

STUDIES ON THE DESIGN OF A ROOM FOR WORSHIP

by

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of the Requirements for the Degree of Master of Science and Architecture Studies
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Dedicated to Mom and Dad, Ogden, Ronald, and Aunt Demetris with great affection.

To the others who pushed me, pulled me, and walked beside me and who are now my friends, many thanks.

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3

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ABSTRACT

The following thesis is an investigation into the design of spaces to be used for religious worship. It will look at a space created in terms of the historical context to which it will belong, and will study those elements which most appropriately communicate a place of worship for today.

The design is specifically for a small chapel viewed through the requirements of the Catholic Church. It is based on the recent trends in Christian worship and more importantly on Catholic attitudes since Vatican II. The intention is to create a space into which many people may bring their god with them for worship, and also a space that might be comfortable for someone not familiar with the Church. It looks at the building in terms of a return to the early notion of worshiping in a house as early Christians did and at the same time it provides a path made up of a series of gateways through which one passes toward a sacred center.

Thesis Supervisor: Imre Halasz
Title: Professor of Architecture

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INTRODUCTION

The choice of the phrase, "The Study of a Room for Worship," as the basis for a thesis is the result of many personal experiences with the Christian religion and with Architecture. Many of us were raised from early childhood under one or another set of religious precepts that supported belief in a higher being or God, if you will. Often we can identify some place as the center for the study of God's laws and for celebration to honor him/her. It was to those places, usually a church, synagogue, or even a place in the home, that many of us went at least once a week to study and celebrate. But more than that, we went to do those things in the presence of others who believed the same things we professed.

For the Christian it is reiterated over and over that God is not confined to a building, but that God lives in each person, and that the environment of worship acts merely to facilitate that worship. The church is a group of believers gathered together. It is this attitude which Luther had when he said, "Even if you preached under a green linden tree or willow, it would still be God's own abode and sanctuary, for God's Word reigns there. God's Word alone sanctifies the place and makes it his home and abode".

For the Architect, the job becomes that of trying to know something of the nature of the God and his worshipping

people, and of designing to facilitate that worship. In trying to provide an appropriate environment for worship, it is not within the scope of this thesis to argue the existence of God or exactly who has found the "right" God, but only an attitude toward the place where he is worshiped. Many groups may find it appropriate to worship in the same place, but for argument we will test our worship space by attempting to meet the needs and attitudes of the Roman Catholic church. The vehicle for this study will be a small chapel, one room in which worship services, marriages, baptisms, and other liturgical activities may take place.

Even though we will use the attitudes of the Catholic church to guide our design, this room for worship need not only address the needs of one particular group of worshippers, rather it is a chapel for many groups and individuals in much the same way that Lloyd Wright's "Wayfarer's Chapel" was. Gieselman and his book, New Churches suggested that even in a technocratic society in which technology can compensate for some aspects of religion, there is a need for places with an atmosphere of community, personal meditation, and contemplation. There need to be set aside some places that are sacred. C. Alexander reiterates this point in his book A Pattern Language by saying that "In functional terms it is essential that each person have the opportunity to

enter into some kind of social communion with his fellows at times when he himself or his friends pass through [these] critical points in their lives. The social communion of these moments need to be rooted in some place which is recognized as a spiritual gateway for such events".

Believing that there is an inherent need for a sacred place, a spiritual gateway, a place in which to meditate, the community will recognize a place as appropriate, be it a park, an opening in the woods or a spot by the water. If the quality of that place is conducive to the activities associated with a sacred place, a feeling of holiness in some form or other will gradually come to life among the people who share the experience. The community must recognize the need through which the Christian first recognizes God, therefore, the room for worship/environment is a facilitator.

In order to understand the attitudes of today's Catholic church toward building, it is helpful to look briefly at the evolution of the Christian church's meeting places and cult activities. Some knowledge of the establishment of the early church is assumed at this point, otherwise the New Testament begins to suggest the evolution of the church power structure during Christ's life and after his death. Until the sixteenth century this history is

common to all denominations at which time the Reformation took place and we begin to detect significant differences between some denominations in activities.

Christian religious activity is based on Christ's commands and seen in light of the Jewish tradition. That tradition centered around sacrifice, meditation, and instruction. This took place in the home, where sacrificial meals were taken along with prayers and readings; the temples, where sacrifices were made for the whole nation and the people were passive viewers; and the synogogue where instruction could be carried out but not sacrifice. Once the apostles were excluded from the synagogue, the Christian assembly began to meet for meditation and instruction (the ministry of the Word) and the sacrifice (ministry of the Eucharist).

It is these two activites, ministry of the Word and ministry of the Eucharist that began to influence the plans of churches. The ministry of the Word, of course, is reading aloud from the Bible, and in most cases a serman relating the scripture to the present. The ministry of the Eucharist consists of sharing the bread and wine that represent the body and blood of Christ. These two activities imply that there is a speaker whose people crowd around a table to hear and take part in the supper, and in fact that

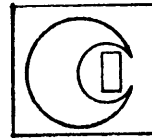
is perhaps the way the first meetings were when rooms in private homes were "Rooms for Worship" (Ill. 1-a).

