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## Bethlehem Lutheran Church: Can a Building Teach?

Tyler Bland  
*Virginia Commonwealth University*

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Bethlehem Lutheran Church: Can a Building Teach?

Tyler Bland  
MFA thesis



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School of the Arts  
Virginia Commonwealth University

This is to certify that the thesis project prepared by David Tyler Bland, Jr. entitled "The Bethlehem Music School: Can a Building Teach?" has been approved by his committee as satisfactory completion of the thesis project requirement for the degree of Master of Fines Arts.

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*Camden Whitehead, Advisor, Dept. Of Interior Environments, School of the Arts*

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*Dr. F. Douglas Boudinot, Dean of Graduate School*

*date*

# Thank You

Without the love, guidance, and support of the following people, these past 2 years would not have been possible.

With much love, THANK YOU:

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Chase Bland

Loyd and Vicki Jennings

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Barry and Pam Bland

Camden Whitehead

Christiana Lafazani

Rob Ventura

Dr. Sharran Parkinson

My class, the class of 2011

Mary Anne Tredway and Bethlehem Lutheran Church

Abstract 6  
Manifesto 8  
Thesis Statement 10

### **Programmatic Case Studies**

Glasgow School of Art 13-21  
James W. Black Music Center 22-27

### **Context Case Studies**

Stretto House 29-34  
Finlandia Hall 35-37

### **Process Case Studies**

Phillips Pavilion 39-43  
Paul Klee 44-48

### **Site Location**

Bethlehem Lutheran Church 50-57  
Design Solution 58

# Abstract

The public school system in America has slowly phased music education out of most students curriculum. Cutting these programs help schools manage their fiscal budget and also keep students in the classroom longer in hopes that the extra time will produce better test scores.

In recent years studies have shown that cutting music programs might not be in the best interest of students, or schools working for better test scores. One such study published in Social Science Quarterly, suggests that “students who participate in music are positively associated with academic achievement, especially during the high school years.”

If this study is true, and there is overwhelming evidence that music education helps with academic achievement in other disciplines, then why are our public schools still insisting on cutting music programs? Why are schools not offering alternatives to music education?

I plan to investigate a solution to this problem by designing an after school program for families who see the value in musical education, and who want their student/s to actively participate in music. The location for this after school program will be at what is now Bethlehem Lutheran Church, in the FAN district of Richmond, Va. at the corner of Ryland Ave. and Grace St.

Architecturally the shell of the space is Neo-Gothic. The interior of the sanctuary adheres to the same style while the attached 3 floor rear office space offers little interior architectural references to that style. The office space has the potential to be redesigned to suit the needs of the program while introducing an architectural relationship with the sanctuary.

The potential architectural relationship will be defined by the exploration of the concept “individual” versus “group”. This concept will additionally explore the notion of individual parts acting alone or working in conjunction with one another to operate as a whole. These drivers will help guide the design as it relates to music.



# Manifesto

I believe that design should be experienced.

Past experiences are the road map of how we react to similar situations in the future. They help define us as individuals.

As music is written to be played and heard, and architecture is designed to be built, it can then be understood that there is a certain pattern of design - an action and reaction.

There are certain songs that I hear, and even entire albums that can transport me back to an exact time and place in my life.

The experience of listening to music can be so vivid for me, that I remember true feelings, smells, and events as if they happened yesterday. Some music I listen to because I long for that past familiarity, and other music I avoid because of a past that I do not wish to revisit.

I believe that without an experience there is no reason to create. Without an experience, how do we know to move forward? What would we learn that would enable us to move forward?





# Thesis Statement

Do music education buildings exist only as structures to learn in,  
or can these buildings operate as facilitators of music education?

## programmatic case studies



13-21



22-27

## context case studies



29-34



35-37

## process case studies

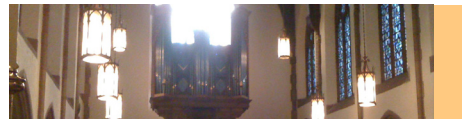


39-43



44-48

## site study



50-57

## design solution



58-81

## programmatic case studies



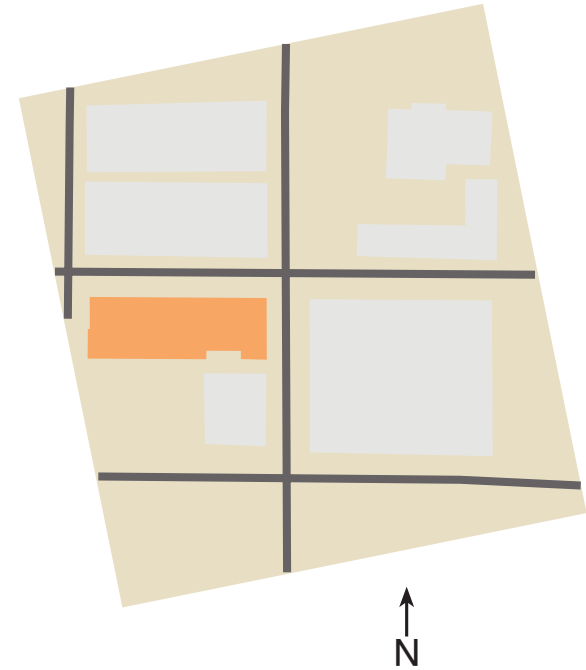
13-21



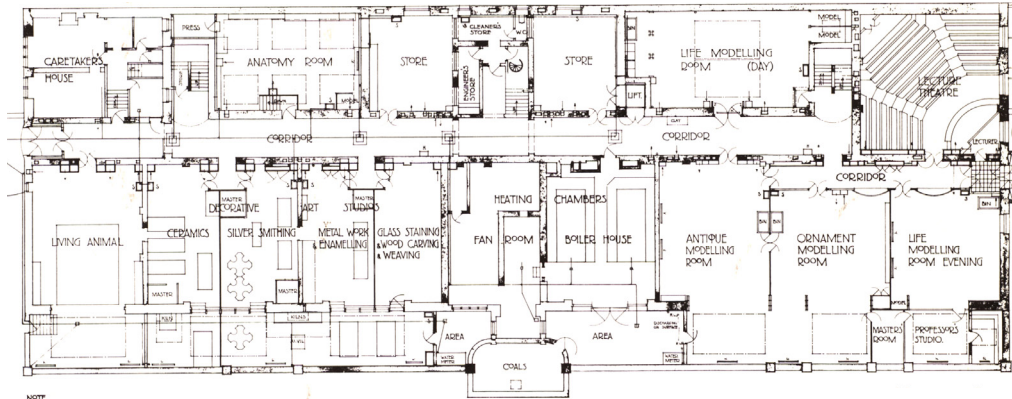
22-28

# The Glasgow School of Art

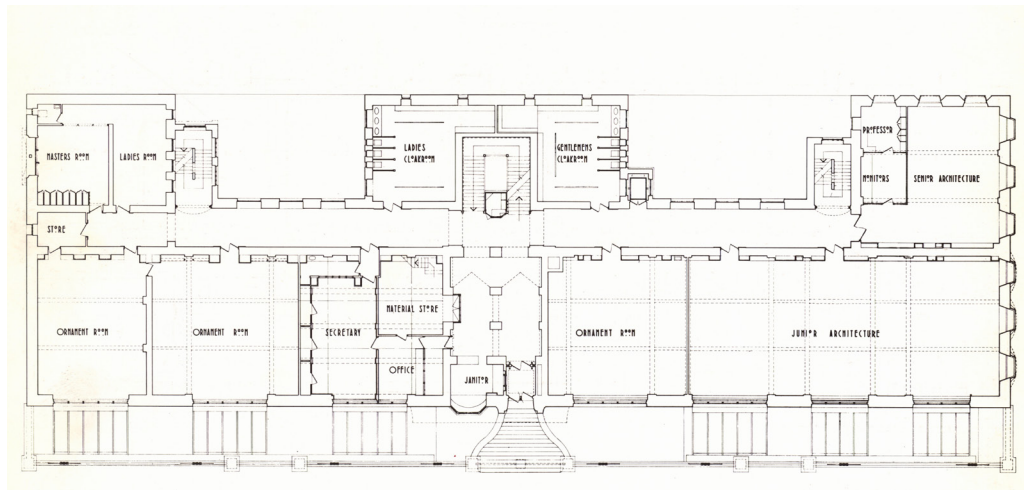
Glasgow, United Kingdom built between 1897 and 1909 by Rennie Mackintosh



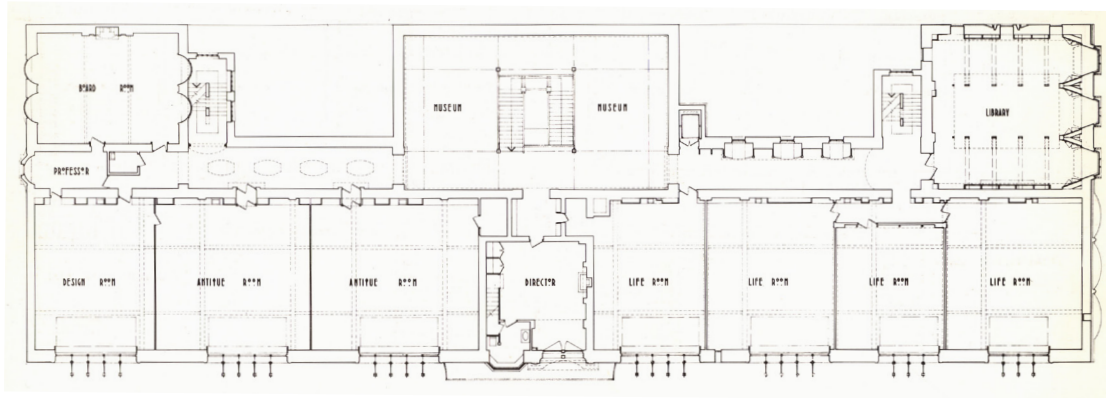
# The Glasgow School of Art



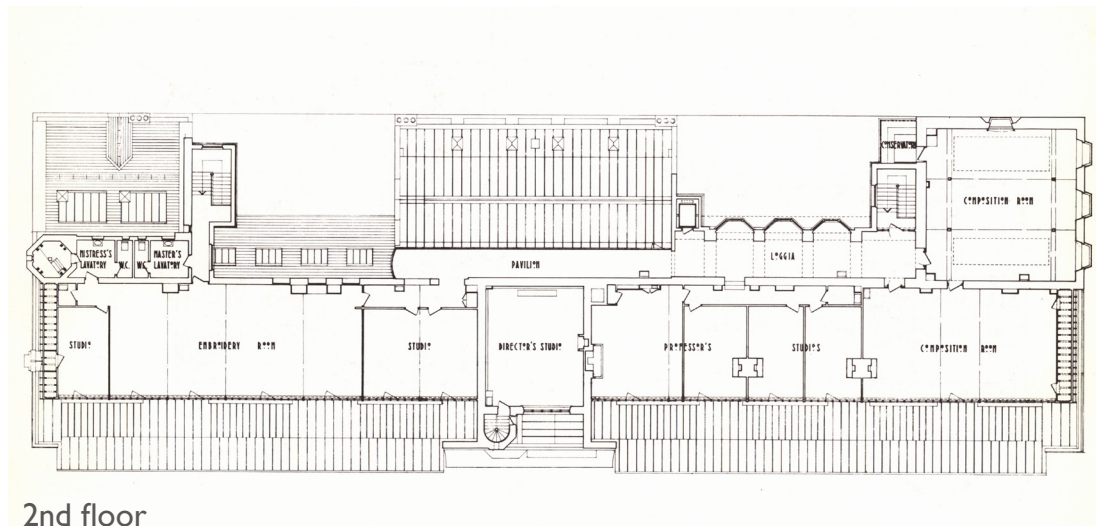
NOTE:  
basement



ground floor



1st floor

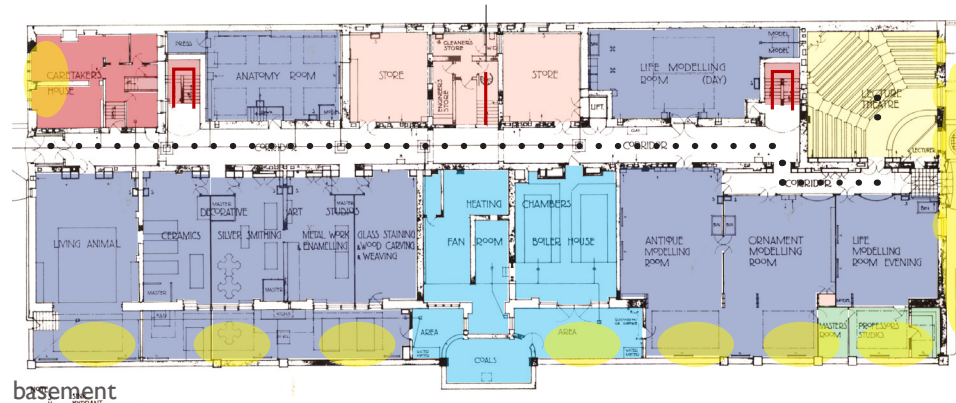


2nd floor



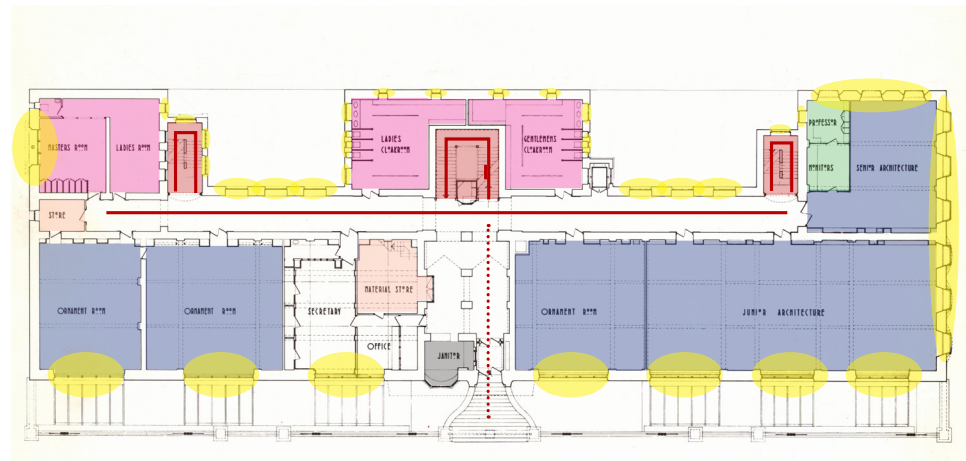


# The Glasgow School of Art



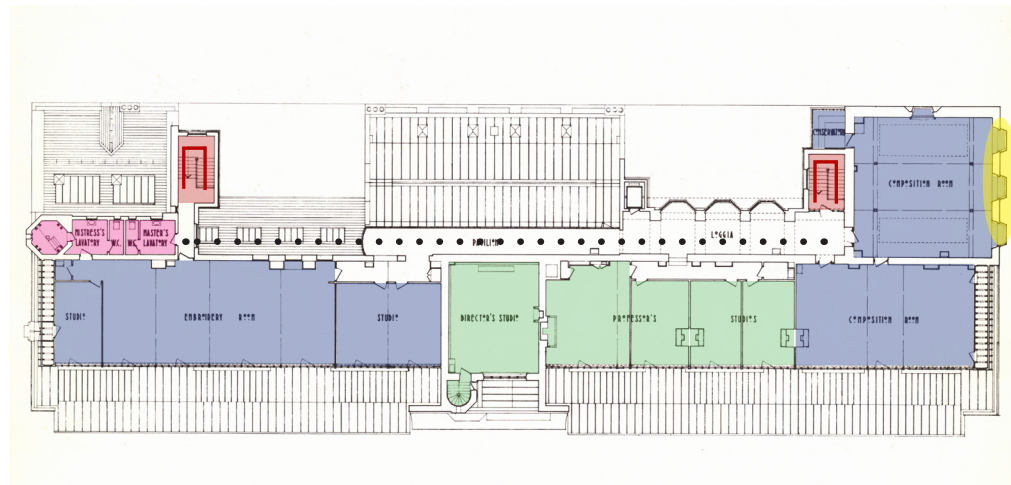
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|--|--|
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #90EE90; border: 1px solid black;"></span> faculty office | <span style="display: inline-block; width: 15px; height: 15px; background-color: #6A5ACD; border: 1px solid black;"></span> practice space |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #00BFFF; border: 1px solid black;"></span> equipment      | <span style="display: inline-block; width: 15px; height: 15px; background-color: #F08080; border: 1px solid black;"></span> stairs         |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFFF00; border: 1px solid black;"></span> classroom      | <span style="display: inline-block; width: 15px; height: 15px; background-color: #D2B48C; border: 1px solid black;"></span> museum         |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFDAB9; border: 1px solid black;"></span> closet         | <span style="display: inline-block; width: 15px; height: 15px; background-color: #DDA0DD; border: 1px solid black;"></span> vestibule      |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #DC143C; border: 1px solid black;"></span> care taker     | <span style="display: inline-block; width: 15px; height: 15px; background-color: #FF8C00; border: 1px solid black;"></span> library        |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #A9A9A9; border: 1px solid black;"></span> janitor closet |  |

- |  |
|--|
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFFF00; border: 1px solid black;"></span> natural light  |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #DC143C; border: 1px solid black;"></span> medium traffic |
| <span style="display: inline-block; width: 15px; height: 15px; border-top: 1px dotted red;"></span> high traffic                           |
| <span style="display: inline-block; width: 15px; height: 15px; border-top: 1px dotted black;"></span> general traffic                      |





1st floor



2nd floor

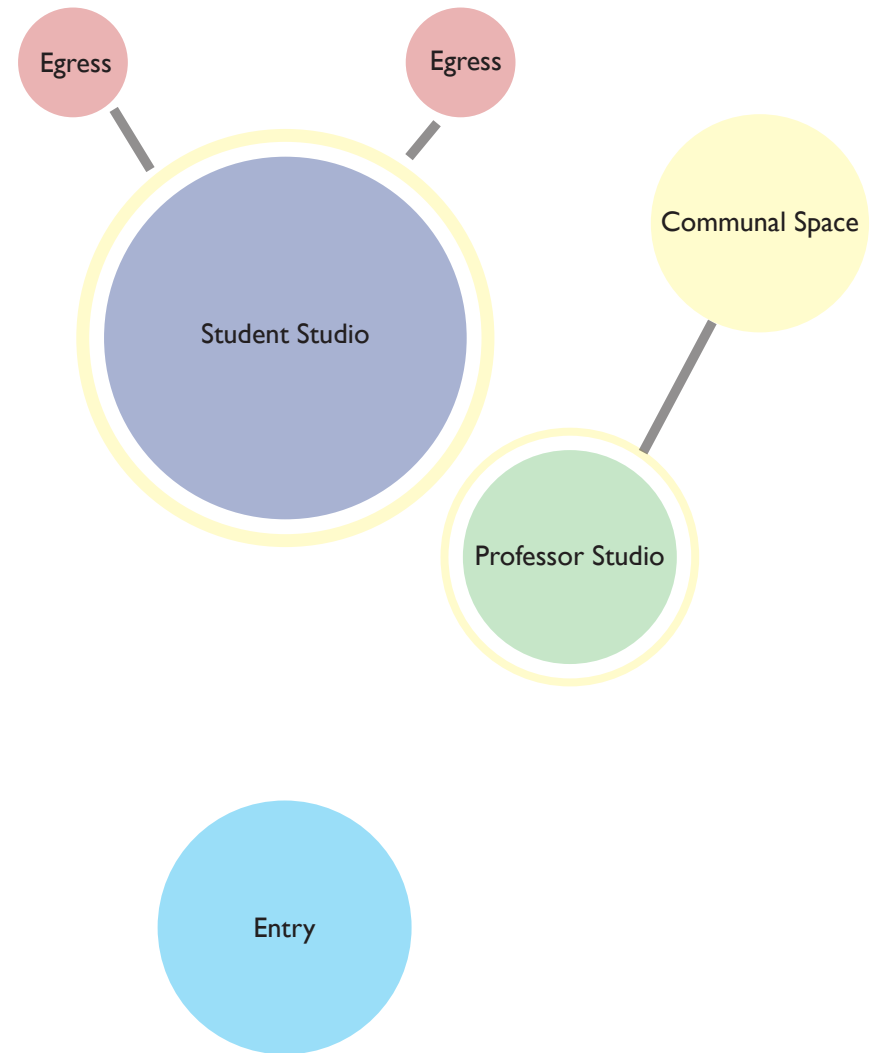


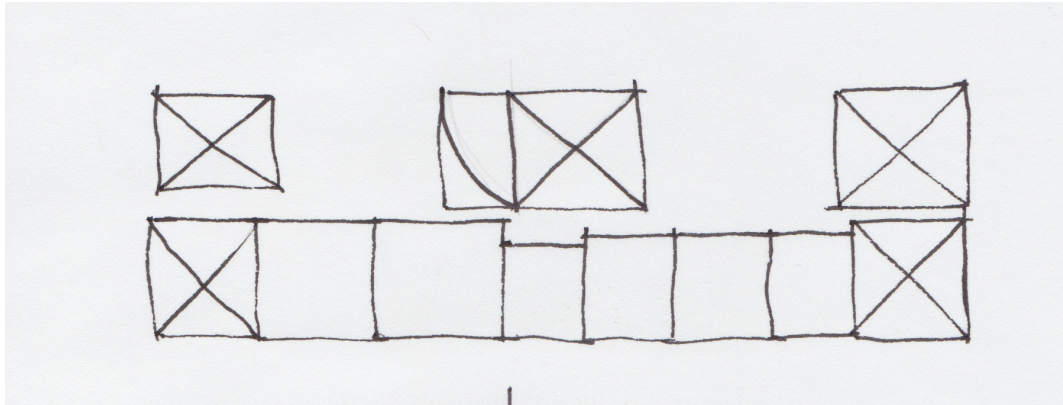


# The Glasgow School of Art

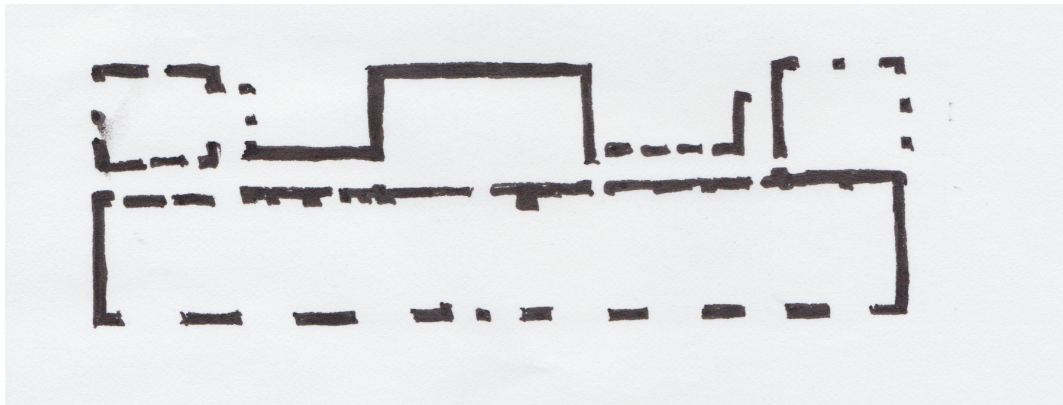
Professor/student interaction is highly encouraged in this relationship diagram and shows that there is an emphasis on student space and work space

