U.S. 30 PRESBYTERIAN CHURCH
MERRILLVILLE - VALPARAISO, INDIANA
SHARON L. ALLEN
MAY 1984

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MUNCIE, INDIANA
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SPECIAL THANKS TO...

...those who encouraged me
...those who played hacky-sak with me
...those who supported me
...those who played ping pong with me
...those who believed in me
...those who made me laugh and smile

...those who kept me sane...
INTRODUCING...
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A PROBLEM...
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TO SOLVE...
  Options...Just Options...
  To Begin With...
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  Good-Bye and Farewell...

BIBLIOGRAPHY...
...an interesting and often asked question this past year. I could discuss the usual reasons that church architecture lends itself beautifully to the numerous opportunities to approach design from several philosophical levels both in the architectural world and the ecclesiastical world. Perhaps I could even discuss the fact that church architecture inherently has more areas where creativity can occur. Or I could even discuss the fact that church architecture has a nice combination of functional and non-functional requirements within its program. But the truth of the matter is I chose a church because its basis lies in the intuitive realm of design where feelings and emotions are the foundations for the spatial concepts. It is that challenge to translate and to produce a desired emotion
through architecture that has always intrigued me. As a poet strives to create emotions through words, as a musician endeavors to create emotion through music, I strive to create emotion through architecture.

After my decision to do a church was finalized, it became apparent that the church I had attended as a child was going to have to relocate their house of worship. With hopes of a possible realistic basis for my thesis, I set out to consult my minister. After several hours of discussing the church, its purpose, and its needs both programmatically and liturgically, I accumulated enough valuable information for my thesis. My church already had a target site in mind which I elected to use for my design. Although my thesis is based on the needs of my childhood church, it purposely does not address all the financial and pragmatic concerns of relocating. I have chosen to liberally interpret their needs in order to allow myself enough flexibility to develop my own architectural beliefs and ideals.
If I were to select a single word to describe my architecture I would probably choose "gentle." I am a firm believer that the strongest messages are conveyed through the subtlest touches. The "gentleness" of my work is derived from the fact that my approach to architecture is generally from the organic and humanistic range on the architectural spectrum. My organic approach to architecture allows the building to grow and develop according to its needs functionally and aesthetically. My humanistic approach allows the building to grow and develop according to the users' needs and desires both functionally and psychologically. The development of the building is also greatly influenced by the context of the site itself. Architecture does not have to shout to be heard.

There are many areas of concern in church architecture. One of these concerns is the question of how to clearly express through the architecture the theological and liturgical beliefs of the Church. In the Presbyterian religion, the written word, the spoken word, and the two sacraments, Baptism and the Lords Supper all ideally hold equal weight which presents a problem in how to treat four focal points equally. These four elements are a part of the Christian worship which is considered a communal act of a group of worshippers. Therefore none of these four elements can be removed from the unity of the congregational setting.

Another architectural concern in ecclesiastical architecture is the question of the image of the church. How the church desires its viewers to address and
relate to the surrounding communities in its image are questions that must be answered by the congregation and translated into a building form by the architect.

The idea of procession from the profane world to the sacred world through a progression of architectural spaces is a very important issue to consider. Exactly where does the procession begin and end, is the exit a reverse procession or a separate experience, and from what point does the architect become responsible for the attitudes created by the worshippers, are all issues which need to be defined. The idea of procession could be viewed from several levels. Perhaps, there are two levels of processions instead of one. The first could be a macro-scale procession from the home to the church. The second could be a micro-scale procession from the church parking lot to the sanctuary itself. Each procession and its components need to be defined and articulated architecturally.
The site area from which I selected my final site was originally one of the areas the church was considering. This site is located along highway U.S. 30 about fifteen minutes east of Merrillville, Indiana, at the entrance of the Shorewood Forest residential development. The northern boundary is U.S. 30 highway, and the southern boundary is a service road, Cool Springs Drive, which leads to the water tower located just south of the drive. The site area is divided by the entry road leading to the residential development. The eastern portion of the site is lower in elevation than the western portion. It is basically a flat grass site with a gentle slope toward the highway where a cluster of trees is located. There are also trees lined along the eastern boarder. The western half is
a gently sloping piece of grassy land with a very wide band of trees bordering the western boundary.

Because there had been a general shift of residents from Gary, where my church is located, to the Merrillville and Valparaiso areas, it seemed only logical to relocate the church to where it could best serve its Presbyterian communities. Since Merrillville and Valparaiso both have Presbyterian churches and there recently has been much growth in both business and residential areas along U.S. 30, it seemed only appropriate that the new church should relocate itself along U.S. 30 where it could serve the new growth and any overflow from both Merrillville and Valparaiso.

I surveyed this area searching for a prominent location for the new church.
building. I immediately dismissed the lower east and west portions of the site area for fear that building the church so close to the residents of Shorewood would create an undesired visual connection between the Shorewood Community and the church. The church is intended to serve all the residential communities along U.S. 30 not just Shorewood specifically. I then narrowed my site down to the upper west portion because it is higher in elevation than the north eastern quadrant. In fact the upper east quadrant has a low spot toward which the entire site area drains. The upper west quadrant also has a beautifully wooded area which I felt could add tremendously to the development of the church aesthetically and would also create a nice wind block from the northwest winter winds.