Around the beginning of the fourth century, the Church was either building new or using the existing basilica, a rectangular space, usually with arcades down the long sides and an apse at the end. Perhaps because this building type had been used for secular activities the cult activities took on some of those qualities (Ill. 1-b).

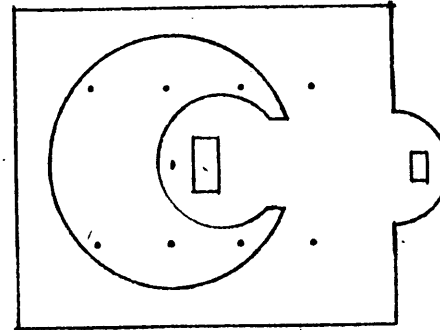
The next major change to take place in plan occurred at the same time that orientation eastward became important. That change required priests to face the same eastward direction as the people, and so he stood between the altar and the people (Ill. 1-c). They could no longer feel that they were "at the Lord's table". Because the distances from the apse to the back rows became so great, the scale of the icons, candles, etc., became larger. The greatest separation between the priest and people occurred in the medieval churches where a zone was created for clergy stalls between the sanctuary and nave (Ill. 1-d). Here the people and altar are also separated by a screen, choir and priest. Prior to having fixed seats, the screen that separated the nave and chancel became a divider between secular and religious activity, though some people paid careful attention to certain activities. Since they did not speak

Progression of Worship Room
from Home to Cathedral

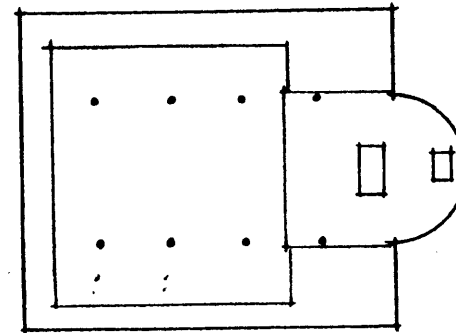
Ill. 1-a



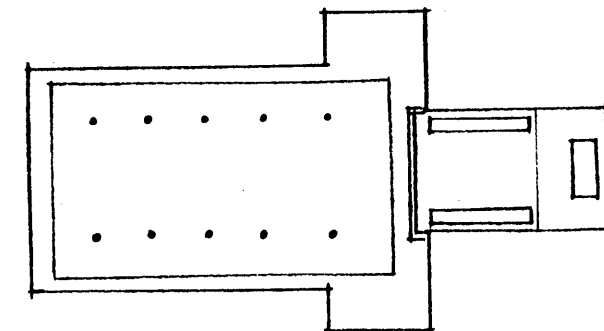
Ill. 1-b



Ill. 1-c



Ill. 1-d



Latin in many countries, most of the people did not join in the service, and much of the mass was said silently.

It is at this point that we can look at the future prospects for the church, and more specifically, the Catholic church. By the sixteenth century the Reformation had begun. But it was slow to create any changes in the worship rooms, and most churches remained the results of medieval thinking. Attempts were constantly being made to create a "holy place" where God would be housed in an architecture that people would recognize as an indicator of Gods presence. There were some groups that claimed the church building be used by man. They believed that the building should be used whenever man needed it, thus people like the Puritans and Methodists built or used buildings for churches that appeared secular in form and detail.

In the England of 1840, there arose a movement called the Ecclesiological Movement lead by John Neale, that extolled the virtue of the structures of the Middle Ages as the closest to Godliness. For at least ten years this created a surge in the neo-gothic style of building in England and in this country, characterized by stone buildings, with buttresses, high arched vaults of stone or wood, steep roofs, and axial plan with a central aisle, and a deep chancel with a sharply divided nave and divided choir.

This history is very concise, and is intended is to reflect the progress of the church from one that started in the intimate homes of followers, progressed to the point where the participants were less and less active in the service, and where the buildings influenced the intimacy of the experience negatively. It is with such a background in mind that we propose worship spaces for today and tomorrow.

APPROPRIATE RESPONSES
FOR THE FUTURE

As with any issue that is close to the heart, there is some disagreement over just what direction architecture should move, or if it should move at all. Should we continue to build the cathedrals? There does not seem to be a clear answer to that question. In fact, that may not be the question at all. A better question is; What makes any building appropriate for worship? Recently, the attitude of critics, both of architecture and of theology, seems to be that there are ways of building that are more or less appropriate to church building. They provide some test for our chapel.

