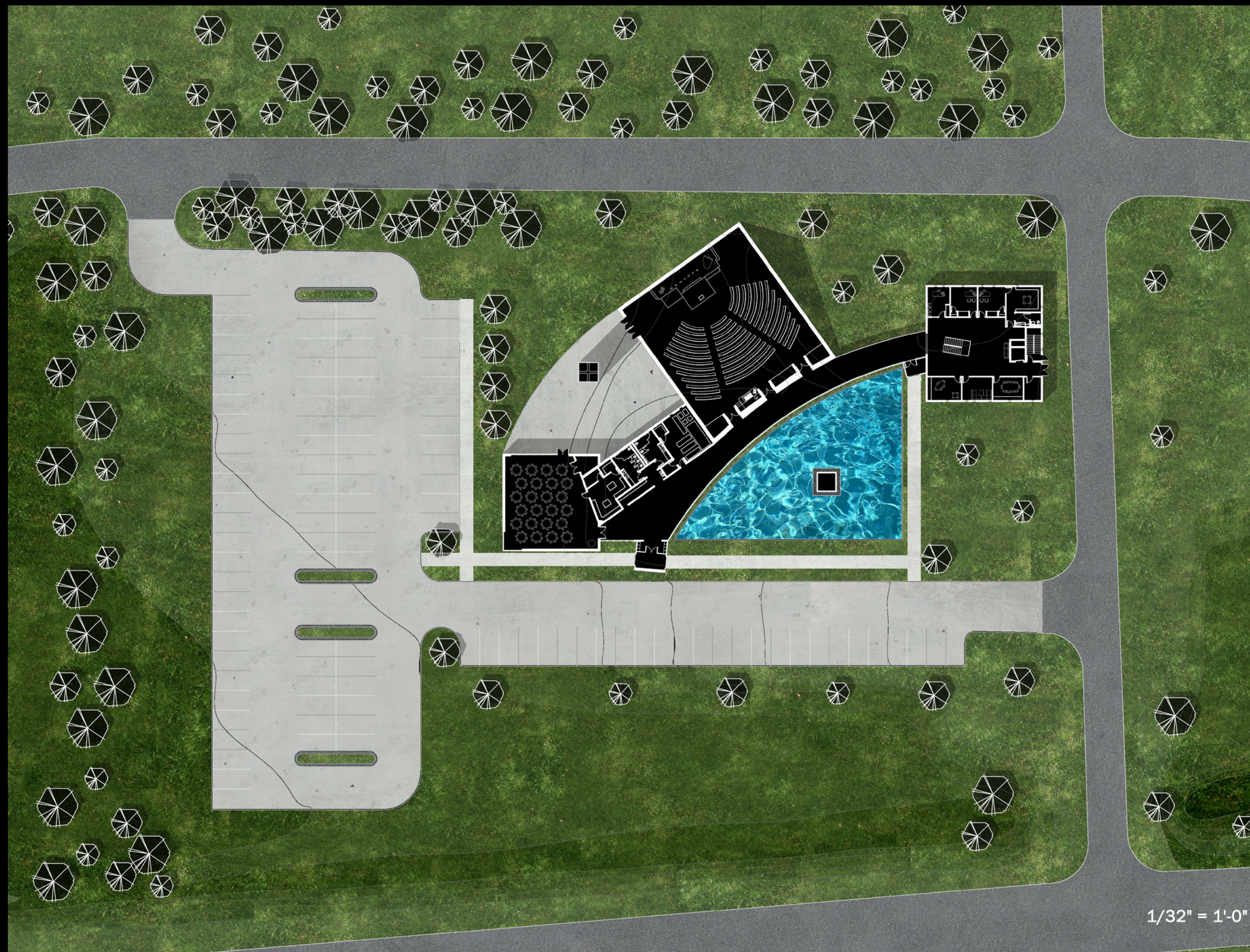




Color Light Form & Sound A New Religious Building for Common Ground Church



Commonly, the word church is most often associated with the Christian faith where the word 'church' is defined as both the building for worship and as the congregation. The building is a space used to worship and build a relationship with God. Architectural design does not have the ability to create that relationship with God; however, a well-designed religious building can contribute to the congregation's experience during worship.

The new religious building portrays the vibrant faith and worship of the Christian Missionary Alliance congregation that makes up the church of Common Ground. It serves as a place of worship, celebration, and education. It also creates adequate space for the current parishioners, while allowing future expansion of the church community.

Perception

The conceptual basis of color, form, light and sound is driven by our perceptions. As we move, the appearance of the world changes; our minds are interpreting and sorting what our senses take in, filtering only the crucial information to our direct attention. We constantly assess our surroundings for basic biological needs, and are consciously and subconsciously affected by the environment due to our natural expectations and developed experiences. Color, form, light and sound have the ability to alter our moods, emotions, and physical health. Sites, buildings, and rooms can be designed to display the most optimal setting through careful programming, planning, and attention to principles and proven scientific knowledge. Spaces are not only defined by the furnishings or equipment used within them; hues can accent specific emotions, lighting can focus attention, forms can facilitate function, and sound can create ambience. These four factors are essential to the health, safety, and welfare of each individual.

The Site

Common Ground Church began in 1999 when Sunday worship was held in the living room of the pastor's home. In January of 2000, Common Ground purchased a 13-acre plot of land in Lake Elmo where a small church existed. Now, five years later, the congregation that was once only 15 members is 250 and growing. The existing building no longer has the proper accommodations necessary for it's expanding community. The new Common Ground Church is built on the location of the original building, taking advantage of the existing parking lot and entrances onto the site.