Soil...
- Typically classified as Morely Silt Loam
- Gently sloping
- Medium to medium well drained soil
- High water availability with moderately slow permeability
- Medium amount of surface runoff

Vegetation...
- Trees typically Maple, Elm, Oak

Climate...
- Winter winds from north west
- Summer winds from south west
- Average winter temperature 26°F-36°F
- Average summer temperature 76°F-86°F
- Annual precipitation 40" 
- Annual snowfall 36"
- 55% mean percentage of visible sunshine annually
I had three major areas of concern regarding the site. The first was the question of how to treat the trees and the tree line in relation to my building. There should be a definite concept of what part the trees should play in my building concept whether they are incorporated or simply used as a backdrop. The amount of trees which would be lost if I chose to build behind the tree line was also a subject of consideration. I also felt that parking was going to be a problem. The amount of asphalt needed for parking was going to create enough of an eyesore on the site that I felt extra attention should be given to soften the parking. Integrating my building into the site was my third concern. I felt my building should grow out of the site. Careful use of massing and materials would play a very important role in the integration between the site and the building.
The following outline was a programming tool which I used to help myself become better acquainted with the needs and requirements of each of the spaces to be used by the church. It was a means of verbally defining each space. Each is broken down to the users, a description of the activities and the setting, the performance specifications, and a spatial analysis.
Sanctuary

Ia. User (Service)
    A. Minister
       1. master of ceremonies
    B. Congregation
    C. Choir
       1. adult
       2. children
    D. Organist
    E. Deacons

Ib. User (Weddings)
    A. Ministe
    B. Wedding Party
       1. groom and gentlemen
       2. bride and maids
    C. Parents of
    D. Guests
    E. Organist/Pianist
       1. choir
       2. solo
       3. instruments

Ic. User (Funerals)
    A. Ministe
    B. Casket/Pallbearers
    C. Mourners
    D. Immediate Family

Id. User (Baptism)
    A. Minister
    B. Child with Parents
    C. Congregation

II. Characteristics of Activity/Setting
    A. Passive
       1. mostly sitting, walking
    B. Serene, Quiet, Reverance
    C. Lighting
       1. bright enough to read but dim enough to create a reverent atmosphere

III. Performance Specifications
    A. Allow for the best possible communication between minister and congregation, both visually and acoustically.
    B. Good acoustics for speaker and choir/music.
    C. Needs to display the liturgy of Presbyterianism.
    D. Needs for Wedding
       1. enough room for large wedding party to stand
       2. proper focal lighting for bride, groom, and minister
       3. first pews large enough for parents to sit
    E. Needs for Choir, Organist
       1. choir is separate from congregation
       2. choir should not feel totally on display or distract the congregation
       3. need good visual communication between choir and organist
       4. need good visual communication between organist and minister
       5. need good visual communication between organist and deacons
    F. Needs for Baptism
       1. font
       2. room enough for more than one group of parents/child to stand.
    G. Need for Funeral
       1. plenty of isle space for pallbearers casket
    H. Lighting
       1. needs proper focal lighting for lectern, pulpit, font, communion table
       2. lighting needs to be controlled both by deacons, in pulpit and main controls.
       3. must have dimming controls
Comments

This space should have a formal feeling. It should also bring the congregation together as this is a place of common, communal, community worship. The emotional response should be one of serenity, peace, reverence. Lighting should be subdued with accents on the liturgy area and/or articles of liturgy. It is a place for quiet mental communications with oneself and God. Communication between the minister and the congregation is an absolute must.

Materials should be carefully thought out to allow for a warm, relaxing feeling. Colors should also reflect the feeling.

On the functional side, maintenance of sanctuary should be considered. Maintenance for light should be easy. Tower ceiling for conservation of energy should also be considered. PA system and good acoustics should be considered. Quiet materials for ground/noise/acoustics (carpet). 110 outlets around pulpit, lectern, and organist. HVAC should be very good and be set up on a separate unit basis.
Chapel

I. Users
A. Same as sanctuary
B. People who are in need of a place for quiet refuge during irregular hours when the church is not open

II. Characteristics of Activities/Setting
A. Same as sanctuary

III. Performance Specification
A. Same as sanctuary except must accommodate 30-40 people
B. Should allow for children to hold their own service
C. Should allow for individual meditation
D. Should be made of durable materials in order that it may be kept open 24 hours
E. Needs direct access outside
F. Needs to have totally flexible interior to accommodate any function from a small funeral to a meeting room during irregular church hours.

Comments

Since the chapel will remain open 24 hours, its interior materials should be more durable. The feeling created inside the chapel should be one of warmth. It should be less formal than the sanctuary - more relaxed, more personable than the sanctuary.
Narthex

I. Users
   A. Congregation Members

II. Characteristics of Activities/Setting
   A. Walking, standing
   B. Noisy at a normal talking level
   C. Preparation before entering sanctuary or fellowship area

III. Performance Specifications
   A. Needs to allow for communication's between people before church, meetings, dinners, etc...
   B. Needs to provide for storage of coats, hats, umbrellas
   C. Needs to provide restrooms
   D. Needs to provide a place for greeters for services and ushers for weddings
   E. Must provide psychological preparation for entering the sanctuary
   F. It is a buffer zone between outside and sanctuary
   G. It is a transitional zone between profane and sacred

Comments

This area should have a warm, casual, welcoming effect on people. Colors and materials should be lighter, gayer - those reflecting activity. This is a transitional space both psychologically and physically. The shape, form, etc... should reflect this.