E.A. Sovik refers to this need to find more appropriate rooms as "the return to the non-church". A move away from buildings that have a "churchy" association or a return to some original associations is in order. He suggested that the church will have to see a redefinition of the worshipping community in the image of the gathered family, much in the

form of the celebrations held in early homes and basilicas. The church building then becomes essentially a "skin" enclosing the primary elements of this gathered family. It need not be designated exclusively as a place of religious worship, as this family can meet God anywhere, and according to the Christian tradition the places where man encountered man were secular sables of Bethlehem, hillsides of Galilee etc.

The ultimate church, according to Sovik, is possibly one in which there are no explicit cultic images or furnishings. A place into which everything is set up as part of the celebration when the flock gathers so that it remains in the minds of the people that the Lord has come with them. So it is important that the chapel not be complete without the flock.

To this point we have given a general overview of the attitude with which a Christian chapel might be built, and if we examine the statement from the Bishops' Committee and the Federation of Diocesan Liturgical Commissions, we see a similar attitude. After the second Vatican Council was held in 1962-65, the Catholic church emphasized the importance of the individual to the liturgical action. He should participate and not just watch, which is what happens in many church buildings. Where the split between sanctuary and

congregation is too great, many people are too far from the alter, as in the Gothic churches. This desire to get people in a position to participate is perhaps the biggest challenge for the architect. Another change that occurred after Vatican II that might be reflected in the plan is the desire to make the baptism an activity in which the whole community may take part. Prior to this time, baptism usually took place in a private place with only parents, priest and godparents.

The 1978 statement on Environmental art in Catholic worship tries to serve as the basic foundation of principles to guide artists involved with building worship spaces. It discusses in essentially poetic terms, the program of worship spaces and the quality of the elements within the spaces. Most importantly, it suggests again creating a climate in which the most important thing is the people and their actions. A climate of hospitality, calm sacredness, of highest quality, dignity and appropriateness is required. Any test of a design for a chapel would have to include these attributes. It should be honest in every element, and maintain integrity, simplicity, and beauty in keeping with its neighborhood.

DESIGN SUMMARY INTRODUCTION

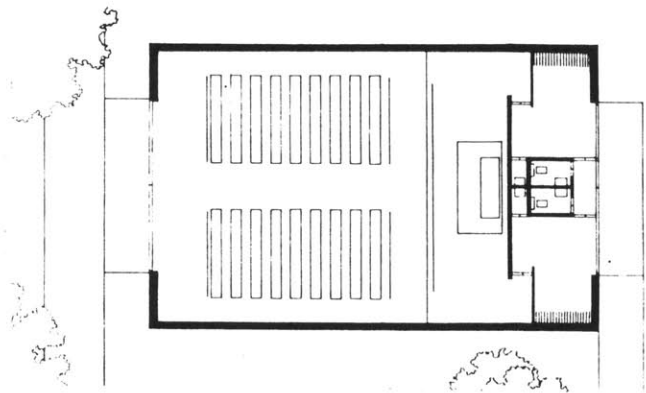
Design Process

The process used for this study is one in which we look at several elements through drawings, and each level is informed by the preceding level of information. First the site is examined and a plan is developed with general building footprints. Then the plan is examined using the previous information. Sections follow to examine the features of interior spaces. Finally, elevation studies propose designs for the exterior and massing. In studying the total design package, an effort is made to keep in mind that elements such as fount, alter, chair, etc. are but part of the building, therefore, studies of them are also made. The Building Program The Chapel program is quite modest and contains:

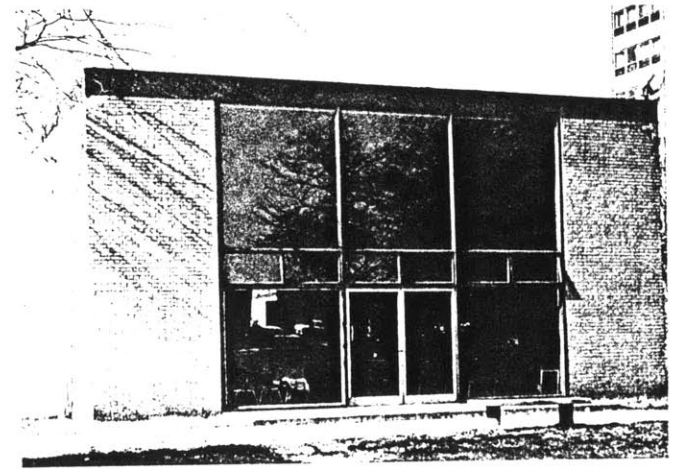
1 Room seating 100 people	2000 sf.
2 Restrooms	120 sf.
1 Storage	100 sf.
1 Changing Room	100 sf.
<u>TOTAL</u>	<u>2440 sf.</u>

