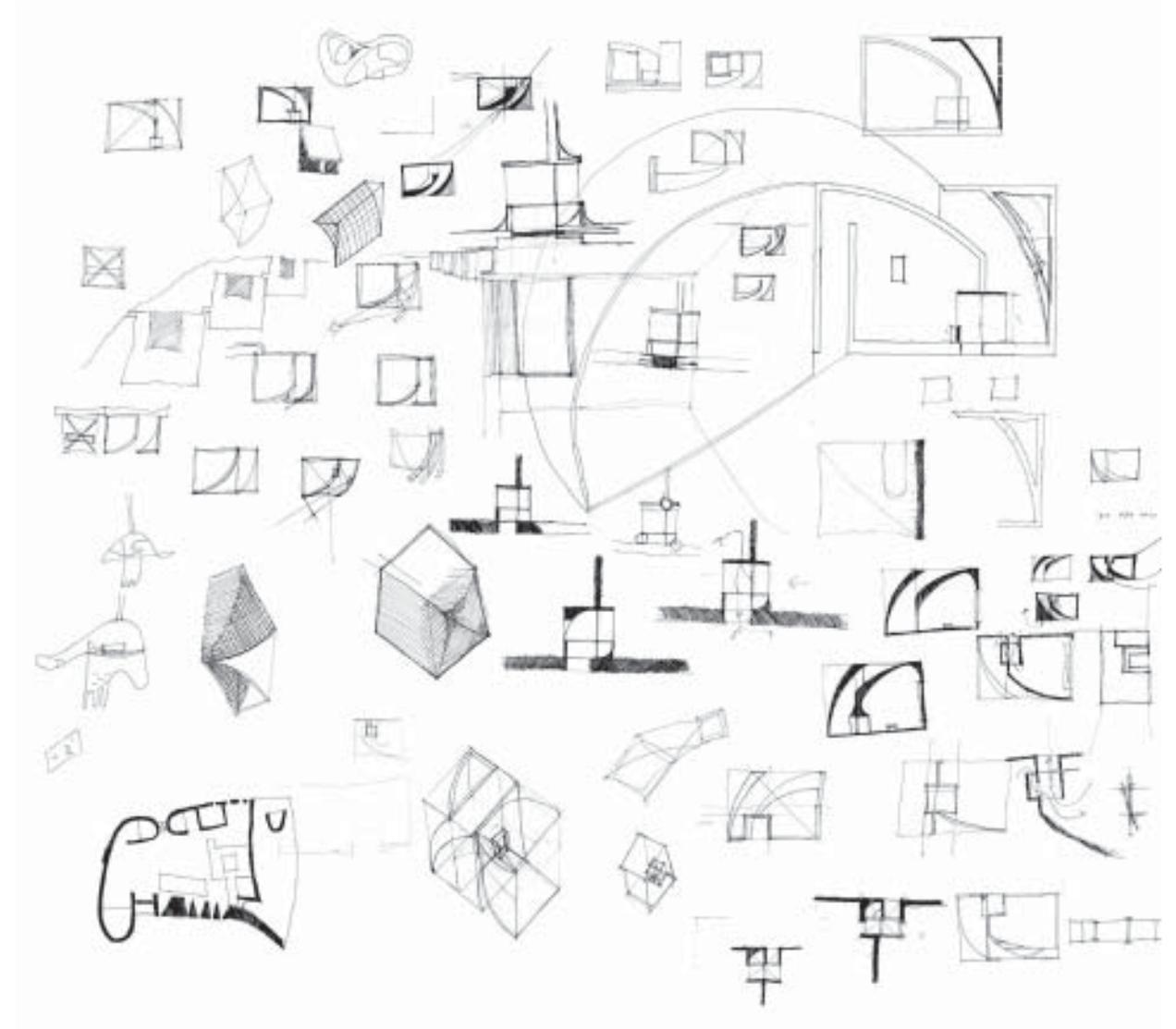
The final selection was a quarter cylinder from below which illuminates the wall above without having direct light come into the space.

This spans the entire dimension of the painting and provides a soft diffused light that supports the experience of viewing the painting.

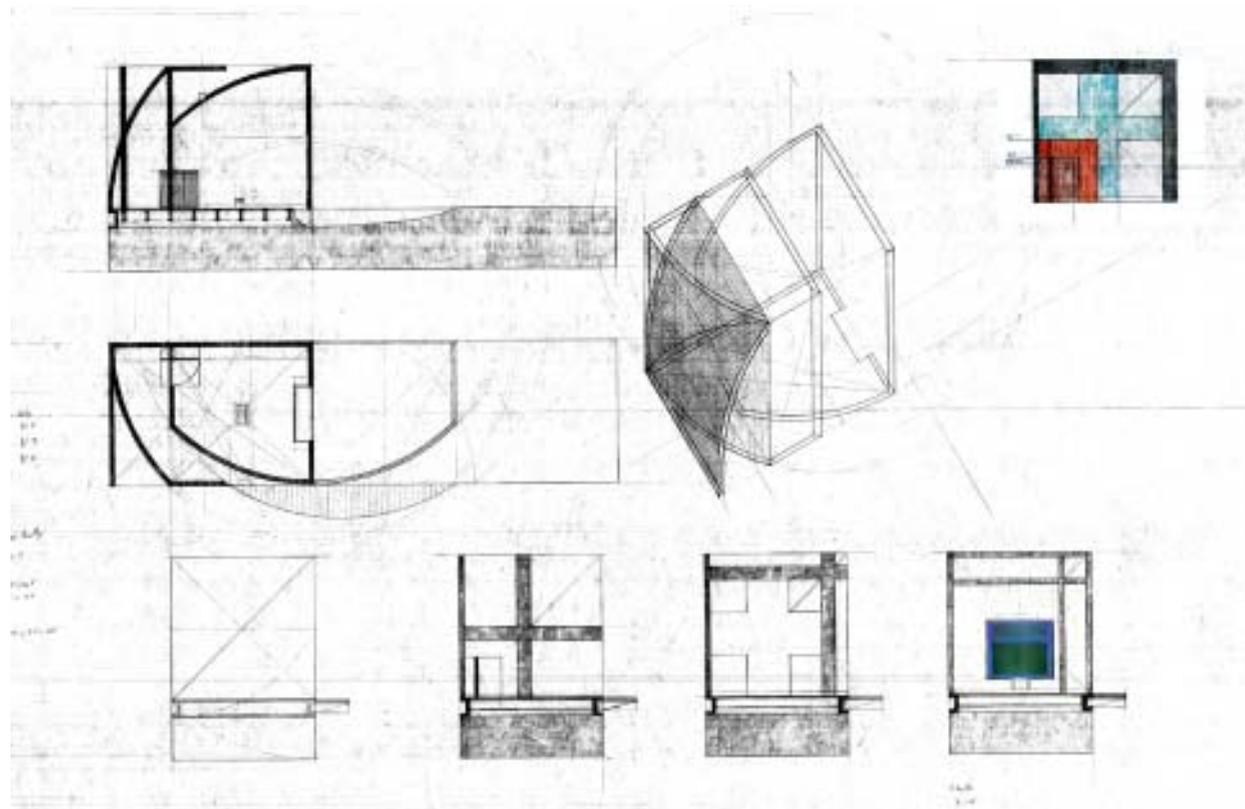




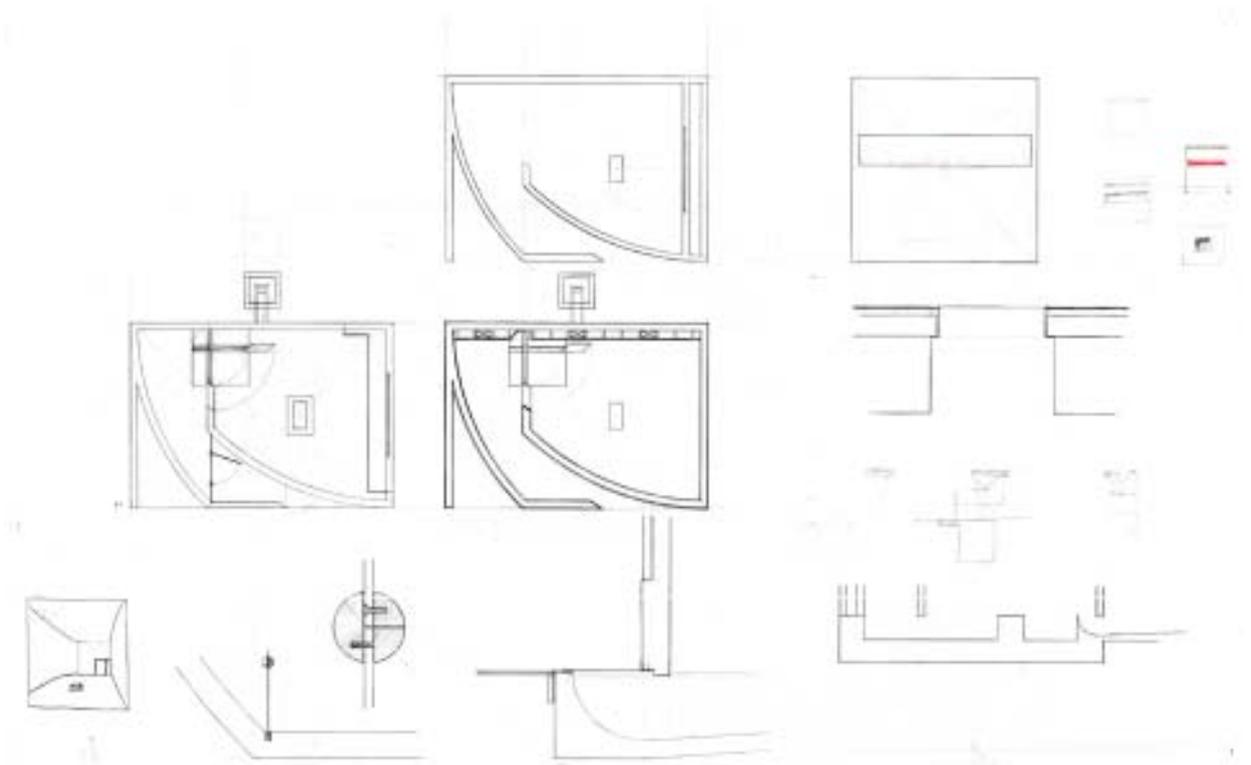
6. Process work developing the building details.



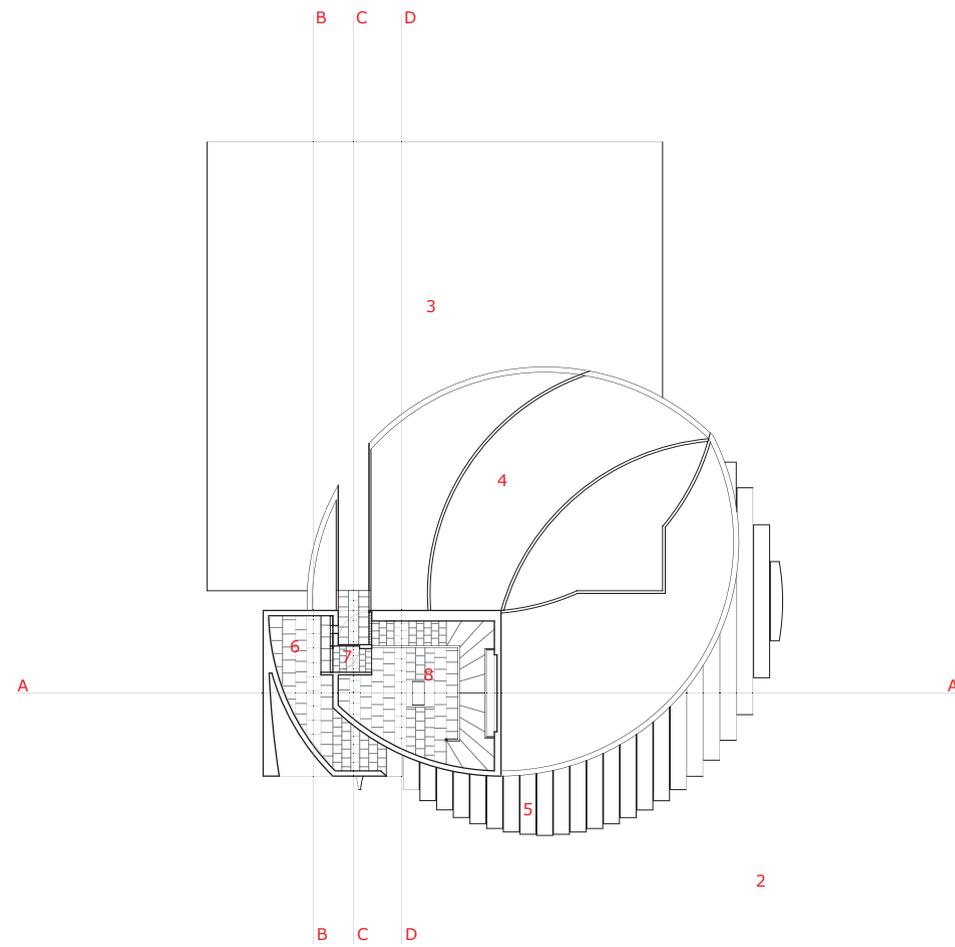
7. Process work investigating the building details and refining the geometry.