This area is also to be used for gathering grounds for other activities besides service and weddings. It can also be used for a gathering space before meeting, dinners, shows, etc...

This area should be noise insulated from the sanctuary. Possible visual insulation is also a consideration.
Sacistry

I. Users
   A. Ministers
   B. Deacons
   C. Men of the Wedding Party

II. Characteristics of Activities/Setting
   A. Slight Activity
      1. mostly storage space for liturgical elements, ministers vestments

III. Performance Specification - What does this space need to do?
   A. Must have ample storage space of communion equipment (including all individual communion glasses for congregation)
   B. Vestment Closets (special height required)
   C. Storage for PA equipment (most likely)
   D. Hold ceremony utensils such as candles, books, crosses
   E. Should allow for the washing of all communion equipment
   F. Should store offering plates
   G. Must have limited access
   H. Should be located near sanctuary

Comments

This needs to be located near the sanctuary (and chapel if there is one). It could also double as a dressing/waiting room for the men of the wedding if care is taken to separate the valuable liturgical equipment and waiting area.
Fellowship Hall

I. Users
   A. Congregation
   B. Members of Committees
   C. Members of the Community
   D. Public
   E. Girl Scout/Boy Scout and similar groups

II. Characteristics of Activities/Setting
   A. Lectures, dinners, discussion groups, movies/slides. Involves passive quiet activities
   B. Could be used as an area for bazaars, displays, exhibits, bake sales. Involves walking, moderate noise
   C. Could also be used as a multi-purpose recreation room for young adults, children. Light to moderate physical activity, perhaps ping-pong, musical choir
   D. Atmosphere should be semi-formal - rather flexible perhaps through lighting techniques
   E. Colors should be lighter, in color and atmosphere
   D. Could have plays

III. Performance Specification
   A. Should provide ample space for flexible table setting arrangements depending on the size of the group.
   B. Should allow for plenty of circulation during banquets for serving of food (waitresses) or walking (smorgasboard)
   C. Should allow ample storage space for tables and chairs when not in use
   D. Should allow for good acoustics for lectures, films, plays.
   E. Should have PA system incorporated in design
   F. Should provide for ample storage space for several different types of groups. Storage needs to be by units for each group
   G. Needs to provide storage space for any games tables
   H. Should be flexible in terms of lighting controls (lecture, films, stage exhibits)
   I. Should be flexible enough to have perhaps a portable stage set up. Should also have storage for such a unit if used
   J. Needs to allow for best possible climatic control, HVAC because of the various activities and numbers of people using the room

Comments

This area must be flexible in terms of spatial settings, lighting controls, acoustical needs and also flexible in terms of atmosphere. There will be a large range of activities that might happen here. One activity may be very formal; another may be very casual. Special care should be given to the use of materials, lighting and colors to allow for this atmosphere flexibility.
Kitchen

I. Users
A. Women's Committees
B. Catering Groups
C. Members of Congregation

II. Characteristics of Activities, Setting
A. Cooking, baking, cleaning, dishwashing, food preparation will take place here
B. Will be noisy with clatter of dishes, clanging pots and pans, talk above normal voice level at many times, noise from dishwasher and mixer
C. Should be sanitary setting
D. Could be very bright atmosphere to reflect activity

III. Performance Specification
A. Should allow for most efficient use of space, equipment and circulation of workers important
B. Should provide adequate control of noise so the activities in the dining/fellowship hall will not be disturbed
C. Should provide an efficient arrangement of commercial restaurant equipment
   1. ovens (pie and roasting)
   2. burner space
   3. freezers - much
   4. refrigerators - much
   5. counter space/work area
   6. mixer
   7. sink
   8. dishwasher
D. Needs to lend itself to easy cleaning
E. Should provide ample storage space for:
   1. china
   2. silver
   3. linen
   4. table decorations
   5. pots/pan/bowls/working utensils
   6. cleaning equipment
   7. dry goods/canned goods
   8. storage equipment (bowls, foils, seran-wrap, freezer bags, etc...)
   9. small coffee machine

F. Needs to provide adequate HVAC controls as much heat will be generated by machines, equipment and workers.

Comments

This area allows for fun use of colors which may be used to reflect the amount of activity occurring. Colors could also enhance (or hurt) the appearance in terms of sanitation. Although this area is terribly functional there is no reason for it to be any less interesting than any other space. Careful use of light and materials could enhance this space.
Lounge

I. Users
   A. Ladies Organizations
   B. Committees
   C. Small Groups of People

II. Characteristics of Activities/Setting
   A. Standing, sitting
   B. Quiet to moderate talking levels
   C. Should have rather formal atmosphere

III. Performance Specifications
   A. Should allow for rather formal meeting and guest reception-type activities
   B. Should allow for comfortable arrangement of furniture conducive to easy communication and flow of people
   C. Should allow for area to make and serve coffee and refreshments

Comments

This area has traditionally been rather formal. In some ways it has been rather exclusive because the ladies' organization has taken care of it and used it. It can be used for coffee hour after service. It could also be used as a reception area, for guest speakers and also small weddings, etc... Although this is a formal area I see no reason why it could not be bright and comfortable.
Committee Room

I. Users
   A. Deacons
   B. Session
   C. Committees made up of congregational members

II. Characteristics of Activities/Setting
   A. For passive activities such as sitting, standing
   B. Speech will be at normal talking level
   C. Comfortable, "cheery," atmosphere

III. Performance Specification
   A. Needs to allow for the best possible communications between a group of about 20-25 people
   B. Needs to be very comfortable
      1. in terms of lighting, coloring
      2. in terms of furniture
      3. in terms of HVAC
   C. Must also provide area for coffee, refreshments, and clean-up
   D. Should also provide for audio-visual aids such as films, overhead projectors

Comments

Lighting could be used to provide positive attitude. Use of colors should be light with a touch of brightness.
Day Care Center/Children's Educational Facilities

This allows for the weekday day care center to double as an educational facility and nursery for the church on Sunday.