Precedents

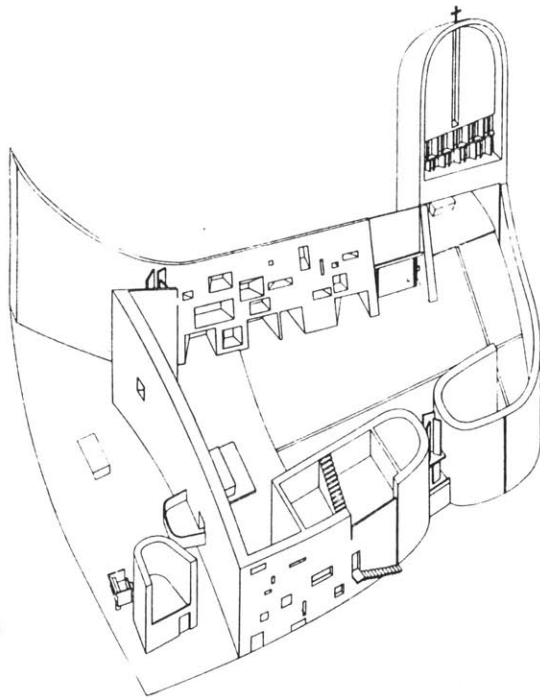
The chapel takes several historical examples into account as precedents for exploring such issues as light quality, seating and materials. There are many college chapels which serve essentially transient groups of 100



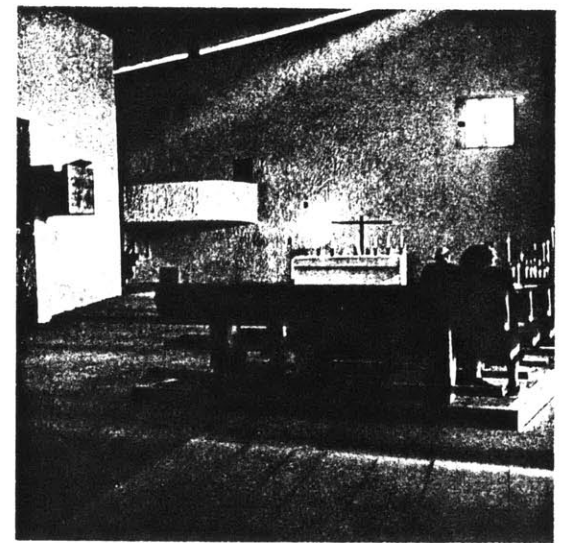
2-a. IIT Chapel, Mies van der Rohe



2-b.



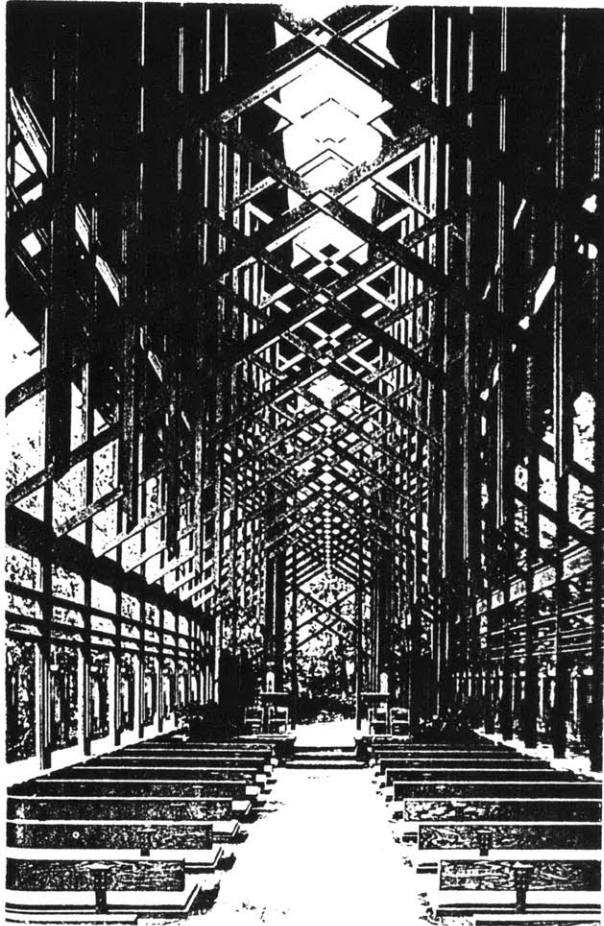
3-a. Ronchamp, Le Corbusier



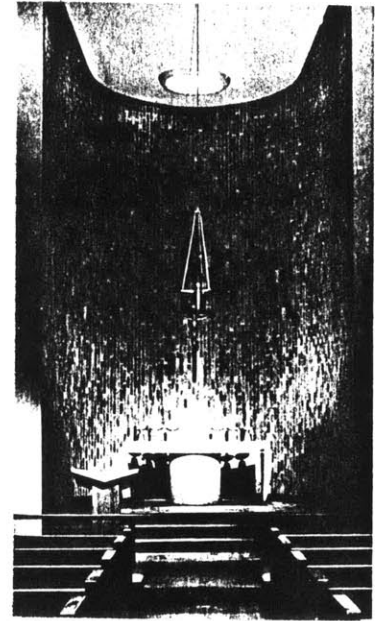
3-b.