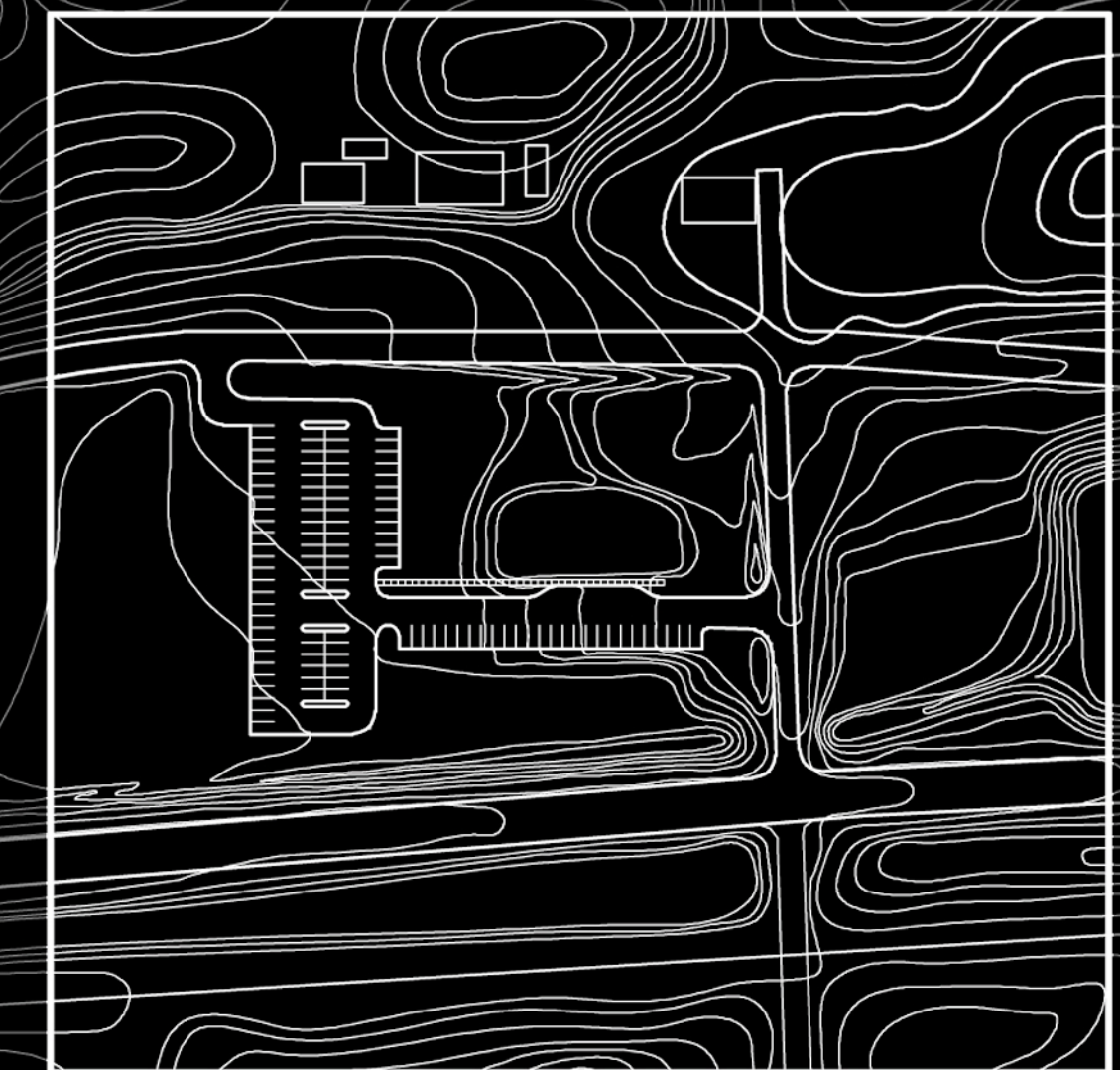
Project Emphasis and Goals

The main project emphasis of the new religious building is the four perceptual foci – color, form, sound and light. These individual perceptions carry different associative, symbolic, emotional, and physiological cues, both conscious and unconscious. Using the best combinations of the four, Common Ground Church is designed based upon the understanding of how the human psyche perceives each focus. Along with these four principles in every step of the design, three other major points for the project were taken into consideration.

1 | The design provides a religious building that upholds the mission statement of Common Ground Church and the Christian Missionary Alliance denomination. The beliefs and values of the congregation were used in defining the space that houses this congregation.

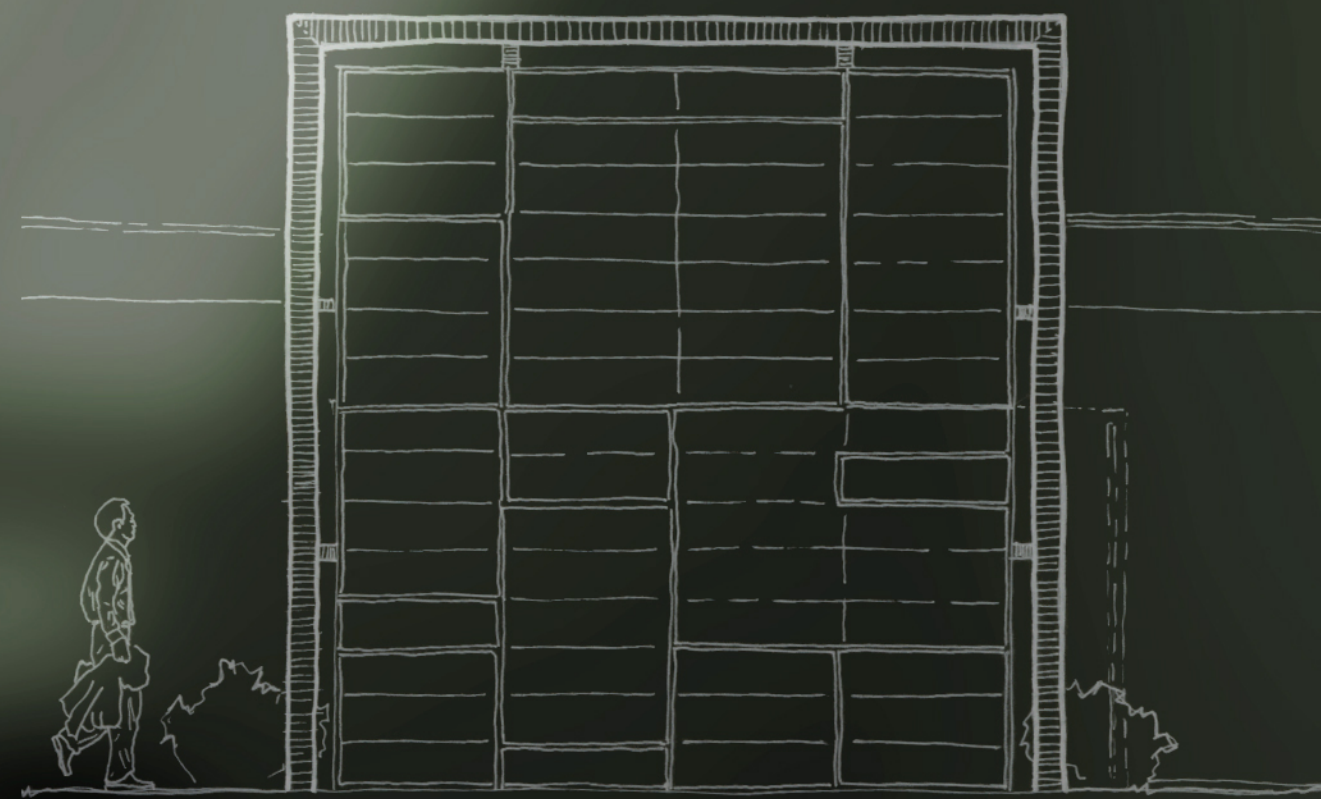
2 | The design will create an identity for Common Ground church that will not only stir the emotions of the current congregation, but also develop interest for those who are not yet a part of the church. A dynamic form that expresses a religious structure as an aid for a fulfilling worship experience and conveys a strong community at the heart accomplishes this.

3 | All issues of the project considered sustainable design. Creating an efficient and effective environment for a religious building included renewable resources for energy, earth-friendly materials, natural lighting considerations, and passive heating and cooling systems.