I. Users
   A. Adult Supervisors
   B. Children-ages infants through sixth grade, young people-ages: 12-16 (junior high) 16-18 (high school) 18-25 (college)
   C. Users will be from the community during the week and from the congregation during Sunday

II. Characteristics of Activities/Setting
   A. Activities will be fairly noisy to quiet; reading, art work, quiet play with blocks, dolls, singing, dancing
   B. Entire area should be bright, playful atmosphere conducive to fun and learning
   C. Scale should be small to accommodate little ones.
   D. Should be able to control noises

III. Performance Specifications
   A. Arrangement of spaces should contribute to the child's perception of order and space
   B. Must accommodate several small activity areas along with a larger group area.
   C. Smaller area will include: reading, art work, blocks, housekeeping, manipulative skills, tutoring

D. Should allow for acoustical control of noise
E. Should allow for children's scale both in furniture and room scales
   1. windows, display areas, tables, counters, shelves, coat hooks, etc. should be lower (toilets and sinks)
F. Should allow for an exterior play area
G. General Group Area
   1. allow for musical activities to occur
      a. playing and storage of instruments
      b. area for dancing
   2. allow for display areas
H. Block Area
   1. allow for building of structures without being in circulation paths
I. Manipulative Toy Area
   1. allow for quiet constructive playing mostly individually
   2. allow plenty of shelf and display area for puzzles and toys
J. Reading and Listening Area
   1. should allow for small groups or individual
   2. allow for display of books
K. Doll and Housekeeping Area
   1. should allow for a small kitchen, cleaning utensils, etc...
L. Art Area
   1. should allow easily cleaned surfaces
   2. should allow for cleaning area (small scale)
   3. allow for storage area of paints, glue, scissors, etc...
   4. allow for counter/table tops/or easels for art work
5. allow for display area

M. Tutoring Booth
   1. should allow for quiet private study and one-to-one with teachers and student

N. Should allow for individual cubicles/storage for each child to store their coats, hats, boots

O. Allow for toilet facilities to be located near main area to avoid unnecessary wasting of time for "potty-breaks"

P. Should allow for teacher scale clean up/preparation area for paints/smocks (include refrigerator)

Q. Option - outdoor space for play, reading groups (include storage of outdoor toys). Option, if no outdoor area... at least allow for a growing area for plants/animals

R. Option - allow observation area for parents

Comments

These facilities should be arranged so that during Sunday, school could take place. The areas should be for the grades 1-3, 4-6. A nursery with cribs should also be supplied for the pre-schoolers.

Care should be taken in this area in order to make the best possible use of the spaces at all times and to allow the day care center to double as area for church
Educational Rooms

I. Users
   A. Grades 7-9, 11-12
   B. Adults

II. Characteristics of Activities/Setting
   A. Quiet activities consisting of mostly discussion group
   B. Some more active in younger people's rooms
   C. Singing could occur
   D. The playing of music could occur
   E. Rooms should be "cheery" in color and well lit

III. Performance Specification
   A. Should allow ample storage area for books and craft equipment
   B. Space should be very flexible for discussion groups or other activities such as movies, lectures, etc.
   C. Natural lighting should be allowed either from above or the side

Comments

These rooms should be very flexible and could even be connected by moveable walls to create larger spaces if needed. Bulletin boards and display areas should be provided for. Rooms should be controlled in terms of acoustics and lighting.
Choir Practice Area

I. Users
   A. Members of congregation in choir
      1. student and and children (possibly)
      2. adults
   B. Bell Ringers
      1. Adults
      2. Students
   C. Organist/choir instructor/pianist

II. Characteristics of Activity/Setting
    A. Standing, sitting
    B. Possibility of dancing (heavy doubt)
    C. Cheery, pleasant atmosphere in terms of light, colors, materials

III. Performance Specifications
    A. Needs to lend itself well to practicing music and singing in terms of acoustics
    B. Should allow for good visual communication between instructor/organist/choir
    C. Should allow ample storage for
       1. vistments - children and adults
       2. bells
       3. pianos
       4. small instruments, i.e. guitar
       5. music books/hymnals
       6. sheet music
    D. Should allow special area for instructor/organist for desk work - should be quiet
    E. Needs to provide for storage of chairs, tables if room is to be flexible
    F. would accommodate less than 30-40 people

Comments

This area could double as a lecture discussion panel area if the floor were tiered and screen and proper lighting were provided for. If this occurred special security measures would be needed for locking equipment up when the room was used for functions other than choir practices. Incorporating a permently tiered floor definitely cuts down on the flexibility of the space. There is always the option of using portable risers, remembering to include proper storage space for them when not in use.