8. Early drawings showing the construction of the Chapel.

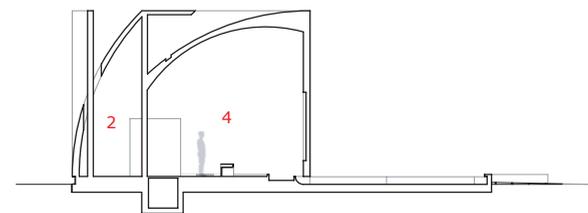


9. Early drawings investigating the construction of the Chapel.

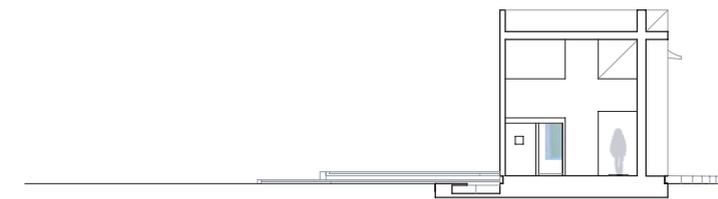


The project is made up of:

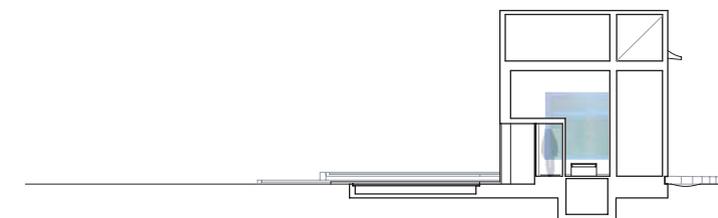
1. A filter of Red Maple trees. (not shown)
2. A crushed limestone site floor.
3. A square shaped lawn.
4. A reflection pool.
5. A stone entry ramp.
6. The foyer space.
7. A doorway threshold.
8. The gallery space.



Section A-A: Through the long dimension of the Chapel.



Section B-B: Through foyer space.



Section C-C: Through doorway threshold.



Section D-D: Through gallery space.

SITE

The journey into the gallery is one of preparation and transformation of the mind and soul. Along the way are thresholds, places for the mind to pause.

The journey begins with the first step onto the site. The sound and feel of crushed limestone under the foot. The field of Red Maple trees planted on a double offset grid define a diagonal or zig zag path through which to pass. The rustle of the leaves in the wind and the cool shade of the trees add to the experience of moving through the site. The Fall colors of the Red Maple tree leaves or the fresh green in the Spring, against the contrasting cool gray of the crushed limestone draws the visitor into and through the site.



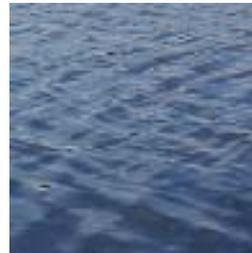
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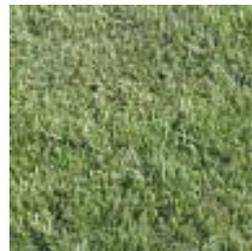
11.



12.



13.



14.

- 10. Crushed limestone floor.
- 11. Leaves from Red Maple tree.
- 12. Slate of the entry ramp.
- 13. Water in reflecting pool.
- 14. Grass floor coming off of the bridge and into the lawn.

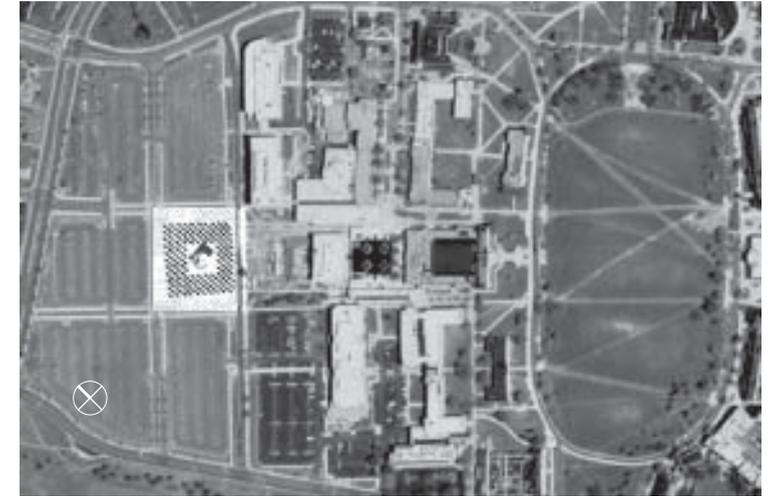
1. Stepping onto the site, the feel and sound of the crushed limestone signifies a change in ground texture, and the first stage of a threshold from the campus to the Chapel, that will prepare the mind and soul for meditation.

2. The next stage occurs passing through the brightly colored Red Maple Trees, where the presence of the air is sensed with the change in temperature and the sound of the leaves rustling in the breeze.

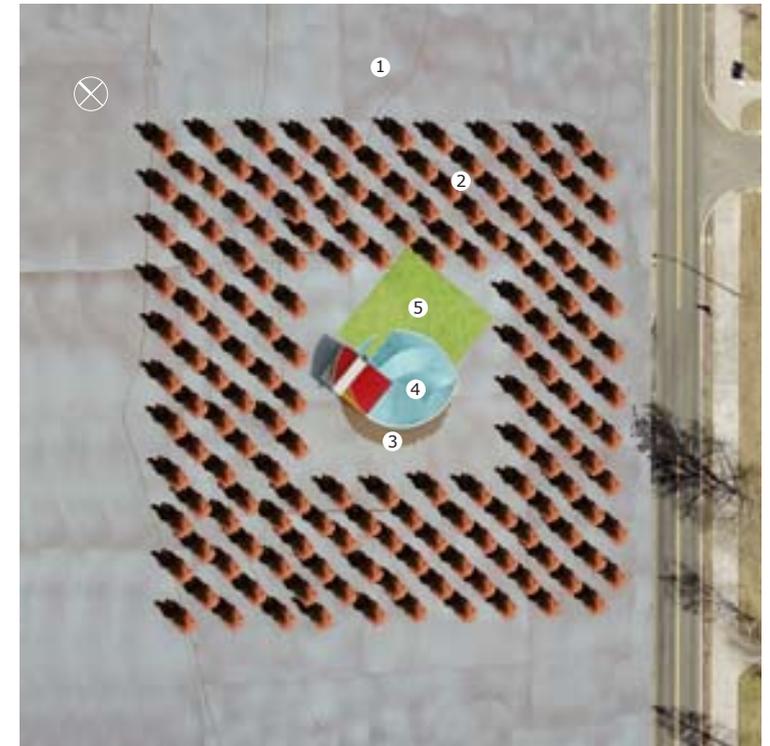
3. Moving past the trees and across the crushed limestone the visitor is lifted off the ground and swept toward the Chapel entrance by a stone ramp made of brown slate.

4. Upon entering and departing the Chapel, the visitor must pass along or through the reflection pool, which further engages the senses with the sound of moving water and reflected light.

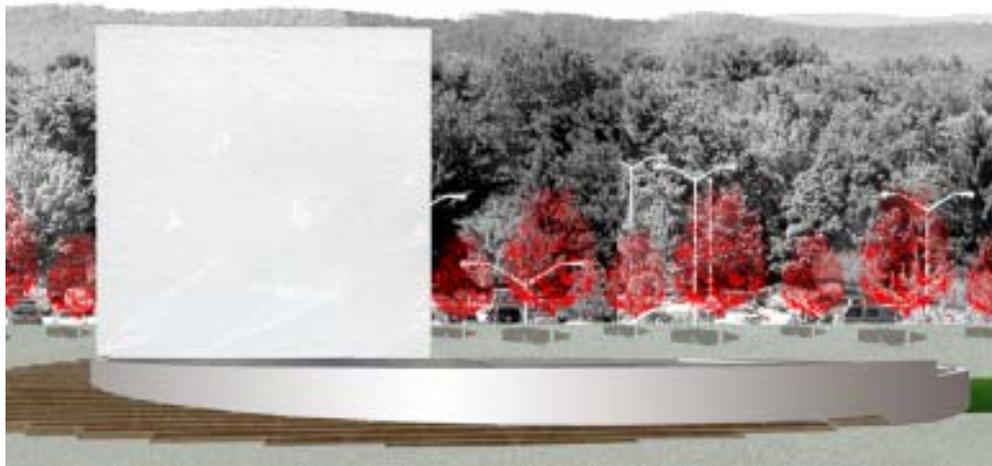
5. The final threshold of the journey is that of the grass lawn, which receives the visitor coming out of the Chapel. The lawn is a point of pause in which the visitor is given the time and place to decide how to leave the site.



15. Aerial photograph of Virginia Polytechnic Institute & State University, Blacksburg, VA.



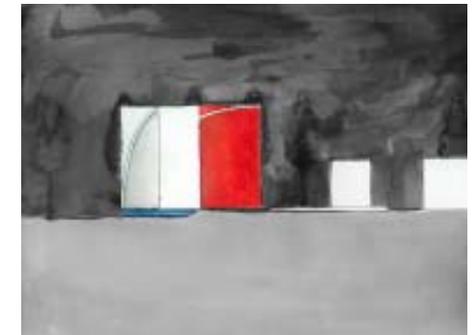
16. Site plan of the Rothko Chapel.



17. View of the south facade of the Chapel, just before approaching the reflection pool and ramp.

"The north side of the church this wall is instinctively known to be. It is doubtful if any other element could be so opaque. So much is evident. But, therefore, while the visitor interprets it frontally, he also attributes to this inscrutable visual barrier the typical behavior patterns of an end elevation. This wall may indeed be a great dam holding back a reservoir of spiritual energy. Such may be its symbolical reality. But the visitor also knows it to be part of a building; and he believes himself to be approaching, not this building's front, but its flank. The information which he is being offered, he therefore feels, must be less crucial than simply interesting. The architect is displaying a profile rather than a full face. And, accordingly, since he assumes that the expressive countenance of the building must be around the corner, rather as though the church were the subject of a portrait en profil perdu, the visitor now sets out to cross an imaginary picture plane in order to grasp the object in its true frontality."³

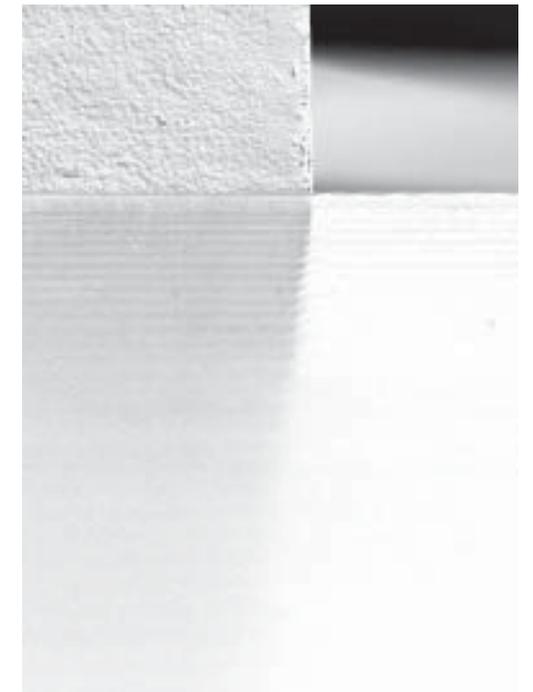
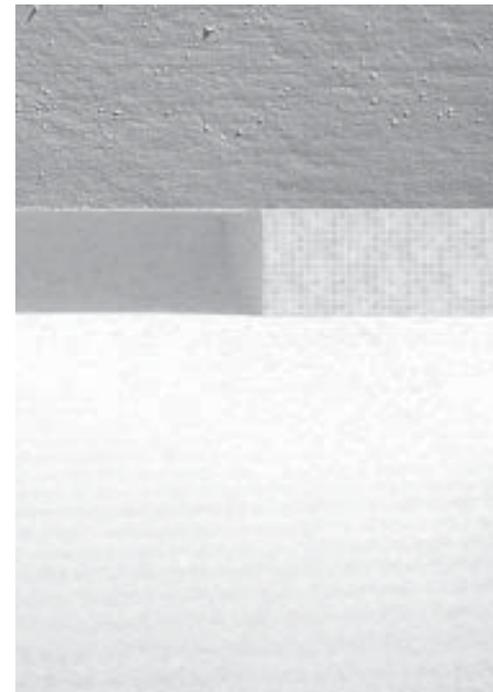
Colin Rowe - "On describing La Tourette."