All spaces seem to have a large degree of natural light due to the amount of windows on the left, right and front facade of the school. This is important to maintaining a well lit working environment



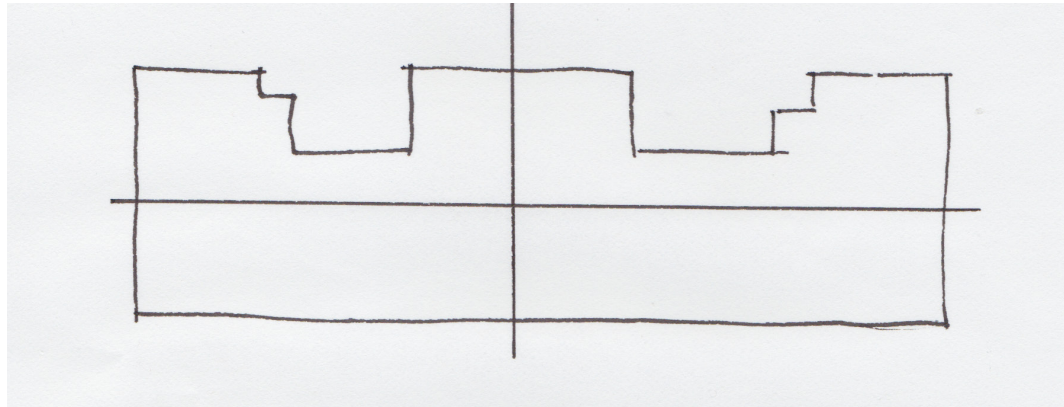


geometry/proportion

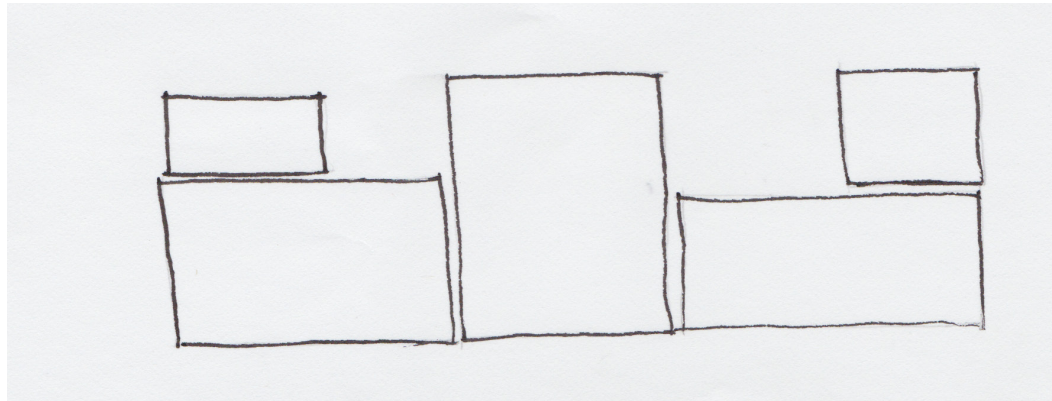


structure

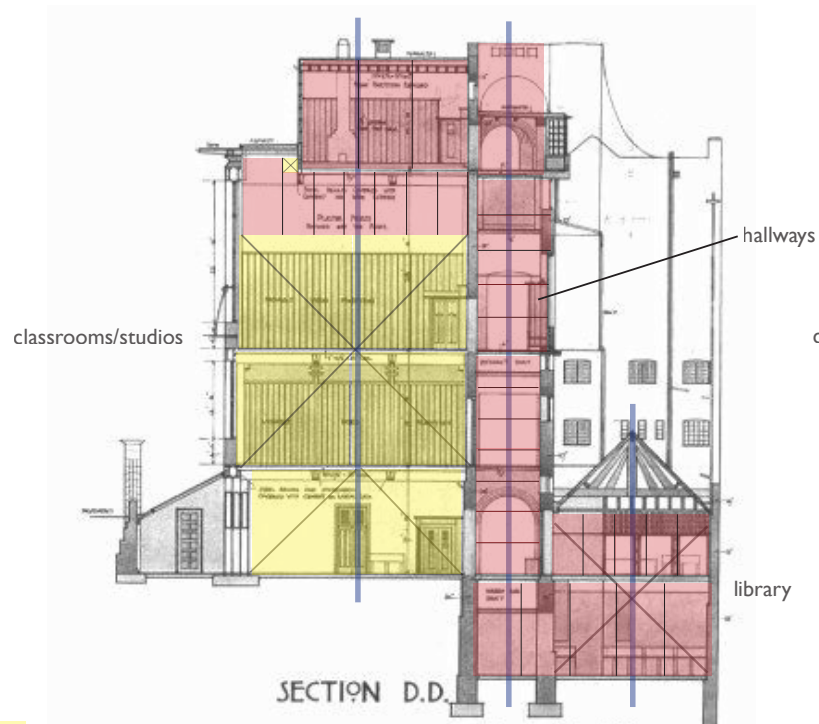
# The Glasgow School of Art



symmetry

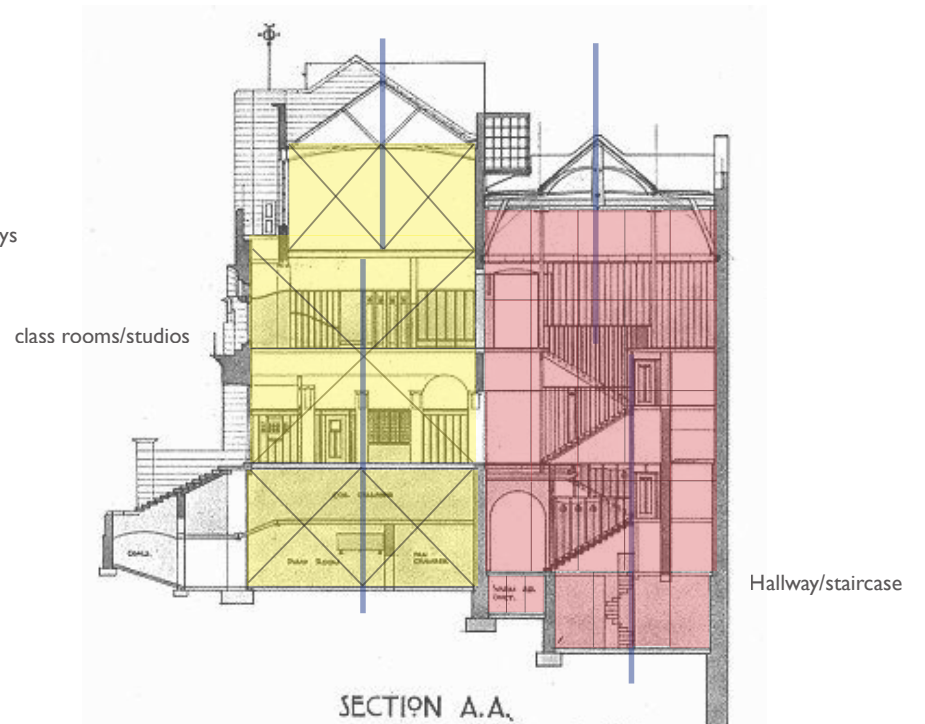


massing



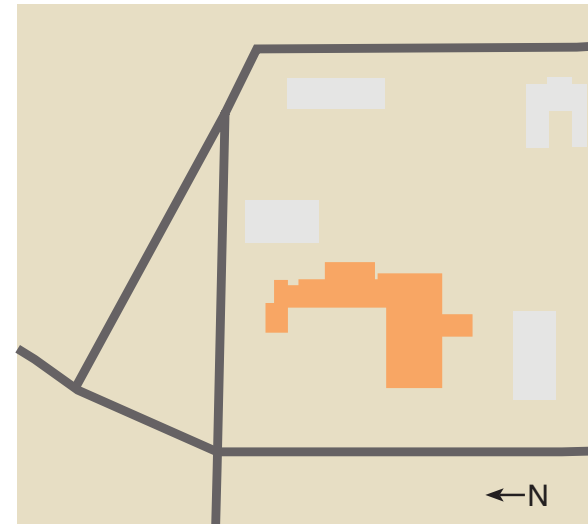
rectangle

golden rectangle



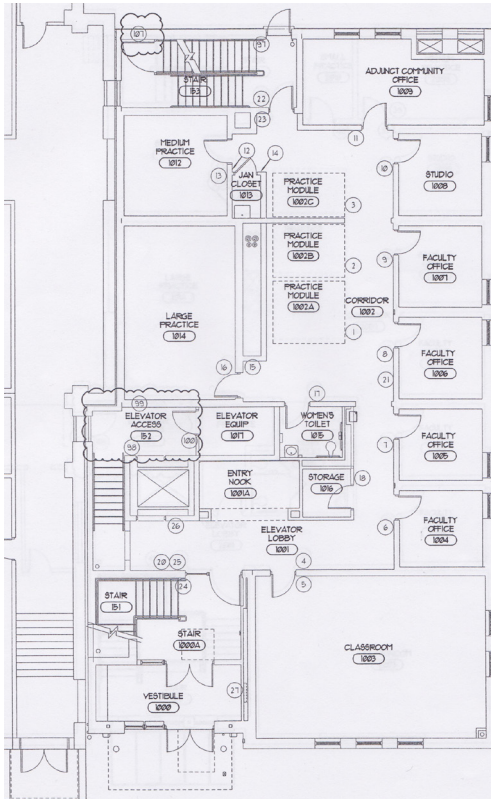
# James W. Black Music Center

Richmond, Virginia

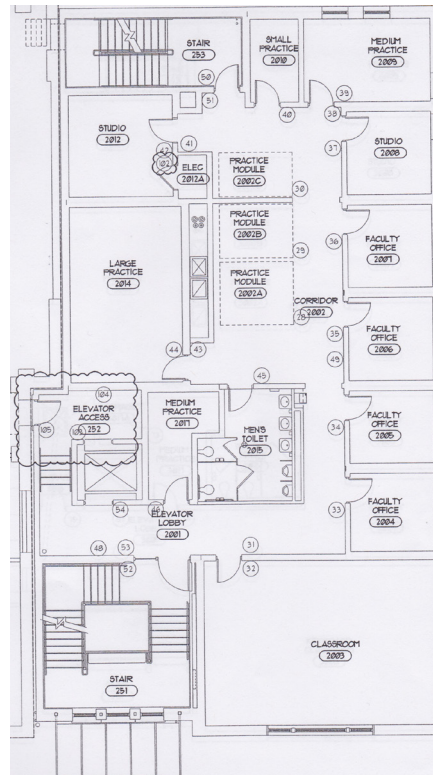




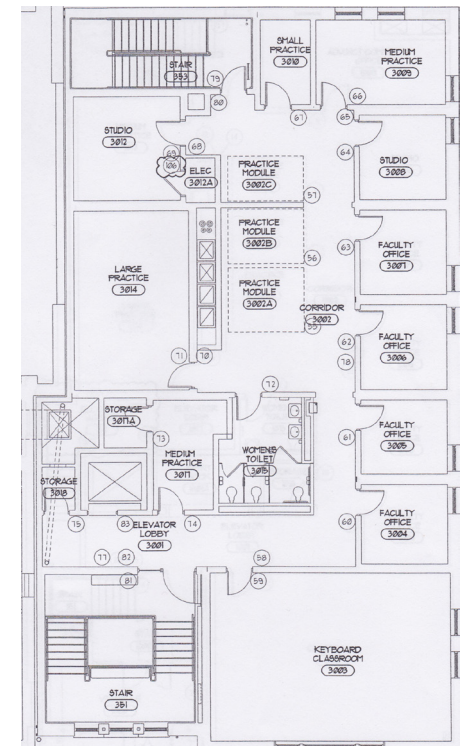
1st floor practice/office side



2nd floor practice/office side



3rd floor practice/office side



300 person recital hall

12 faculty offices

3 classrooms (30 students)

6 individual practice spaces

4 medium practice spaces (4-5 person)

2 small practice spaces (1-3 persons)

3 large practice spaces (10-15 persons)

4 studios (lessons)

←N Harrison

# James W. Black Music Center

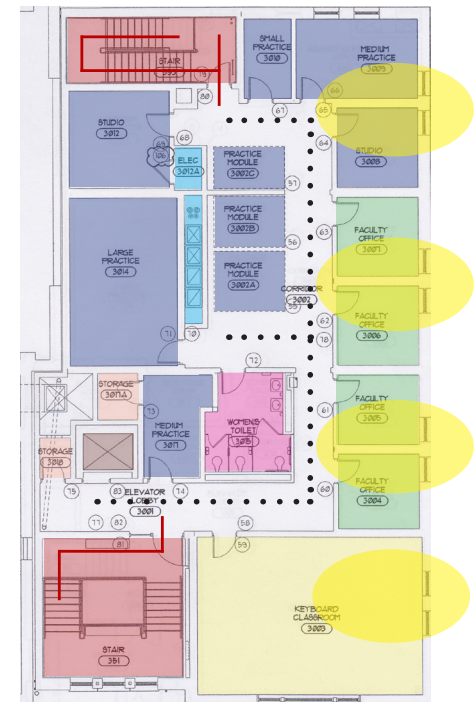
1st floor practice/office side



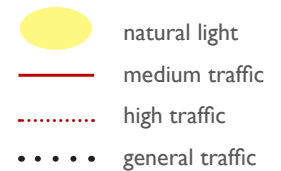
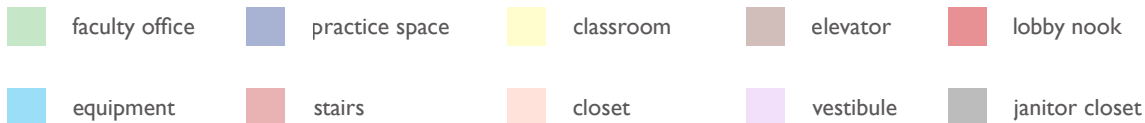
2nd floor practice/office side



3rd floor practice/office side



← N Harrison



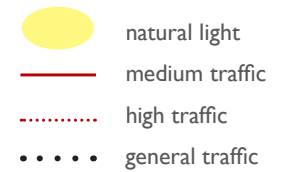
← N

Floor plan of the second floor of the University of Maryland Eastern Shore. The plan shows several rooms and areas:

- 202 HALL: 429 SF (Yellow)
- 203: 5049 SF (Green)
- 204 STAIRS: 220 SF (Pink)
- 205 STAIRS: 192 SF (Pink)
- 206: 1096 SF (Blue)
- 207: 43 SF (Brown)
- 208: 27 SF (White)
- 209: 303 SF (White)
- 210: 66 SF (White)
- 211: 90 SF (White)
- Stage: 5049 SF (Green)
- Closet: 90 SF (White)
- Bathroom: 66 SF (White)

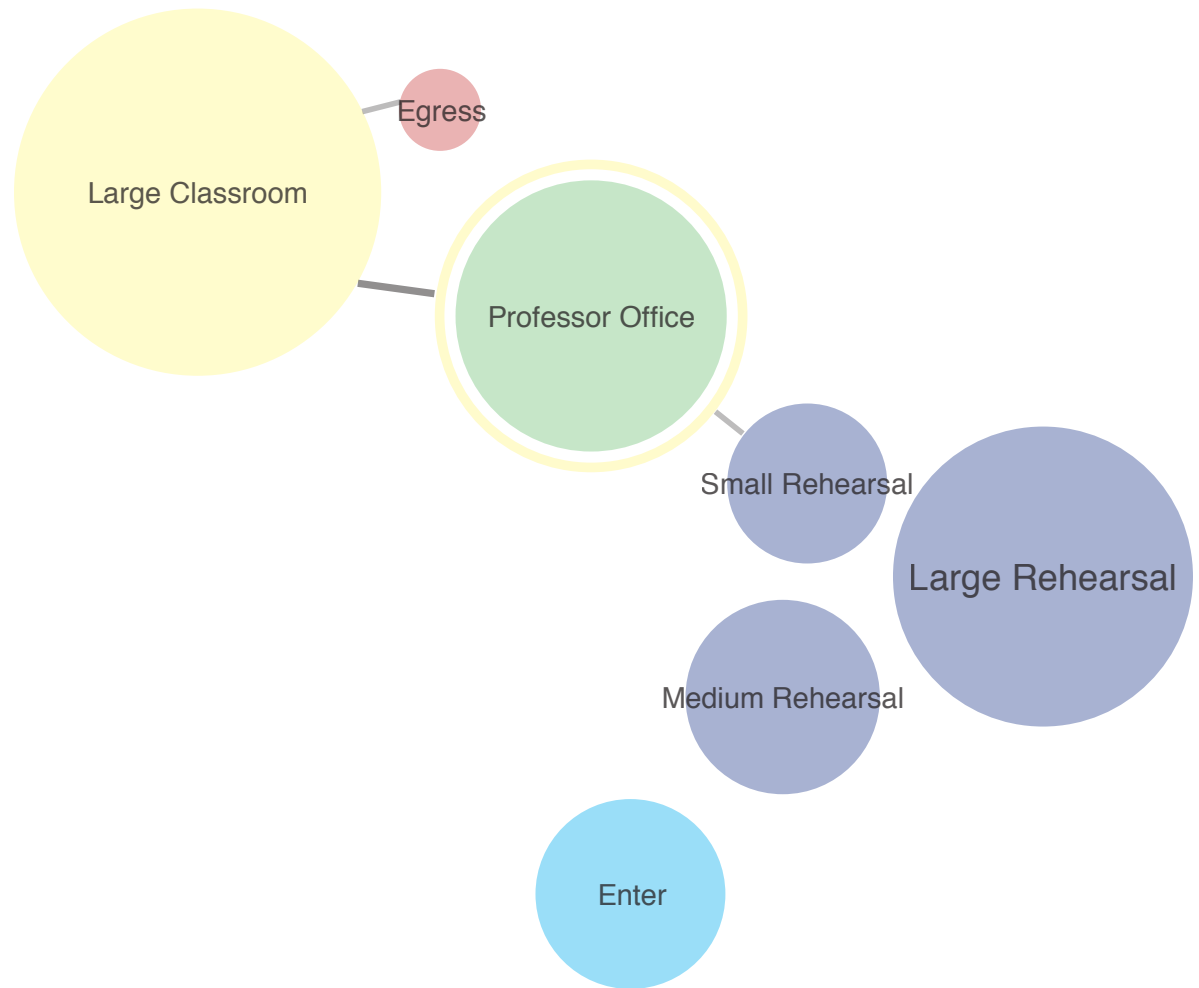
The plan also includes a north arrow and a scale bar.

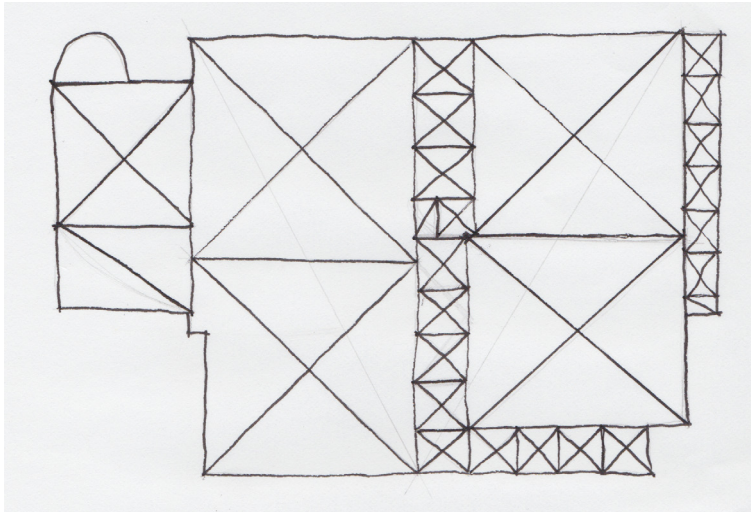
entrance from practice/office side to theater





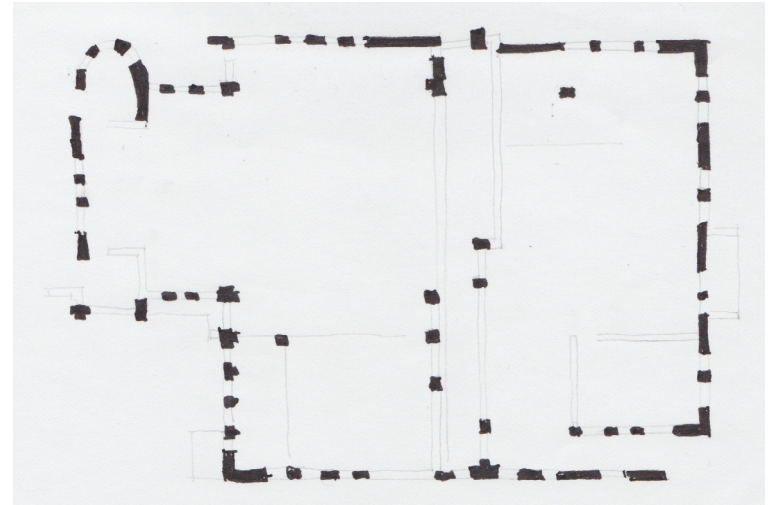
# James W. Black Music Center





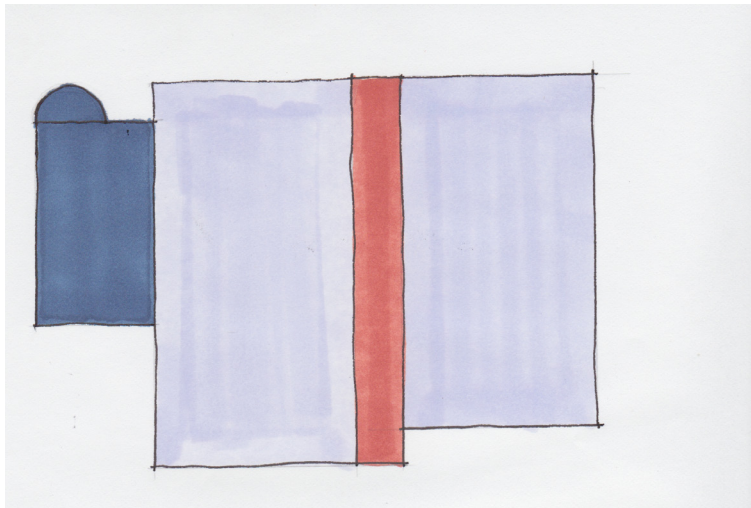
geometry/proportion

Harrison



structure

Harrison



parti

Harrison

← N

## context case studies



29-34



35-37

# Stretto House

*Dallas, Texas built between 1989 - 1992 by Steven Holl*

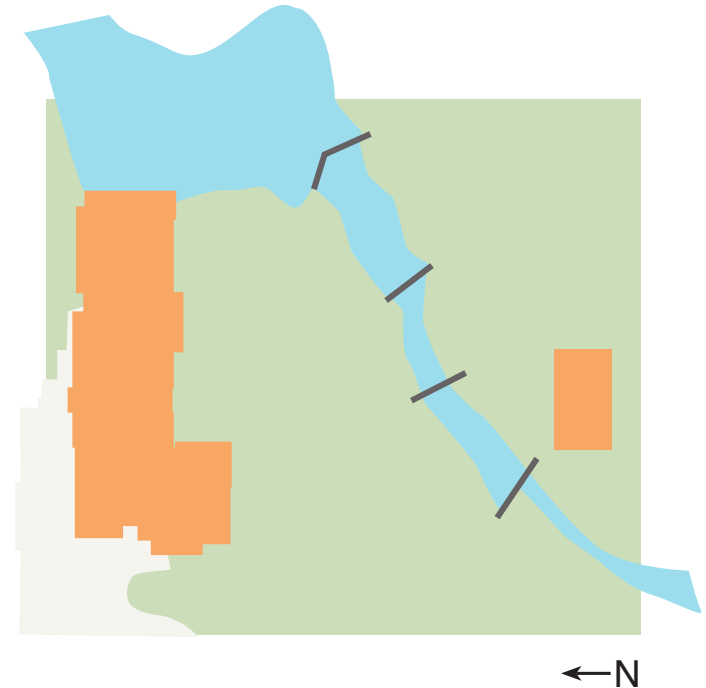


## site

The site is characterized by a river that feeds three ponds on the property. Each pond has a concrete wall that the water falls over and into the river creating a constant murmur of running water

## concept

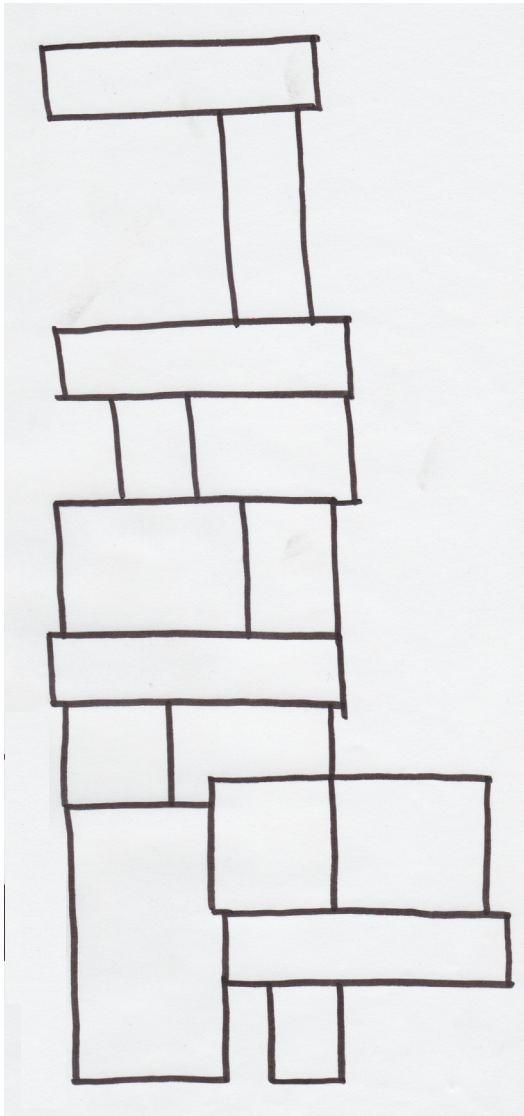
"*Music for strings*" written in 1936 by Hungarian composer, Béla Bartók became the concept for the house. The piece of music was divided into four parts and characterized by overlapping percussions (heavy) and string instruments (light). Powerful flows of rhythmical divisions and irregular tensions made time seem to stand still or to rush forward with irresistible momentum.