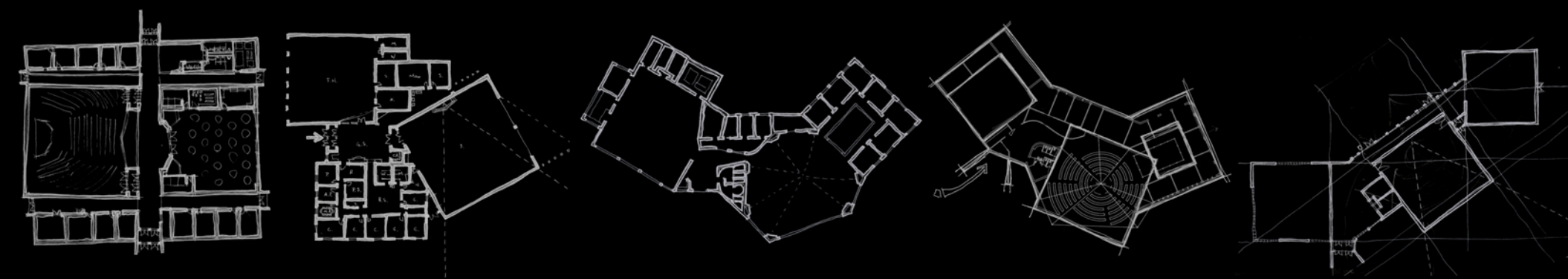
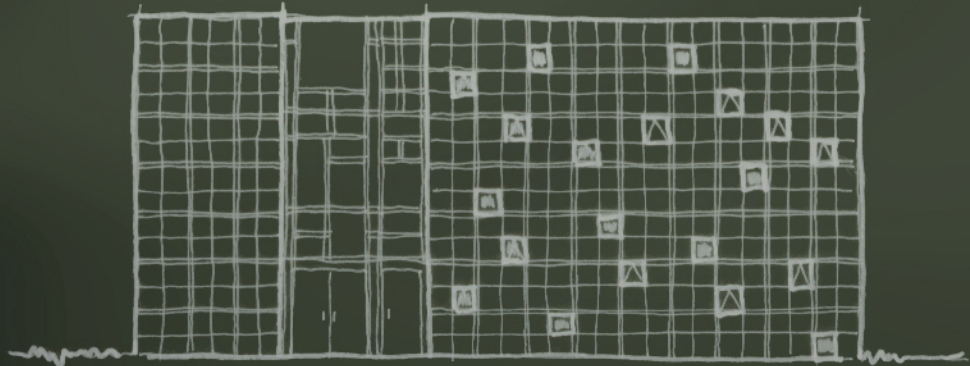
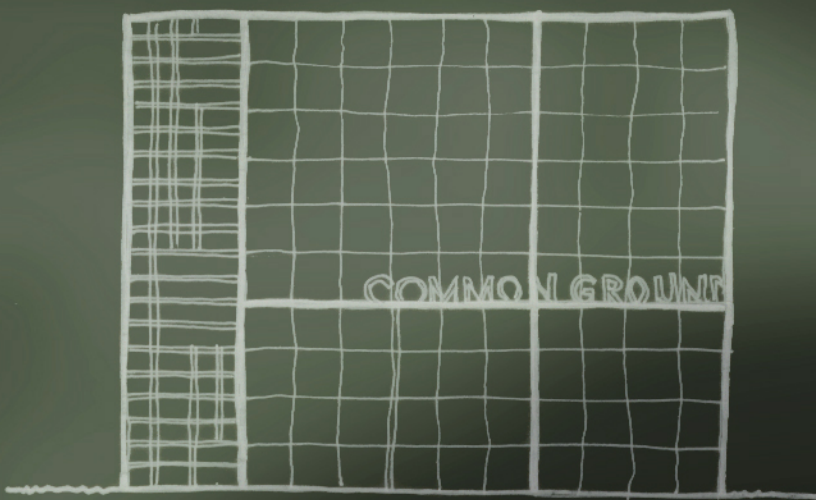
Form

The basis of the design is derived from the shape of a cube. The church is broken into three distinct sections - the education and administration building, the fellowship hall, and the sanctuary. The three shapes echo the concept of a triune God - Father, Son, and Holy Spirit. The forms thrust out of the ground, growing in height. The largest cube, the sanctuary, tilts dynamically forward at a twenty-degree angle, bringing the focus directly upon it.

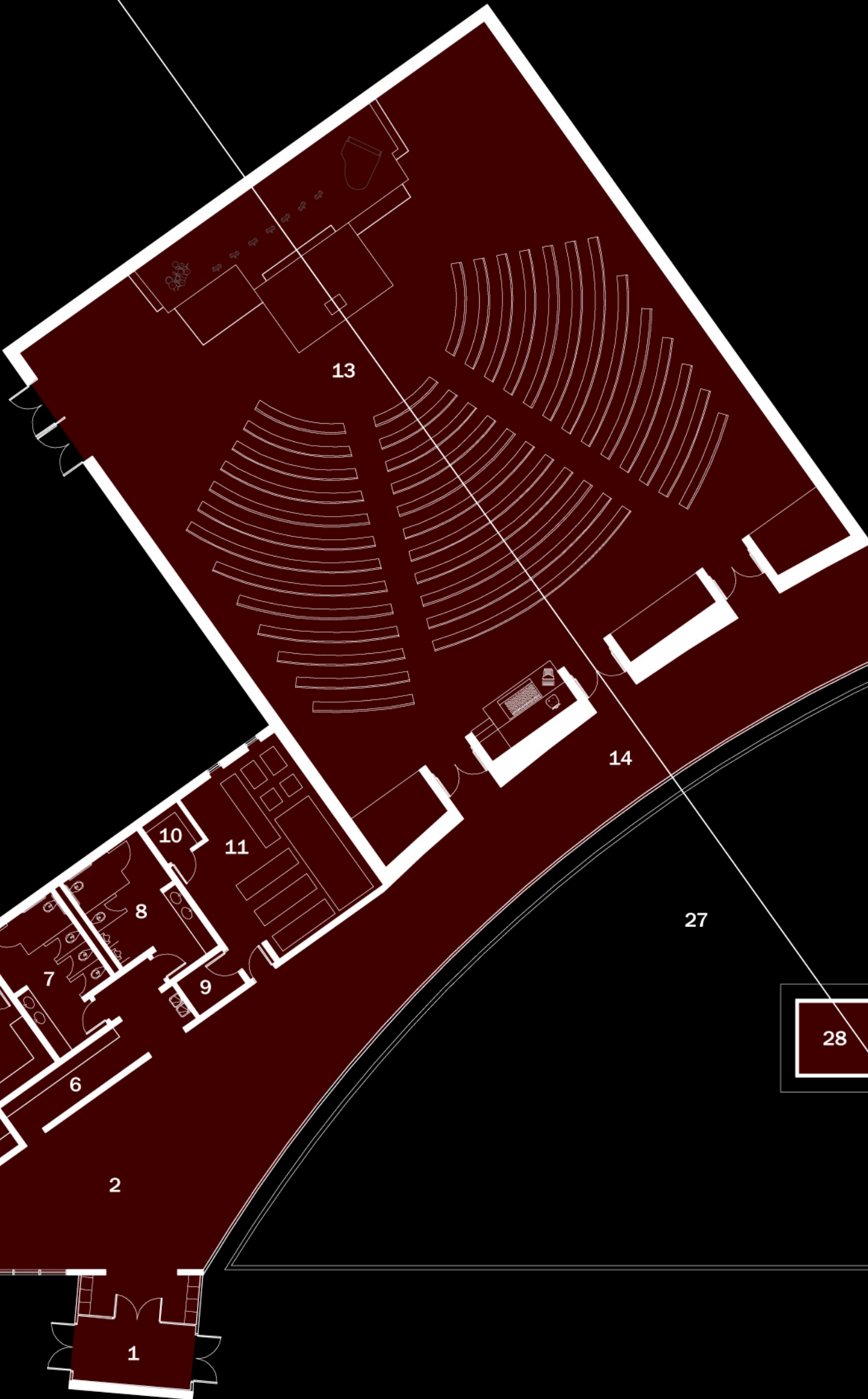
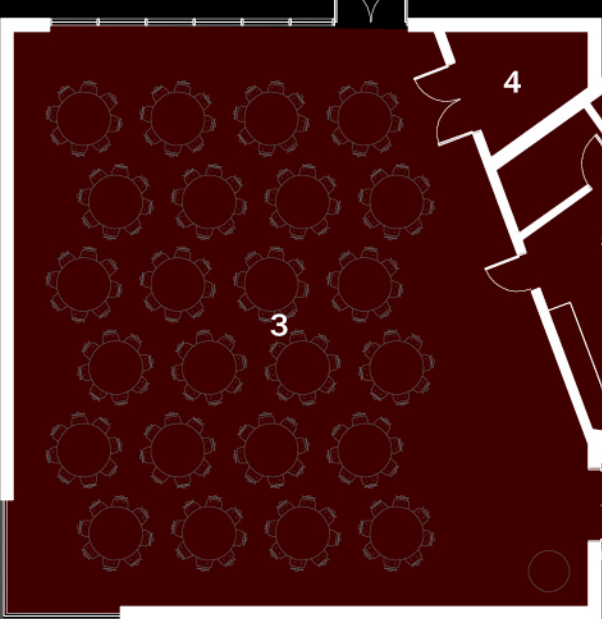


Main Entrance

The main entrance of the building is a clear glass cube that opens to the south parking lot. The limestone detailing visually connects the southern side of the cube to the rest of the building. The entrance is rotated at a five-degree angle toward the sanctuary in order to give the structure a subtle burst of energy, serving as the starting point of the journey to the sanctuary.