This option needs to be considered carefully in terms of the programmatic needs of the church.
Handi-Craft Area

I. Users
   A. Ladies' Association
   B. Bazaar Workers
   C. Men of Congregation

II. Characteristics of Activity/Setting
   A. Sewing both by hand and by machine
   B. Painting, gluing
   C. Cutting of paper, material, perhaps of light woods, cardboard
   D. Activities will be rather noisy with talk because much socializing occurs during these activities
   E. Atmosphere is one of casual, light, cheery lending itself well to communications (socializing)

III. Performance Specification
   A. Should provide for plenty of storage space for craft equipment and materials used
   B. Should allow ample shelf space for storage of finished projects - (this storage could be in drawers and in closets for hanging projects also - keeping in mind the type of projects done by the ladies' bazaars)
   C. Should allow for clean-up area/ coffee preparation space/refreshments
   D. Should allow lay-out/counter/work area
   E. Should be easy cleaning and quite durable.

Comments

This area need not be very large. It would probably need to accommodate about 25 people. In fact it could be used in conjunction with another area to allow for the possibility of a large group of people working. One area would be used for cutting, painting, lay-out (messy or specific functions) and another area for less messy or space-consuming activities such as hand sewing.

This room needs to be carefully thought out and considered with relation to other areas and functions that other groups/activities could occur here.
Audio Visual Room

I. Users (storage for)
   A. Educational People
   B. Lectures

II. Characteristics of Activity/Setting
   A. Strictly storage area

III. Performance Specifications
   A. Should allow ample storage for overhead projectors, opaque projector, film projectors, slide projectors
   B. Should also allow for storage of films and slides
   C. Should also allow for storage of carts for moving the equipment
   D. Should also allow for storage of record players, cassette recorders, etc...
   E. Should also allow for storage of cassettes, records, etc...
Minister's Study and Associate's Study

I. User
   A. Minister

II. Characteristics of Activities/Setting
   A. Activities will consist of sitting, talking and desk work
   B. Atmosphere will be quiet, warm, welcoming to strangers, and comfortable

III. Performance Specifications
   A. Should allow for ample storage of sermons, letters, materials
   B. Should provide ample shelves for books
   C. Allow room for typewriter, dictaphone, calculator
   D. Should allow for coffee/refreshment/clean-up area
   E. Could allow for bathroom facilities (most likely not)
   F. Should allow for comfortable area for counseling of couples-to-be-married, married couples, people, etc...
   G. Should allow for privacy away from regular church business functions
   H. Should be sound proof
   I. Should be warm, personable

Comments
This is potentially a good place for some nice use of natural light to help create a warm personable area for the minister. This area should be quiet to allow the minister the proper atmosphere for sermon writing.

Communications between the secretary and the minister is critical. This could be handled with telephone systems. A way to control the vulnerability of the minister in terms of rumors when he is counseling could be handled with an opaque side light window where people cannot see in but there is that psychological element of control evident.
Secretarial Area

I. Users
   A. Secretary/or Secretaries
   B. Volunteer Members/Workers
   C. Minister

II. Characteristics of Activities/Setting
   A. Sitting, standing, and walking
   B. Much mechanical work
   C. People will be typing, writing, answering phones, running printing/folding equipments, stapling, stacking
   D. Atmosphere should be positive, pleasant, "cheery," well lit

III. Performance Specifications
   A. Should allow for large amounts of storage for printing paper, supplies, ink, envelopes
   B. Should allow for storage of files, records, card files, addressograph files
      1. Regular storage
      2. Fire proof storage
   C. Needs to allow for secretarial equipment
      1. Typewriters
      2. Desks
      3. Duplicating machine
      4. Addressing machine
      5. Folding machine
      6. Computer
   D. Needs to provide for lay out space
   E. Needs enough room for volunteer workers and part-time help
   F. Needs to provide for clean-up and office/refreshments
   G. Needs adequate light for work

Comments

This area is critical in terms of providing a proper setting for receiving business people during business hours. It is also one of the few areas to have someone using it for long periods of time. It therefore should be as comfortable and pleasant as possible. Interesting use of light could be very positive in this area.

One quick note on maintenance and HVAC. Because of the ink, etc... used, materials should be easily washed. Because of the equipment used, there should be special considerations taken for ventilation and A.C.
Financial Secretarial Area

I. Users
   A. Financial Secretary
   B. Deacons

II. Characteristics of Activities/Setting
   A. Passive activity - basically sitting
   B. Should be quiet, controlled sound wise form other areas

III. Performance Specifications
   A. Needs to provide for vault/safe/fireproof
   B. Allow space for adding machine/calculator
   B. Should have adequate light for task work

Comments

This area is used on a part-time basis usually. It is used either weekdays part-time or a single week day. It is also used on Sunday by the Deacons who count/record the offerings. Would be helpful to have easy access from sanctuary.
Parking

I. Users
   A. Church Members
   B. People for and from day care

II. Characteristics of Activities/Setting
   A. Should be with as many natural elements as possible
   B. Pavements should be broken up so as not to allow the creation of an "asphalt of sea"
   C. Should have as soft effect as possible in the landscaping