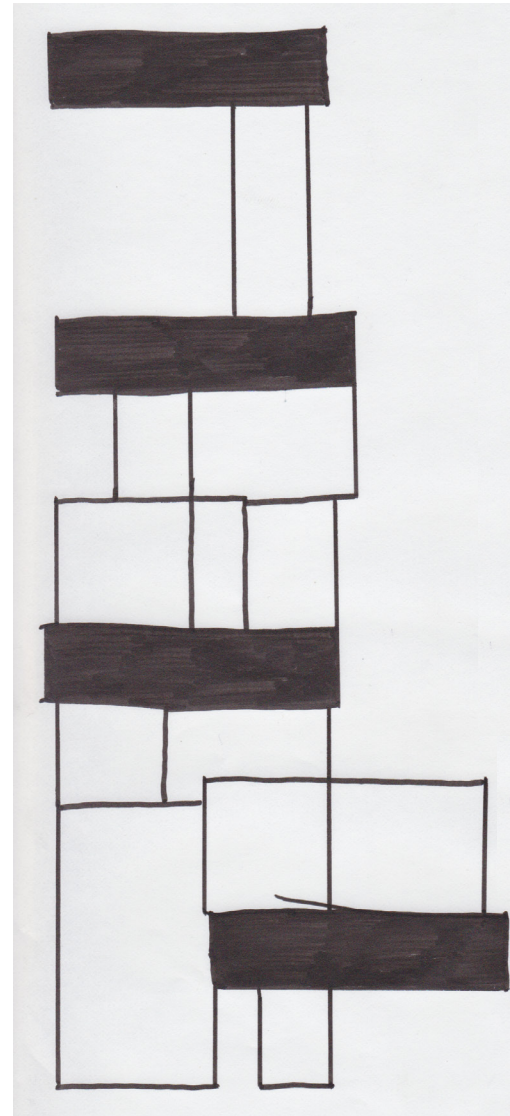
# Stretto House





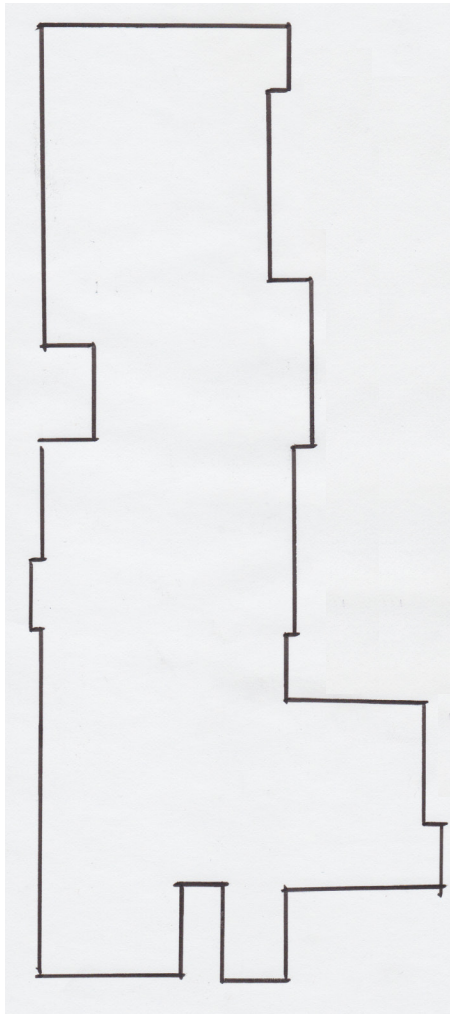


geometry



structure

# Stretto House

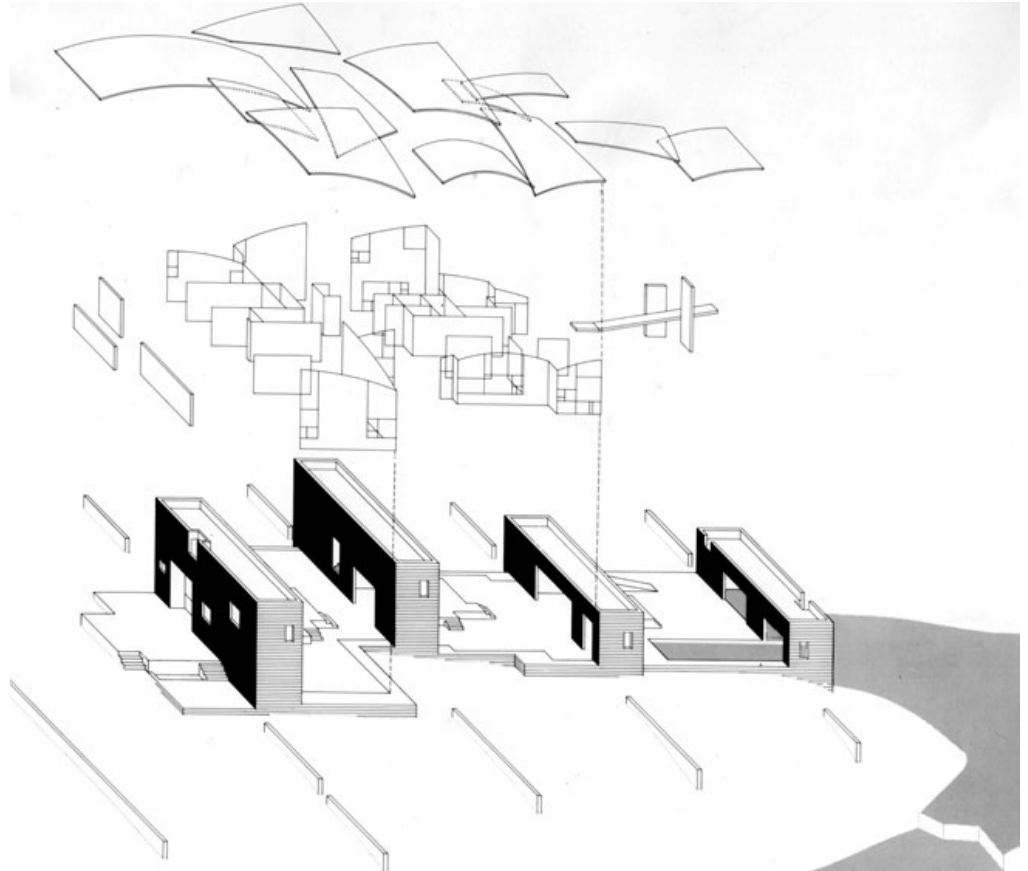


massing



structure

The Stretto House exemplifies the poetic nature of Holl's architecture, as well as his method of following an initial concept to its fullest realization. The need for protection from the scorching texas sun led Holl to explore the ideas of shadow and overlap; the bold overlapping stretto between heavy percussion and light strings in Bela Bartok's Music for Strings, percussion, and celeste proved fertile for the form and construction of the residence. like Bartok's score, the house has four sections, each consisting of heavy concrete-block "spatial dams" with light metal-roofed "aqueous space" flowing between. Orthogonal floors pull one space through to the next, while curvilinear roofs stretch space over the walls. essential to the sequential balance are rich details and carefully selected materials, including glass slumped or cast in fluid shapes and liquid terrazzo



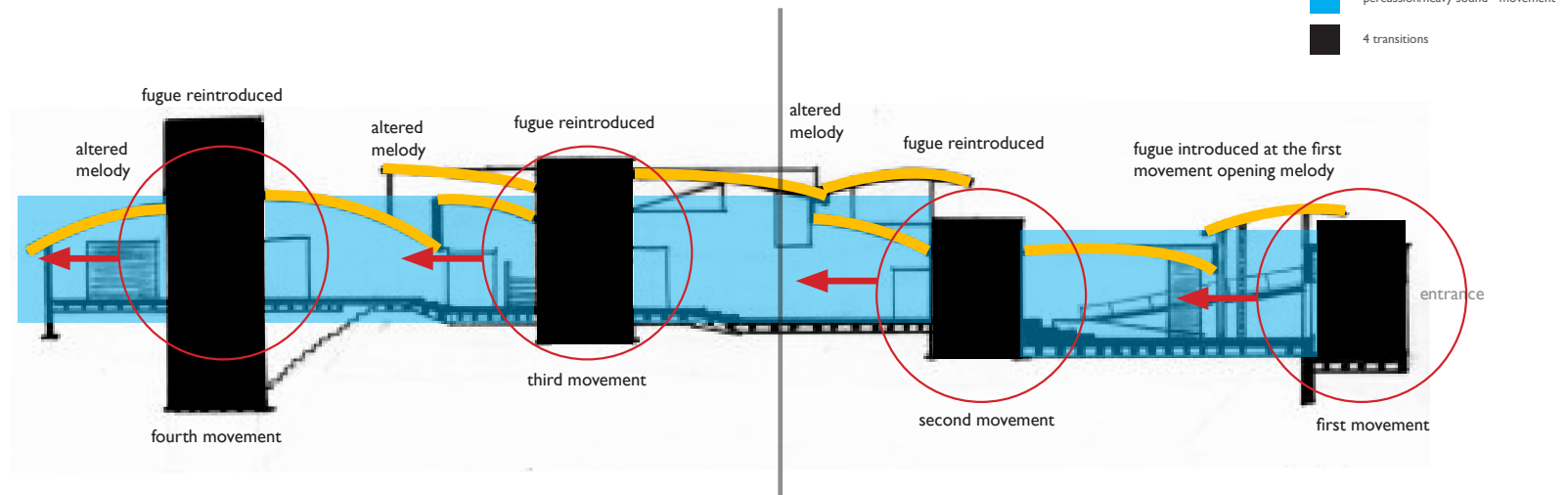
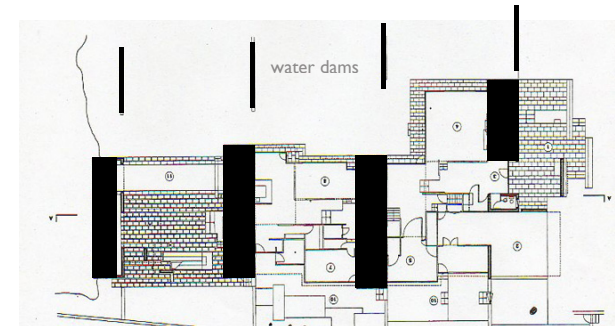


# Stretto House

The rectangular masonry units of the Stretto House are in line with the river dams and mimic the transition of the water from one dam to the next. The water flowing over the dams acts as the proverbial “stretto” as it overlaps from one movement to the next. The livable space in the Stretto House is each one of these movements. Each space needs each other to exist much like each movement of “Music for Strings” needs each other to exist.

A movement is defined by a self contained part, or section, of a musical composition or form. The performance of a complete work requires all the movements to be performed in succession.

“Music for Strings” is broken up into four movements with the first movement being a fugue. A fugue in it's simplest definition is a theme that is introduced during the opening movement of a composition and then reoccurs during every other consecutive movement before the movement finishes (stretto). Holl uses the fugue to begin his design and every other consecutive movement in the Stretto House begins with a masonry unit and is then overlapped into a new room design and again starting with a masonry unit.



# Finlandia Hall

Helsinki, Finland by Alvar Aalto



## site

Finlandia Hall exhibits many of the ideas that Aalto experimented with during his lifelong preoccupation with monumental building construction. It is a decoratively conceived composition of cubist forms which constitutes a many faceted whole. None of these elements are, however, purely decorative; Aalto remained faithful to functionalism to the extent that he always sought a practical reason for his forms.

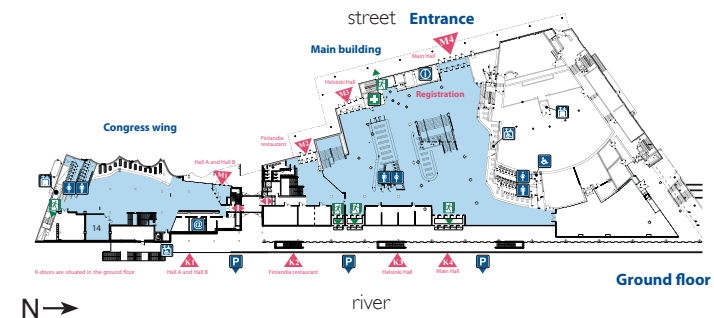
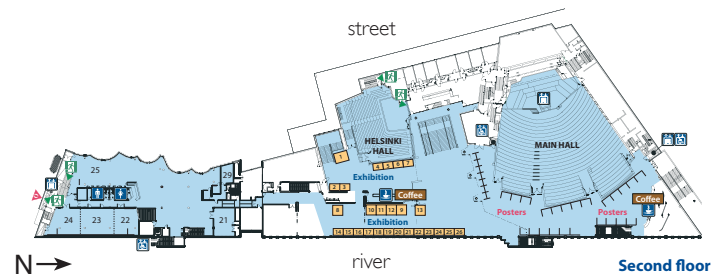
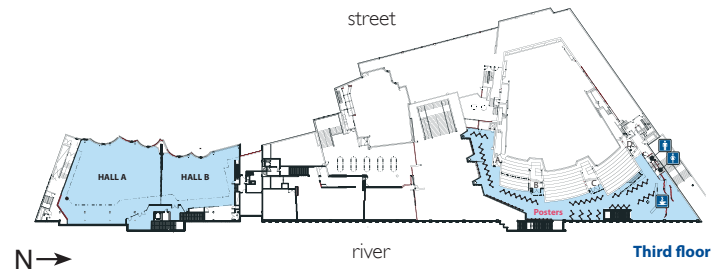
## concept

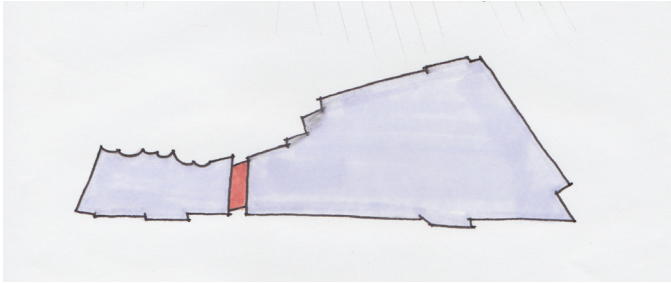
The main idea of Finlandia Hall with its tower shaped part and inclined roof rising over the whole structure was, as Aalto thought, to improve the acoustics of the concert hall by providing a resonance area overhead creating the kind of acoustic effect that high churches possess. It is unfortunate that this attempt proved in practice to be partially unsuccessful.



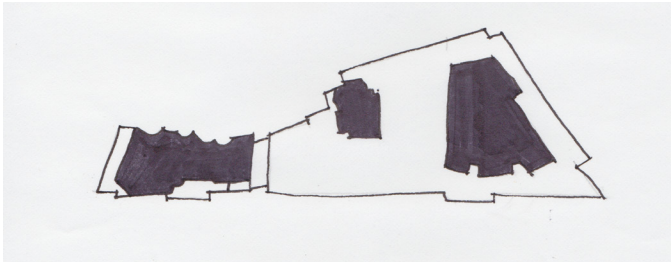
# Finlandia Hall

The outside facade facing the street entrance to Finlandia Hall is designed to be less imposing for those walking up while the backside facing the water is more monumental.

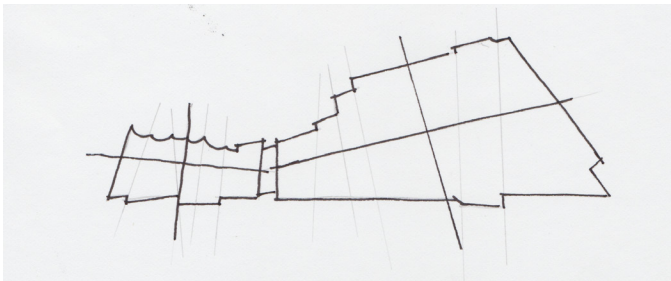




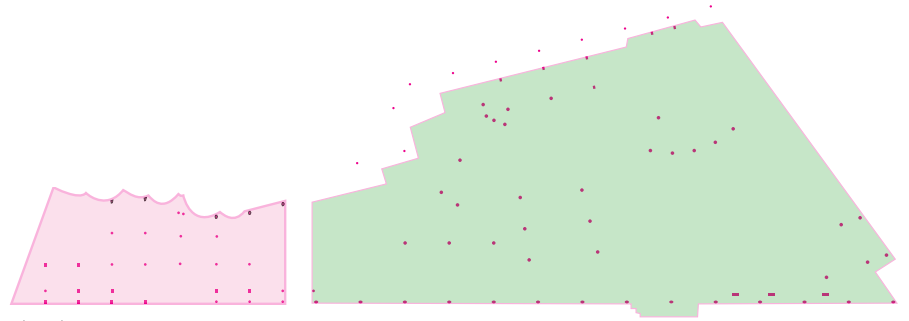
mass



parti



symmetry



structure

## process case studies

### process case studies



39-43



44-48

# Phillips Pavilion

*World's Fair pavilion designed for Expo '58 in Brussels by le corbusier*

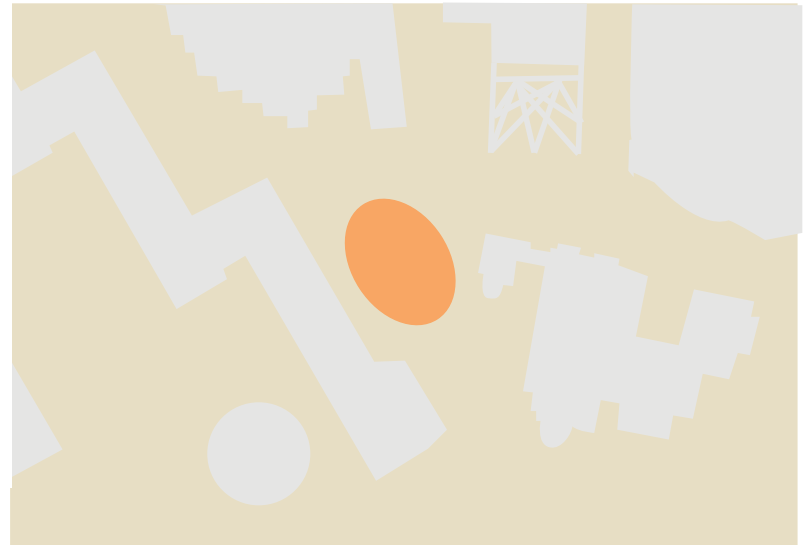


## concept

The concept starts with the “stomach” floor plan. One enters, digests, and then exits. The inhabitants were subjected to a modern video created by Corbusier along with music called “*Poeme Electronique*” playing from 50 speakers inside the pavilion.

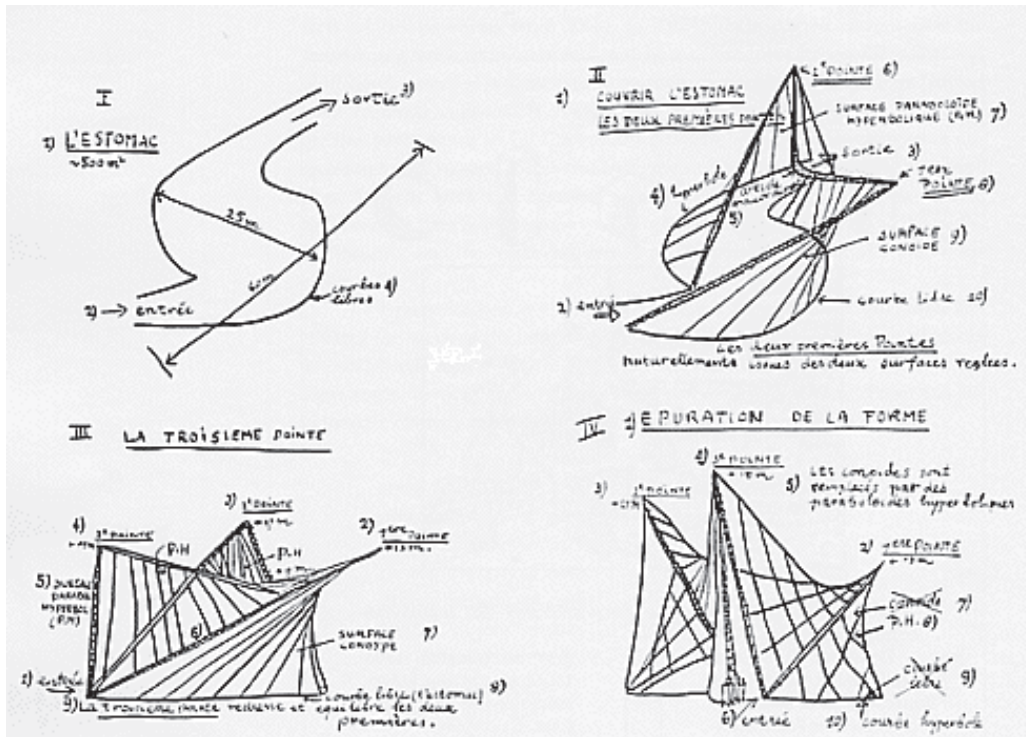
*Metastasis*, an orchestral work by Iannis Xenakis, became the concept for the overall aesthetic of the pavilion.