5. Wayfarer's Chapel, Lloyd Wright

4. Thorn Crown Chapel, Fay Jones



6. Catholic Chapel,
Abramovite & Harrison



people, as congregations and students that enter for private meditation. Excellent examples include Mies van der Rohe's chapel, at IIT, Eero Saarinen's Meditation Chapel at MIT, Richard Meier's Hartford Seminary Chapel and Harrison and Abramovite's Chapels at Brandeis University., E. Fay Jones and Lloyd Wright both explored the possibilities for designing small memorial chapels that made strong efforts to motivate spiritual respect for nature at Thorn Crown Chapel and Wayfarer's Chapel, respectively.

Perhaps Le Corbusier, as much as anyone, is responsible for making the definitive statement in Ronchamp, addressing the end of the domination of church architecture by those who believed that the Gothic style was the only one suitable for worship spaces. He also struggled with the issue of designing a worship space at the Convent of Sainte Marie de la Tourette, Lyon.

Site

The site for the chapel is a wooded lot along Centre Street in Dover, Massachusetts, a loosely structured urban area about 16 miles southwest of Boston. The area is basically residential with large houses, in most cases set well back from the road or obscured by wooded yards. There are new large houses being developed in the area to the northwest, older houses to the west and south, and a golf



7. The Centre Street Site



course and stables a mile or so to the east. Though these homes are not visible from within the property, they may help to set the tone for the quality of the area. The adjacent lots are residential with houses in essentially natural settings.

This site rises slightly from the southeast on Centre Street (5-10 ft.) then levels off where there are four major rock outcroppings that form ledges in the center of the site. These ledges overlook two rather dramatic slopes down the northeastern and western corners of the site. The yard slopes down to small valleys that are consistently damp with natural runoff drainage. For the moment, there is only one house visible from the center of the site which is to the east, shielded by trees and some 30 to 40 ft. below the elevation of the center of the site. The land which rises on the other side of the valley is also wooded.

EVALUATION

An attempt has been made to maintain as much of the natural quality of the site as possible, though some clearing would be done of the underbrush to allow for paths through the woods. It has been important in thinking of the chapel as having a residential quality to maintain some distance from the street, not only because this is the norm for the residences in the area, but because Centre Street is a busy street and a buffer is needed for sound and view. In

summer this isolation will probably occur with existing trees, but we have used planted trees and some parking to buffer the noise and views to a place that should, in its attempt to create a contemplative and meditative quality, make use of sound and view insulators. As was discussed earlier, an attempt is made in the church to create a climate of hospitality, and at first glance the top of a slope might not appear to be in keeping with that need. Further consideration of the larger context will show that there are other homes in the immediate vicinity at both higher and lower elevations, and that the perception of being on top of a slope is reserved for after one passes through the gateways of the site. This would be in keeping with the belief that everyone is welcome to come to the chapel, and that there are advantages to actually taking part both in the service and in the setting.

One of the great difficulties with returning literally to the notion of having Christians meet in the homes of members, as the earliest sketches suggested, is that such a situation probably does not take into account the influence of the automobile. Homes would not allow for parking in cities, and normally peaceful neighborhoods would have their morning silence broken. In conceiving of the chapel in relationship to this site, and in relationship to the

concept of the chapel as a room in the woods, it was thought that as one alternative there would be few or no cars, and that people would experience the progression onto the site on foot. From the beginning, a walking posture seemed to begin to assist in creating a more thoughtful attitude.

This is the rather idealistic attitude which is taken toward the planning of this site and the design of the chapel from here on. The earliest site plan shows an alternative with parking for 26 cars, still a limited number.

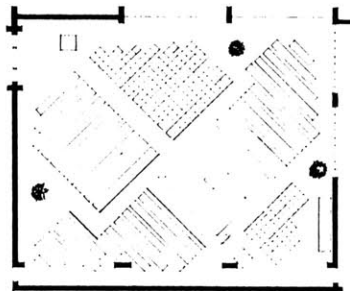
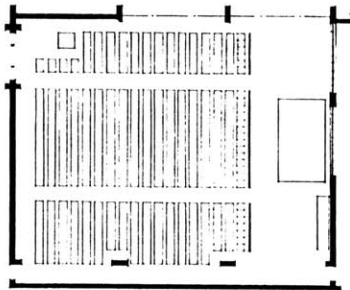
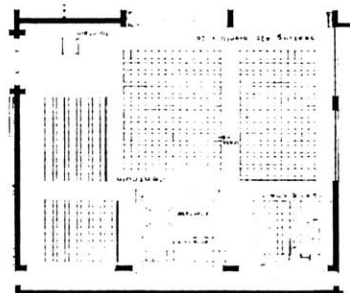
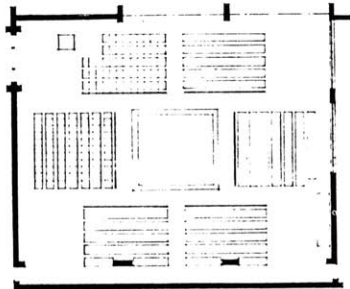
The beauties of the site are the quiet and the view down the northern side of the site, and if the building is to use these elements to an advantage, parking is best used as a buffer on the southern side. Trees, fences and shrubs are used to reinforce the notion of passing along a path of layers or gateways toward the chapel. This is to create a place that by virtue of being somewhat obscured and unattainable, becomes more sacred and private.