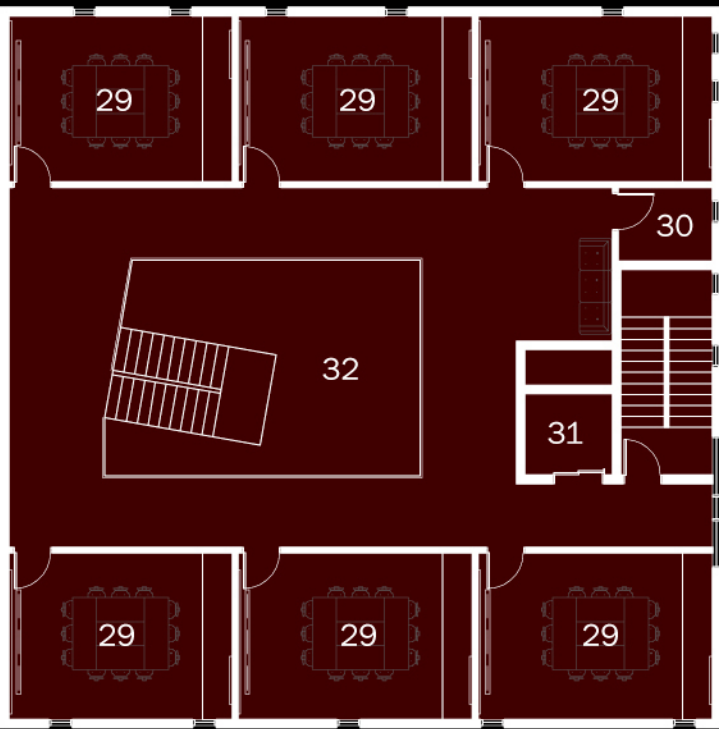
- 1 | Main Entrance
- 2 | Gathering Space
- 3 | Fellowship Hall
- 4 | Storage
- 5 | Kitchen
- 6 | Coat Room
- 7 | Women Restroom
- 8 | Men Restroom
- 9 | Janitor
- 10 | Electrical
- 11 | Mechanical
- 12 | Campanile
- 13 | Sanctuary
- 14 | Hall
- 15 | Breakout Space
- 16 | Reception
- 17 | Assistant Pastor
- 18 | Pastor's Office
- 19 | Pastoral Study
- 20 | Kitchenette
- 21 | Restroom
- 22 | Elevator
- 23 | Storage
- 24 | Conference Room
- 25 | Youth Room
- 26 | Nursery
- 27 | Reflection Pond
- 28 | Water Chiller



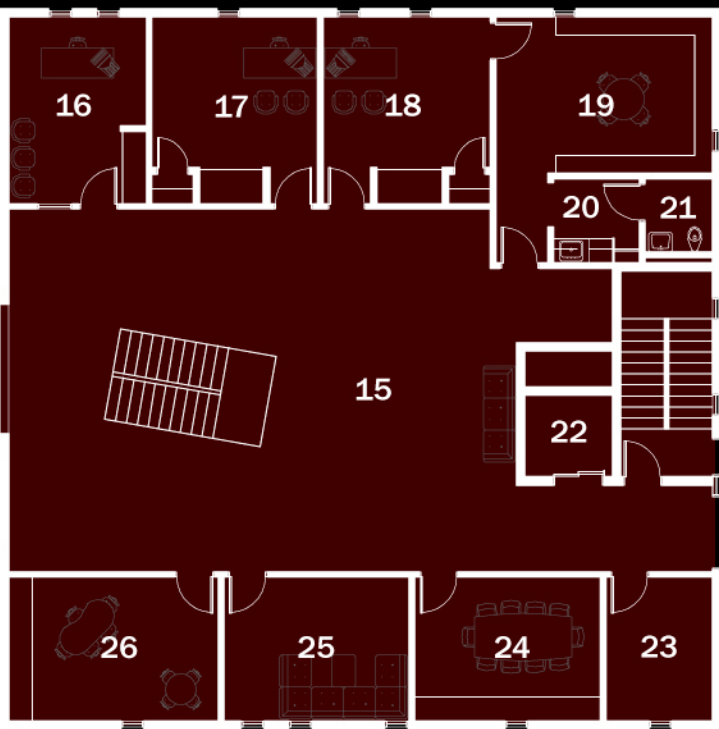
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- 29 | Classroom
- 30 | Storage
- 31 | Elevator
- 32 | Atrium



Second Level Plan
1/16" = 1'-0"