The preliminary sketch for the orchestral work, “*Metastasis*” was in graphic notation looking more like a blueprint than a musical score. It consisted of graphs of mass motion and glissandi like structural beams of the piece, with pitch on one axis and time on the other. In fact, this design ended up being the basis for the Phillips Pavilion.

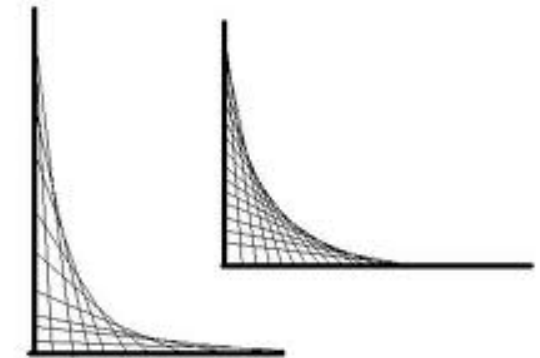




# Phillips Pavilion

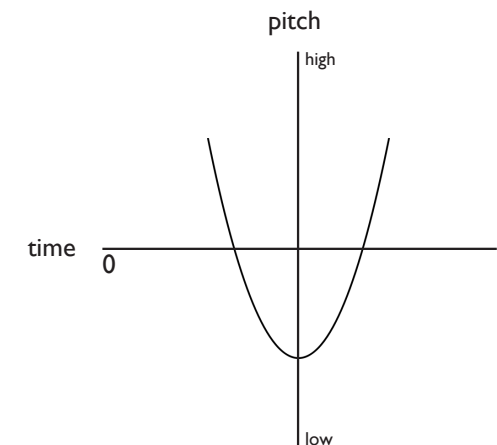


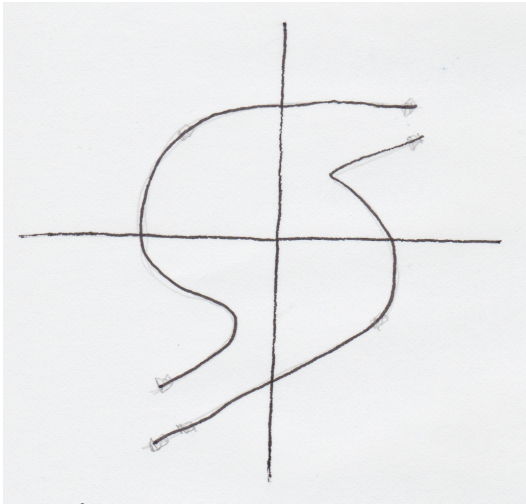
The time signature/rhythm is located at the base of the design and the increments for each section are all spaced evenly. the angle and heights of the three points are all constituted by the pitch changes of the music.



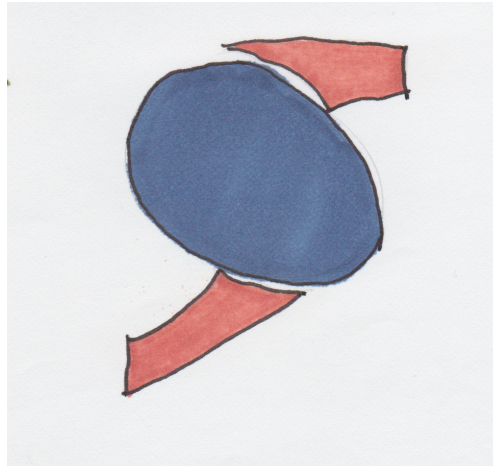
A parabola is the set of all points that are the same distance from a line

The Phillips Pavilion is a cluster of nine hyperbolic paraboloids, composed asymmetrically to create dynamically-angled contours





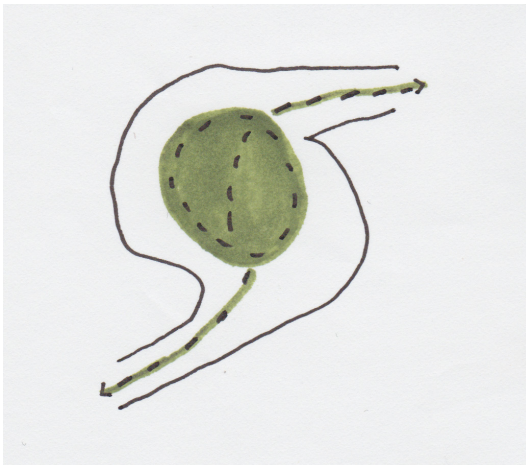
symmetry



parti



structure



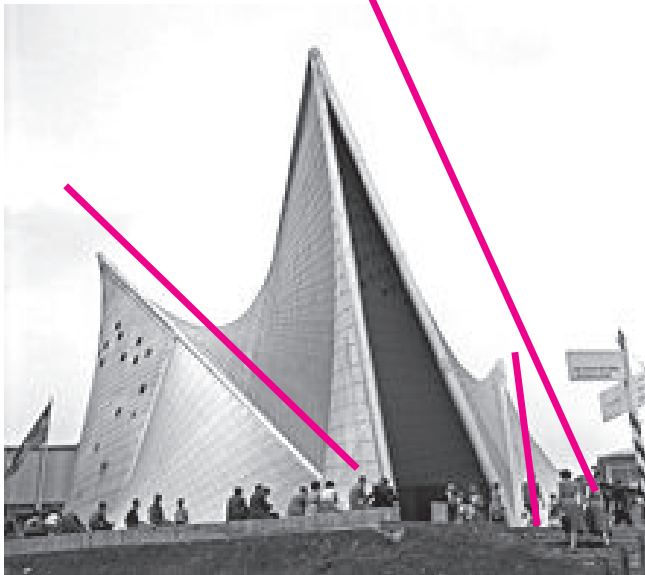
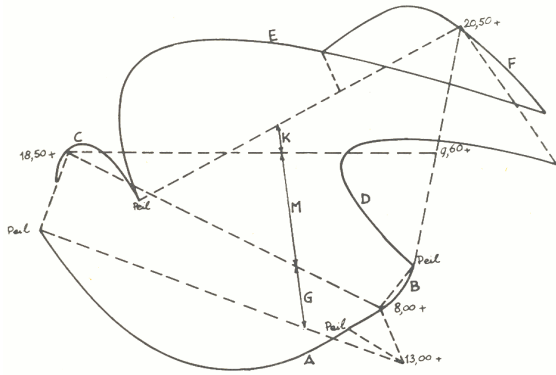
circulation



massing



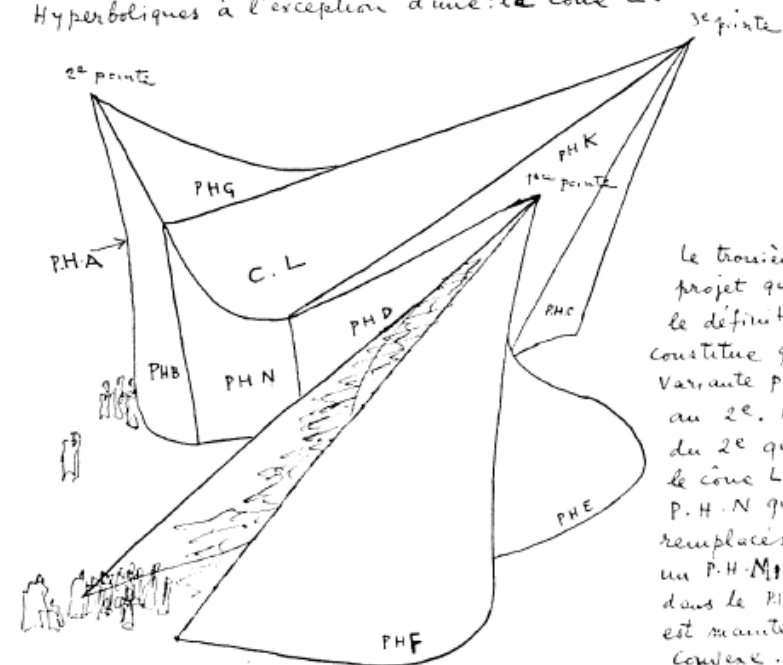
# Phillips Pavilion



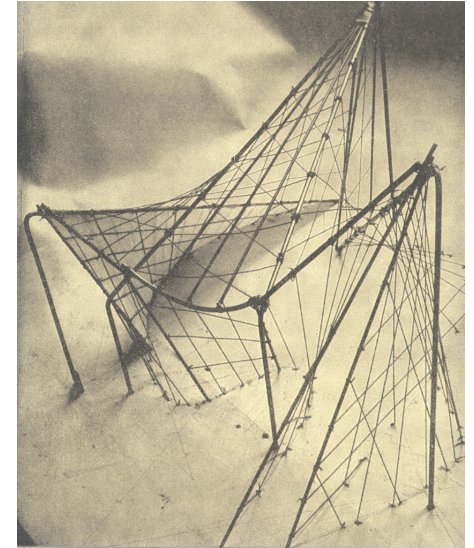
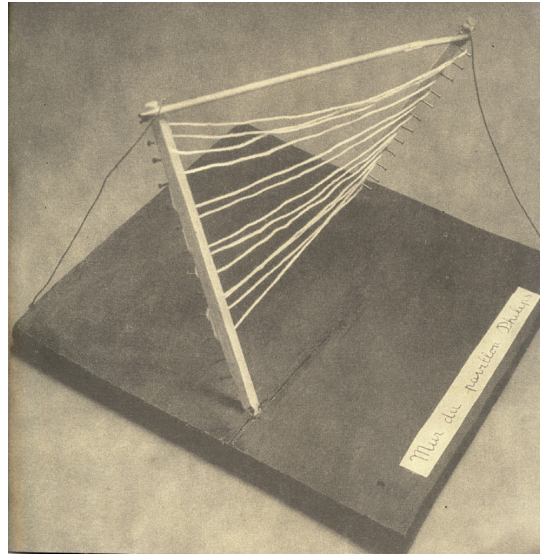
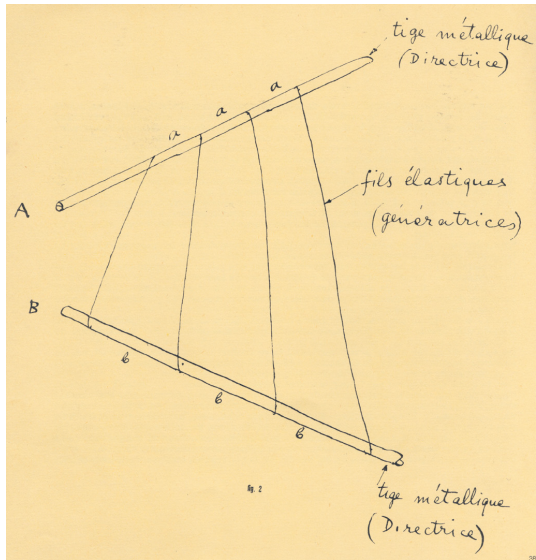
The Phillips Pavilion blurred the distinction between walls and ceiling, as well as space and time to showcase Phillips brand as being far superior to other electronic brands of the time

## 2<sup>e</sup> PROJET

Toutes les surfaces du 1<sup>er</sup> projet sont transformées en Paraboloïdes-Hyperboliques à l'exception d'une: le cône L.

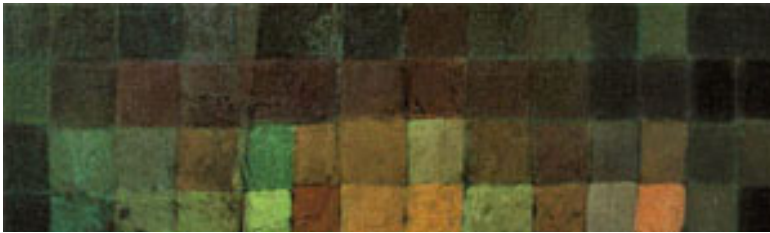


Le troisième projet qui est le définitif ne constitue qu'une variante par rapport au 2<sup>e</sup>. Il diffère du 2<sup>e</sup> que: dans le cône L et le P.H.N qui sont remplacés par un P.H.M et dans le P.H.C qui est maintenant convexe.



## Paul Klee

1879 - 1940

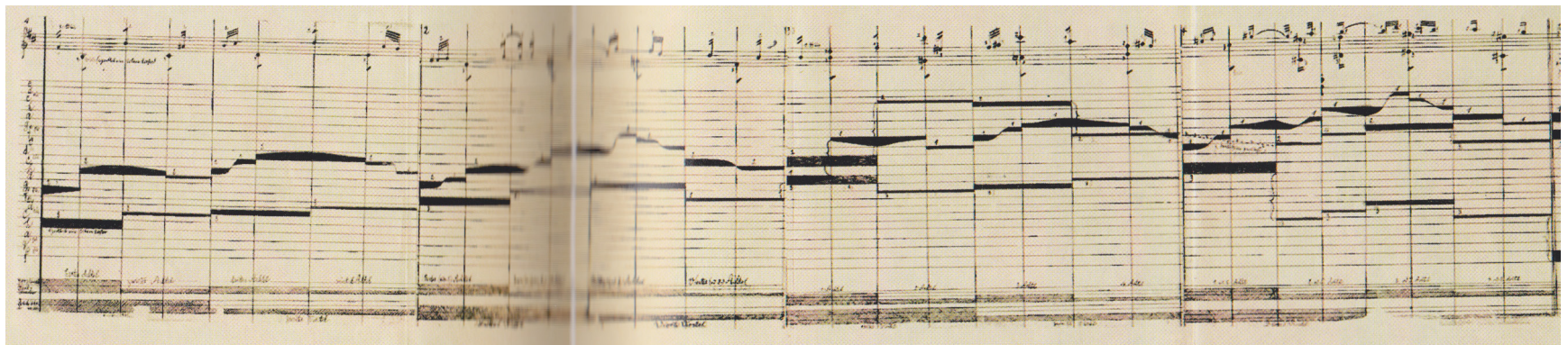


Paul Klee's theory of form begins with an analysis of the line. The line, as Klee sees it, derives from the movement of a point in space. There are "active, medial, and passive lines" as well as the positive and planar elements resulting from them. Intertwining lines are able to produce the most varied forms of expression ranging from tranquillity to turbulence.

Several parallel lines combine to form simple patterns which Klee termed "structural rhythms". Klee used this rhythm as a bridge to begin studying temporal rhythms of music to break them down and visually represent music. Klee mapped out a graphical system for registering the pitch of notes over three octaves. underneath this system, Klee mapped out the rhythmic groupings and dynamics as well as the measured rhythm.

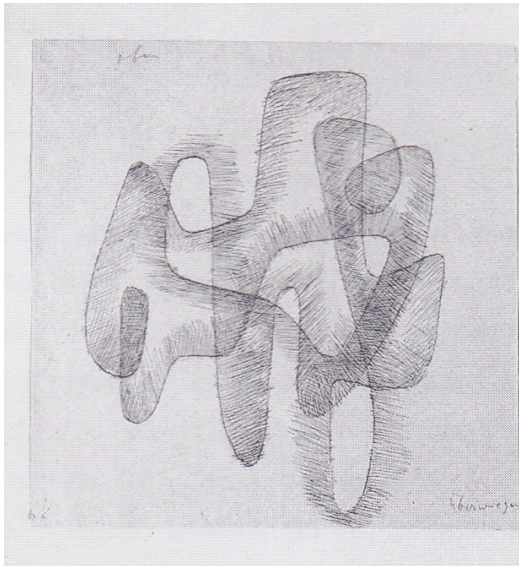
From the rhythms Klee could explain the difference between "individual" and "structural" or what he termed "dividual" components of musical composition. This means that elements that are structural or dividual are part of a larger unit characterized by rhythmic repetition without variation and are able to be subdivided.

The individual components are defined as a rhythmically independent, irregular and non repeatable unit of composition which remains indivisible.

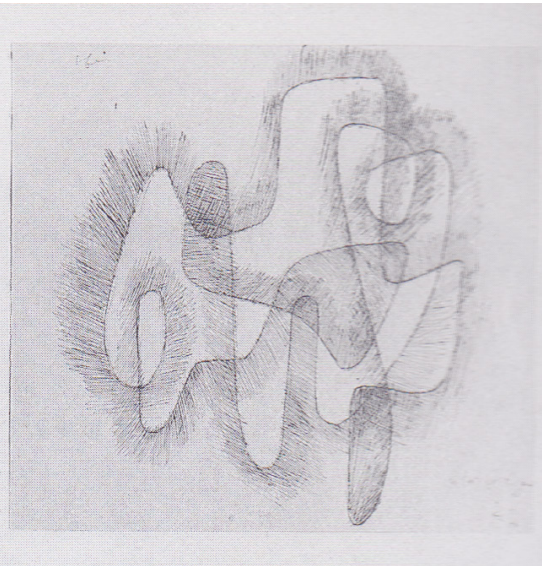




a



b



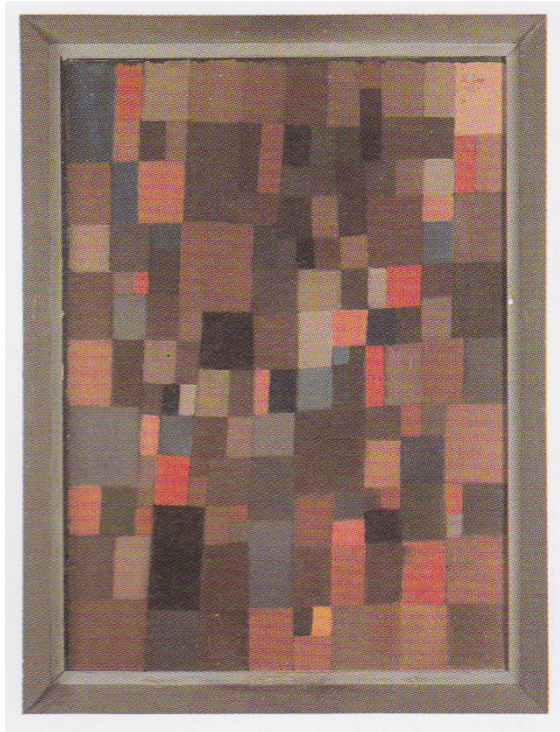
## Polyphonic Painting

Klee defined overlapping colors of paint “polyphony”. Polyphony describes music containing parts of equal significance which are played simultaneously.

Klee stated that simple movement is banal to us. The element of time is to be eliminated. Yesterday and today are working at the same time. Polyphonic painting is then defined by the layering of various structured areas produces a composition of many voices, a harmony of forms in which color takes on a specific meaning.

Examples, “A” and “B” demonstrate this definition. In one stroke Klee would draw a line that would cross its self several times to form loops or knots. The parts left blank with in the tangle of lines could then be filled with cross hatchings and shading to create something he termed “positively internal” or negatively external”

# Paul Klee



Blue - Orange Harmony by Paul Klee

As Paul Klee developed his rhythmic style, color began to play an important role in his work. Klee examined relationships between specific colors in terms of their expressive content. By doing this, Klee discovered different forms of “movement” or changes that can occur:

*Diametric motion between complementary colors beyond their mutual grey point,*

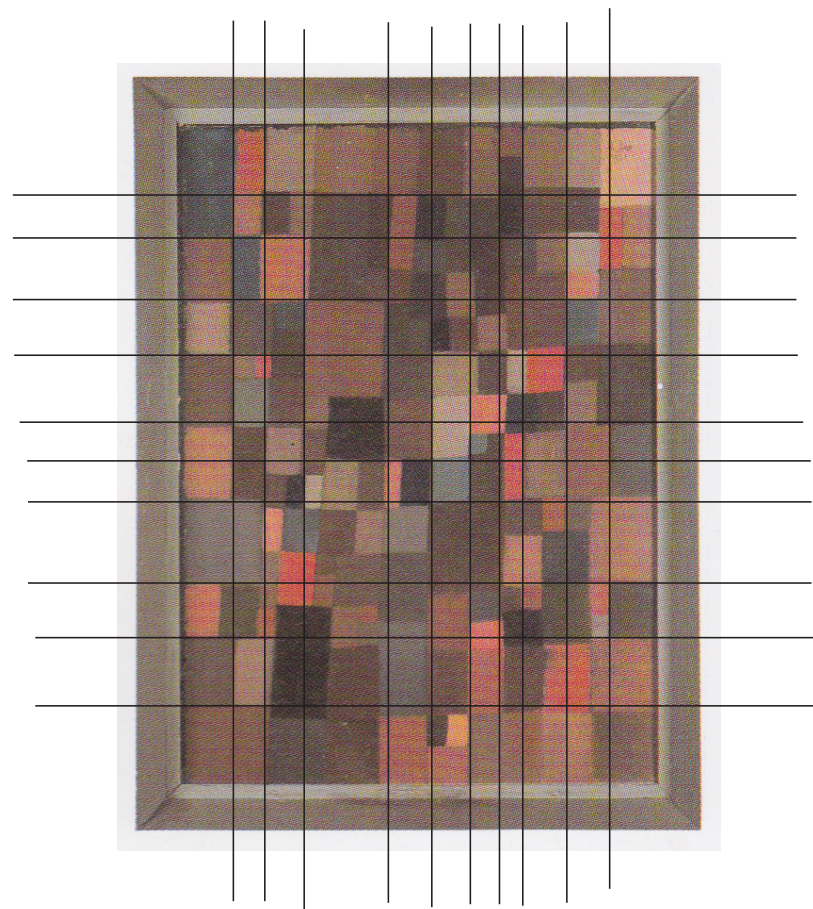
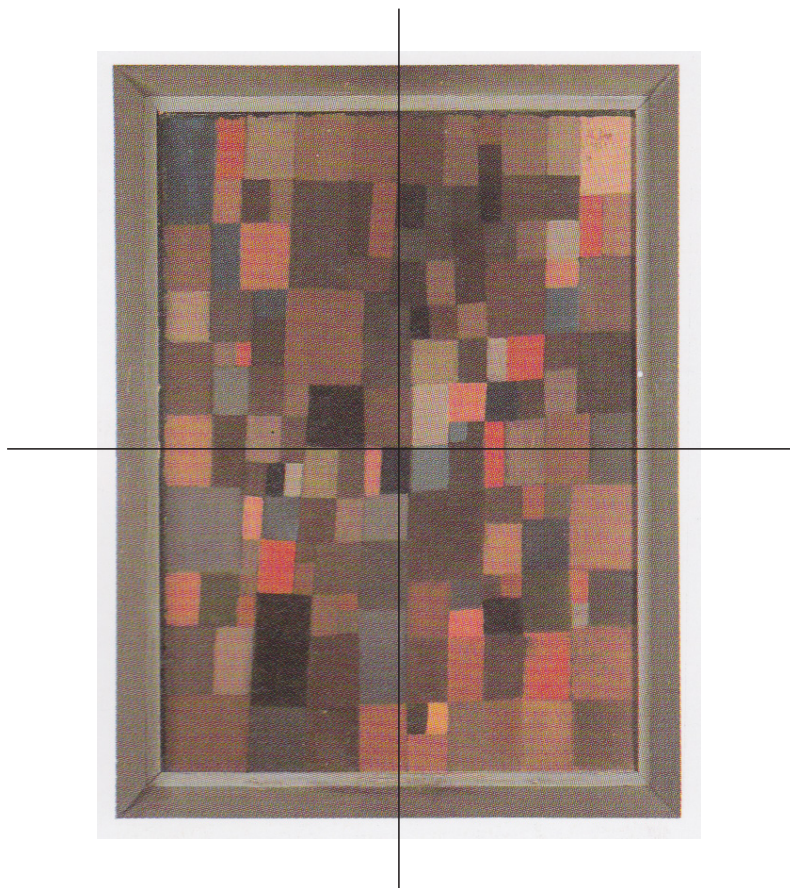
*The peripheral motion on the color circle*

*The intersections and component movements made between individual segments of the color circle.*

Klee's most important find was a theory he developed called “Canon of Totality”. The “Canon of Totality” is the idea of color relationships which interprets the continuous circular motion between the primary and secondary colors as a vibrating, revolving organism. The theory exemplifies the close relationship between color and music.