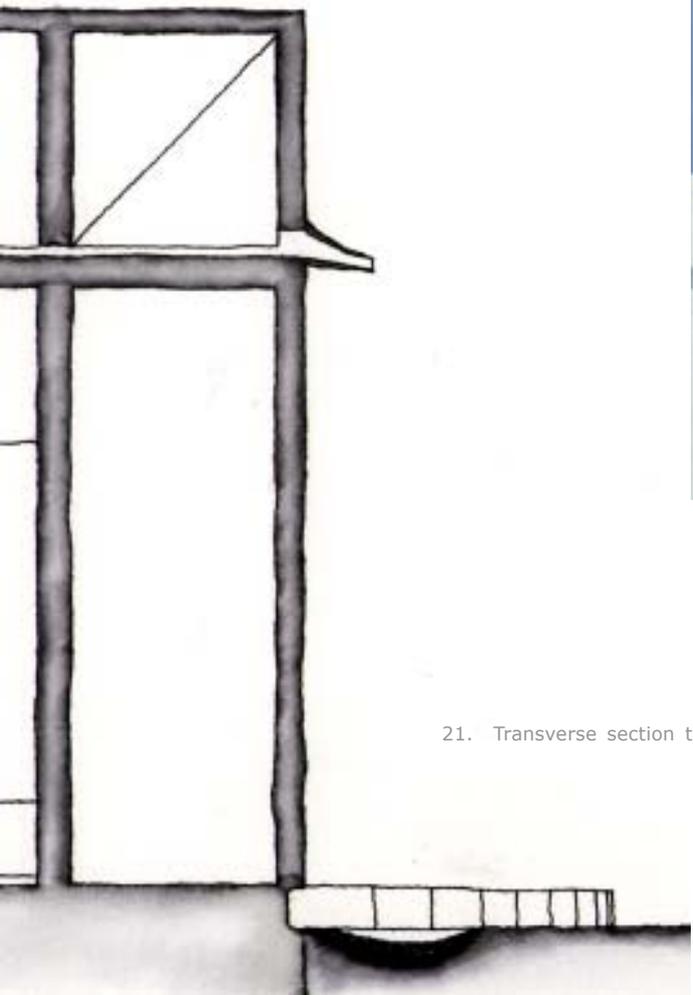
18. West facade of the Chapel.

REFLECTION POOL

The reflection pool is a threshold for the mind. It is an element which removes the mind from the world, clearing it of all thought. It physically engages the senses. The sound of water falling, the sparkle of light in the waves, and the cool crisp wet feel of water on the skin as the hand reaches in, are characteristics within the reflection pool.



19. Opening in the reflection pool where water and light enter the gallery.
20. Corner of Chapel in reflection pool. Water spills over just beyond.



21. Transverse section through the scupper.



22 & 23. Scupper.



24. Scupper discharging water.



25. Top of the entry.



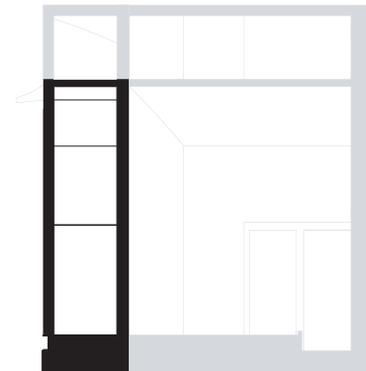
26. The entry from the ramp.



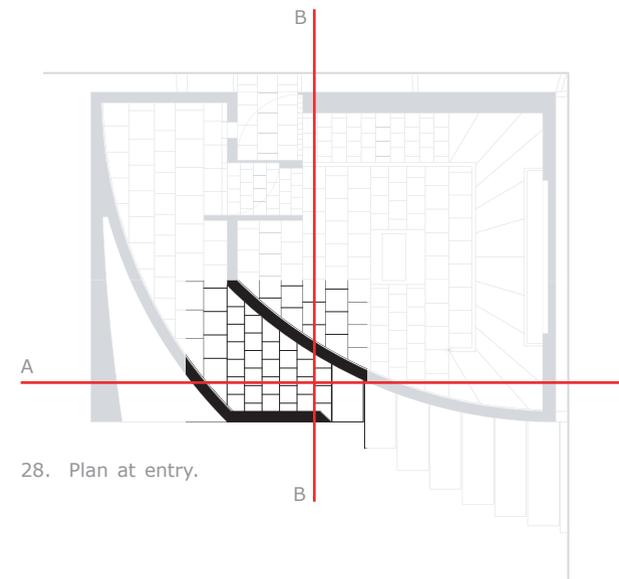
27. Foyer from entry.



A-A: Longitudinal section at entry.



B-B: Transverse section at entry.

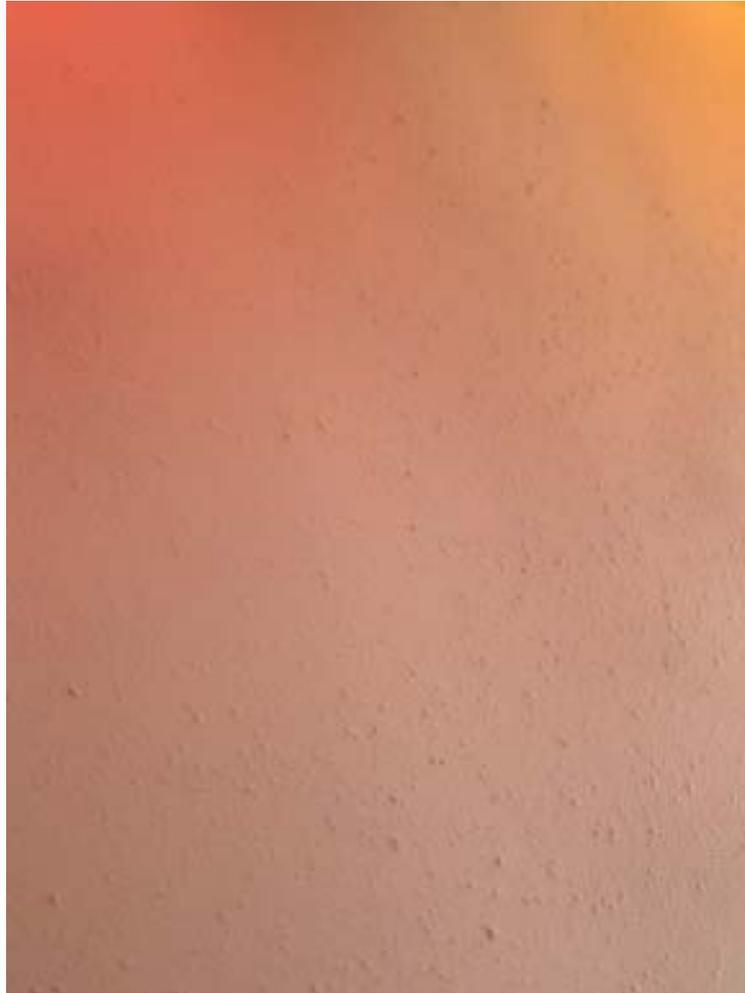


28. Plan at entry.

ENTRANCE

The entry to the Chapel is across a threshold which through physical forces begins to transform the mind. This is one of the many points in the journey that reinforces the sense of presence, of both the surroundings and the environment.

The entry sequence is one of compression and release in both the vertical and horizontal enclosure simultaneously. Even before entering the threshold, the funneling effect of the roof and ceiling are experienced. (Section A-A) The curve of the roof element above the entry arcs down and toward the threshold, compressing and funneling the visitor in. Upon entering the threshold (Figs. 28 and Section B-B) there is a sense of tension between the curved orange tiled wall that leads to the entry and the flat vertical white plaster wall opposite it, creating a horizontal compressional experience. Once released from the horizontal compression, there is again a sense of vertical compression, moving through an opening in the wall that receives the curve from the roof above. (Section A-A) Released from the wall opening, the visitor finally passes through the entry threshold into the foyer space.



MATERIAL

Entering the foyer brings up a question of material. ***What is material? Is it only the physicality of something that can be touched and held in the hand, as well as something that can be seen by the eye? Or, can something as intangible as color moving through light, only to be experienced visually when falling onto a surface that would allow for its existence, survive in the realm of material?***

The white plaster surfaces that articulate the foyer space could be allegorical to that of gessoed canvas. Instead of being painted with paint as a canvas would be, the plaster wall is painted with light; colored light from light wells above that allow the daylight to brush through with reflected color onto the foyer walls. The foyer becomes the place that stops the mind and fully removes the visitor from the world, allowing for a complete transformation of the mind to the meditation of the journey as preparation to experience the painting.





32. Reflected color at foyer entrance.



33. Yellow light well from outside the Chapel.



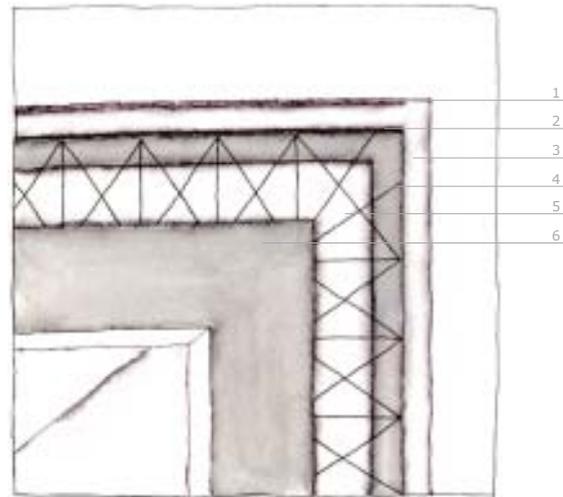
34. Reflected color inside the foyer from the red and yellow light wells.

"Color is a means of exerting direct influence upon the soul; and that it has a physical and psychic effect on the beholder."⁴

Wassily Kandinsky

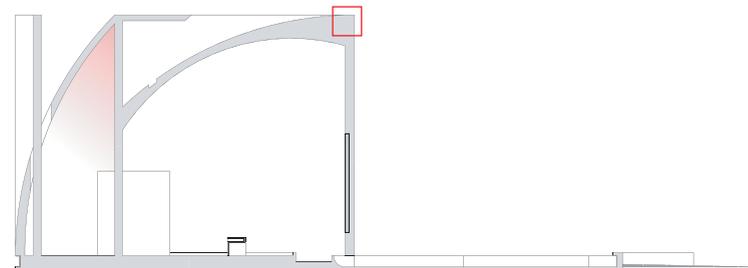


35. Reflected light at foyer entrance.



36. Detail showing the layers of roof.

1. Glazed colored ceramic tiles.
2. Moisture barrier.
3. Finish coat, white plaster.
4. Shotcrete, which was struck off.
5. Polyurethane foam between wire mesh.
6. Aluminum framing.



37. Longitudinal section showing light well.



38. Reflected color into the foyer from red light well.

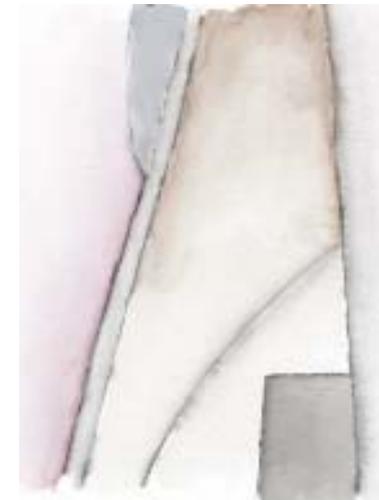
LIGHT & COLOR

The foyer is washed in orange, yellow, and red light. The daylight is reflected off of an exposed exterior surface that has been covered with 1" square, colored mosaic tiles. The reflected light carries with it the color of the tile, and spends it on the white plaster interior surfaces of the foyer space.

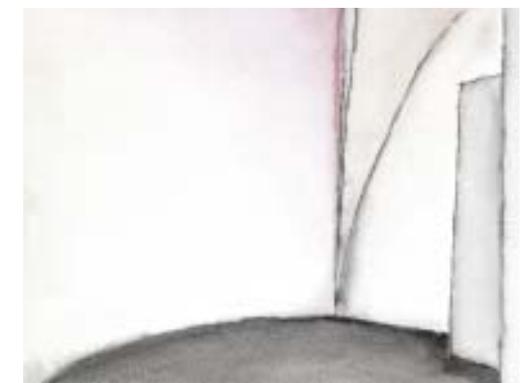
Light and color go hand in hand. Without light, color would not exist. Color is a property of light. Light is a small zone within the spectrum of radiation (400-800 nanometers) which is visible to the eye.

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As humans with senses and emotions, light is something that effects us immediately, since our sense of sight has the greatest range and can rapidly detect minute changes in color and intensity.