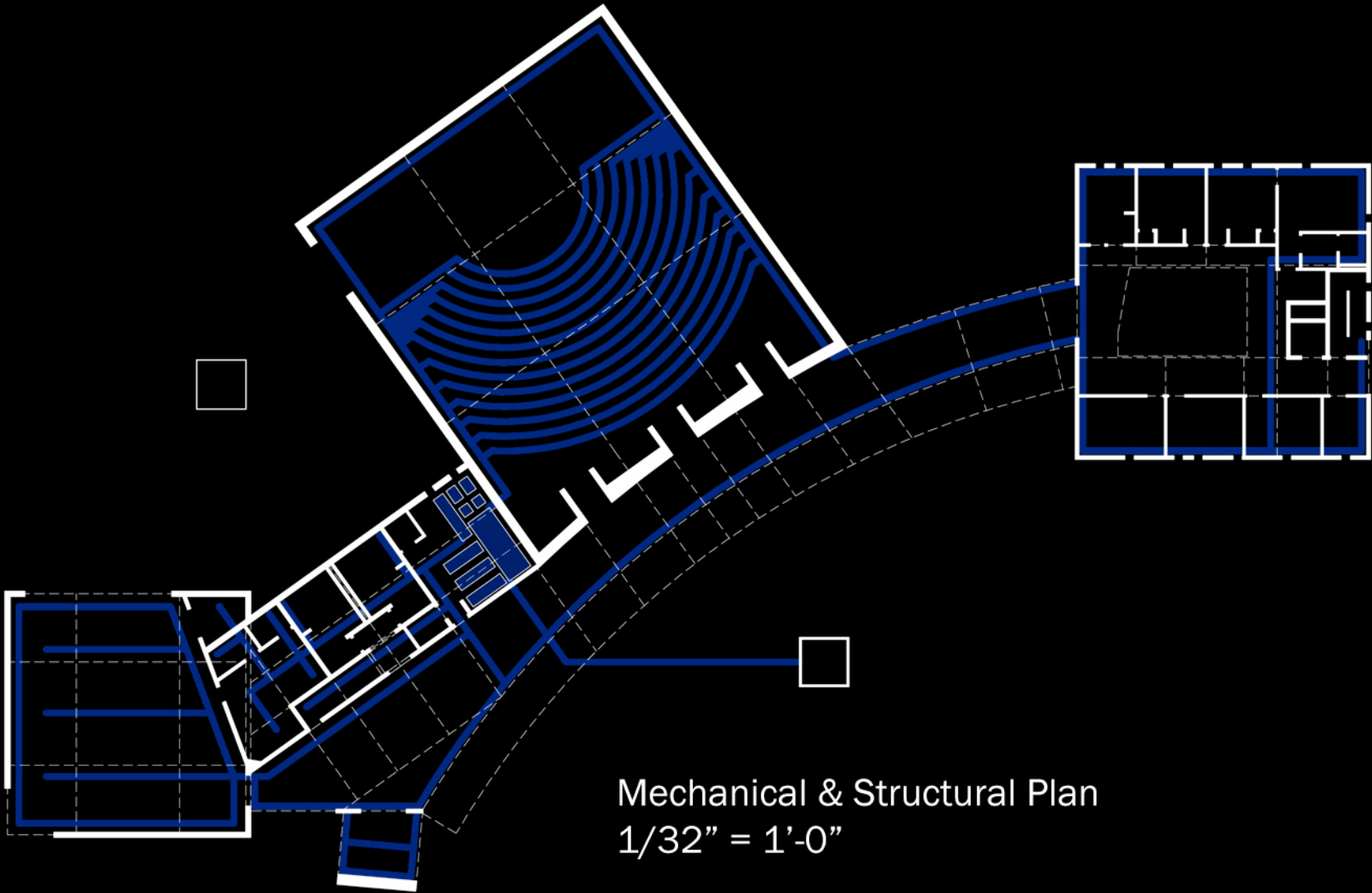


Main Level Plan
1/16" = 1'-0"

Mechanical

The mechanical system is a central all-air system that is used through flooring vents. This allows for conditioned air to be supplied only at the inhabited zones within the sanctuary, education atrium, and fellowship hall. Under floor air displacement systems reduce cooling loads by 25% of a typical overhead VAV system.

The cooling tower is located at the center of the reflecting pond. Wrapped in a louvered tilted cube, the monument optimizes the use of the summer winds to cool the water that travels through it. The chilled water is then piped back into the mechanical room. This removes the necessity of having a unit on the roof, while reducing unwanted noise and vibration inside of the building.



Mechanical & Structural Plan
1/32" = 1'-0"

■ ■ | Color

We perceive sunlight as white light. However, when the visible white light is passed through a prism, it is broken down into individual wavelengths that produce six different colors – violet, blue, green, yellow, orange, and red. The experience of color depends on the intensity of light, the way it is reflected from a surface, and the color of surrounding objects.

Common Ground Church uses a simple palette of colors and materials in order to set the tone accordingly. The hues of the limestone are known to represent future, hope and wisdom. The classrooms have their own individual shades, optimizing learning habits according to color psychological data. The younger aged classrooms are painted warm yellow and peach, while the older classrooms are pale blues and greens, in order to promote learning. The nursery contains bright colors on the floors and walls for the infants and toddlers. Warm reds, oranges, and greens inspire the celebrations that take place inside the fellowship hall.

The entire outer shell of Common Ground church is clad in Dolomitic Limestone, which is quarried in the same region of the United States as the church. It is a 100% recyclable material that requires only natural cleaners for maintenance.



Floating Staircase

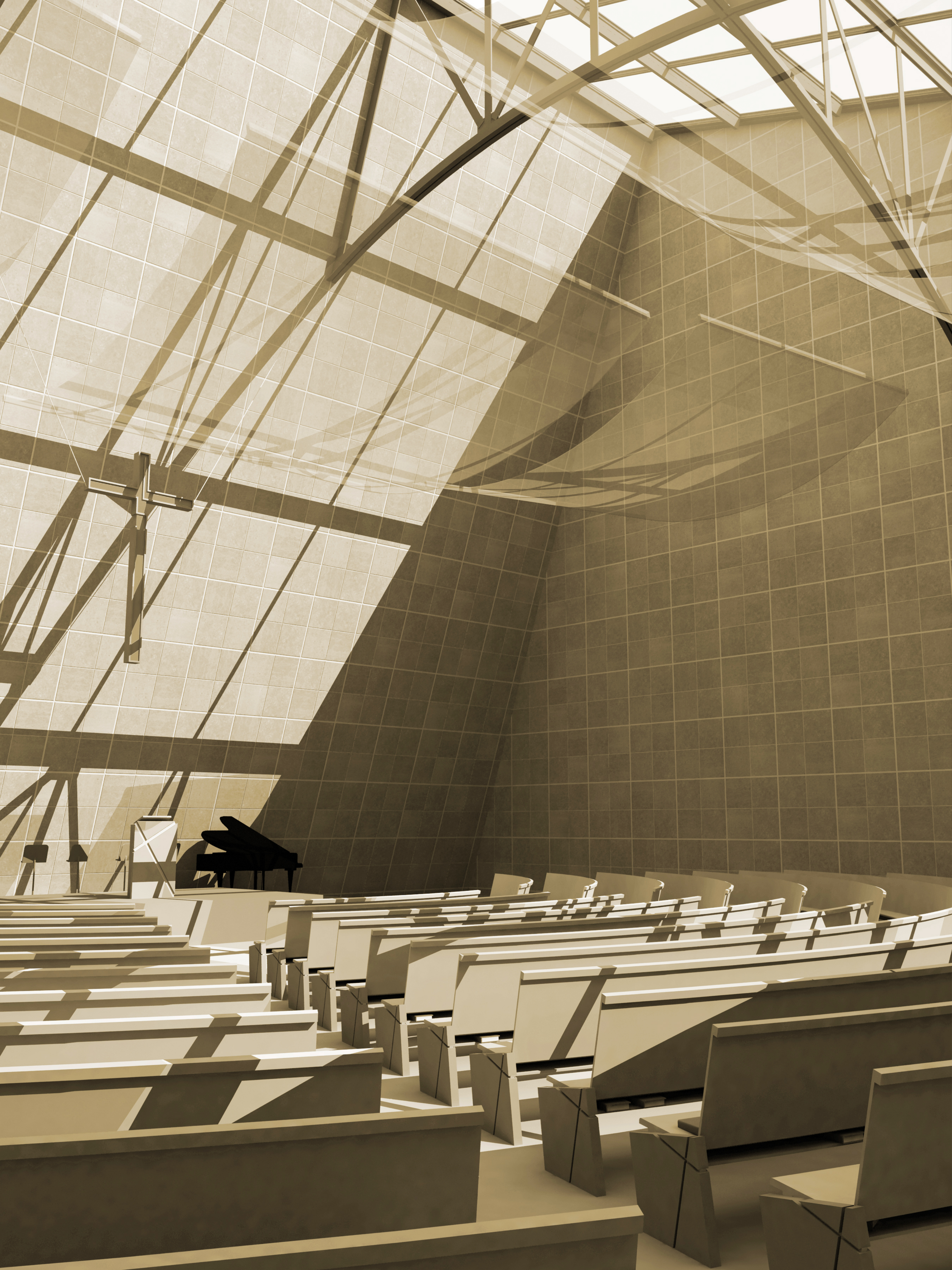
At the end of the hallway is the entrance to the education and administration building. A steel formed suspended staircase hangs at the entrance of the building, sending children upstairs to the six classrooms that surround the breakout space and atrium. With glass sheets used to wrap the railings, the staircase appears to float in the middle of the two-story space.



The Pathway

Surrounded by straight lines and forms, the hall is an extension of the main entrance to Common Ground. Acknowledging the basis of a natural path, the hall follows an elegant curve around the large reflecting pool outside. This leads to the sanctuary, the heart of the church. An almost seamless sheet of double-layered glass wraps the south wall of the hallway, bringing the natural environment inside. The hall has high ceilings that create a sense of awe in the members as they move toward the twelve-foot doors of the sanctuary. The ceiling is finished white to allow the caustic effects from the reflecting pool to display patterns onto the ceiling, creating movement and extending the use of water throughout the building. Water is used in the Christian faith as a metaphor for Jesus Christ, who is the source of life for Christians.