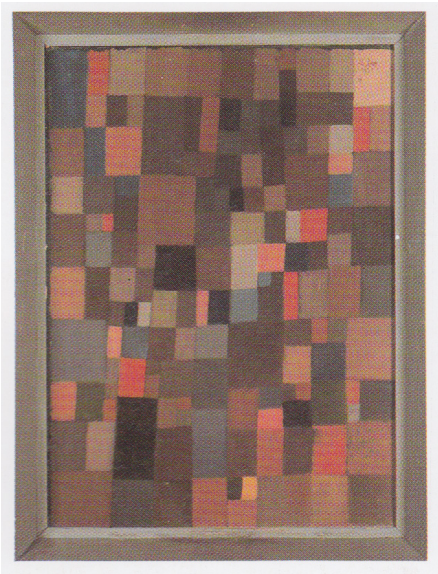
The example “Blue - Orange Harmony” embodies Klee's work as a whole. It suggests that there is rhythmic nuances within the line - a simple line like the checkerboard that runs parallel to music while using color to help signify harmony within the rhythm and pitch from high to low notes.

This piece uses color combinations that create a harmonic balance in which no one color is dominating. By concentrating on individual accents and color sequences, the subtle relationships and arrangement of color are revealed in rows of rectangles which become lighter and darker or warmer and cooler. The different shades of color are combined like a musical chord into a harmonic whole in which the mood is communicated by the colors to that of a major or minor key.





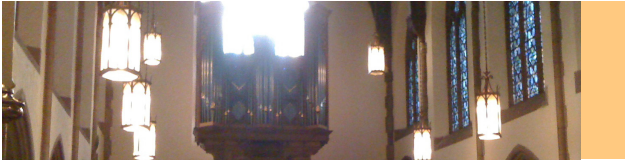
# Paul Klee





## site location

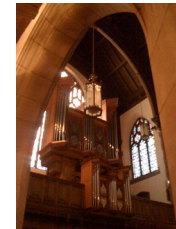
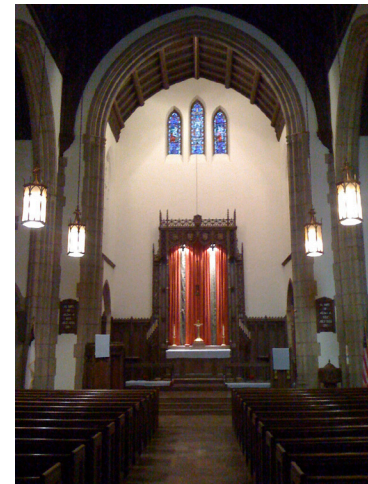
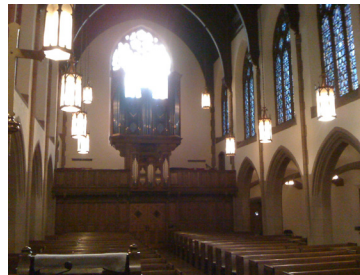
### site study

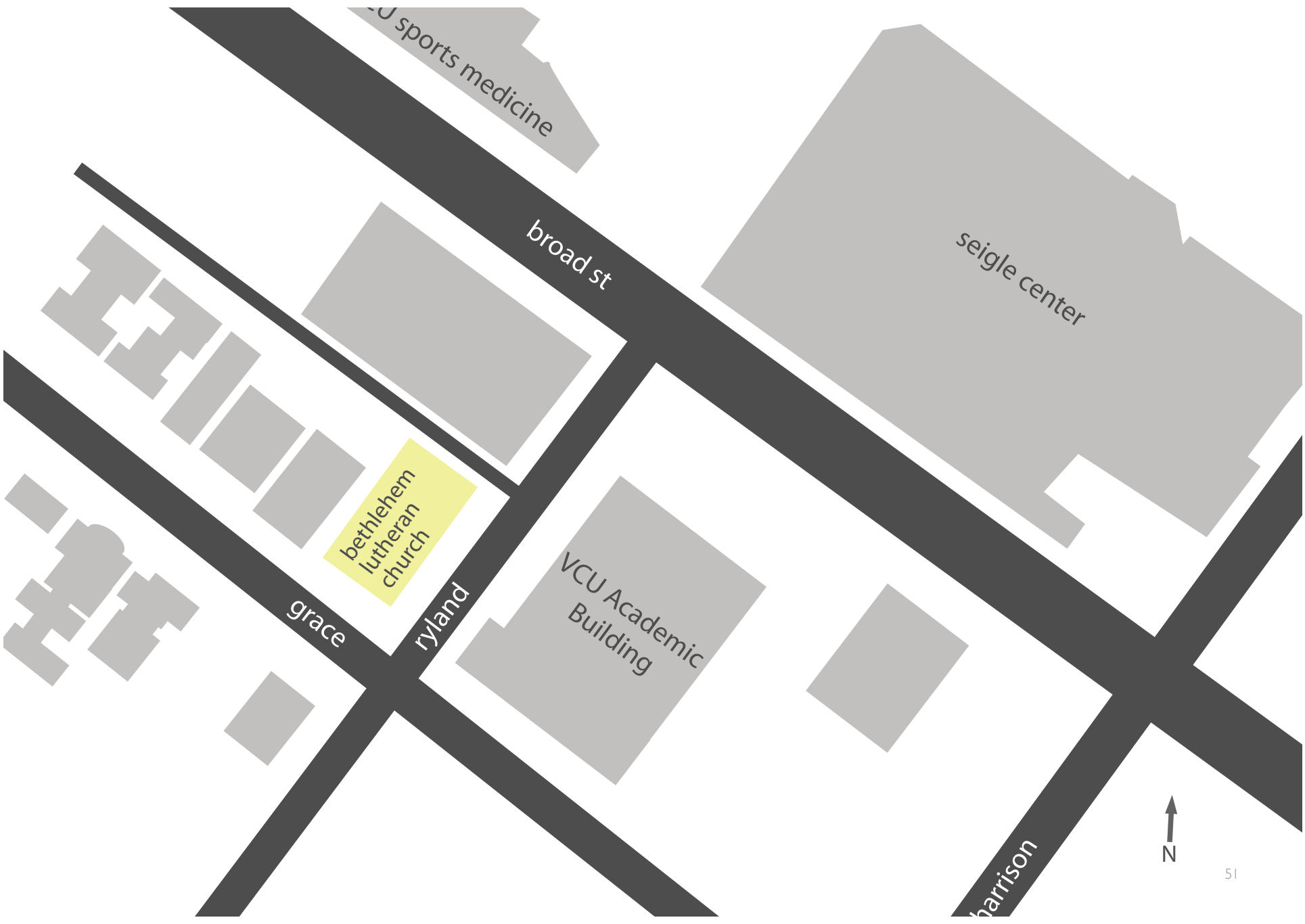


50-57

# Bethlehem Lutheran Church

*1100 West Grace Street Richmond, Virginia built between 1930 - 1931 by Wysong, Bengtson & Jones Architects*





VCU sports medicine

broad st

seigle center

bethlehem  
lutheran  
church

VCU Academic  
Building

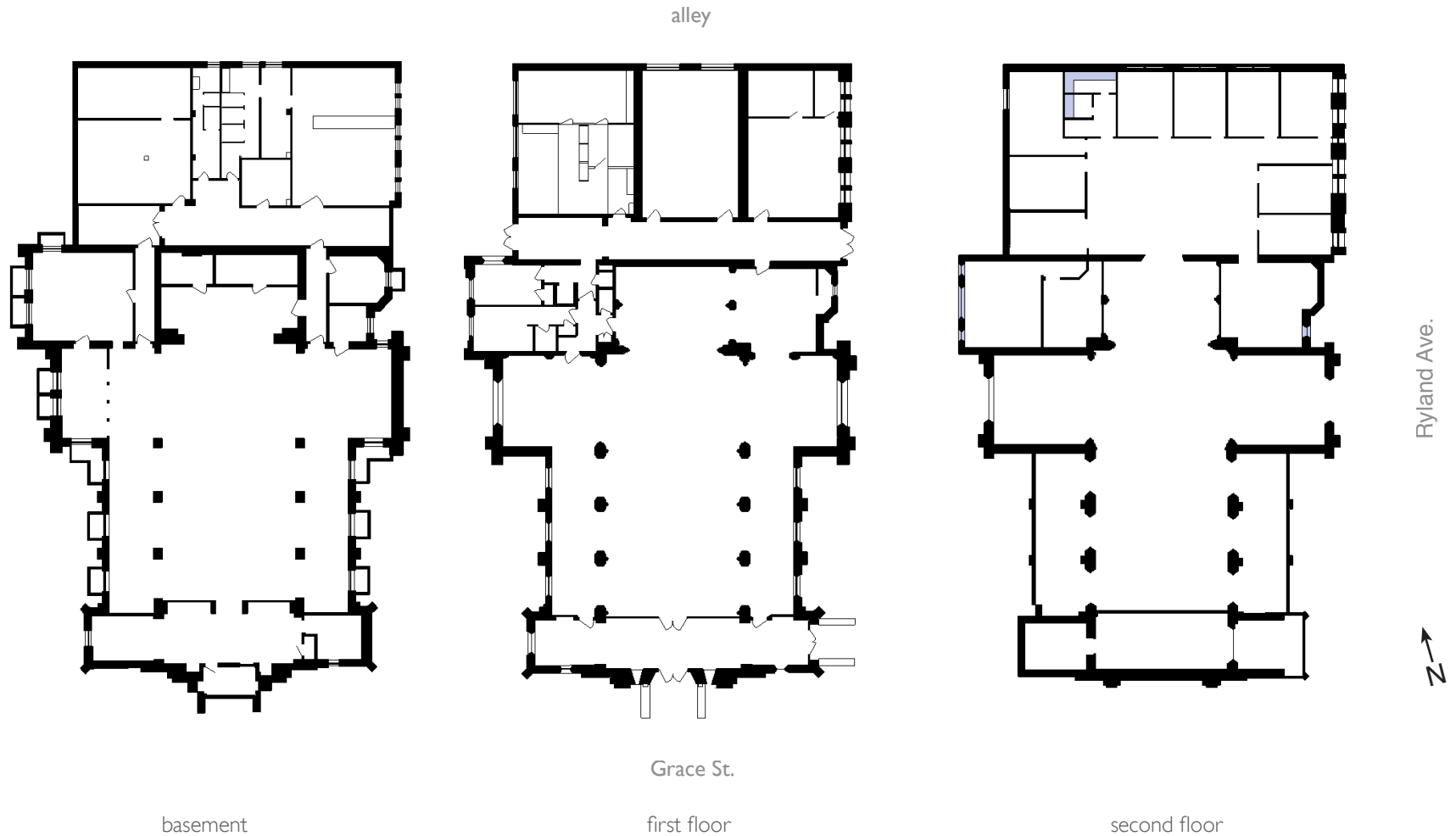
grace

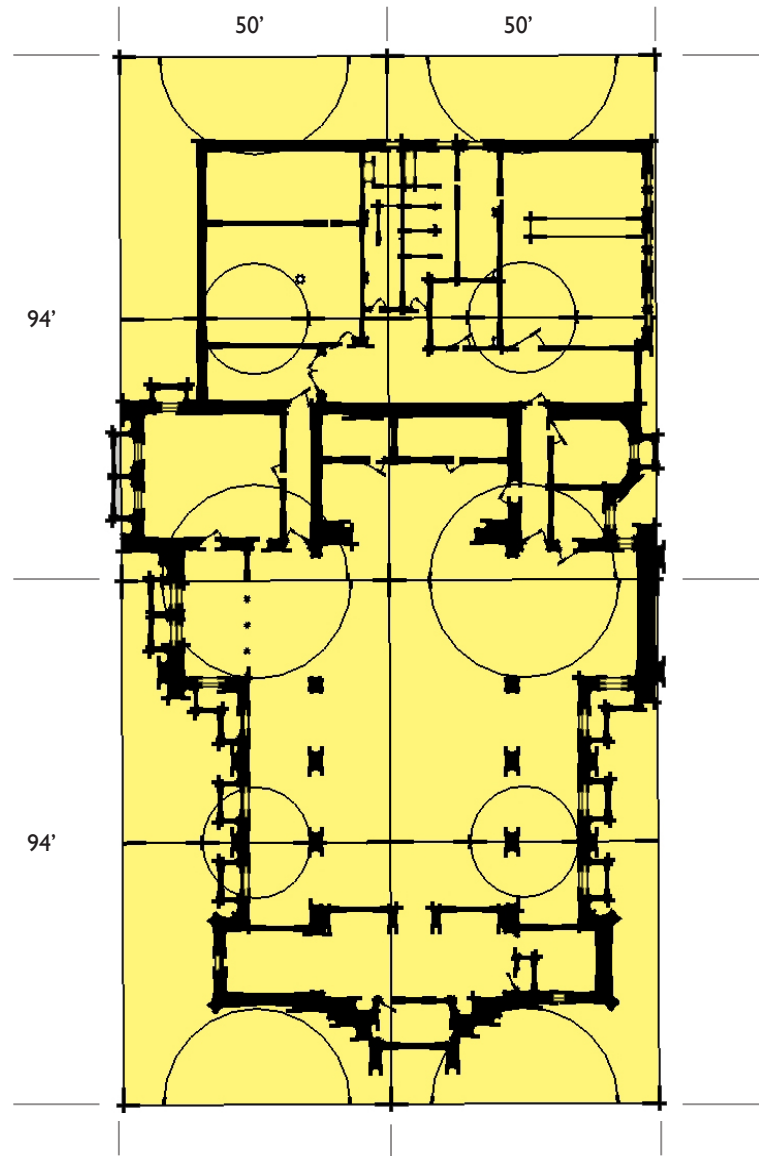
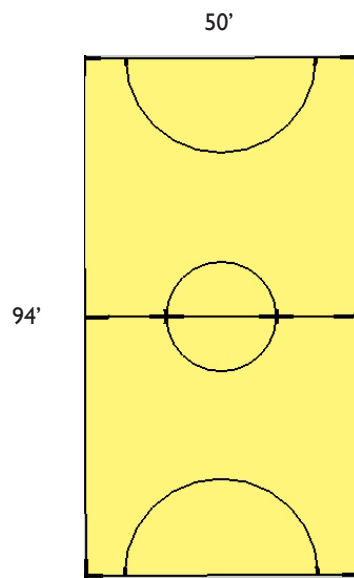
ryland

harrison

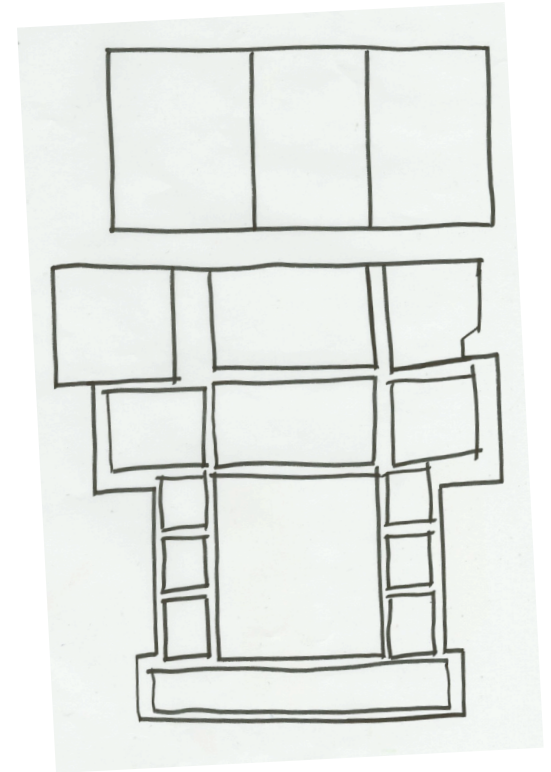
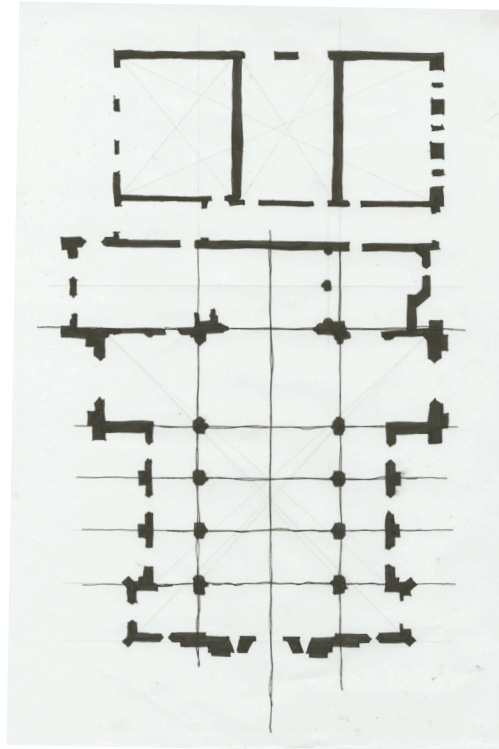
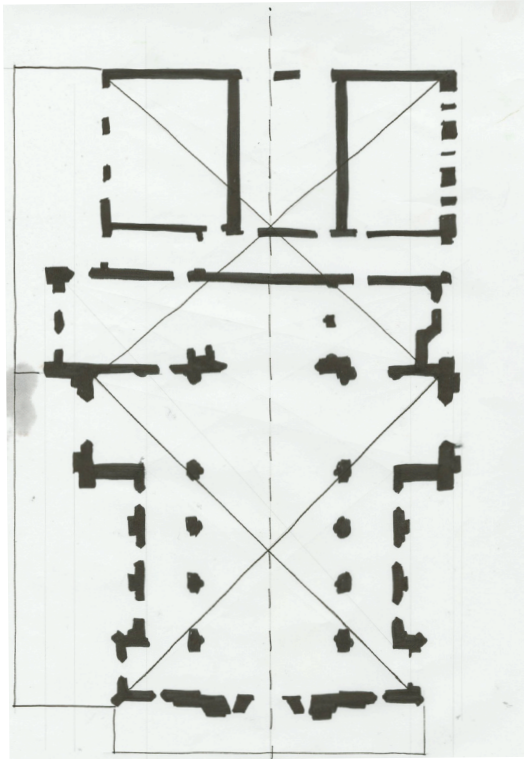


# Bethlehem Lutheran Church



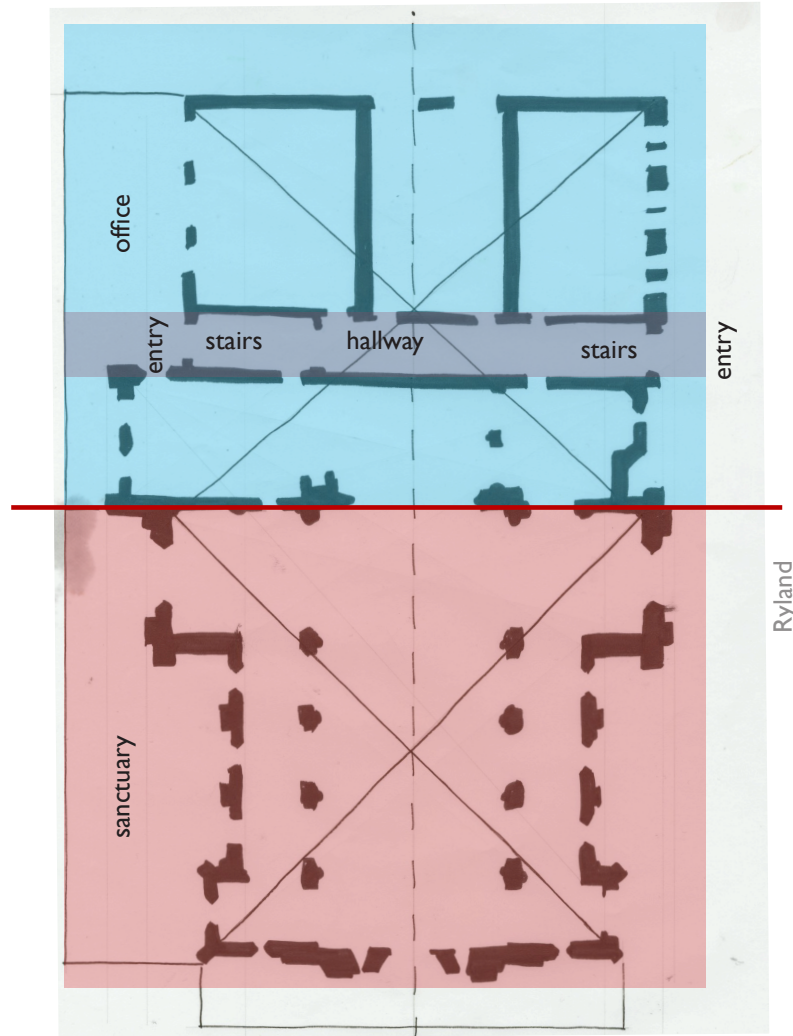


# Bethlehem Lutheran Church





Alley



Grace

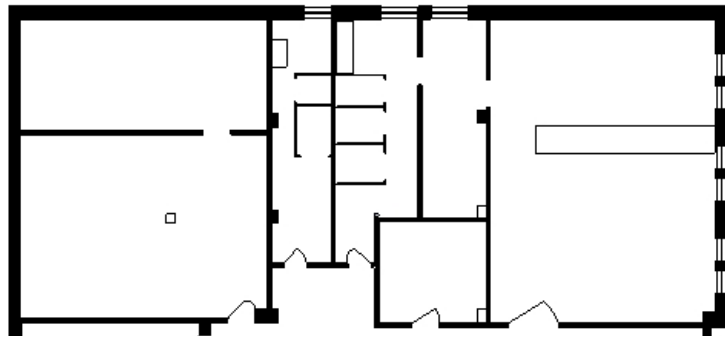
If split through the end of the narthax, the sanctuary and office are equal in size creating a system to understand the use of each side.

A portion of the sanctuary houses office space therefore it is necessary to include this space into the proportion to create equal sides.