39. Watercolor study of the opening in the curved walls of the foyer.

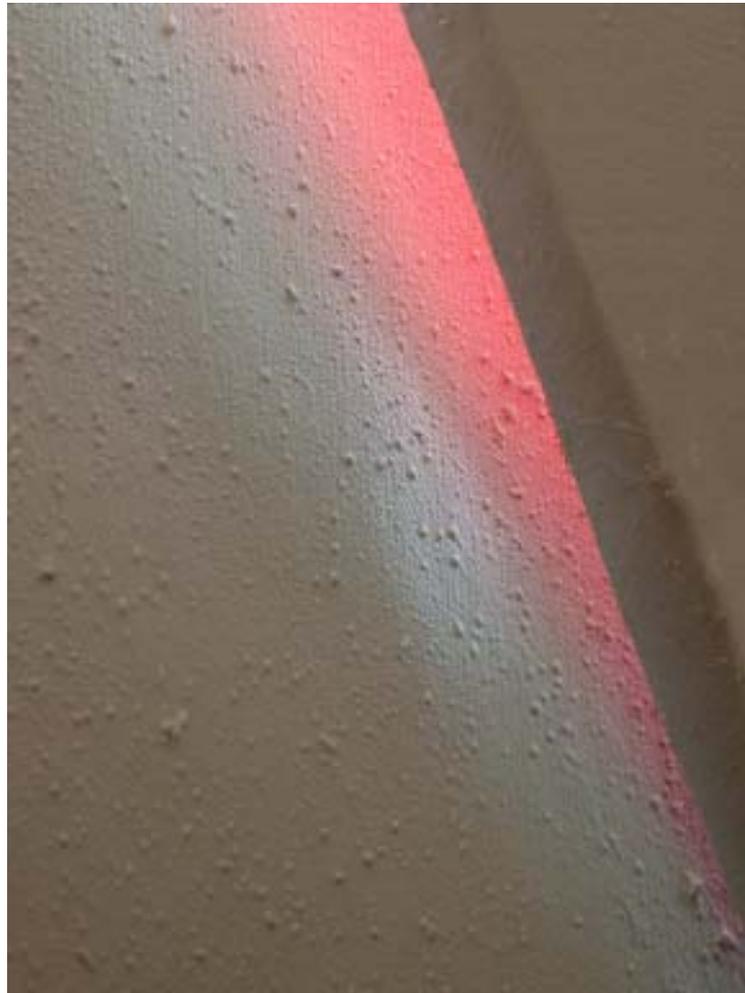


40. Watercolor study of reflected colors into the foyer space.

EXPERIENCE

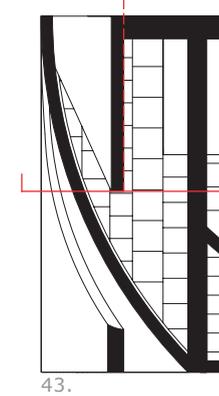
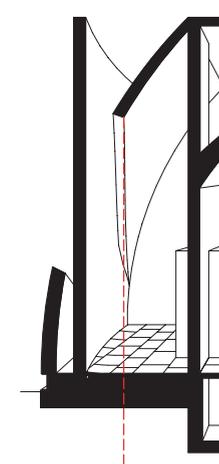


41. Yellow light well in foyer, showing the meeting of intersecting curved walls.



42. Meeting of intersecting curved wall near the foyer floor.

The foyer space is contained within two vertical walls, two curved walls, and the floor. The two curved walls which make up the North side of the Chapel are geometrically identical in plan and section. Both are made from the same radius, and sections of a circle and are extruded the same dimension, twenty-one feet. What distinguishes each curve is the relationship that they have to each other and the chapel. (Fig. D) One curve is a simple vertical extrusion of the plan geometry. This curve is continuous and sweeps the visitor into the foyer space. The other curve however speaks of the three-dimensional geometry, as it tapers in two directions. The first taper is along the base of the curve as it stretches from the West side of the Chapel to the East. The other taper occurs as the curve leaves the floor and arcs over the foyer space. A unique characteristic of the tapering curve is that it has been sliced and pulled away from the vertical curve, letting in light, reflected color and the weather. This creates an interlocking of interior space to exterior space around the Chapel.



43. Plan & Section showing the separation of the two curved walls in the foyer space.
 44. The relationship between the two curves that make up the foyer.



The Gate House by Philip Johnson in New Canaan, Connecticut is a prime example of the form enclosing capabilities of the extruded polyurethane foam between wire mesh panels. The panels are cut and arranged to create the unique form, then they are joined with steel reinforcing bars that run through the wire mesh unifying all of the panels. Once the panels are all joined and in place, shotcrete is applied making a monolithic concrete building. From here any number of finishes could be applied such as elastomeric paint, which was done to the Gate House.



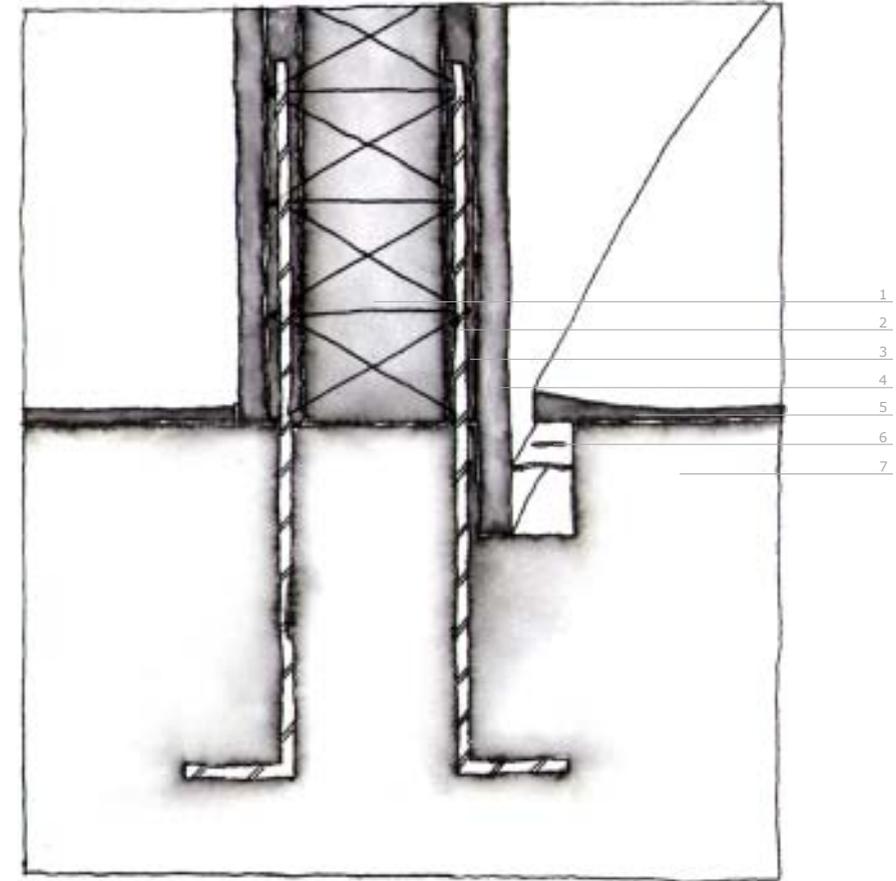
Comments from telephone conversation with Philip Johnson Architects: ⁵

- The Gate House done in 1996 has minor hairline fractures on the exterior.
- No cracks on the interior.
- The color quality has held up just fine over the years.
- The elastomeric finish seals the building.
- The polyurethane foam works well on small projects, but would not recommend it on large projects.

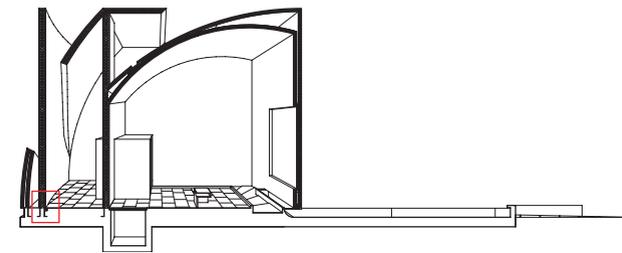


Three stages of the construction process of the Gate House by Philip Johnson.

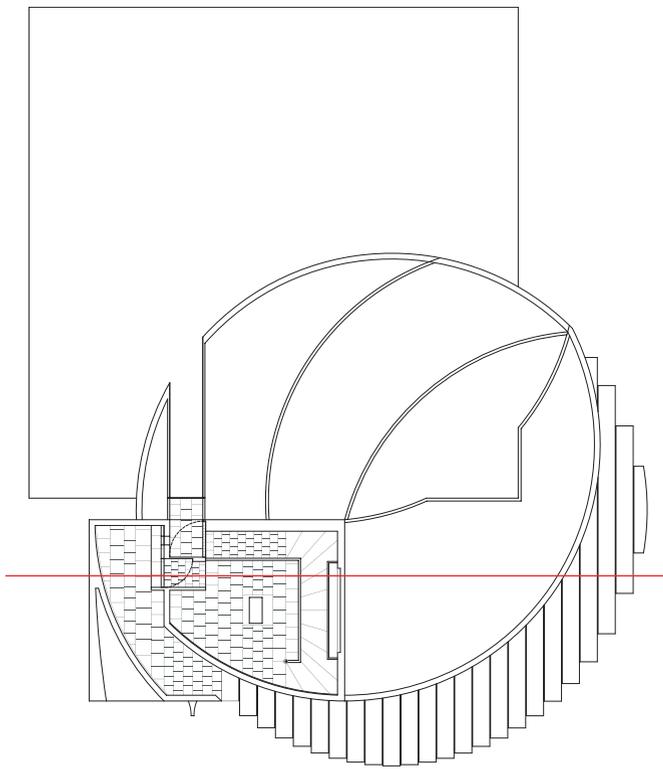
45. Polyurethane foam panels erected.
46. Shotcrete applied.
47. Finished and painted.



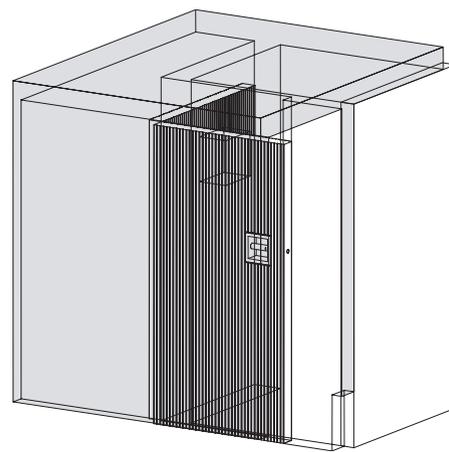
1. Polyurethane foam between wire mesh.
2. Conventional steel reinforcement.
3. Shotcrete, which was struck off.
4. Finish coat, white plaster.
5. Black slate floor.
6. Metal drainage grate.
7. Concrete foundation.



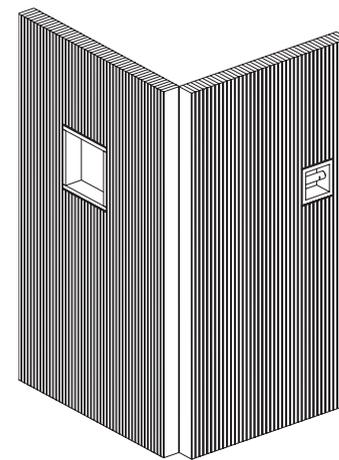
48. Wall and drain detail in the foyer space.



49. Plan & Section of the doorway threshold.



50. Volume that makes up the doorway.



51. Door detail.

DOORWAY

The doorway into the gallery space is a cubic volume which acts as a compression-release threshold into the gallery. The doorway is made up of 1x4 inch ash wood boards that are adjacent and arranged with the narrow edge exposed, for a width of over 7 feet. The corners of each board have an 1/8th inch chamfer to create a rhythmic pattern along the width of the doorway.

2⁶

The soft warm feel of the wood is a contrast to that of the cold hard concrete and slate of the rest of the Chapel, inviting the visitor to physically engage and experience the doorway. There is a one foot square opening in the doorway, giving a glimpse to the east side of the site. Only a little over 3 feet of the doorway actually swings open to allow passage.



52. Doorway from foyer to gallery space.

EXPERIENCE



53. As the door sings open darkness creeps out, beyond however is a faint glow of light illuminating the painting above it.



54. Gallery space before eyes adjust to lighting condition.

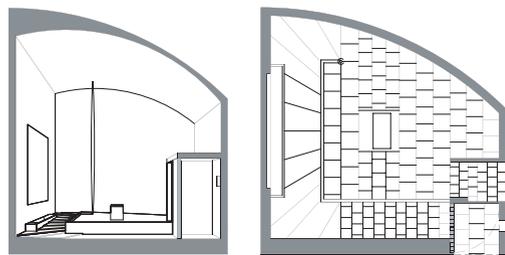
Moving through the cubic threshold and into the gallery there are an entirely new set of senses that are engaged. The initial darkness and the sudden change of temperature in the gallery creates a moment of pause and reconsideration, however the glow of natural light and the glimpse of the painting on the south wall calls.

This is the pinnacle of the journey. All of the other events along the way are elements of preparation and transformation of the mind and soul, from the rest of the world to the self. As the eyes adjust to the lighting and the painting becomes more visible, it is clear that there is no other color in the room, only the white walls and ceiling, and the black slate floor. This directs and focuses the attention to the painting, setting the stage for inward looking through the painting, meditation.