III. Performance Specifications
   A. Should allow easy, logical way of parking so as not to create confusion
   B. Should allow for easy, efficient exit after church
   C. Should be broken up with tree, berms, sidewalks, bushes
   D. Areas should be broken up so as not to create massive asphalt areas
   E. Drop-off is a must
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<tbody>
<tr>
<td>A. Sanctuary</td>
<td>4010</td>
<td>A. Restrooms</td>
<td>450</td>
</tr>
<tr>
<td>(seating 300 people)</td>
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<td>B. Janitor's Closet and Storage</td>
<td>60</td>
</tr>
<tr>
<td>1. Nave</td>
<td>3360</td>
<td>C. Mechanical</td>
<td>100</td>
</tr>
<tr>
<td>2. Chancel</td>
<td>500</td>
<td>D. Parking (100 Cars)</td>
<td>30,000</td>
</tr>
<tr>
<td>3. Choir Seating</td>
<td>150</td>
<td>(minus Circulation &amp; Parking) Total</td>
<td>12,915</td>
</tr>
<tr>
<td>B. Salistry</td>
<td>175</td>
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</tr>
<tr>
<td>C. Chapel (seating 40 people)</td>
<td>625</td>
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</tr>
<tr>
<td>D. Narthex</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Bride's Room</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>II. Social Areas</td>
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<td></td>
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</tr>
<tr>
<td>A. Fellowship Hall</td>
<td>1575</td>
<td></td>
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</tr>
<tr>
<td>1. Kitchen</td>
<td>150</td>
<td></td>
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</tr>
<tr>
<td>2. Storage</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Committee Room</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Lounge</td>
<td>500</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>III. Educational Areas</td>
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</tr>
<tr>
<td>A. Day Care</td>
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</tr>
<tr>
<td>B. Class Rooms</td>
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<td></td>
</tr>
<tr>
<td>1. Adult</td>
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</tr>
<tr>
<td>2. Senior High</td>
<td>450</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Junior High</td>
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</tr>
<tr>
<td>C. Choir Area</td>
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<td></td>
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</tr>
<tr>
<td>1. Practice Area</td>
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</tr>
<tr>
<td>2. Office Area</td>
<td>150</td>
<td></td>
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</tr>
<tr>
<td>D. Handy-Craft Room</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Audio Visual Room</td>
<td>100</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>IV. Business Area</td>
<td>1320</td>
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</tr>
<tr>
<td>A. Ministers Study</td>
<td>260</td>
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<tr>
<td>B. Assoc. Ministers Study</td>
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<tr>
<td>C. Secretarial Area</td>
<td>860</td>
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</tr>
<tr>
<td>1. Reception Area</td>
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</tr>
<tr>
<td>2. Work Area</td>
<td>360</td>
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<tr>
<td>3. Secretary's Area</td>
<td>150</td>
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</tr>
<tr>
<td>4. Financial Secretary's Area</td>
<td>150</td>
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</tbody>
</table>
After developing this program for the church, it became immediately apparent that there needed to be some sort of security or control within the building in terms of closing off areas that were not being used at during certain time periods. Certain areas of the building are used daily (Business and Day Care), others are used during the weekend (Fellowship Hall), and others are used almost only on Sunday (Sanctuary). By grouping the spaces according to when and how often they are used not only could allow for more security control but also allow for compartmentalization of HVAC unit according to zones.

In order to better understand which areas were used when, I developed a time chart of a Muncie Presbyterian Church's activities. By graphing these times schedules, I could group the spaces in zones according to their time schedules.

Another point which became apparent was that the circulation within this project could get a little cumbersome. I felt circulation should be monitored carefully and minimized as much as possible.

Because I felt I needed a better understanding of the congregation's feelings toward the church, its purpose, and its functions, I developed a questionnaire which 20 people answered. Through their answers I was also able to understand their expectations of the church both in terms of image and atmosphere, and begin to incorporate their attitudes and needs into the design.
# Time Use Map

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-12</td>
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<td>9-12</td>
<td>1-5</td>
<td>6-9</td>
<td>9-12</td>
</tr>
</tbody>
</table>

- **Sanctuary**
- **Chapel**
- **Narthex**
- **Bride’s Rm.**
- **Fellowship A**
- **Kitchen**
- **Handi Craft**
- **Choir Room**
- **Committee Rm.**
- **Minister’s St.**
- **Secretarial**
- **Financial Sec.**
- **Day Care**
- **Education Rm.**
- **Audio Visual**
- **Janitor**

**Legend**

- **Definite Use**
- **Definite Potential**
- **Possible Potential**
<table>
<thead>
<tr>
<th></th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>9-12</td>
<td>9-12</td>
<td>9-12</td>
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<td>9-12</td>
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<td>Sanctuary</td>
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</tr>
<tr>
<td>Narthex</td>
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</tr>
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<td>Bride's Rm.</td>
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<td>Fellowship Hl.</td>
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<td>Kitchen</td>
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<td>Handi Craft</td>
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<td>Choir Rm.</td>
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<td>Ministers St.</td>
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<tr>
<td>Secretarial</td>
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<tr>
<td>Financial Sec.</td>
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<tr>
<td>Day Care</td>
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</tr>
<tr>
<td>Education Rm.</td>
<td></td>
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<tr>
<td>Audio Visual</td>
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<td>Janitor</td>
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<tr>
<td>Parking</td>
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<tr>
<td>Committee Rm.</td>
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<tr>
<td>Lounge</td>
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</tbody>
</table>