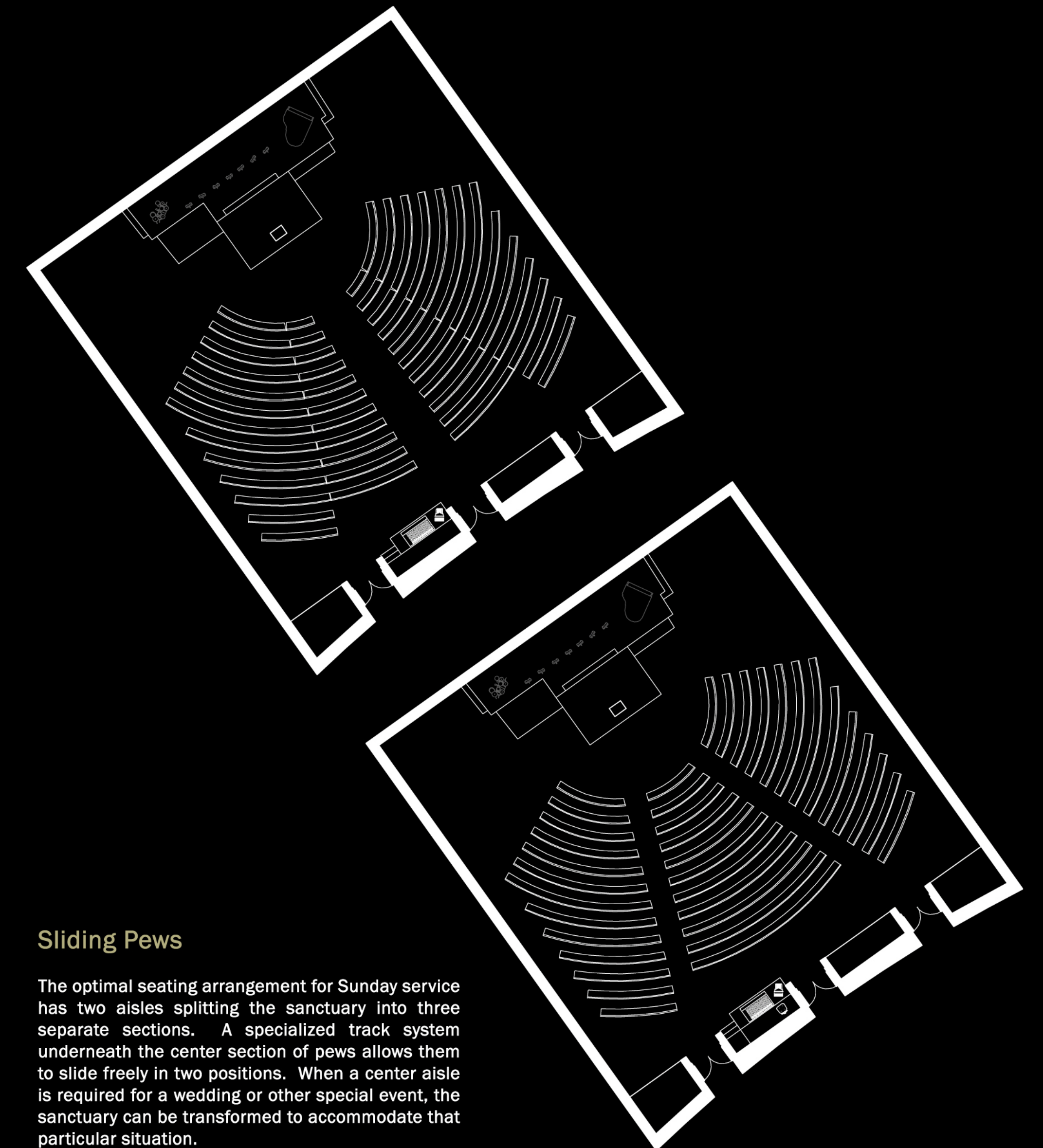




■ ■ ■ | Sound

The most unique attribute that sound has over the other senses is that we are always at the center of our perceptual experience. Meaning, although our visual experience is always in front of us, our audible experience can happen from any direction around us. The sanctuary was designed to optimize the experience of the congregation. Sunday's service combines contemporary music and teachings of the Word of God through prayer and biblical messages. The clear polycarbonate acoustic clouds reflect the sound of the worship team and pastor out into the congregation.

The seating was designed according to the performance space design criteria. Rows are spaced 36 inches apart in a radius-curved formation. Curved pews were designed for the sanctuary seating in order to maximize the seating capacity within the worship space. The shape of the seated area places maximum number of seats within the directional limits of the sound of the unaided voice, beneficial for speech performance. The angle of vision and the angle of encounter are 130 degrees, which will allow the congregation to maintain eye contact with the pastor at all times, and keep them from experiencing natural sound communication deterioration.



Sliding Pews

The optimal seating arrangement for Sunday service has two aisles splitting the sanctuary into three separate sections. A specialized track system underneath the center section of pews allows them to slide freely in two positions. When a center aisle is required for a wedding or other special event, the sanctuary can be transformed to accommodate that particular situation.

.....| Light

An integral piece in this design is the use of light in each room. The majority of design decisions were based upon the use of natural light. Rather than using detailed surfaces or artwork to decorate the interior of the building, light is used to accent walls and floors in the building.

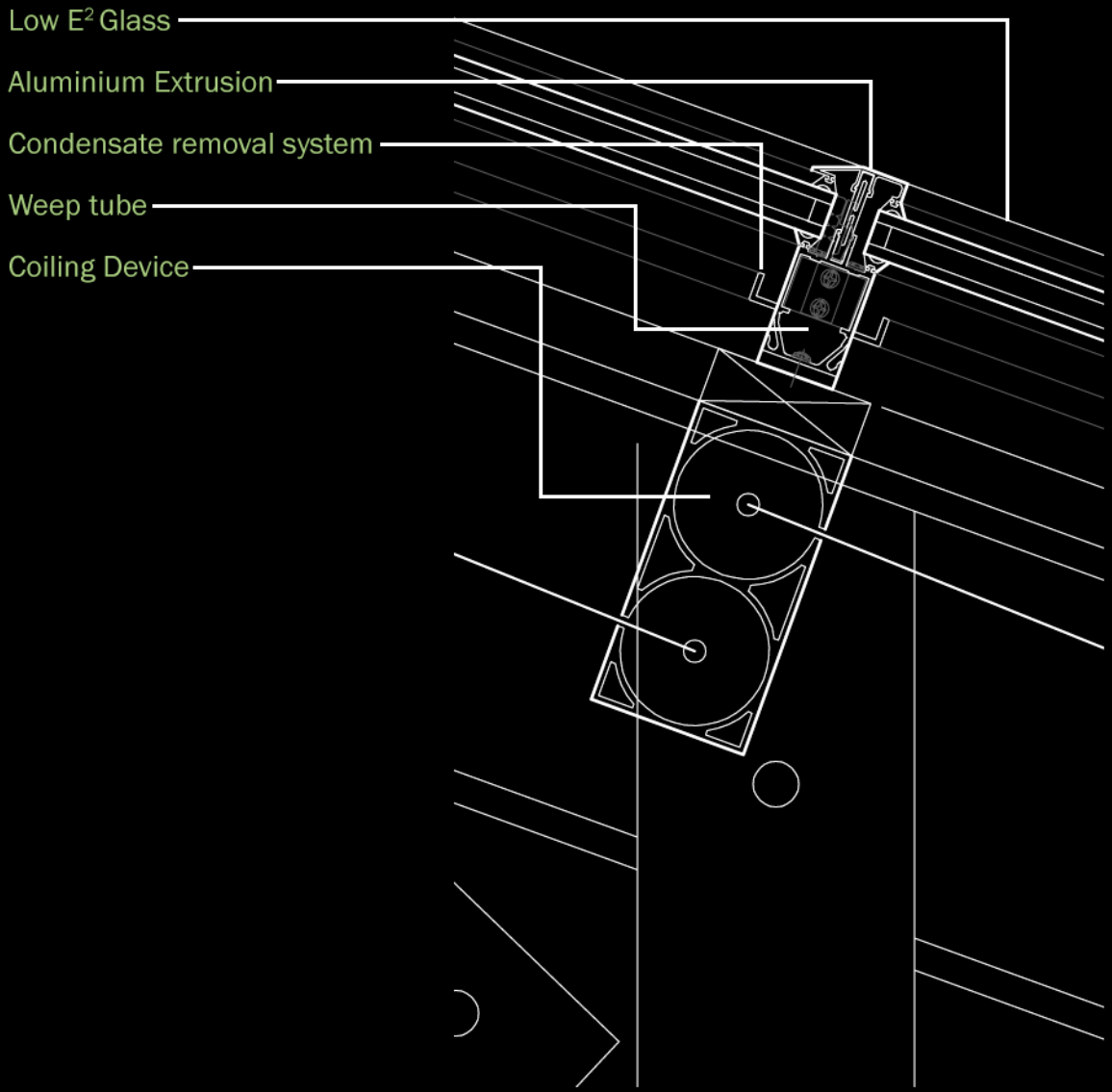
The hall was designed to take full advantage of the winter sun, using the awning to protect the space from receiving direct sunlight from May to August. The floor has lights that wash up the limestone walls of the sanctuary, and the ceiling has concealed lights that also highlight the top portion of the wall.