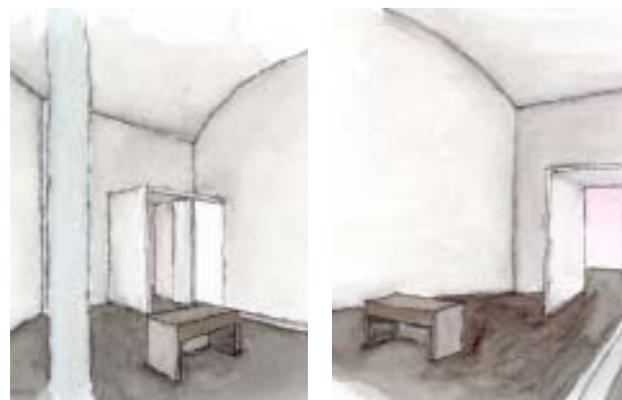


55. Gallery space with painting and natural lighting condition.

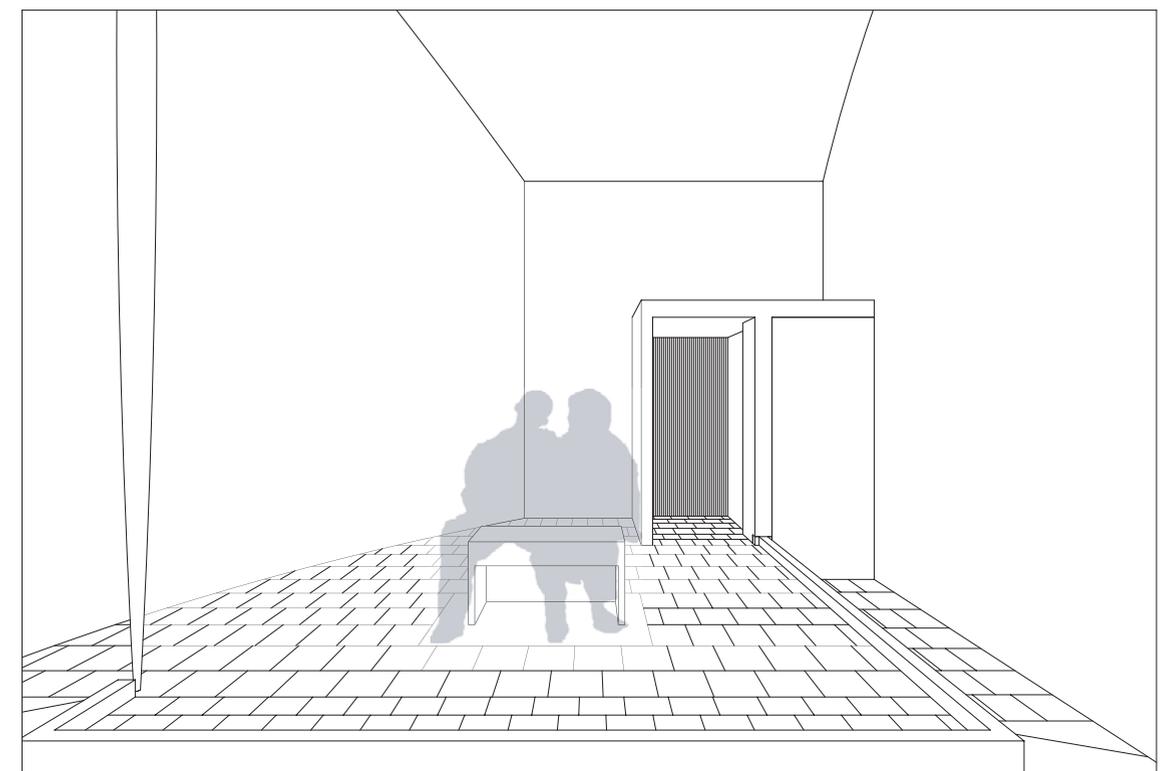
Entering into the gallery space there are only two curved surfaces, the ceiling above and the wall to the right upon entering. These two surfaces reach out from the entrance to the painting as if they are two arms with hands holding the painting for the visitor. The relationship between these two curved elements and the rest of the gallery space directs all attention to the painting on the wall opposite the entrance, and draws the visitor out of the doorway threshold up to the painting. The curved wall also directs movement for the departure sequence when viewing of the painting and meditation are complete.



56 & 57. Section perspective and plan of gallery space showing curved wall.



58 & 59. Watercolor study of the gallery entry.



60. Perspective of gallery space, looking toward the entry.

FLOOR

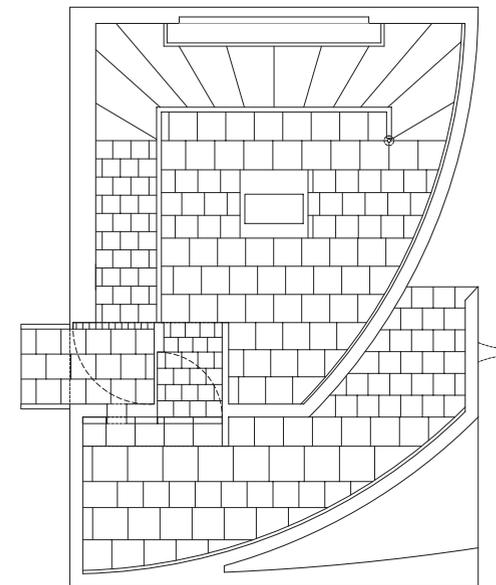
The floor of the Chapel is covered with black slate square tiles that are arranged linearly and parallel with the short dimension of the Chapel, creating bands. Each band of square tiles varies in depth along the long dimension of the chapel. This allows for the tiles to evenly meet elements that rise out of the floor such as a wall, or column. The change in width of the bands also changes the size and number of squares in each band. The squares in adjacent bands are offset to preserve the autonomy of each band, which in turn maintains the autonomy of each square.



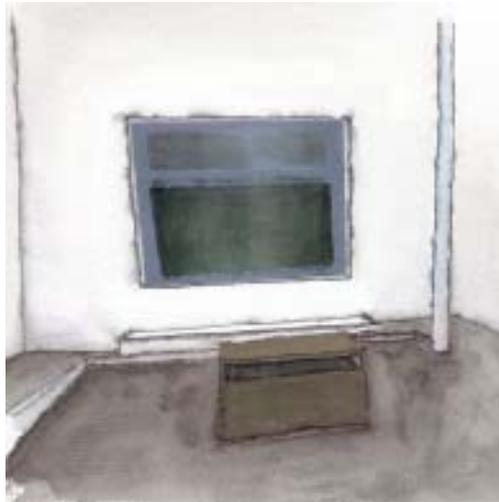
61. Black slate.



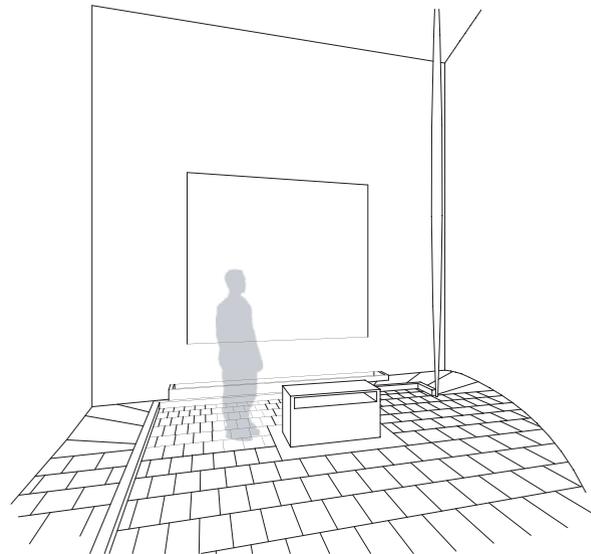
62. Chapel floor: rough cut, polished black slate.



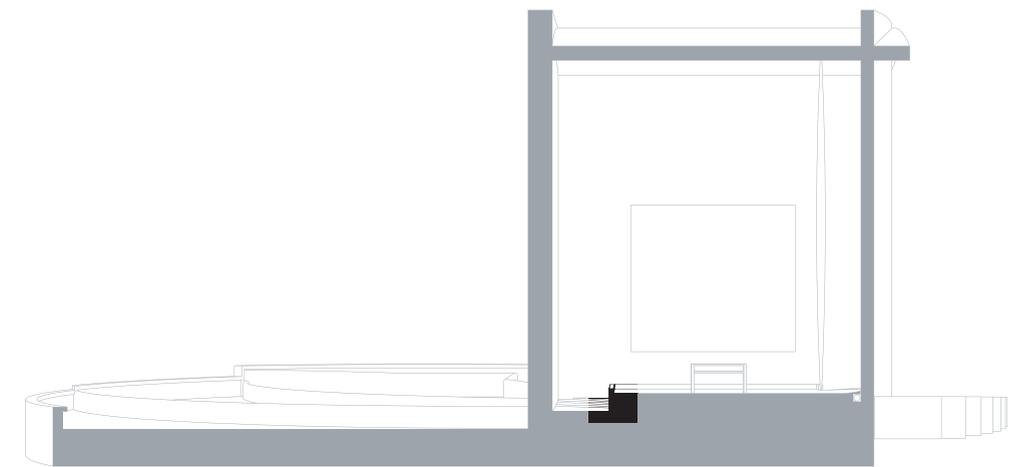
63. Chapel plan, with floor pattern.



64. Watercolor study of the gallery space upon entering.



65. Perspective of gallery space, showing movement of concrete ledge.



66. Transverse section through gallery space, showing concrete ledge resolving level change in the floor.

The concrete ledge protruding above the floor borders the plateau on which the visitor views the painting, creating a distinct difference between floor space that is dedicated to movement and floor space that is meant for repose. The ledge also acts as a leading and directing element upon initial entry to the gallery space. Taking the visitor from the entry threshold to the bench to view the painting. The ledge continues around and stops just short of the column, guiding the visitor to the slope in the floor. From here the visitor would pass by the column and again pick up the concrete ledge which will now lead them out of the gallery space.

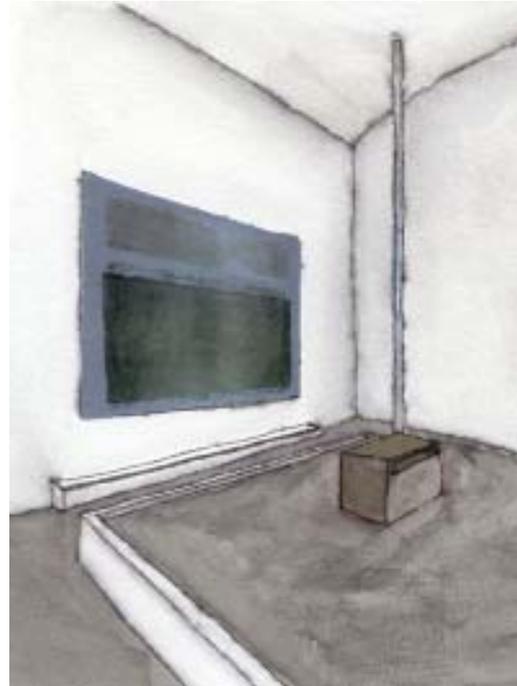


Number fifteen is an 8'x 9' painting by Mark Rothko, and is the high point of the journey. All else prepared the visitor for this moment. Rothko paints in a way in which he builds up multiple layer of color, such as blues and greens in this painting for example. Through careful and considerate viewing the visitor begins to see the layers built upon one another, some more transparent or more opaque, creating depth and volume within the painting. This allows the visitor to travel even further into meditation through the painting. Nothing outside the painting engages the visitor at this point.

67. No.15 by Mark Rothko, 1957.

COLUMN

Architecturally the column has three roles. First it receives the energy from the concrete ledge as it moves along the floor, and displaces it into the ceiling. Second it has a dynamic role in the space, creating a tension between the ceiling and the floor, and third it acts as a threshold signifying departure as the visitor passes between it and the curved wall creating momentary compression. The column is a round highly reflective stainless steel element that stretches from the floor to the ceiling. The reflective quality of the column allows it to have a presence in the space without being obtrusive or distracting to the viewing of the painting. It starts 1 inch in diameter at the floor and tapers out to a diameter of 4 inches at the midpoint of its elevation, then it tapers back into a diameter of 1 inch at the ceiling. The tapering of the column to such a small diameter at each end emphasizes its nonstructural quality.



69. Watercolor study of the gallery space column.



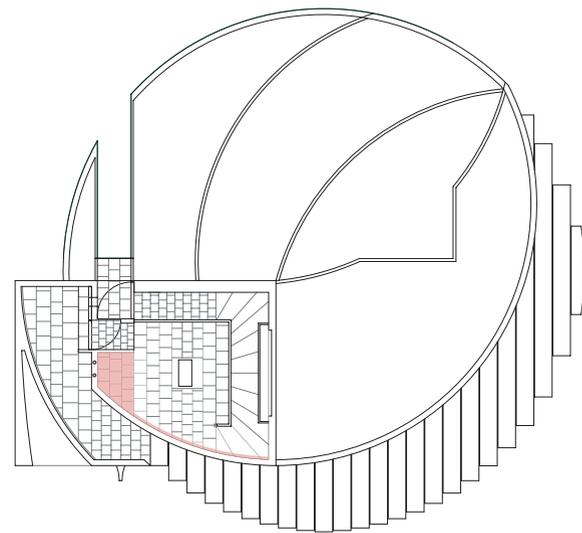
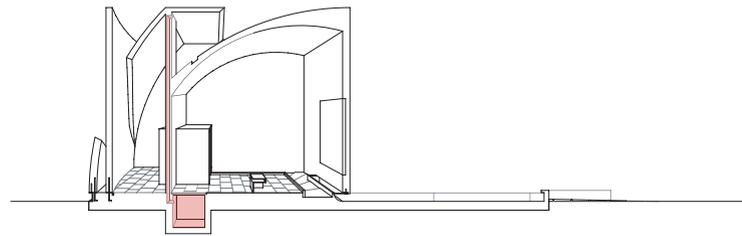
68. Longitudinal section perspective.