The office side and sanctuary are part of one complete structure, however each side has a vastly different use that, when combined, work harmoniously together to operate as a church. What connects the two is the entry and exit hallway that extend from Ryland to the parallel side of the building.

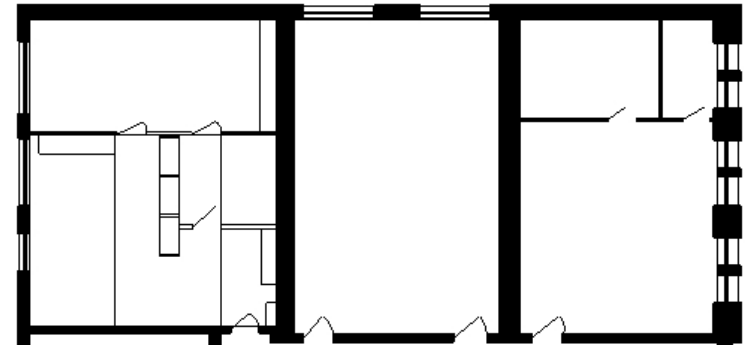


# Bethlehem Lutheran Church



basement

verse 1

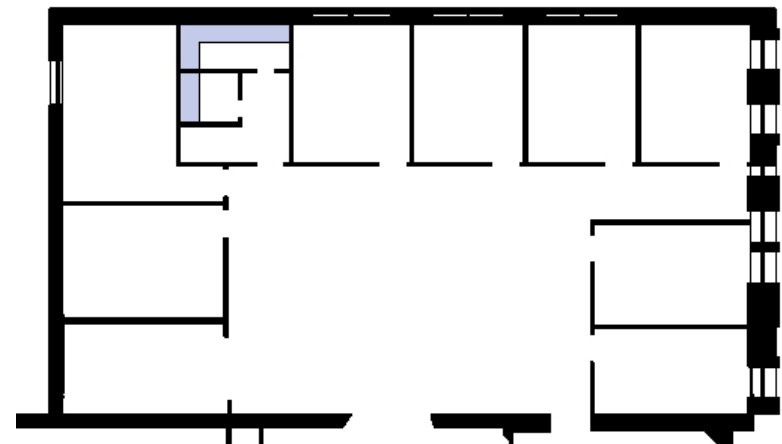


first floor

verse 2

The chorus of a song is the repeating portion of a song that is constant and tends to act as a reinforcement of what is being expressed in the verses of a song.

In a conversation with musician, Johnny Hunter, the verses of a song tell a story. There is no limit to the number of verses a song can have, however each one can have its own meaning or purpose.



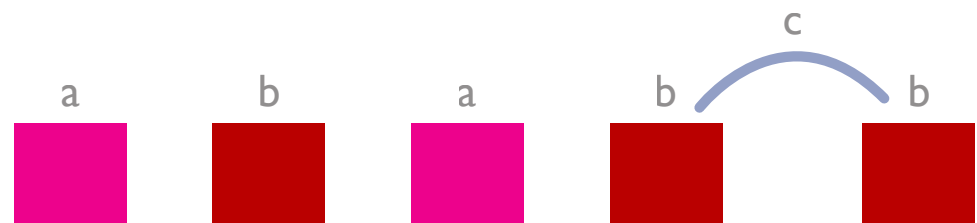
second floor

verse 3

Standard Pop Song structure:

aba - bc b

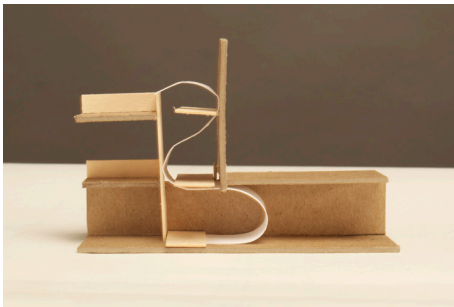
- a. Introduction/ verse - sets the mood and rhythm of the song. this gives the listener an immediate feeling through lyrics, melody, and harmony.
- b. First chorus - new dynamic sound than the verse with a different melody or possible feeling that is introduced through harmonic and rhythmic means.
- a. Second verse - the same arrangement as the beginning while replacing the lyrics.
- b. Second chorus - the same arrangement as the first
- c. Bridge - the bridge usually differs from the verse and the chorus in its harmonic structure (chord progression) and lyrics - does not always contain lyrics.
- b. Third chorus/outro - the same arrangement as the first and second and is either resolved on the first chord or played out to the last chord in the structure.



## Design Solution



## Design Driver I- Melody



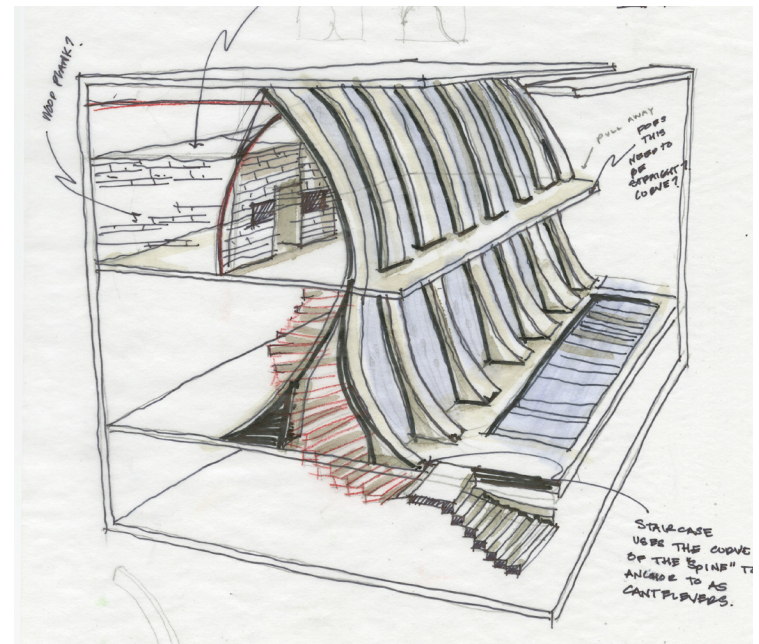
This concept model was created when rules and parameters to build by were taken out of the equation. This concept model was built the same way I play music. I play by ear, so it made sense to throw the rules out and not build with rules.

This model depicts the church with a "melody" flowing through it which helped to lead to several important sketches.

The sketch below is the first attempt at imposing concept #1 in the rear office space of the church. This is a direct interpretation of the sketch model to the left.

This sketch depicts a flowing mullion systems that penetrates the floors and connects them while holding glass that partitions specific rooms.

The mullion system is arbitrary and the scale is too large for the space. This drawing is significant because it is the first time a stair case is introduced to the idea.





# Design Solution

## Rear Office Concept and Circulation

There is a core message or story that is delivered in a song. The core message is delivered in a melody that is entertaining and interesting.

The message of a song is broken apart into verses. Each verse relates to the message but has its own theme that reinforces the meaning of the song.

The message of this space is, "teaching music". There are 3 levels in this space that all operate to facilitate learning.

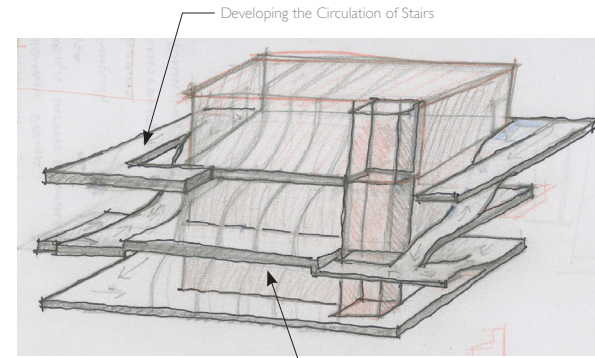
### The 3 core levels include:

*Basement Level - student lounge, practice spaces*

*First Floor - Administration Level*

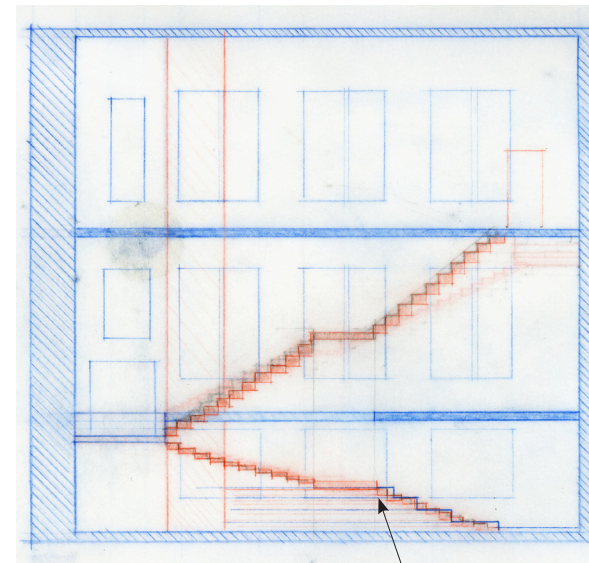
*Second Floor - Faculty Offices*

Like a verse, each of these spaces operate differently, but relate and reinforce the message of the space. The flow of the stairs is what keeps the students, faculty, and administrators interested and engaged in the space to continue learning.

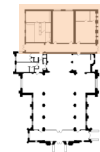


Developing the Circulation of Stairs

Developing the Central Core



Further Stair Development  
Into a Socialization Space



## Design Driver 2 - Individual + Group

Songs are made up of individual building blocks called notes. Notes can exist on their own or work together to create a musical chord. The idea of "individual" and "group" existing together became a driving force behind decisions relating to how people relate to one another in the space.



This concept model was designed around the idea of the interaction of notes. Notes working together create interesting sounds. This model was created by 4 different size pieces of basswood all representing an individual musical note. The larger piece of basswood is a whole note, the next size down, a half note, next a quarter note, and finally an eighth note.

This model is trying to explore the relationships of notes and how they interact as a whole. This model was successful in showing notes as a physical unit that could work in a built environment.

## Design Driver 3 - practice spaces

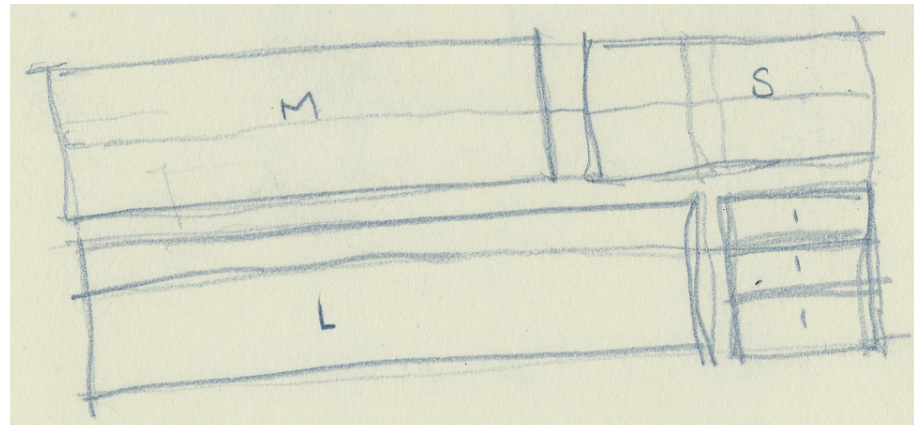
Working with clay in this concept model allowed me to work with a material that functions the same way as music. It is easily shaped and manipulated.

This model was an exploration of space opportunities for the practice spaces located in the basement of the church.

By shaping the clay roughly into the rectangular shape of the basement, I and then cut it into quarters on an off centered axis. By off centering the axis I was given four different sized cubes:

*Individual, Small, Medium, Large*

These sizes allowed me to view the practice spaces in a different way. I was given the opportunity to identify the needs of the program and impose the needs in the given space allotted.



practice space concept

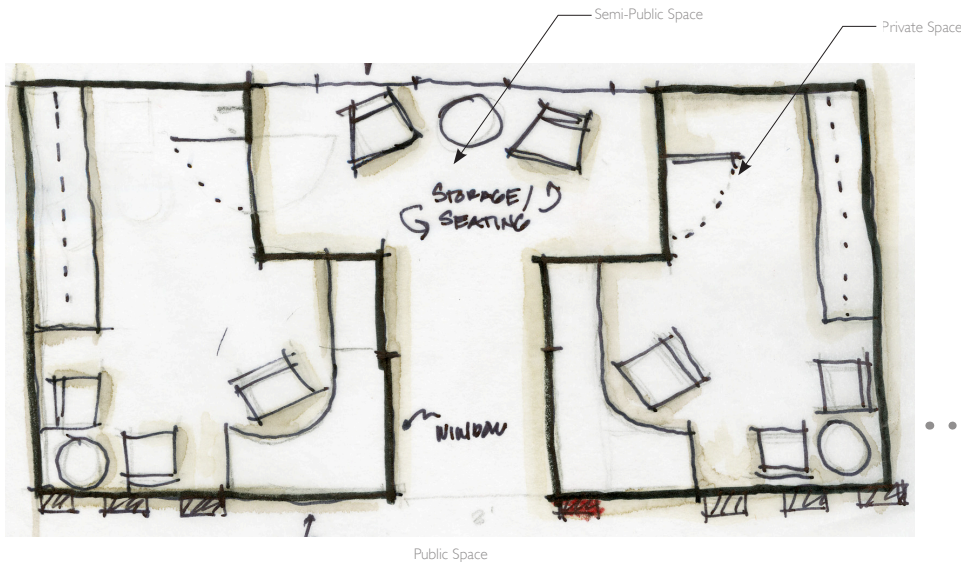
# Design Solution

## Design Driver 4 - faculty offices

Like design driver #3, working with clay allowed me to work with a material that functions in the same manner as music.

I wanted to explore space again in this model, and how one object can function separately and together. By shaping the clay into a cube and then halving it with a "Z" cut. The separate shapes offer the opportunity to position the halves in a way that potentially functions as space.

Positioning the cubes as shown below allows the opportunity to have public space, private space, and semi-private space.





## Design Driver 5 - window system

### Chord Structure - Guitar

The order shown here is based on the chord structure of a guitar. A guitar neck consists of frets and strings. To play a chord (3 or more musical notes played together) one must press on a string at the correct fret.

These drawings and subsequent models depict the tri-tone major chords: E, D, C, G and A, all located on the first 3 frets. The frets and crossing strings create a grid that creates the order for this model.

Certain chords have open strings that can be played along with the notes that have to be pressed to create a chord.

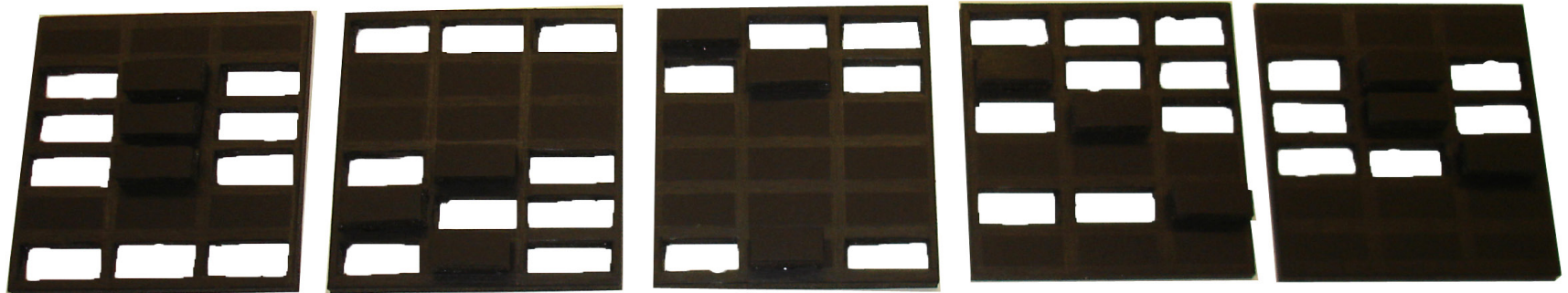
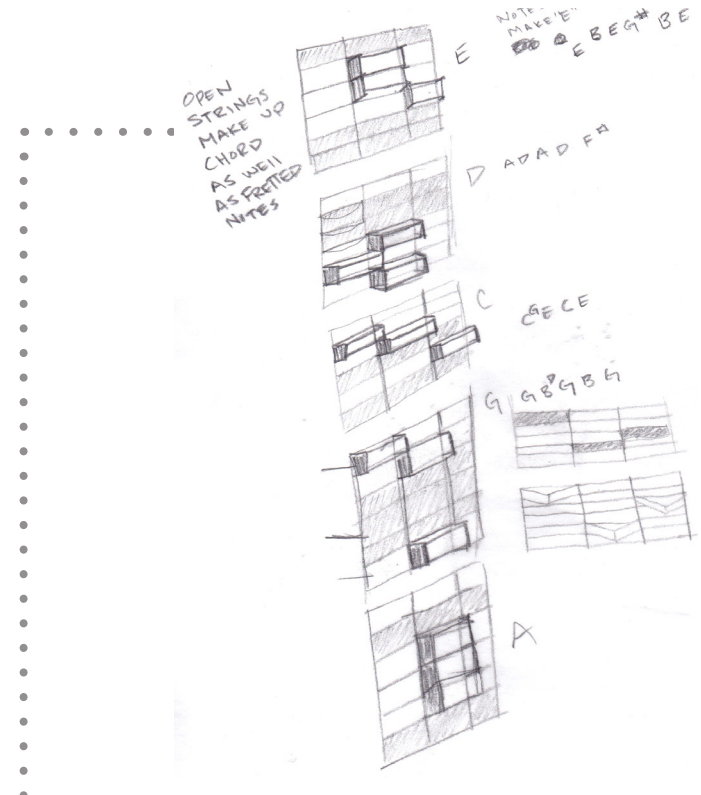
Other notes cannot be played or the chord structure will not be correct.

This creates the following rules for this design driver:

*Play - raised - Opaque*

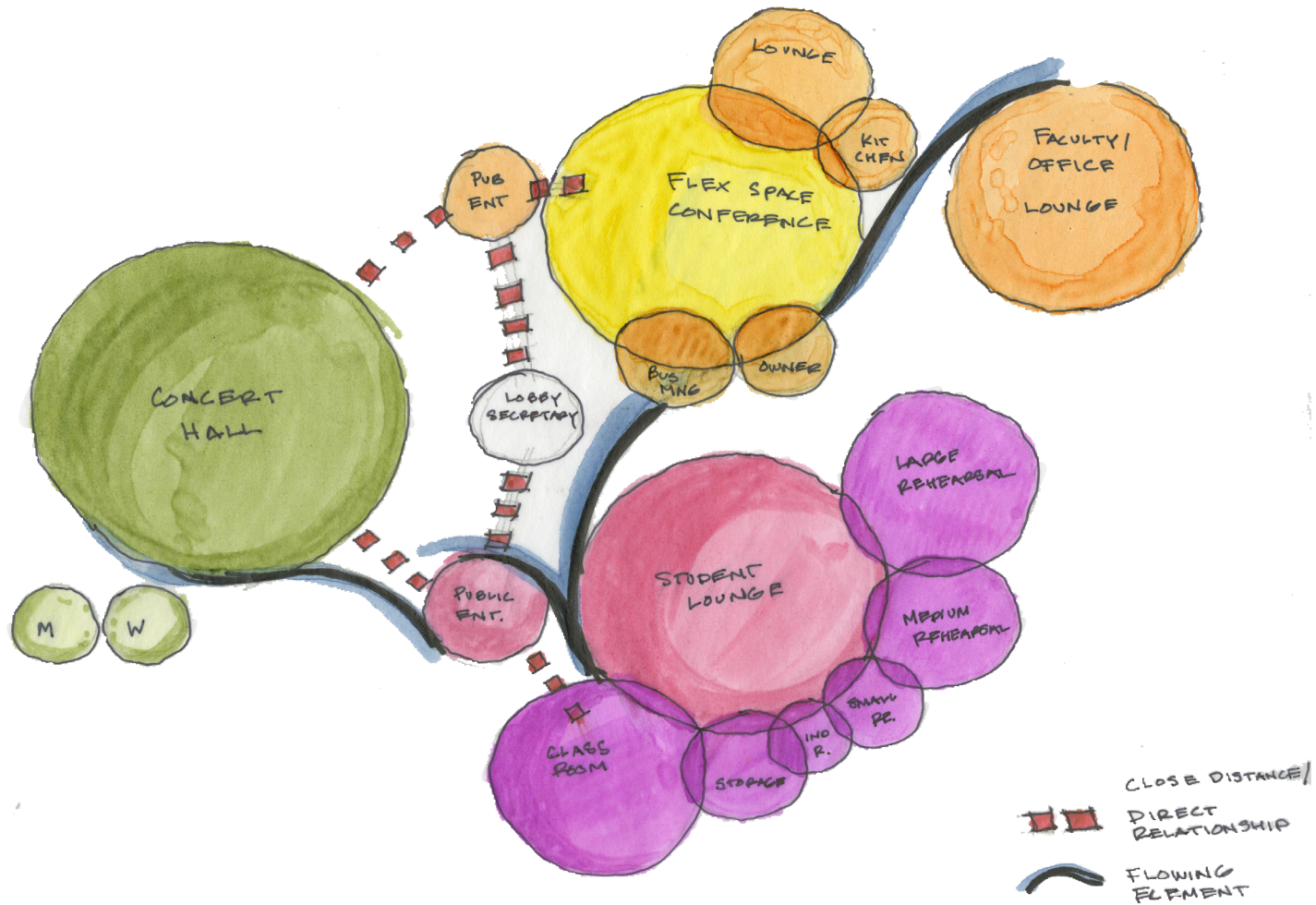
*Don't Play - cut out - Transparent*

*Maybe Play - flat/not cut out - Translucent*



# Design Solution

## Bubble Diagramming



## Adjacency Matrix

	SF Needed	Adjacencies	Public Access	Daylight	Privacy	Plumbing	Equipment	
								H - High M - Medium L - Low Y - Yes N - No Red - immediate adjacency
1. Main Concert Hall Entrance Lobby	200 SF	2	H	I	N	N		
2. Concert Hall		1	H	Y	N	N	Sound System, Sound board, Acoustics, Seating for	
3. Public Entrance Lobby	750 SF	2 5 6 7 8 10 16 17	H	Y	N	N		
4. Private Entrance	150 SF	13 15 17 18 19	L	Y	Y	N		
5. Large Rehearsal Space	1,500 SF	6 7 8 10	M	Y	Y	N	Piano, Seating for 30, Shelving, and Coat Storage	
6. Medium Rehearsal Space	750 SF	5 7 8 10	M	Y	Y	N	Piano, Seating for 15, Shelving, and Coat Storage	
7. Small Rehearsal Space	250 SF	5 6 8 10	M	Y	Y	N	Piano, Seating for 5, Shelving, and Coat Storage	
8. Individual Rehearsal Space	150 SF	2 4 5 6 8 23	M	I	Y	N	Seat, Shelf, and Coat Storage	
9. Classroom/Technology Lab	500 SF	2 4 5 6 23	M	Y	Y	N	Piano / AV Equipment / Keyboards / Whiteboard, Storage	
10. Student Lounge	1000 SF	4 5 6 7	M	N		N		
11. Office manager office	250 SF	12 14 15 18 4	L	Y	L	N	Desk, Chair, Shelving	
12. Owner Office	400 SF	11 14 15 18 4	L	Y	Y	N	Desk, Chair, Shelving, Conference Table Seating for 8	
13. Faculty Offices x 6	150 SF	4 19	L	I	L	N	Built-in Desk, Shelving, Desk Chair, Semi-Public Seating	
14. Faculty Lounge	600 SF	13 4 19	L	I	Y	N	Storage, Conference Table, Fridge, Microwave, Seating	
15. Kitchenette	400 SF	14 12 11 18	L	I	Y	Y	Sink, Cabinets, Refrigerator, Oven, Space for Seating	
16. Men's Bathroom	SF	1 2 3	H	N	Y	Y	ADA compliant	
17. Women's Bathroom	SF	1 2 3	H	N	Y	Y	ADA compliant	
18. Office Bathroom	SF		L	N	Y	Y	ADA Compliant	
19. Private Tutor Space	250 SF	13	L	Y	Y	N	Piano, Seating for 2, Desk and chair	

# Design Solution

## Building Code Requirements

### Office

**Usage Group:** E - 17,818'

**Type of Construction:** I-A

**Occupancy Load:** 356  
(50 net shops vocational room areas)

Classroom: (20' net per person)  
25 (500 sq. ft.)