The education and administration wing optimizes the daylight through the use of a skylight in the central atrium, and two-foot square windows around the perimeter that flow within the grid of the exterior walls. The heights of the windows vary from room to room, allowing for various views for the students and children in the classrooms. The offices all take advantage of the north wall, allowing only daylight to fill the rooms in order to not disrupt their workstations.

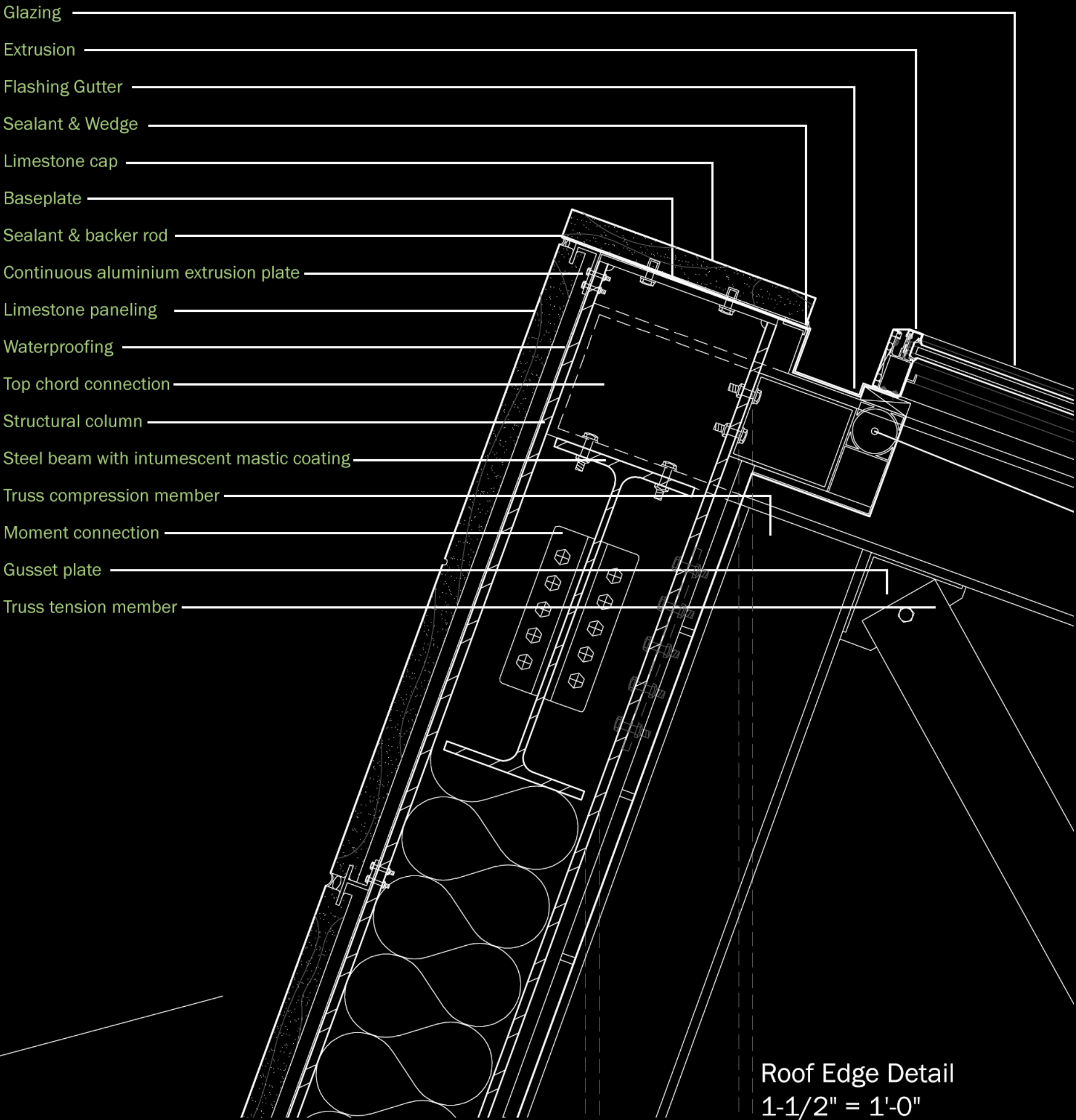
The top portion of the sanctuary is comprised of skylight windows, streaming in the sunlight for the congregation. Because the pews face north, direct sunlight is not an issue. The limestone-clad walls produce intricate patterns of light as the sunlight filters through the glazing system and the trusses that soar overhead. The orientation of the building was designed according to the angles and azimuth of the sun from 10:00 to 11:30am on Sunday throughout the year, in order to optimize the light that penetrates into the building.