In designing for a chapel and for the Catholic Church, there are several difficulties that present themselves which have to do with a certain amount of ambivalence that exists in religious thought. On the one hand, God is mysterious, omnipresent, omnipotent, and omniscient, and an expression of this is expected in the building. The church also

promotes a certain amount of mystical ceremony around religious rites. On the other hand, God is loving, kind, open, and the church is interested in gathering people around the altar and in being hospitable. This should also, in theory, be expressed in everything in the church. In this study an attempt has been made to achieve something of both views by providing one entrance path that is more open and one along a set of screens that would suggest a more mysterious tone. The same attitude is taken toward materials in that both strong materials and light materials are used. Light is admitted in a variety of ways.

As was mentioned earlier, the church has a very long and strong link with the past which must be remembered, and at the same time it is important to the church that the building and art be contemporary in nature. Thus, materials like stone and wood could be used in conjunction with concrete and glass. The stone and wood in and of themselves and in the way they are used, give a humble yet solid base and reflect a history accepted by this site. The concrete columns with inlaid stones, and the glass lend to the structure a more contemporary feel.

The roof is always problematic because historically it makes a statement about church and in an attempt to develop a "non-churchy" building the extreme of a flat roof was

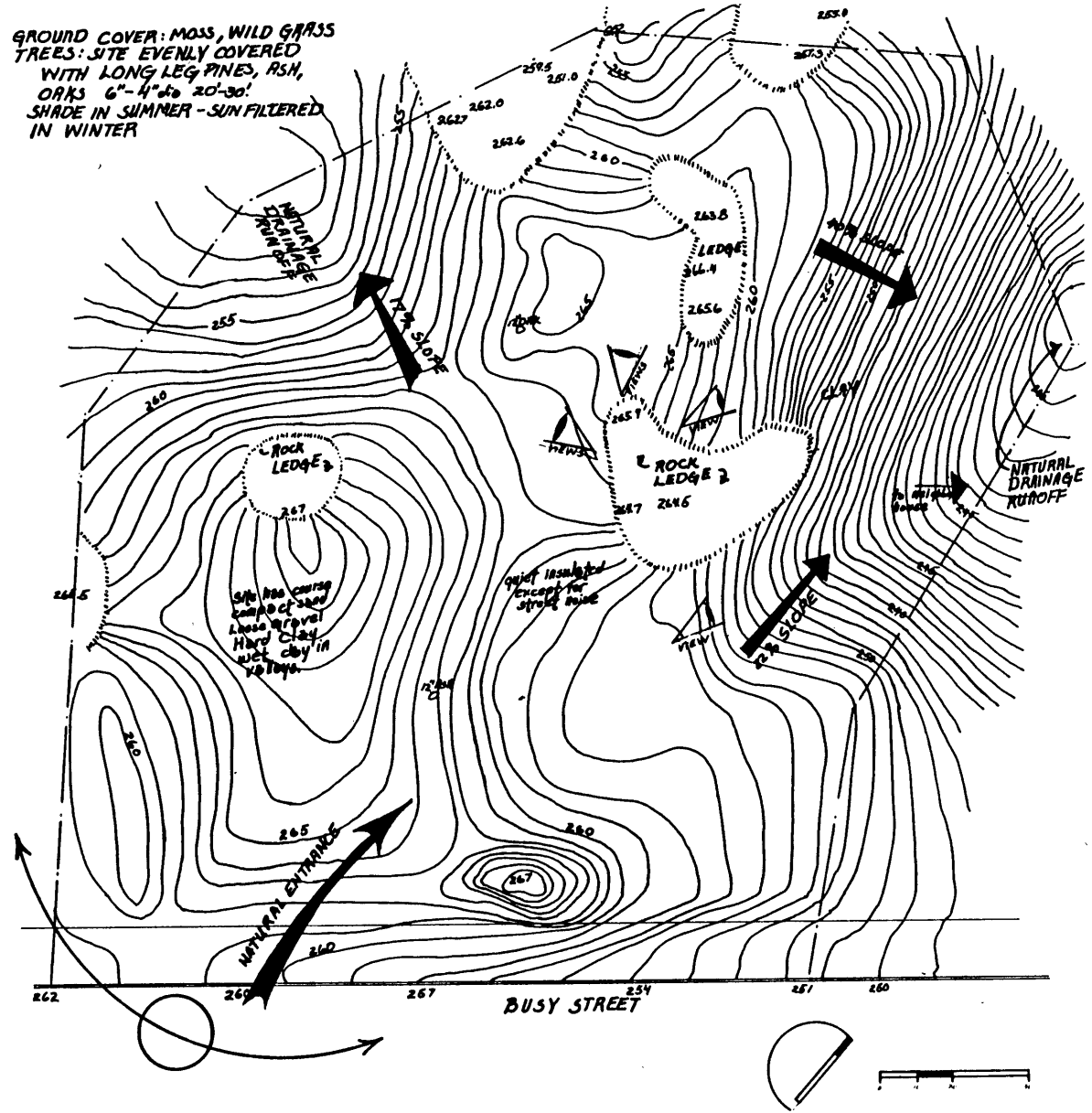


chosen. It is difficult to defend though because within the argument for returning to a homey feel, there is also some remembrance for contemporary American homes as having a pitched roof. Nevertheless, the flat roof plays down the direction of the room and allows the orientation of the room for worship to change.

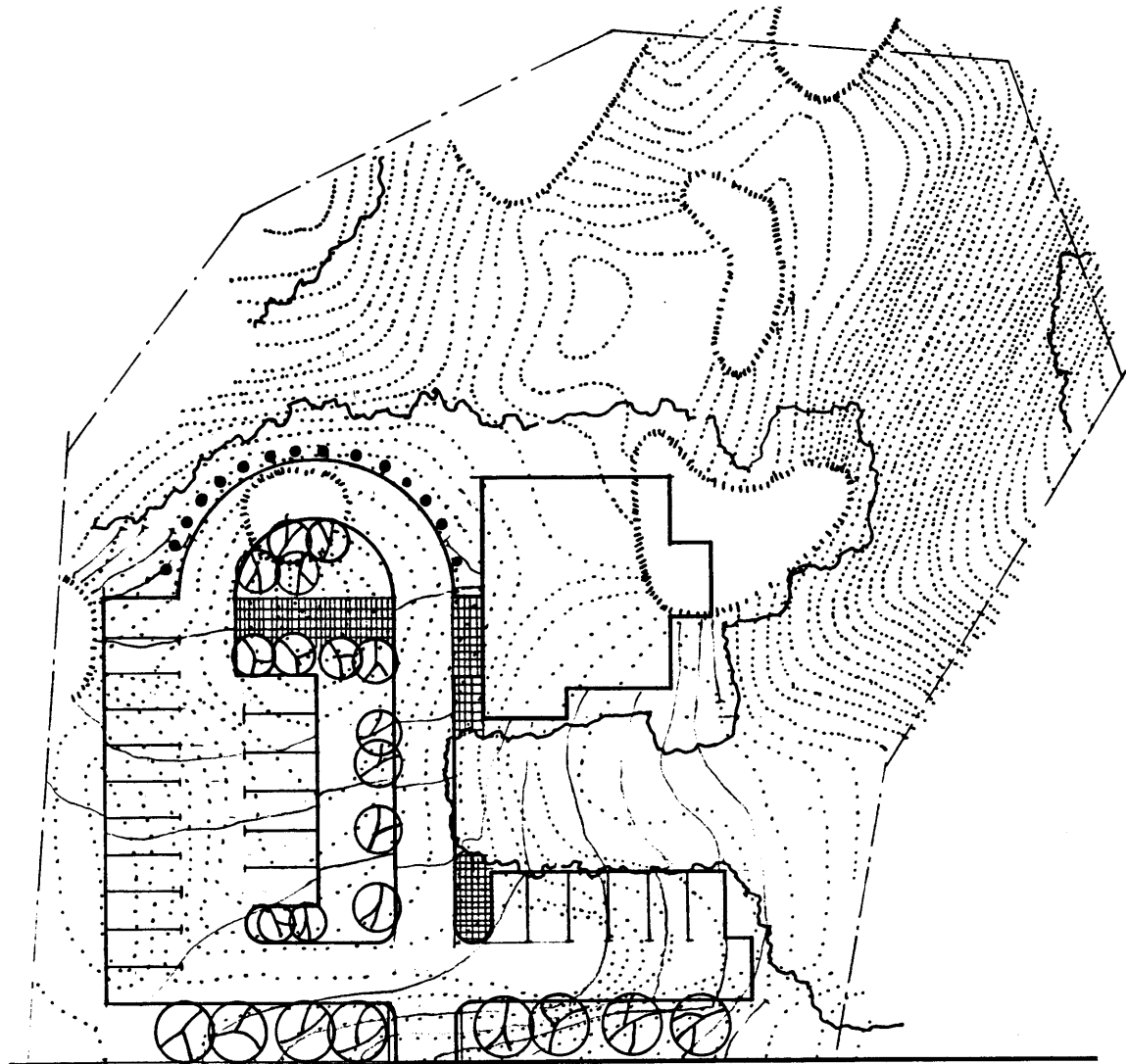
Change is a factor in both the design of the chapel and that of the furniture. The altar consists of a moveable platform and moveable altar table. Chairs are used in place of benches to facilitate changes in orientation as illustrated in the Centrum of United Methodist Church, Charles City, Iowa. Folding doors allow circulation to be part of the main worship room. The attitude is taken that each day that worship is held, books are brought in as are crosses and candles to make change possible, but also so that preparation can become as much a part of the worship experience as the service itself.