Vocational Rooms: (50' net per person)  
Individual Rehearsal Rooms: 1 (50 sq. ft.)  
Small Rehearsal Rooms: 5 (250 sq. ft.)  
Medium Rehearsal Rooms: 15 (750 sq. ft.)  
Large Rehearsal Rooms: 30 (1,500 sq. ft.)

Student Lounge: 3,193'

**Instrument Storage:** 10 (300' per person)

### Plumbing:

Male water closet: 7 (1 per 50)  
Female water closet: 7 (1 per 50)

Lavatory: 3

Drinking fountain: 3 (1 per 100)

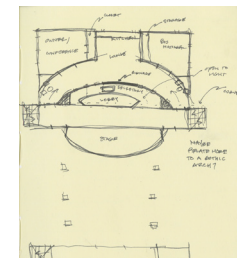
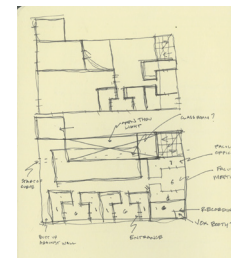
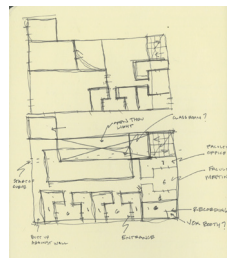
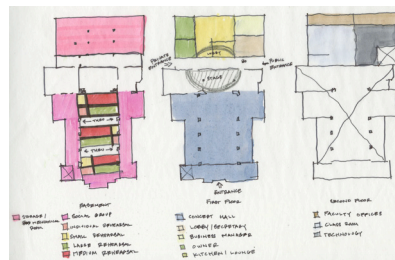
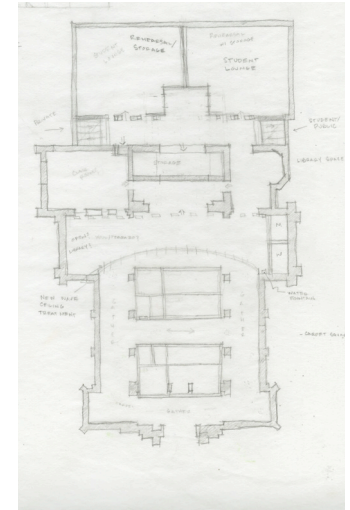
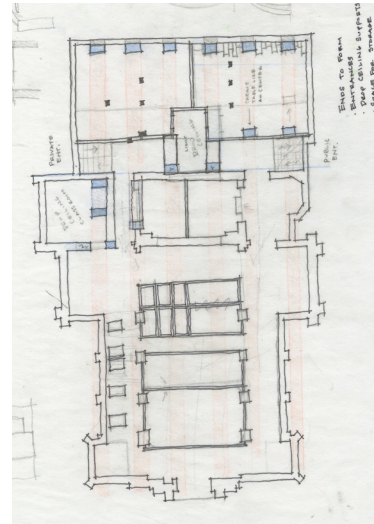
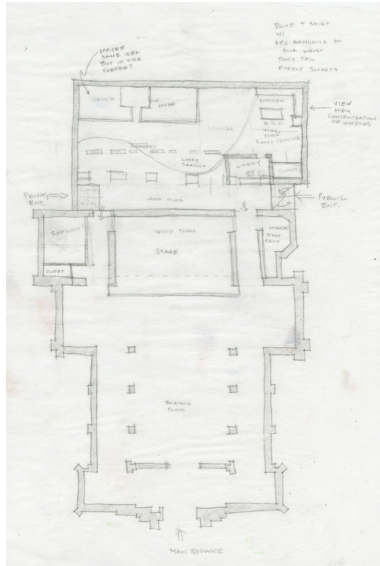
### Egress:

Minimum 2 exits  
Stairway Egress 356 x .3 - 106"

### corridor fire resistance rating:

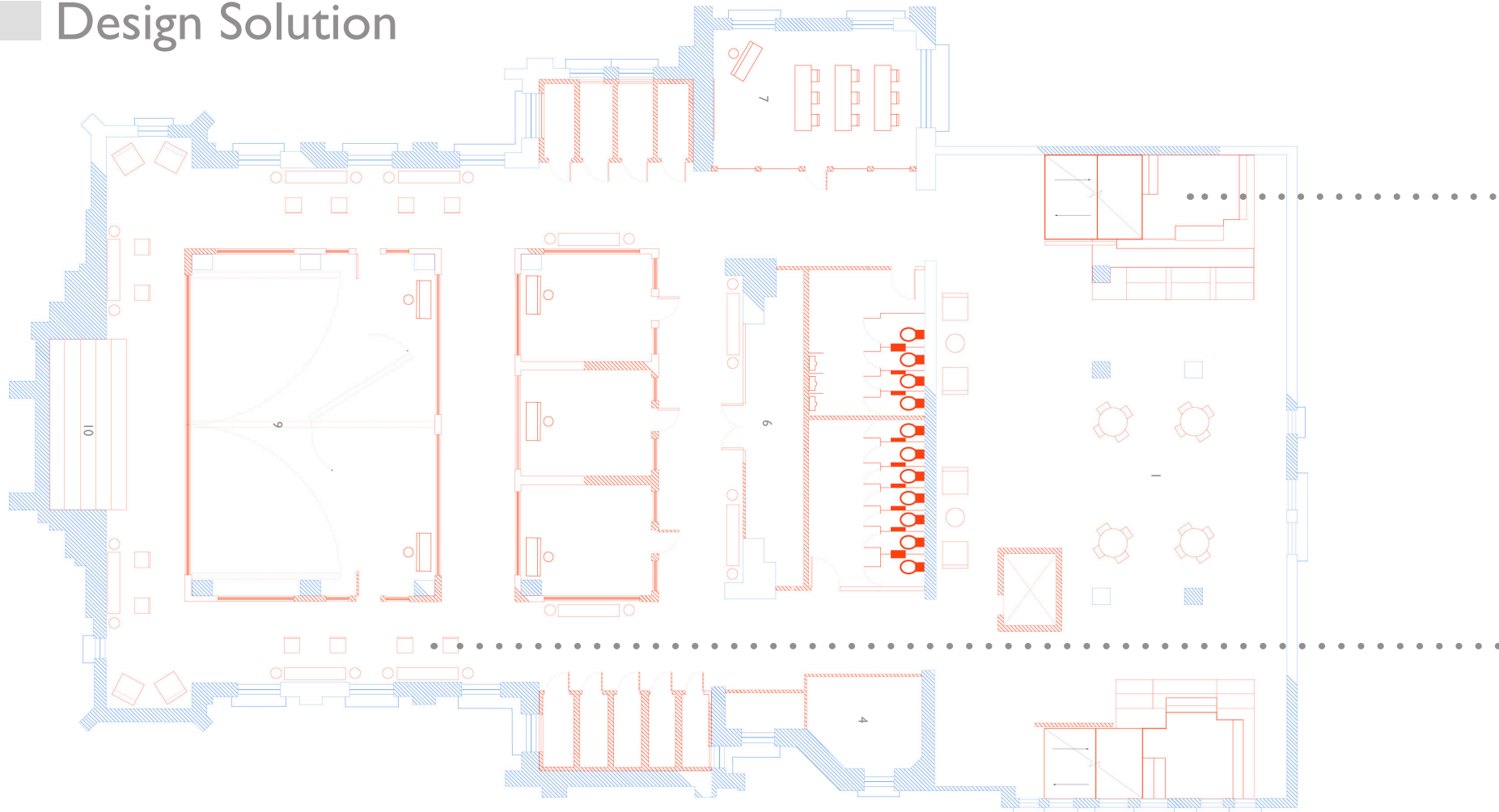
A and E (with greater than 30 occupant load)  
1 hr w/o sprinkler  
.5hr with sprinklers

# Space Planning





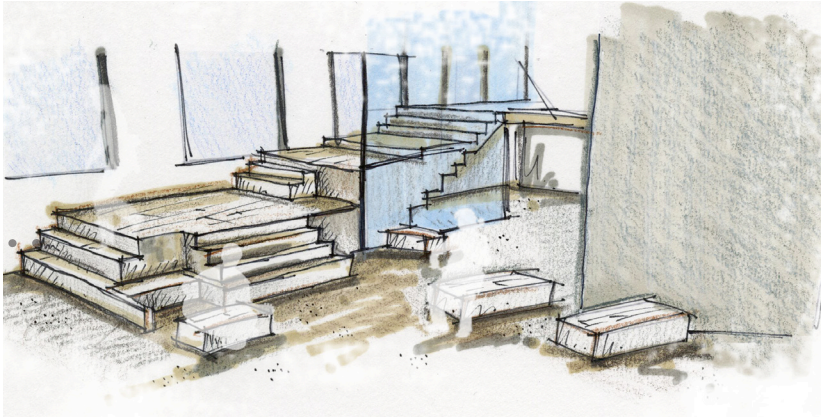
# Design Solution



## Basement Redesign

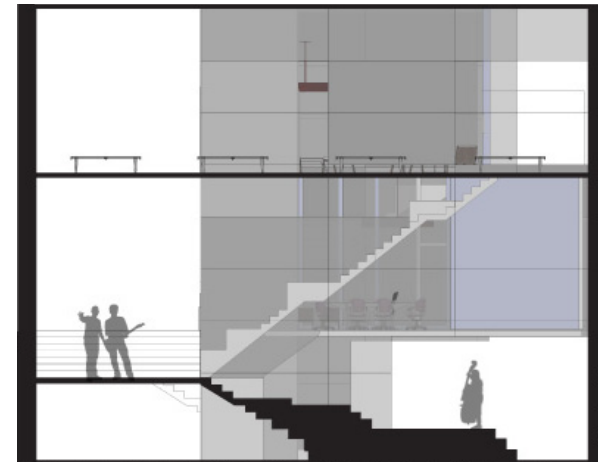
- 1 Student Lounge
- 2 Women's Lavatory
- 3 Men's Lavatory
- 4 Janitors Closet
- 5 Individual Practice Room
- 6 Instrument Storage
- 7 Classroom / with Piano
- 8 Small Practice Room / with Piano (5 People)
- 9 Medium Practice Room / with Piano (15 People)  
Opens to Large Room (30 People)
- 10 Bleacher System





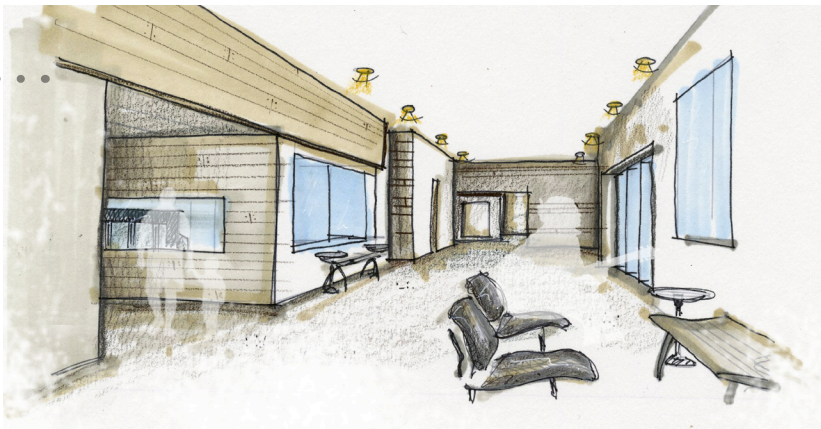
The concept of “melody” manifests itself in the staircase. The staircase is transformed into a space for socialization and learning. The stair risers were designed to be 10' long to allow space for people to congregate as well as traverse. There are built up spaces that work as seating.

The staircase platform in the basement spreads out to allow for a more flexible congregation space. The final platform has multiple blocks that pull out allowing for movable seating and can create a stage when pieced together. This allows for a more impromptu environment.

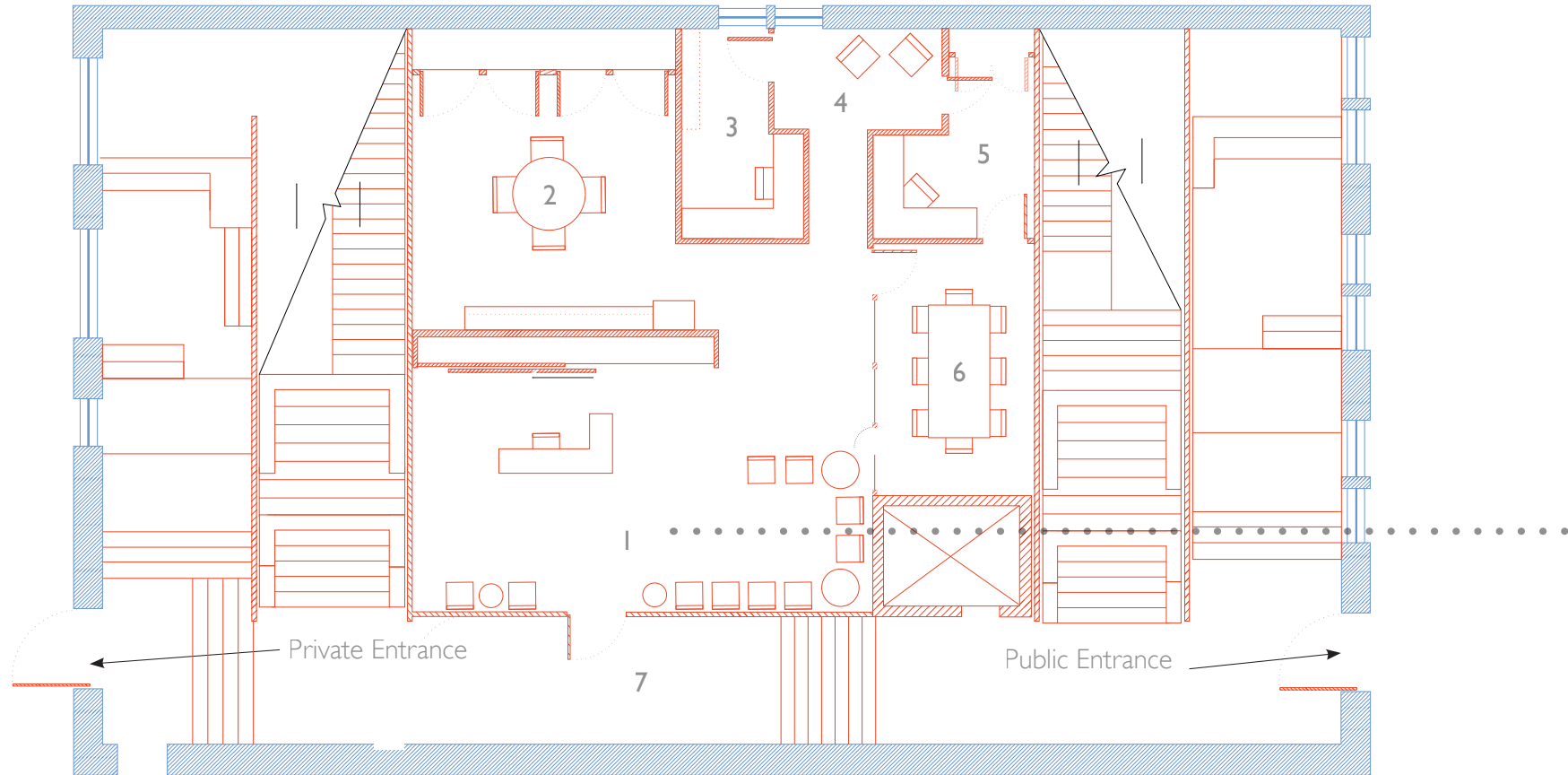


While the staircase is an important element of the school, the practice spaces in the basement are also just as important. The design of these rooms allow for a transparent and sound proof experience for those on the outside to observe and learn. The use of glass also allows for a lighter feel in an other wise large imposing object in the basement.

The circulation of the space is important as well because it allows for easy access to both sides and it helps to integrate the idea of socialization seen on the staircase. The perimeter circulation is a nod to the sanctuary's ambulatory just above the basement. The ambulatory is seen in most Gothic architecture.



# Design Solution



First Floor Redesign

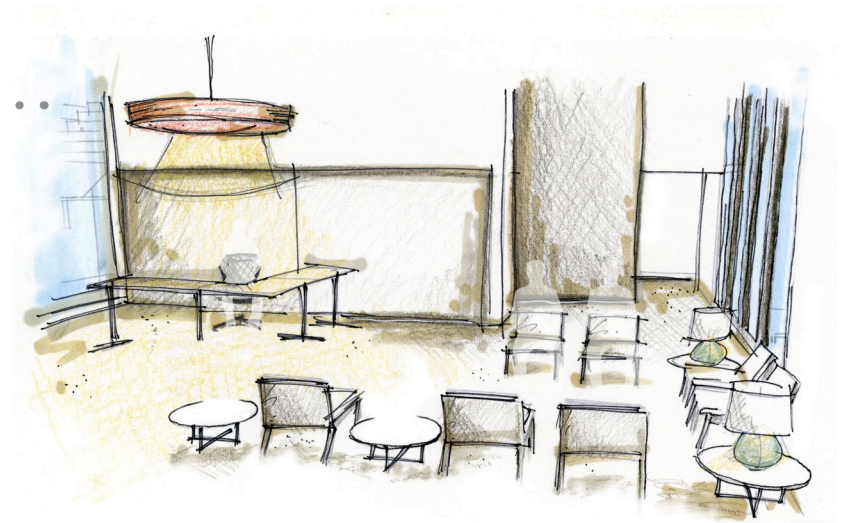
1 Reception  
2 Kitchenette  
3 Business Manager Office  
4 Owner/Bus. Manager Private Meeting

5 Owner Office  
6 Conference Room  
7 Atrium

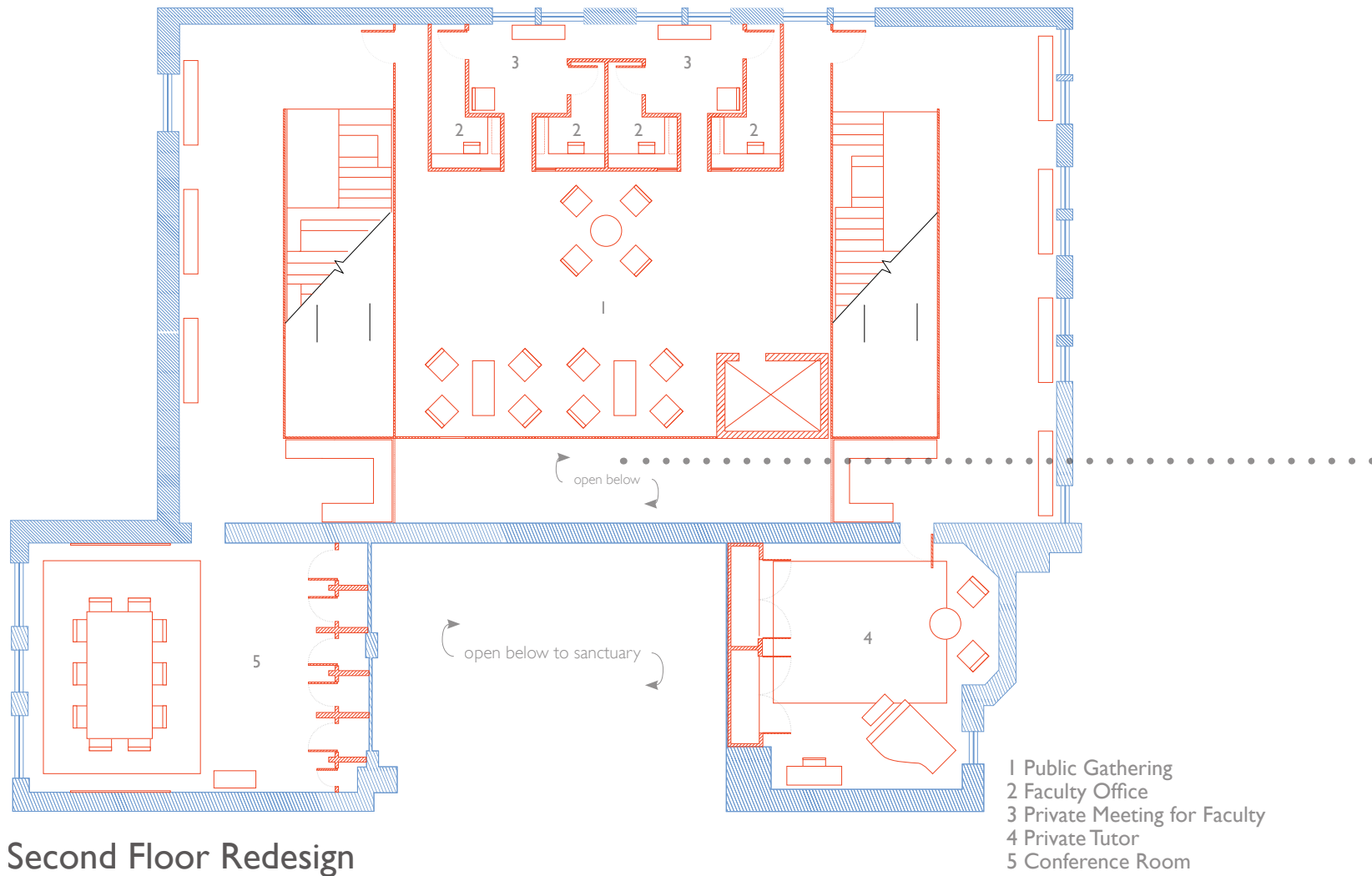
The administration level is the first introduction to the space. Entering in from Ryland the user immediately has the option to use the staircase to go to the basement or upstairs to the faculty level. If the user is unable to use the stairs, the space is easily accessed by the elevator conveniently placed right passed the stair case.

Once inside the faculty office space, you are greeted by a receptionist and plenty of comfortable seating for waiting. The office design is based on design driver # 4. This design allows for privacy but also semi public meeting. Attached to the owners office is the conference room.

The kitchen is located directly behind the receptionist storage area and is private for staff and faculty. The entire space is clad in glass and privacy is achieved from design driver #5 The Panel system allows for transparency and privacy with the transparent, translucent, and opaque glass panels.