Sun Shade

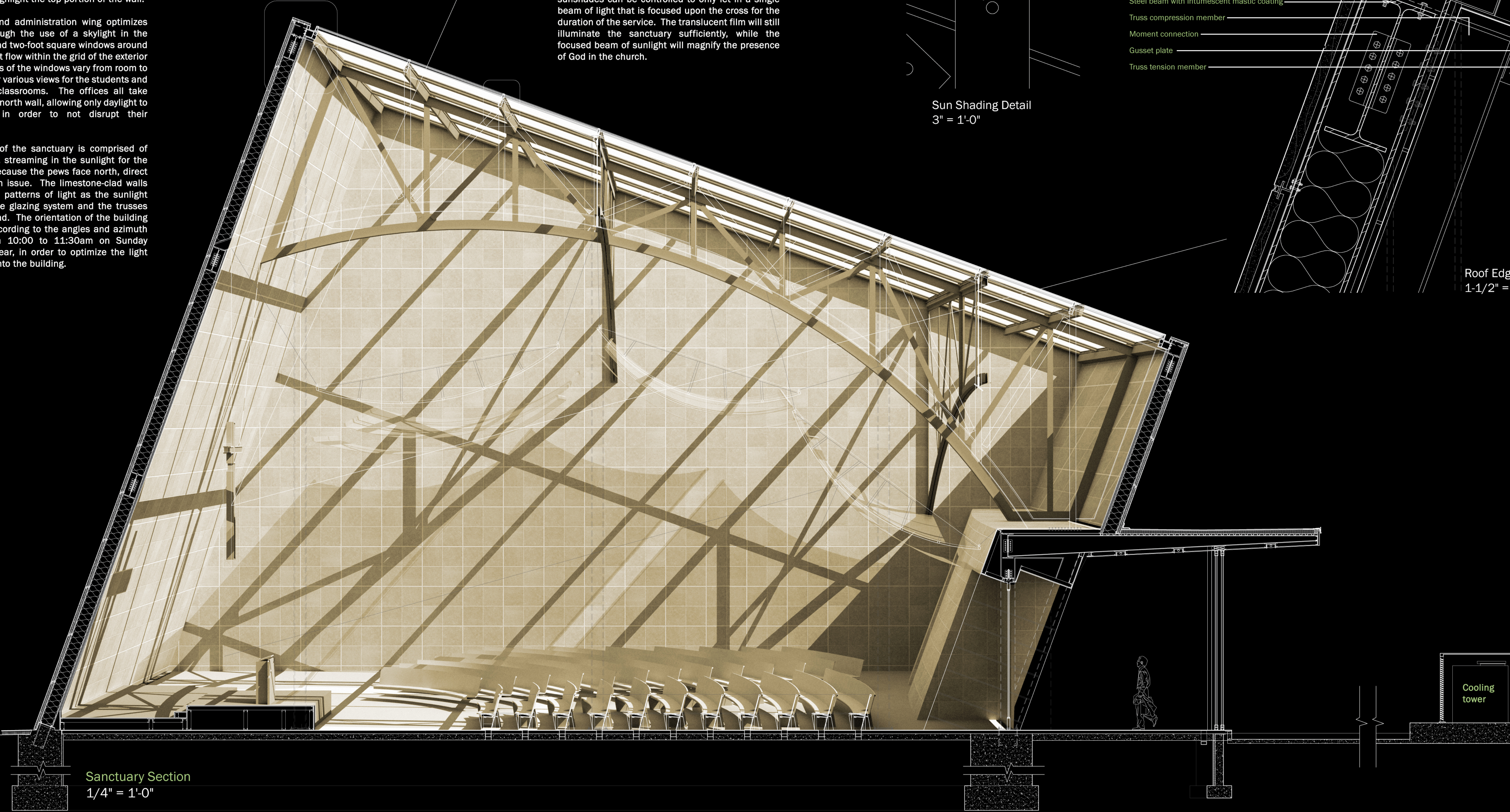
Using the sun tables and charts, the worship space is oriented to have a focal point on the cross resting above the altar. A rolling sun shading device is positioned beneath each mullion of the skylight structure of the sanctuary. Inside each piece is an eight-foot translucent film that is attached by wire on each side. Using a computer program with the pre-determined sun angle calculations, the sunshades can be controlled to only let in a single beam of light that is focused upon the cross for the duration of the service. The translucent film will still illuminate the sanctuary sufficiently, while the focused beam of sunlight will magnify the presence of God in the church.



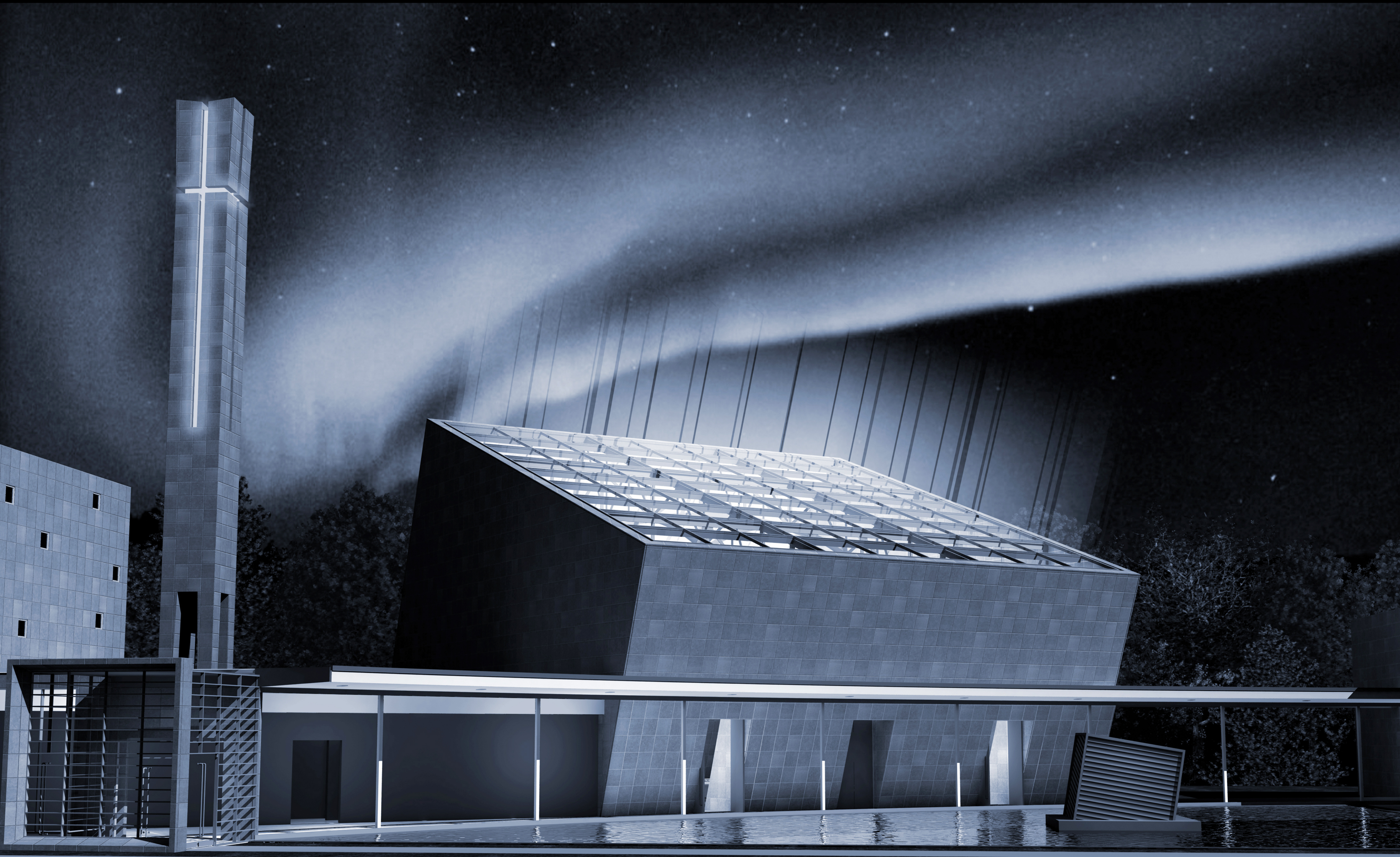
Sun Shading Detail
3" = 1'-0"



Roof Edge Detail
1-1/2" = 1'-0"



Sanctuary Section
1/4" = 1'-0"



Glow From Above

The campanile serves as both a bell tower and a light tower for Common Ground Church. The structure extends past the trees of the surrounding site, serving as a beacon that can be recognized from a distance. At night, the tower emits a celestial glow over the church.