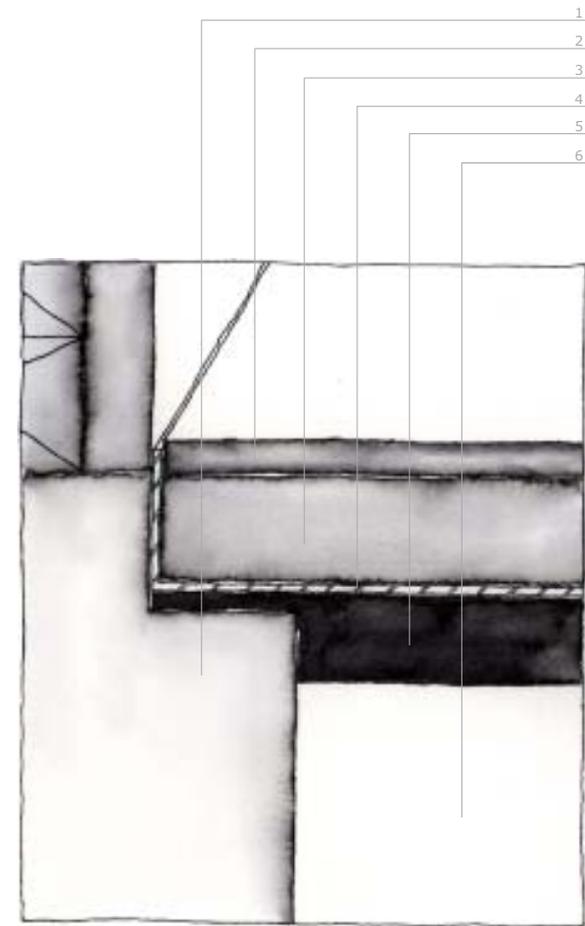
70 & 71. 3D model showing the dynamic relationship that the column creates between the floor and ceiling, and a 3D model that shows the compressive threshold between column and wall.

MECHANICAL

The gallery space is the only room in the Chapel which needs to be conditioned in order to protect the painting. The supply and return ducts run inside the back wall that separates the gallery space from the foyer space. The mechanical system is located under the floor in the gallery space, and the supply duct for conditioned air into the gallery space runs under the floor along the curved wall. The floor is pulled back from the wall allowing the air to be discharged into the space. The floor above the mechanical space can be removed for access to the system. The system and the removable floor both rest on rubber pad which absorbs and insulates any noise from the mechanical system that might be heard in the gallery.

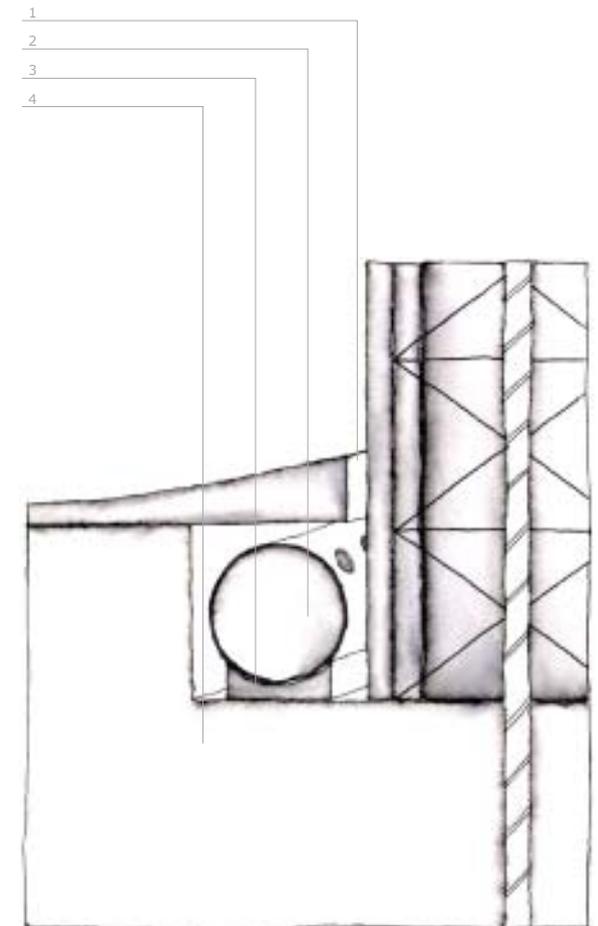


72. Diagram of mechanical space within the gallery space.



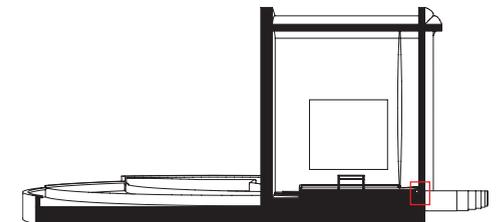
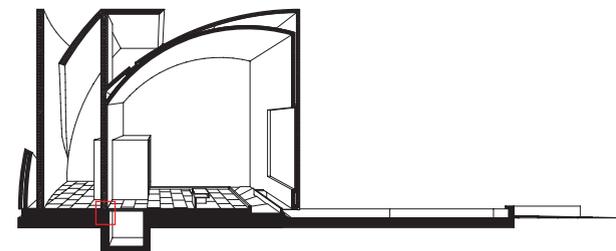
73. Detail of removable floor over mechanical space.

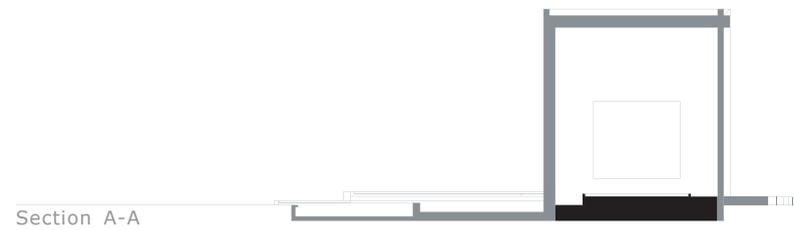
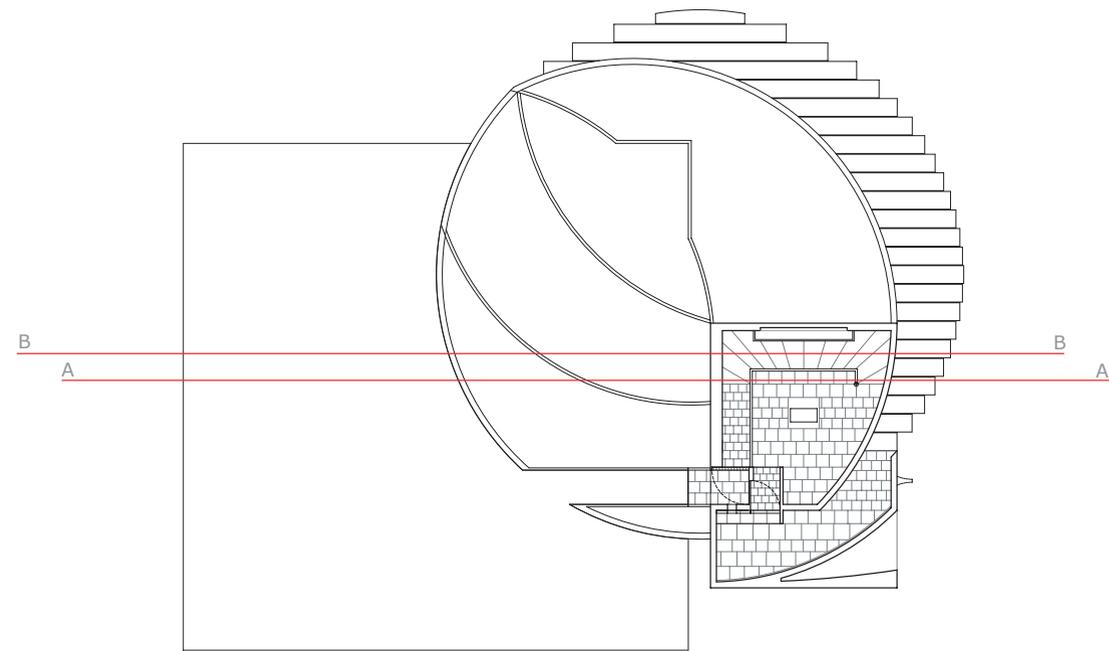
- 1. Concrete foundation.
- 2. Black slate floor.
- 3. Concrete fill
- 4. 1/8 inch steel pan.
- 5. Sound insulating rubber pad.
- 6. Mechanical space.



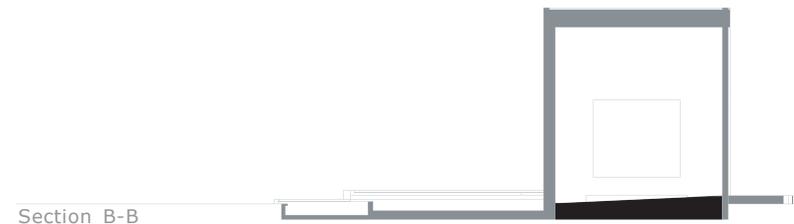
74. Detail showing supply duct under the gallery floor.

- 1. Black slate floor pulled away from wall.
- 2. Supply duct.
- 3. Rubber pad.
- 4. Concrete foundation.



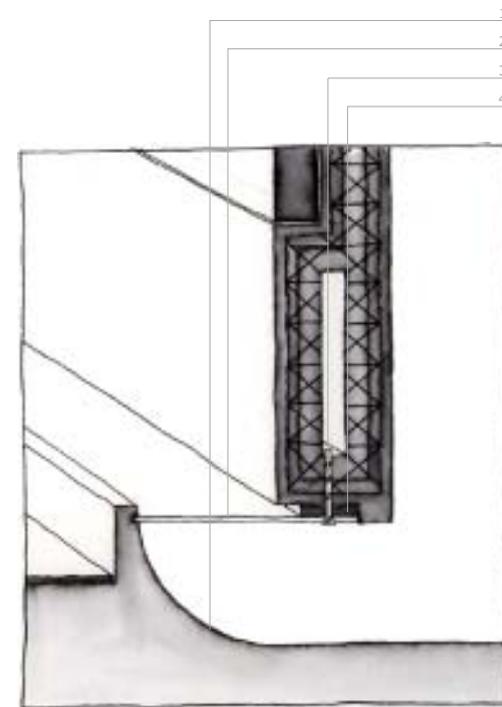


Section A-A



Section B-B

75. Plan & Sections showing the slope and elevation change in floor.



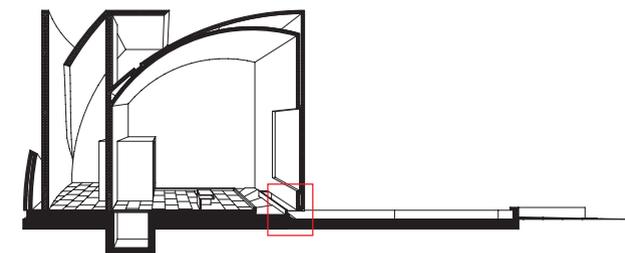
76. Section detail showing the gallery space light well.

1. Concrete foundation.
2. Double pane insulating glass.
3. Galvanized steel bolt.
4. Rubber gasket.

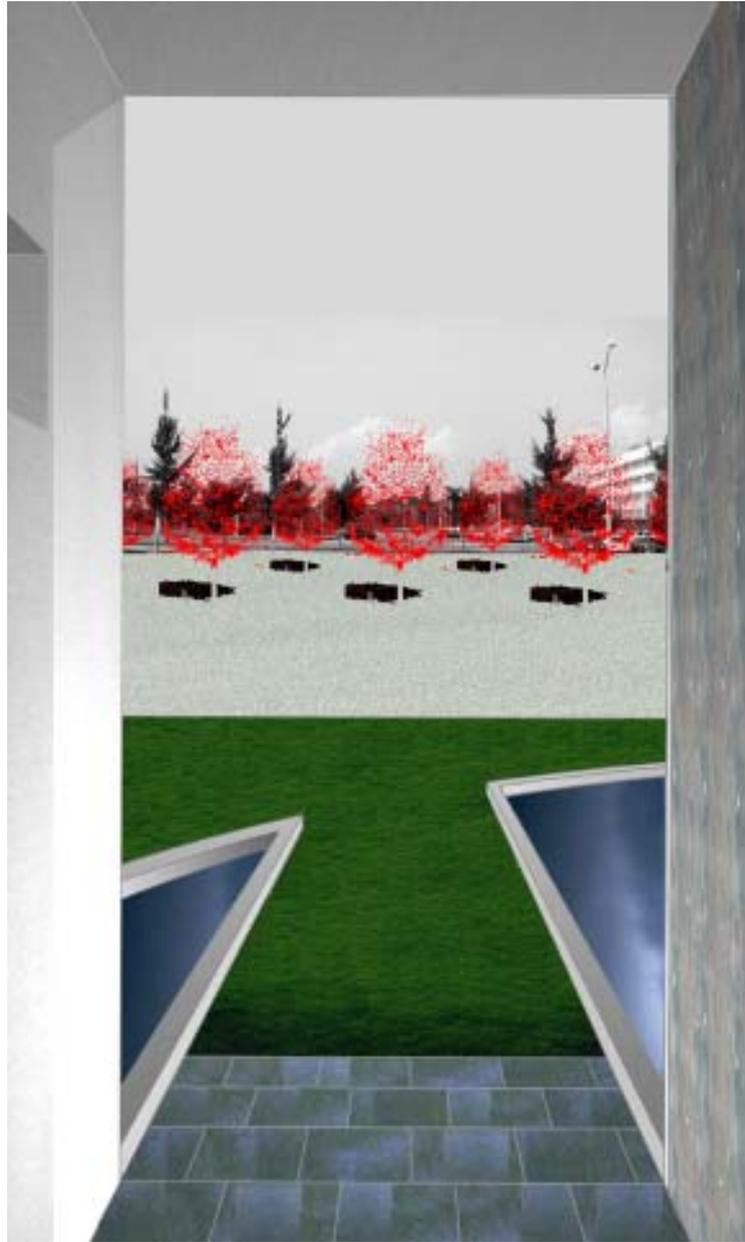
GALLERY LIGHT WELL

The main source of lighting in the gallery is a light well located under the painting. The light well in section is one quarter of a 4-foot diameter cylinder that runs just past the length of the painting. The quarter cylinder is filled with water from the reflecting pool. The curve reflects daylight indirectly into the building, while softening and diffusing it toward the painting. Water helps to animate the light. The only artificial light in the gallery space also comes from this light well. Lights are recessed into each end of the quarter cylinder and are directed toward the painting, assisting the indirect day lighting.