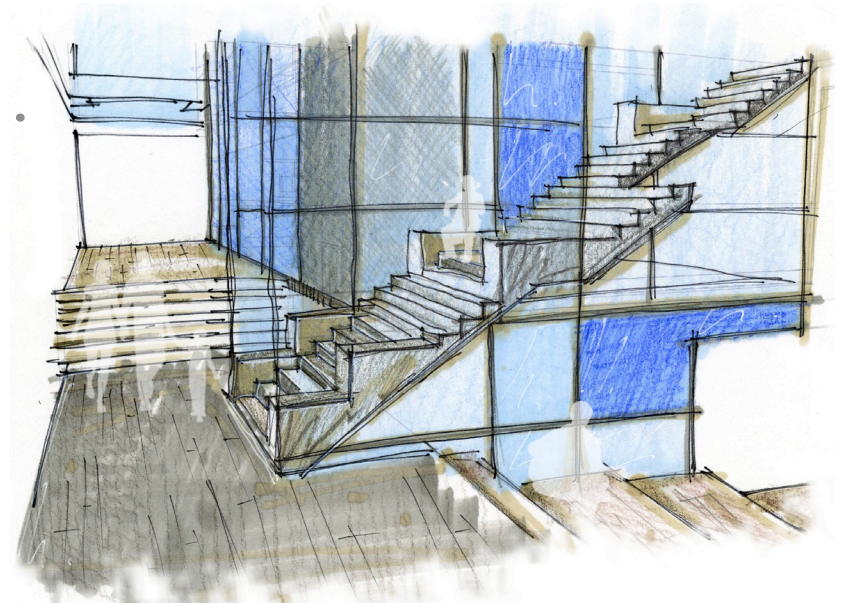
## Design Solution



Second Floor Redesign

The office design is based on design driver # 4. This design allows for privacy but also semi public meeting. This space is design to allow the faculty the flexibility to meet in a public, semi private, and private space. On the alley entrance side there is a conference space for the faculty, and on the Ryland side, there is an easy access to a private tutor space.

The entire space is clad in glass like below and again, the privacy is achieved through design driver #5. The Panel system allows for transparency and privacy with the transparent, translucent, and opaque glass panels. This panel system is applied in the same manner on the faculty level where privacy might be more of an issue.





# Display Boards

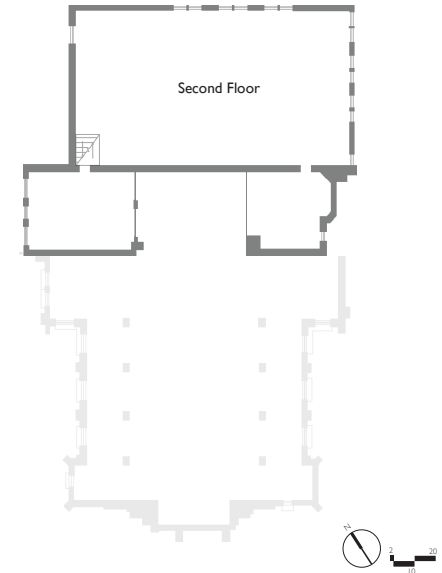
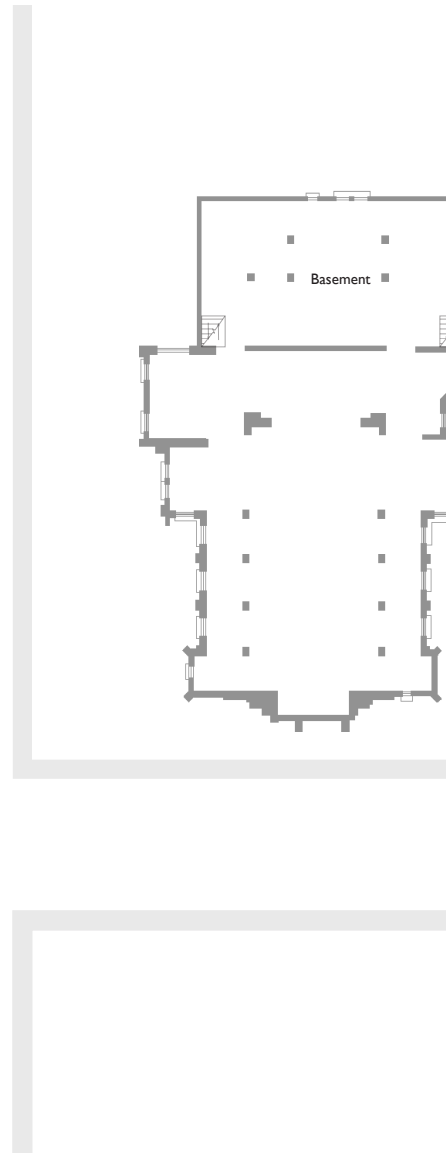
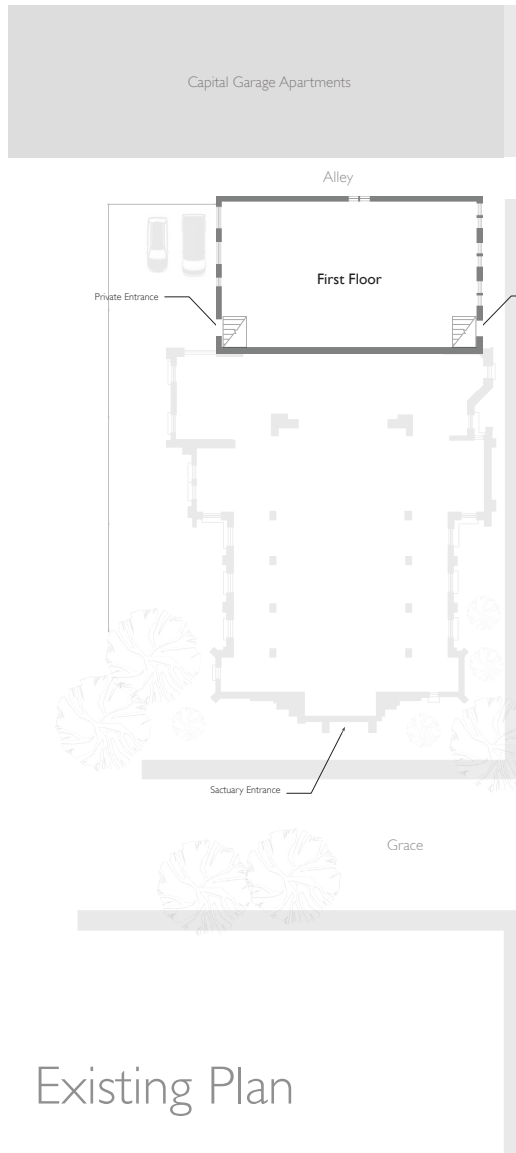


## Bethlehem Lutheran Church

*1100 West Grace Street Richmond, Virginia built between 1930 - 1931 by Wysong, T. & Jones Architects*

Do music education buildings exist only as structures to learn in,  
or can these buildings operate as facilitators of music education?





## Project Scope

Existing Basement - 8,032'  
 Existing Second Floor Office - 3,400'  
 Existing First Floor Office - 3,193'

Total Square Footage - 14,625'

Usage Group: E - 17,818'

Type of Construction: I-A

*The existing sanctuary space has been eliminated from the scope of the project in an effort to focus on the design of the basement and back end office area which will serve as the primary education and administration areas.*

## Existing Plan

# Display Boards

## Concept

There is a core message or story that is delivered in a song.  
The core message is delivered in a melody that is entertaining and interesting.

The central message of a song is broken apart into verses.  
Each verse relates to the message but has it's own theme that reinforces the meaning of the song.

The message of this space is "teaching music". There are 3 levels in this space that all operate to facilitate learning.

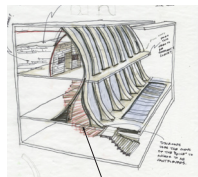
## The 3 core levels include:

Basement Level - student lounge, practice spaces  
Administration Level  
Faculty Offices

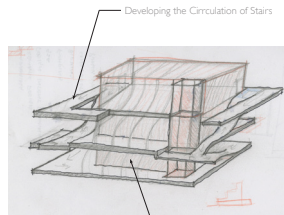
Each of these spaces, while operating differently, relate and reinforce the message of the space. The flow of the stairs is what keeps the students, faculty, and administrators interested and engaged in the space to continue learning.

Social Spots on Stairs  
Stairs are 10' wide and tapered to 6' at the top

1st  
Administration

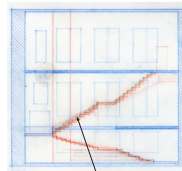


Initial Stair Idea

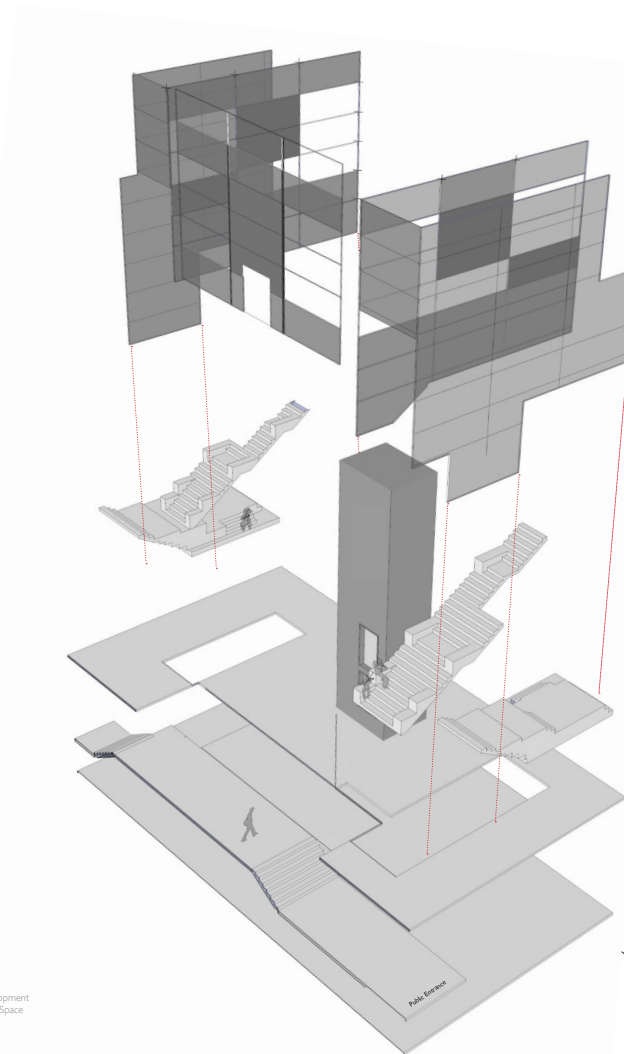


Developing the Circulation of Stairs

Developing the Central Core



Further Stair Development into A Socialization Space



Design Driver  
Chord Structure - Guitar

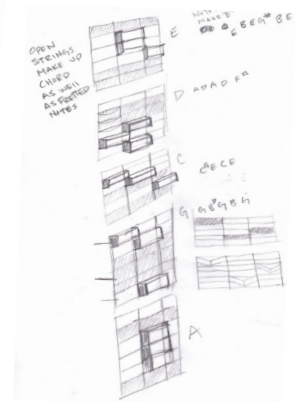
Order is shown here based on the open chord structure of major chords on a guitar.  
3 frets and 6 strings creating a grid.

The drawings below depict the tri-tone major chords: E, D, C, G and A.

Certain chords have open strings that can be played along with the notes that have to be pressed to create a chord. Other notes cannot be played at all or the chord structure will not be correct.

This creates the following rules for this design driver:

Play - raised - **Opaque**  
Don't Play - cut out - **Transparent**  
Maybe Play - flat/not cut out - **Translucent**

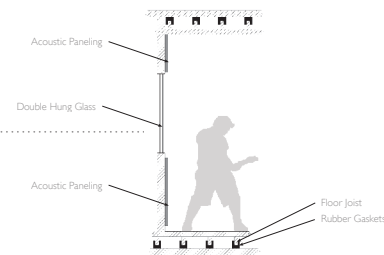
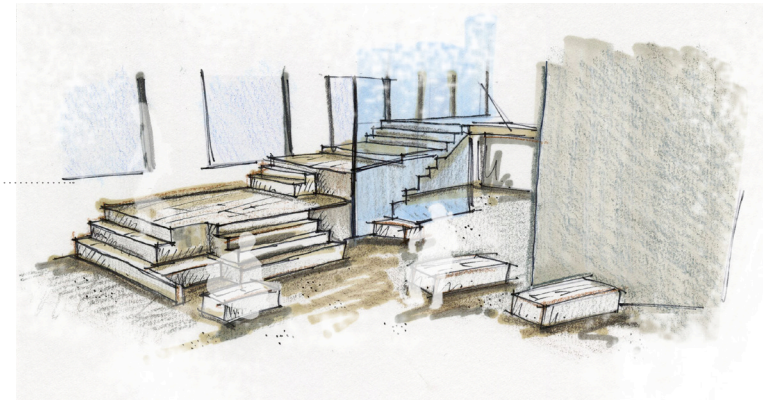
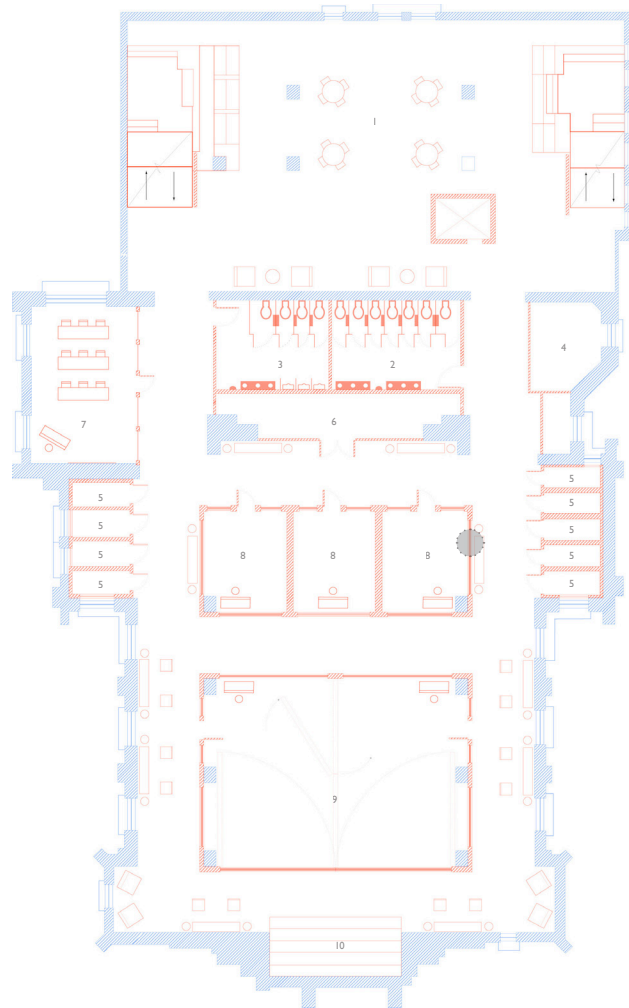


2nd Floor  
Faculty Offices

Basement  
Student Lounge



## Conceptual



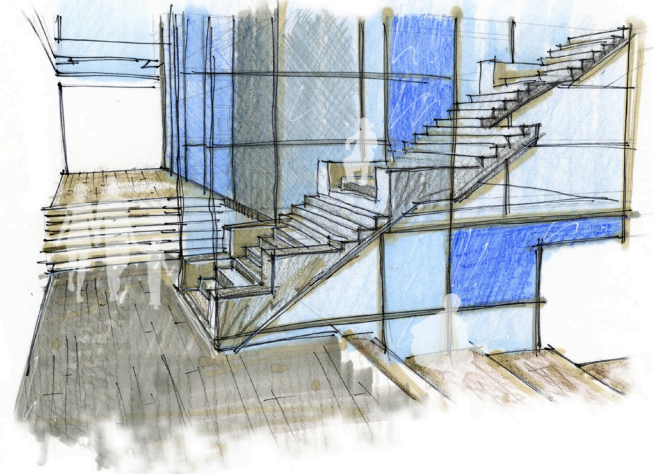
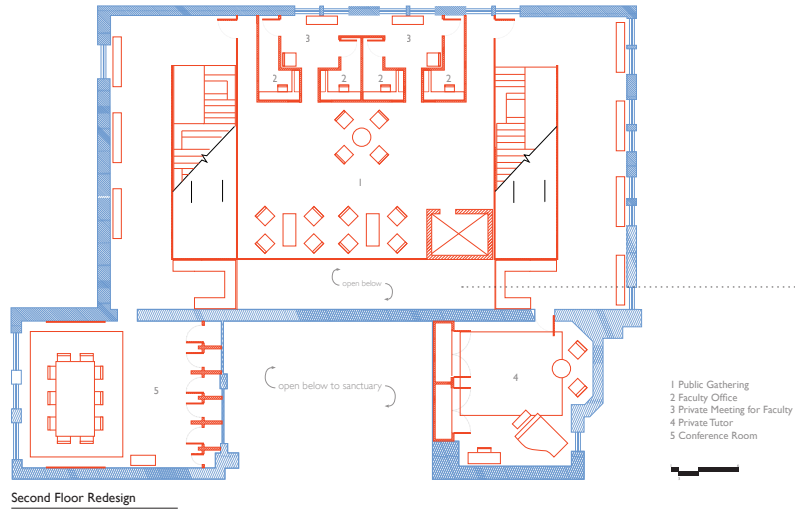
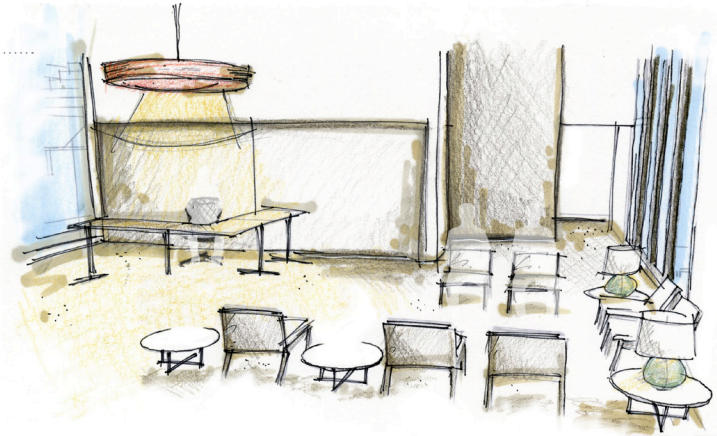
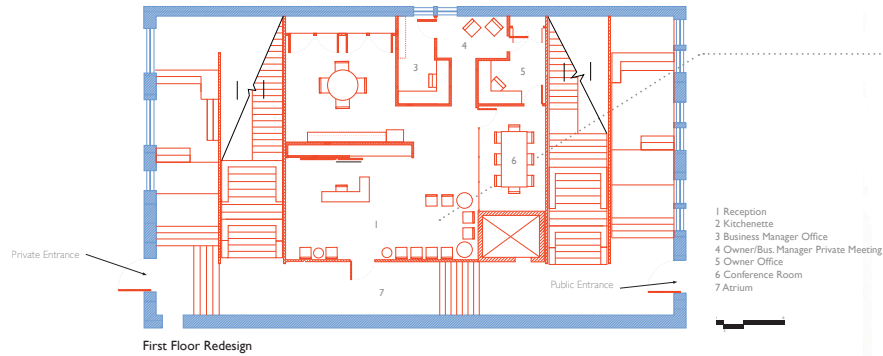
Floating rooms introduce rubber gaskets to floor joists that reduce the vibrations of noise in a room.

This construction method along with sound dampening floors, ceilings, acoustic paneling, and double hung glass, can greatly reduce or eliminate noise to the outside.

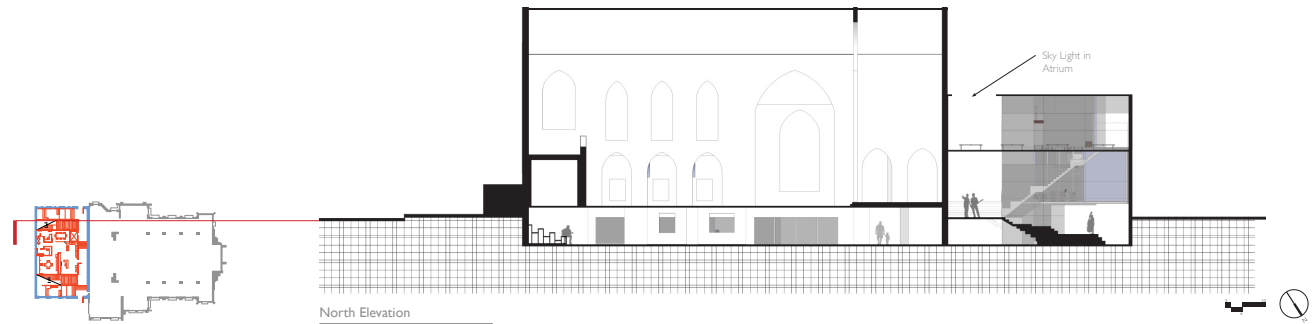
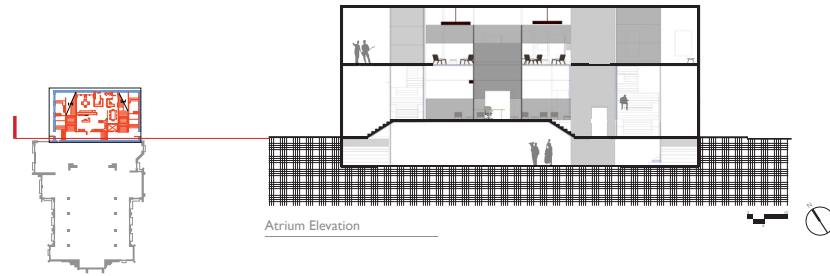
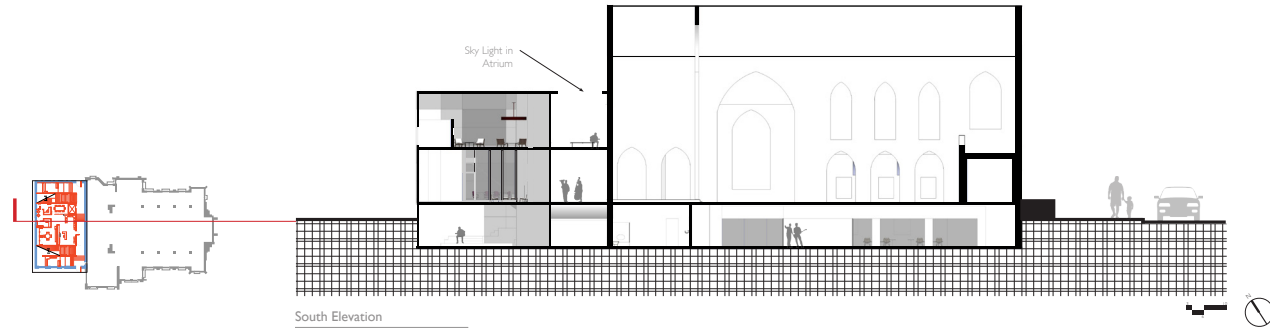


## Design Solution

# Display Boards



## Design Solution



## Design Solution



# Display Boards



The color palette is neutral and fresh that is juxtaposed with the age of the structure and the rawness of the brick walls. The glass and steel is an injection of a modern aesthetic in an otherwise classical feeling structure.

The furniture selection is another attempt to add a modern conversation in the classically styled building.







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### **Paul Klee**

pg 44 Paul Klee Painting Music pg 36/37

pg. 45 Paul Klee Painting Music pg 66

pg. 46 Paul Klee Painting Music pg 56