- Indicates definite need/use of lounge

Schedule for
First Presbyterian
Marion, IN
I spent a portion of my time during the initial quarter analyzing work by other architects and how they handled similar design problems. I encountered three interesting design solutions which I felt dealt with my own design issues in a very positive and creative manner. In addressing the integration of site, I found Fay Jone's Thorncrown Chapel in Eureka, Arkansas, a very strong design solution. He has beautifully integrated the chapel in with the trees both through the use of materials of glass, wood, and flagstone and the use of the strong vertical wood structural members which reiterate the verticality of the trees. In my own design problem, I too felt the need to expose the trees as much as possible and have done so through the use of wood and glass in the rear of my sanctuary.
The second design solution was the First Unitarian Society Church in Madison, Wisconsin, done by Frank Lloyd Wright. His use of the prow as a meeting hall, chapel, and a spire was an interesting combination of several functions into a single form. My own light tower is reminiscent of this type of architectural combination as my light tower not only adds visual strength to the exterior image but also creates nice lighting over the liturgical area. The last church which I found to have an interesting design solution was Eero Saarinen’s North Christian Church in Columbus, Indiana. Saarinen creates a very strong image with his roof planes converging to a spire. I too have used the slanting roof planes to help create a strong visual image from the exterior.
North Christian Church
Columbus, Indiana
Before I actually came up with a design concept that I felt satisfied the requirements of my church, I developed three other concepts which I evaluated and combined the positive assets into my final design concept. The first concept, A, was linear in plan. It had clusters of spaces which were organized by the user frequency which branched off the linear circulation spine. This linear circulation was broken up by courtyards between the clusters. This concept was weak in that the building plan became too separated and disconnected. If the spaces were arranged by the frequency of use, the chapel would end up at the farthest point from the main entry. Since it was my intention to make the chapel a more available, usable space, this arrangement was not desirable. Concept A did have some
positive points in that the spatial arrangements were in a logical order according to the frequency of use, and the linear circulation leading towards the sanctuary created a preparatory walk through the building towards the sanctuary.

Concept B was organized around a central node which branched off into clusters of spaces which were organized by the type of function - religious, educational, social. Each of the clusters was separated by a courtyard. This concept created a more unified whole and a strong centralizing node which would tighten up security and would avoid confusion upon entry. Unfortunately the organization of spaces totally by function type did not allow for the ability to close off an area because the time schedules of the areas did not coincide.
My third and last preliminary concept used the circulation to isolate the religious space which was located in the central core. The spaces around the sanctuary were organized by the frequency they were used and the amount of people using them. Although this concept created a nice opportunity for a strong emphasis on the central sanctuary and created a nice telescoping effect in the circulation surrounding the sanctuary, it lacked any organizing areas at the entry, any processionial pathways, and any noise control around the sanctuary.
After delving through the program, the building type study, the site analysis, and several preliminary concepts, I was able to define and redefine my planning objectives clearly and create a concept which could satisfy each objective. First of all, it was important to control the views of the church during the approach in order not to reveal the church too quickly to its viewers. Through the use of landscaping elements such as trees and berms, the building could be gradually revealed. The initial turn into the church drive from Shorewood Drive exposes momentarily the only view to the church directly on axis.

I also felt the tree line should be handled carefully. I have allowed the trees and the sanctuary to interact by placing the sanctuary area behind the
tree line. The entire wooded area is used as a backdrop for the church. The tree line at the present is very harsh and unnatural. By letting the trees take over other parts of the site in controlling views and softening the parking area, the original tree line can be softened.

The parking area itself needed to be thought out and incorporated in with my initial desires to control the views of the church. The parking should be brought to the southern end of the site in order not to obstruct any of the views from the highway or approach. The parking needed to be broken into smaller lots and carefully landscaped with trees, shrubbery, and berms to soften the amount of pavement required for parking. By directing the circulation flow of the automobile through the use of one way loops, views of the church from the parking area could be exploited.
Through my preliminary research I was also able to define and redefine my objectives and goals for the church design itself. After discussing the functions, and philosophies of the church with my minister, it became evident that the church as a place for common worship is based on communication and interaction between people. Because Christianity is taught not only through words but also through actions and interaction, creating "occasions" for this interaction and communication to happen was one of my main objectives. Through the use of circulation nodes located at the beginning of each new area and courtyards, these "occasions" for interaction and communication can occur.

Going to church is a procession which carefully leads the worshipper from the profane world to the sacred world. This procession is a progression of spaces each preparing the worshipper in some degree the final entry into the sacred realm, the sanctuary. This procession is very crucial in my church design in that it must properly prepare each worshipper emotionally and intellectually for the sacred realm and the worship ceremony. There are three "gates" which the worshipper must travel through in my design. The first gate, at the beginning of the courtyard, divides the exterior node of the drive up from the church courtyard. This courtyard is the first preparatory space in the progression. Its purpose is to initiate the worshipper into the church atmosphere at a more personal, informal level. The second gate is through the front doors into the narthex. This second space in the progression introduces the
worshipper more formally to the religious attitudes of the Church. The final entrance leading to the realm of the sacred has no physical barrier only an imaginary line created by the lighting in the tower. Once the worshipper crosses this "line", the passage to the sacred is secure, and the final procession is in motion. The worshipper must travel through a converging hallway before actually viewing the sacred in order to prepare the worshipper internally, emotionally, and intellectually for the religious ceremony. The final turn at the end of the hallway unveils the expanse of the wooded area and the sanctuary to the worshipper.