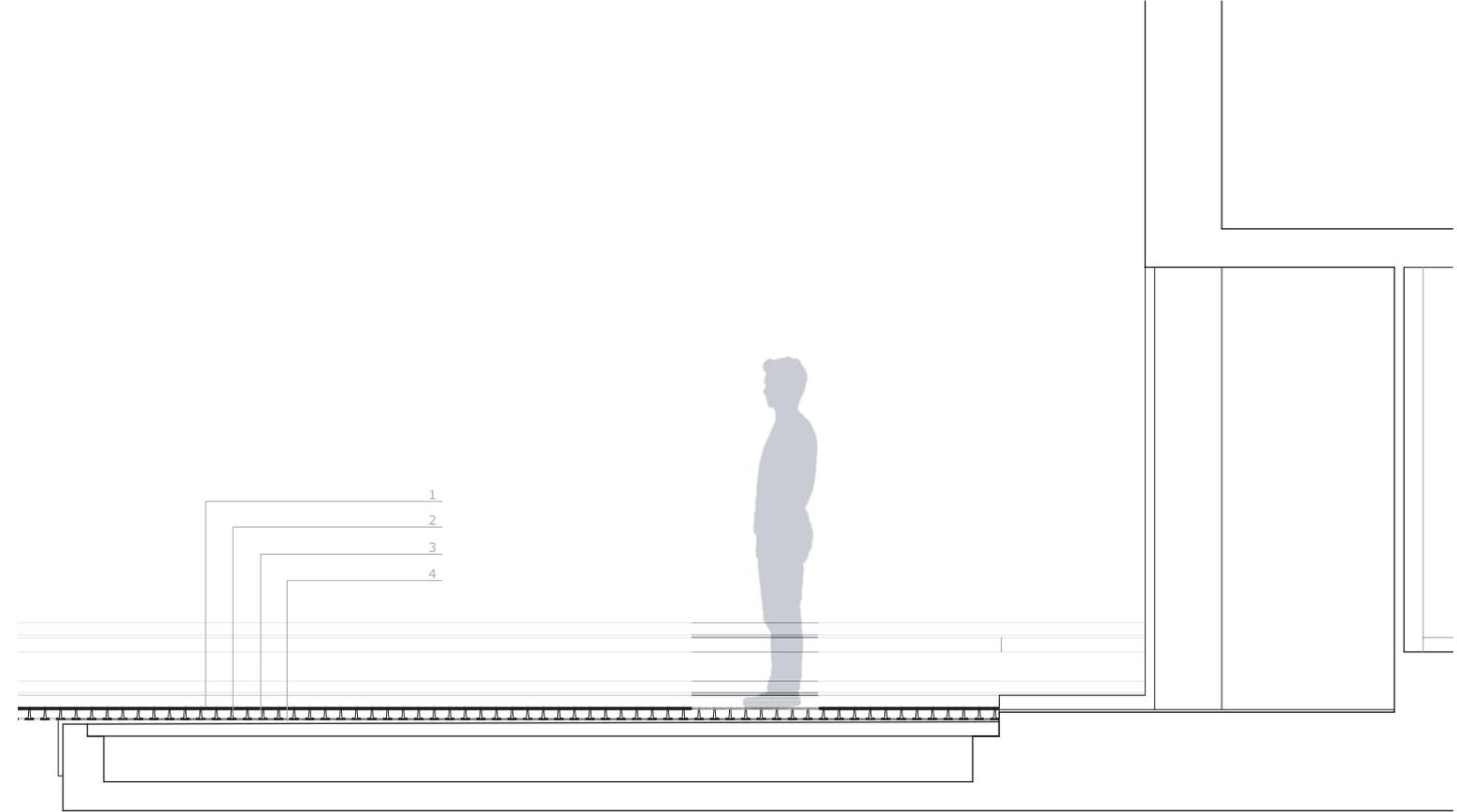
35



EXPERIENCE

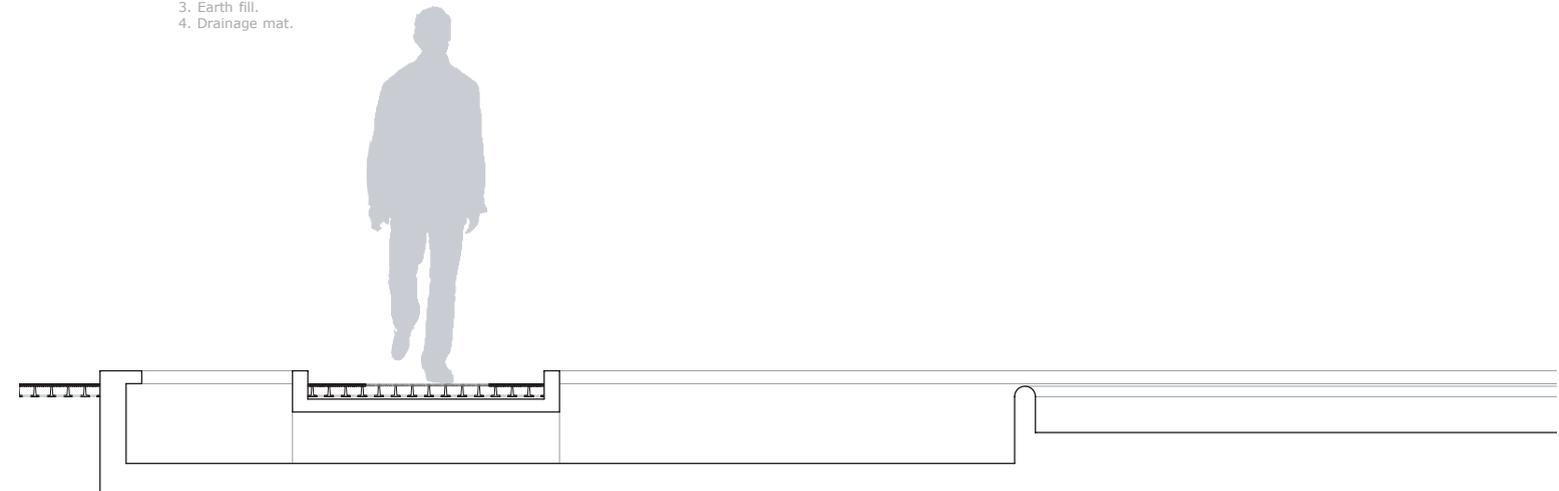


77. View of bridge and lawn from the exterior volume within the perimeter of the building

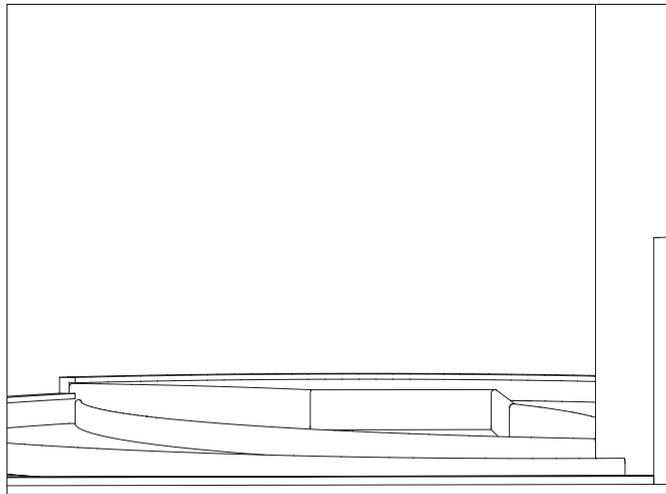


78. Longitudinal section through the bridge, reflection pool, and exterior volume.

1. Grass.
2. Geoblock.
3. Earth fill.
4. Drainage mat.

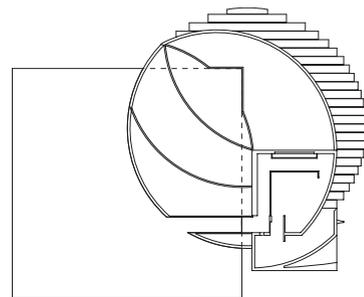


79. Transverse section through the bridge and reflecting pool.



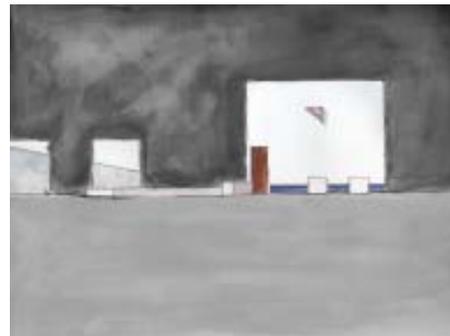
80. View of reflection pool from the bridge.

The bridge is a point at which to pause and reflect on the journey. It is the element which is crossed to make the traverse from the mind and spirit back to the world. The lawn is only vegetation on the site with the exception of the Red Maple trees. It is square in plan and engages the plan of the pool in the same manner that the pool engages the plan of the chapel. The grass is the final point of departure into the real world. The lawn is open and not directional allowing the visitor to depart any direction so desired.

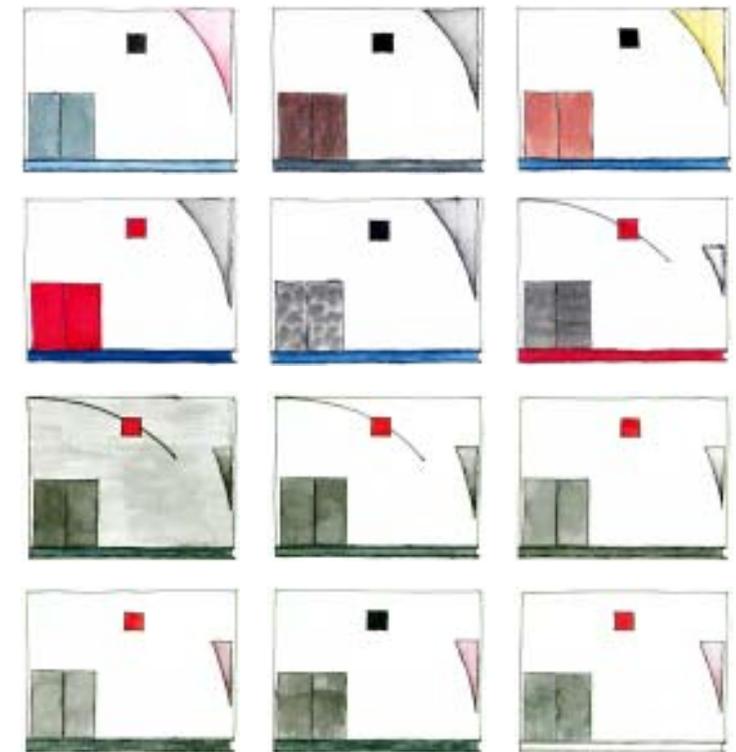


81. Plan showing how the geometry of the lawn engages the geometry of the reflection pool.

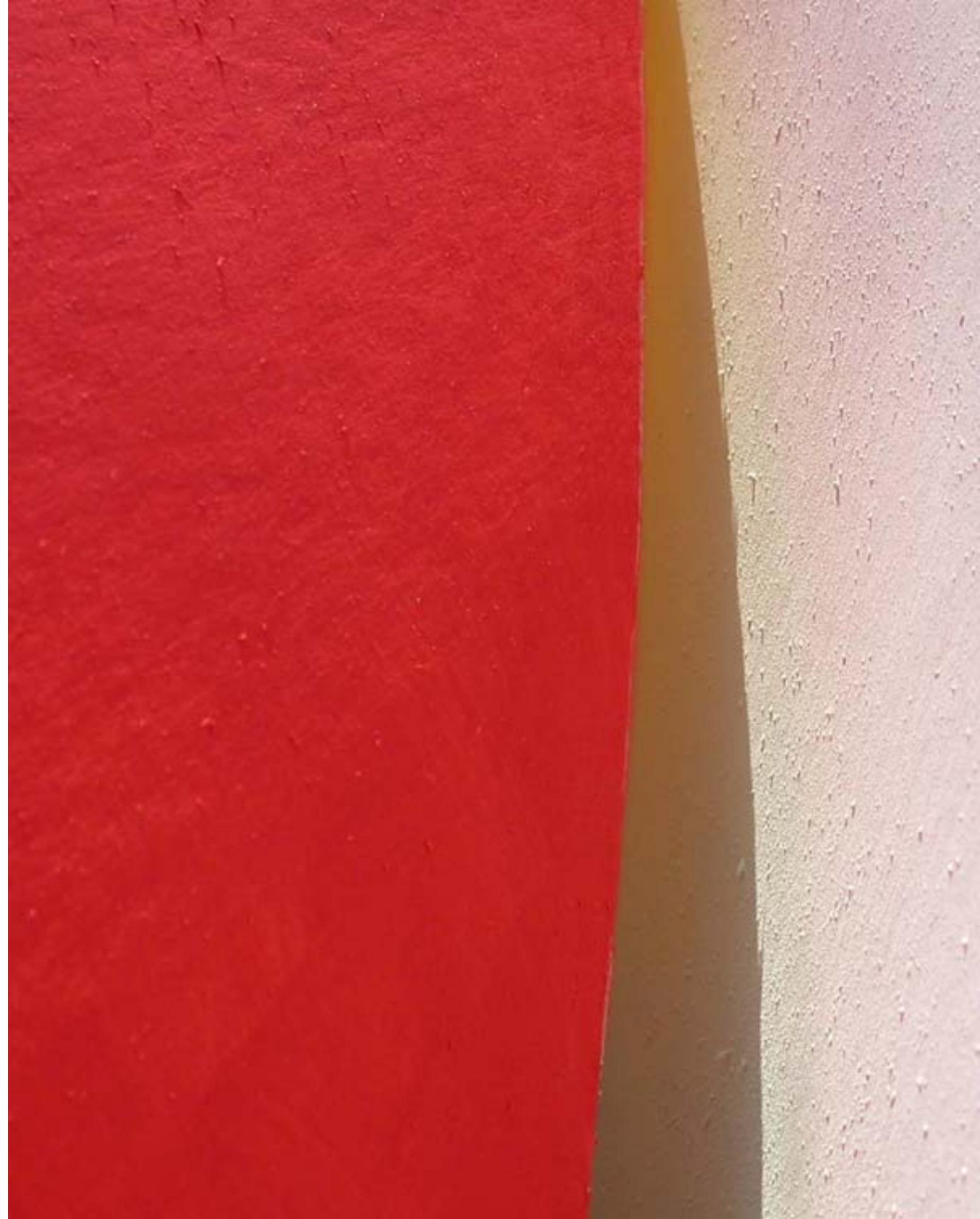
82. East facade of the Chapel from the lawn.



83. Watercolor study of the east facade.

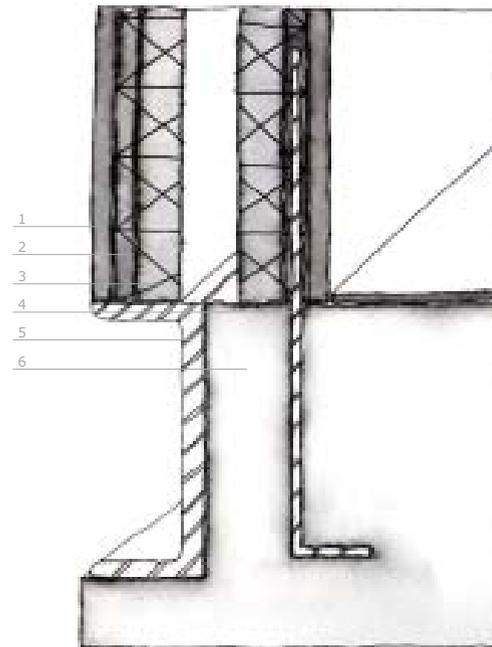


84. Watercolor study trying to develop a visual balance of the east facade.

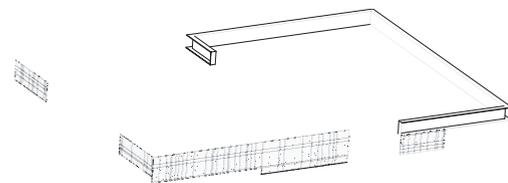


85 & 86. Exterior intersection of the two curves that define the foyer space, on the east facade of the Chapel.

The Chapel has a dynamic relationship to the earth. First it is engaged by the reflecting pool on the south and west sides, and the entry ramp also on the west side. This keeps the Chapel grounded and static. However on the north side and the remainder of the east and west sides the Chapel is lifted off the ground by a 12 inch blue channel. This gives the Chapel a dynamic quality, a lightness, as if it could float away. Also in support of the steel channel there are white 1 inch tiles at the same elevation as the channel on the walls of the Chapel that are met by the reflection pool. This continues the idea of the base condition and protects the plaster on the wall from the water in the reflection pool. Together these elements ground the building but allow it to vibrate with movement.

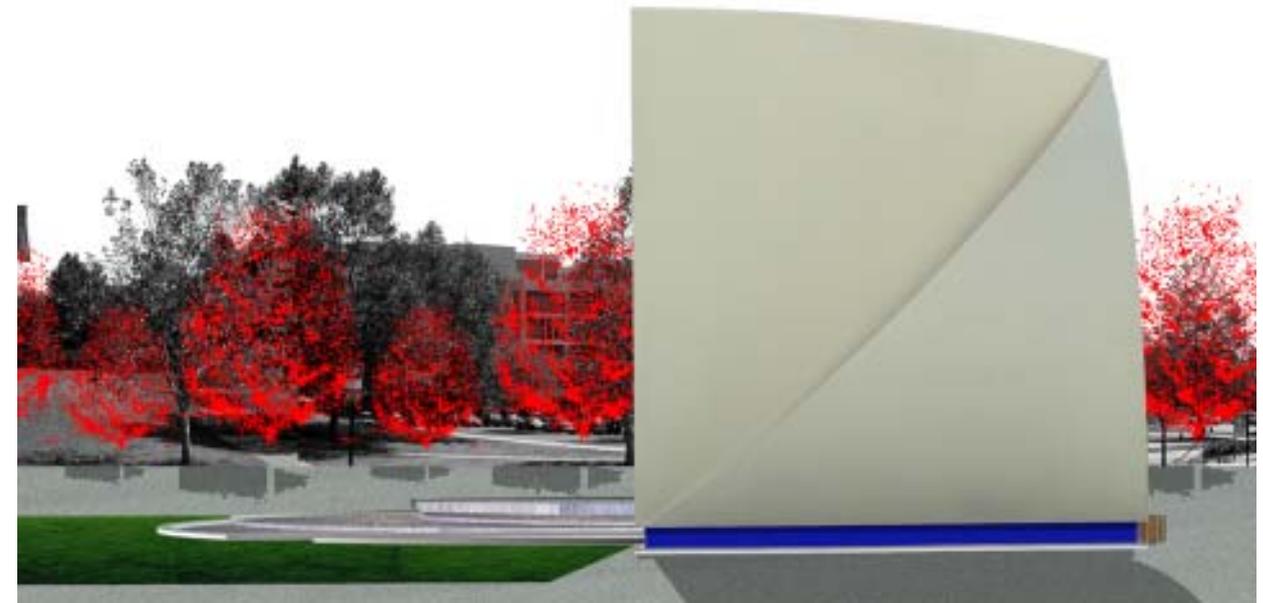


1. Finish coat, white plaster.
2. Shotcrete, which was struck off.
3. Polyurethane foam between wire mesh.
4. Conventional steel reinforcement.
5. C12x25 base channel.
6. Concrete foundation.

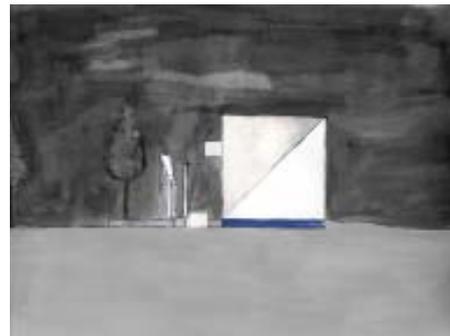


87. Diagram of the ceramic tiles and steel channel that are the base condition.

88. Detailed section of the base condition.



89. North facade of the Chapel.



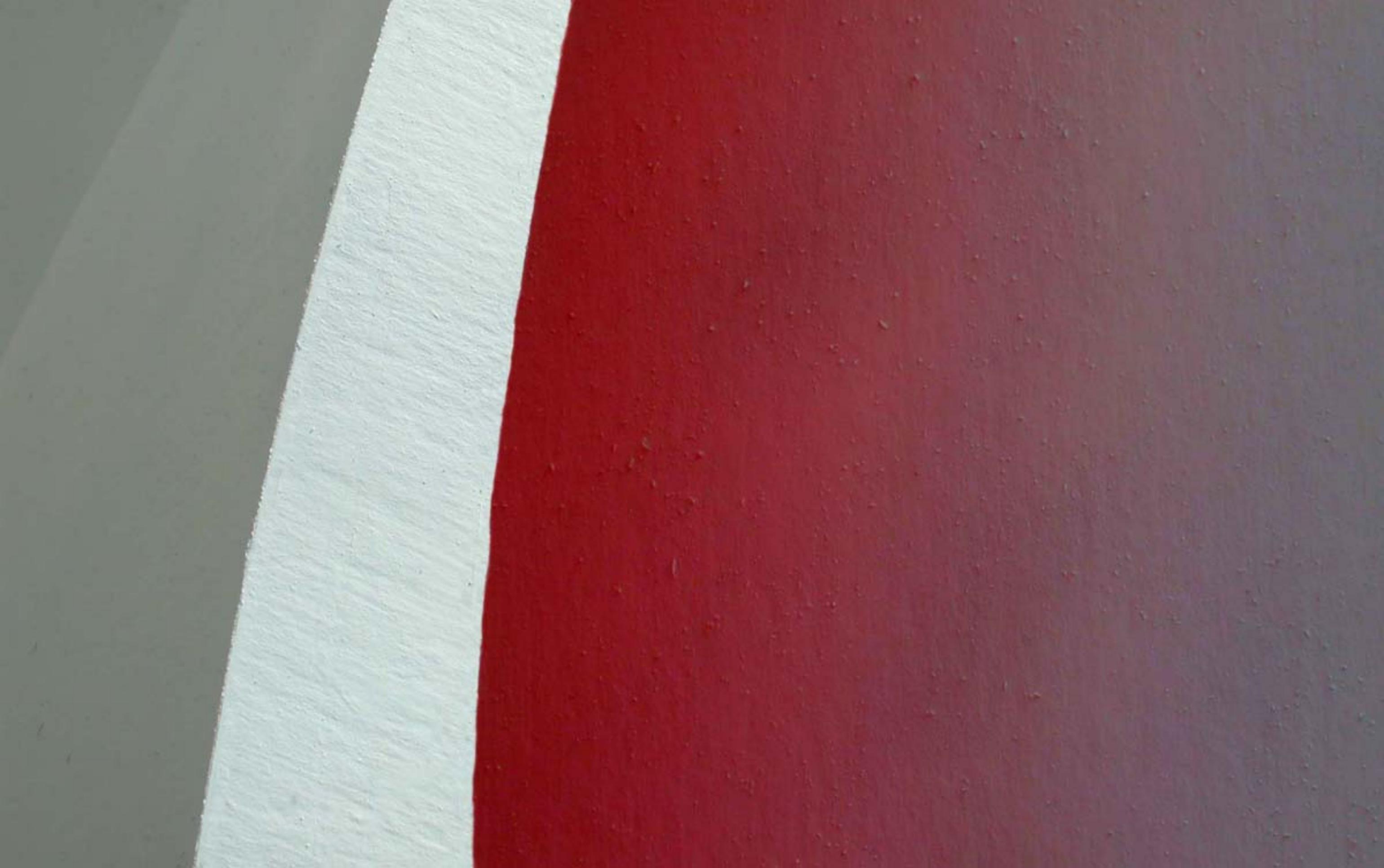
90. Watercolor study of the north facade.



91. Exterior separation of the two curves that make up the foyer space.

Next page:

92. Gradation of reflected color from the inner surface of the exterior curve on the north west side of the Chapel.





93. Northwest view of the Chapel.

There are many ways in which to observe and understand architecture, but none in my opinion are so powerful as that of experience. The physical interaction of a place with the senses understood by the intellect. No amount of models, pictures, or drawings can ever compare to the experience of being engaged by a place in its fullness and completeness. Unfortunately as architects we do not have the luxury of building a place over and over again until we get it right. What we do have however is the understanding of ourselves as humans, and the knowledge of what touches our heart and what moves our soul. It is through this awareness and our own collection of knowledge from investigation and observation that we can create places that engage the emotions and feelings of ourselves and anyone else with a willing heart, and a clear and open mind.

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All graphics by Marcus J. Brown except the following:

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10. **Crushed limestone floor**
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11. **Leaves from Red Maple tree**
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12. **Slate of the entry ramp**
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13. **Water in reflecting pool**
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14. **Grass floor coming off of the bridge**
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15. **Aerial photograph of Virginia Polytechnic & State University**
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45. **Kipnis, Jeffrey**
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46. **Kipnis, Jeffrey**
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GRAPHICS

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47. Kipnis, Jeffrey
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61. Blackslate
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