Traditionally the chapel has been a miniture sanctuary located off to one side where smaller ceremonies and individual worship occur. In order to bet-
ter serve the Church, I felt the chapel should be allowed to stay open 24 hours a day for individuals seeking sanctuary during those hours when the church proper is closed. By pulling the chapel into the front and into the courtyard, it could easily be accessed even when the church is closed.

Organization of spaces within the building should be according to how often they are used in order to allow for tighter security and individualization of the HVAC units. The day care and business portion of the church should be grouped together with a separate entrance because both are used during the regular business week when the remainder of the church is closed.

The building should be well integrated with the site growing from the site as the trees do. The choice of materials and massing will help accomplish this. The materials should be naturalistic such as wood and sandstone. Massing should be broken down enough so as to not become too heavy.

Emphasis on the liturgical area is naturally important. The use of a light tower above the chancellery area was a major requirement from the start.
Floor Plan Development...

My main concept was derived originally from the idea of three steps in the procession into the religious area. Again, the first space was before entering the building, the second in the narthex, and the third was created especially as the final preparation space before entering the sanctuary. The entry was divided by the chapel which was connected to the narthex area. Entry into the final preparation space was protected by the educational and social wings. Entry into the sanctuary was on axis with the altar area located within the trees. A light tower was located over the altar area.

After working with this concept, it became apparent that having the focus of the altar and the trees was creating a dichotomy, neither focus being very strong.
By reversing the entry of the sanctuary, the altar became the focus, and the trees became an excellent backdrop for the rear of the sanctuary. A processional walk was now incorporated into my series of preparatory events to the sacred realm. The light tower with its heavier mass was now located near the center of the church as a whole.

Other refinements lead to the separation of the building units by visual courtyards. The chapel which was originally incorporated in the building structure was pulled away from the entry to help form a courtyard, another preparatory space. The circulation paths as the design was refined became much more efficient, and the social nodes became clearer.
Models...

Building the models of the structures became a very important tool in my design process. By building the models, I could better understand how the structure worked, how successful my roof planes were in creating a strong upward sweeping motion, how dominant my light tower was, and how the roof planes joined together.

My first models were strictly structure. It was not until my third model that I enclosed it with walls and worked with joining the roofs together. Through refinements the light tower became stronger and the roof planes became more simplified.
Elevations...

The concept for the elevations is based on the pulling away of materials as the facade wraps around the building from the "harsh" profane world in front to the "peaceful" sacred world in the trees. The materials I have chosen are sandstone, wood, and glass. The roof is of a non-bluing copper.

There are three combinations of materials in the facade that I have used in the "peeling away" process. The first combination is used on the bearing walls in front. The base consists of cut sandstone, the middle is of 2X4 sandstone panels and the top is of 6" wood panels. The windows are vertical to reiterate the verticality of the trees and help lighten the facade. The second combination is located along the day care and the fellowship hall, which I have tried to make special through the use of separate roof planes and separate facade treatment. This combination consists of a sandstone panel base, a wood middle with a glass top. Since the walls are not load bearing I have lighted up the materials. The last combination of materials consist of just wood and glass. It is located in the sanctuary to open up the sanctuary to the expanse of the woods. The wood is used as a strong vertical element reminiscent of the trees. These lighter materials are used purposefully to reflect the final area of the sacred realm.
Structure and HVAC...

The structure of the building consists of bearing walls and beams, columns and beams, and columns and trusses. The structure is to be expressed on all the roof planes from the exterior. The beams and trusses will be wrapped with the proper roofing materials so as to not expose the wood to the outdoor elements. The wood beams and trusses in the sanctuary and the chapel are exposed in the interior. The beams in the rest of the building will be hidden by drop ceilings.

The wall sections vary according to what the materials of the facade is. The sandstone paneled walls with the cut sandstone base are held by concrete blocks, the wood facades with the sandstone paneled base are held up by 2 x 6's.

The glass facades are not the load bearing walls and therefore are held up by wood columns and beams.

The HVAC system consists of several residential HVAC units each located in or near the section of the building which it serves. By separating the building into separate units served by individual HVAC units each area can be heated or cooled as needed. This type of control over the HVAC system will help keep the energy use and energy costs to a minimum. In the sanctuary and the chapel the HVAC will come from underneath the floor and in the two wings the HVAC system can be located in the space between the roof and the drop ceiling.
GOOD-BYE AND FAREWELL...

Although time has been a restriction in terms of continuing my design process any further, I feel sufficiently satisfied that the basis and concepts of my church design are strong enough to support and encourage further development which would only lead to the enhancement of the building. I do not underestimate or deny the weaknesses of my design concepts but acknowledge them for their value as a means of learning. After all, it is the culmination and understanding of both the successes and the failures that we ever progress.

Just as the concept of growing was the theme of my church design, the concept of growing was the result of my thesis year. I have found this past thesis year to be quite a learning experience not only in terms of the development of my design philosophies and processes, but also in terms of my understanding of myself and other people.

To say that my learning experience has been restricted only to my thesis year is far from accurate as I have found my entire five years in architectural school a valuable learning experience. It has been a time in which I could develop a strong foundation socially, academically, and intellectually to build on as I enter the professional world. With five meager years of formal education behind me, I turn toward the future for further education and learning experiences.


Time Saver Standards for Building Types.