It is said that the most appropriate place for a church is one in which even a flock of sheep would feel comfortable, for the sheep have been a metaphor for the church for many years. Though it would be folly to expect to design a new stable for a church to worship in, it is an appropriate mode for things of a church, and an attempt has been made to respond to that here.

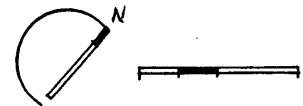
GROUND COVER: MOSS, WILD GRASS
 TREES: SITE EVENLY COVERED
 WITH LONG LEG PINES, RSH,
 OAKS 6"-4" to 20'-30'
 SHADE IN SUMMER - SUN FILTERED
 IN WINTER

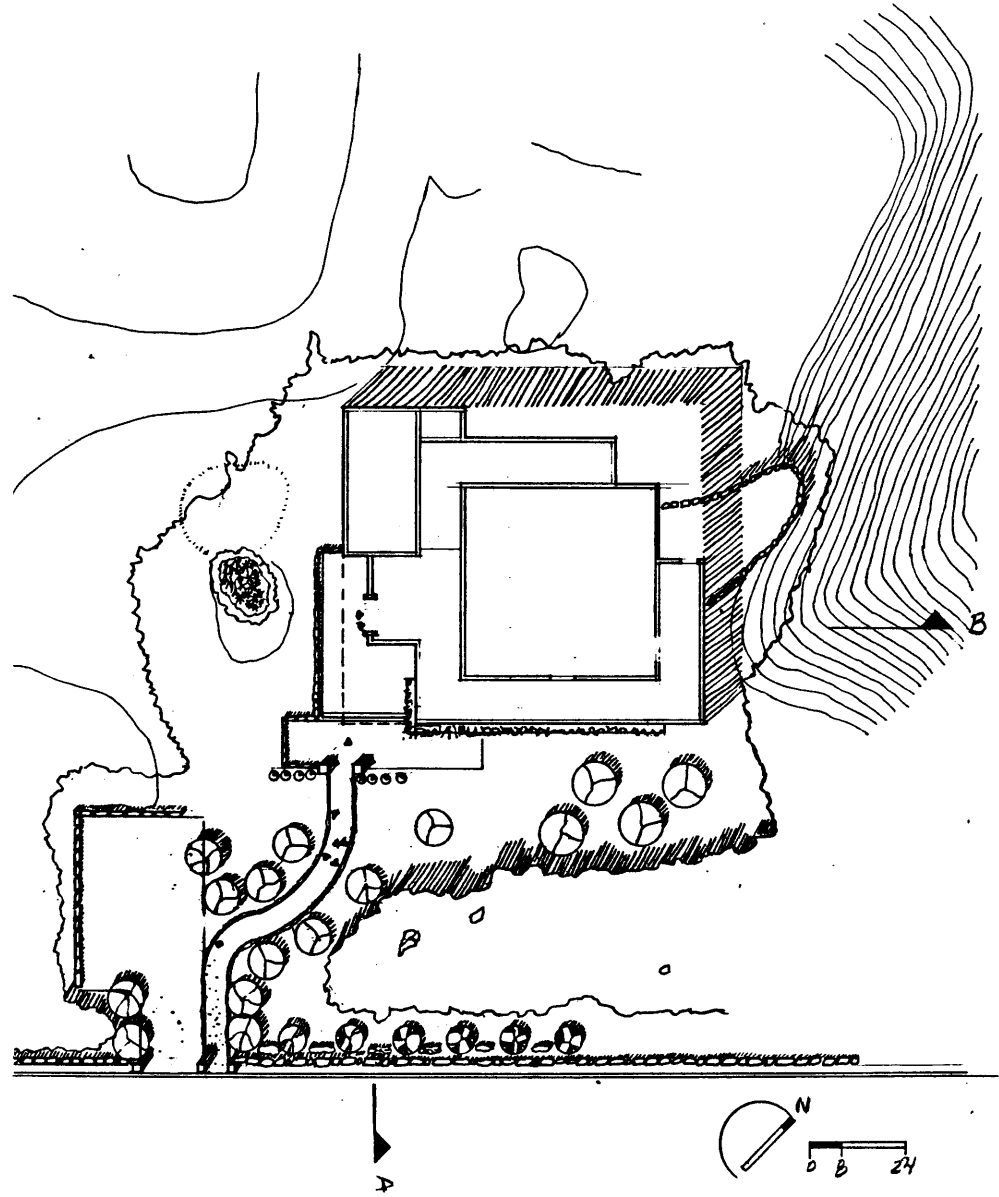


SITE ANALYSIS

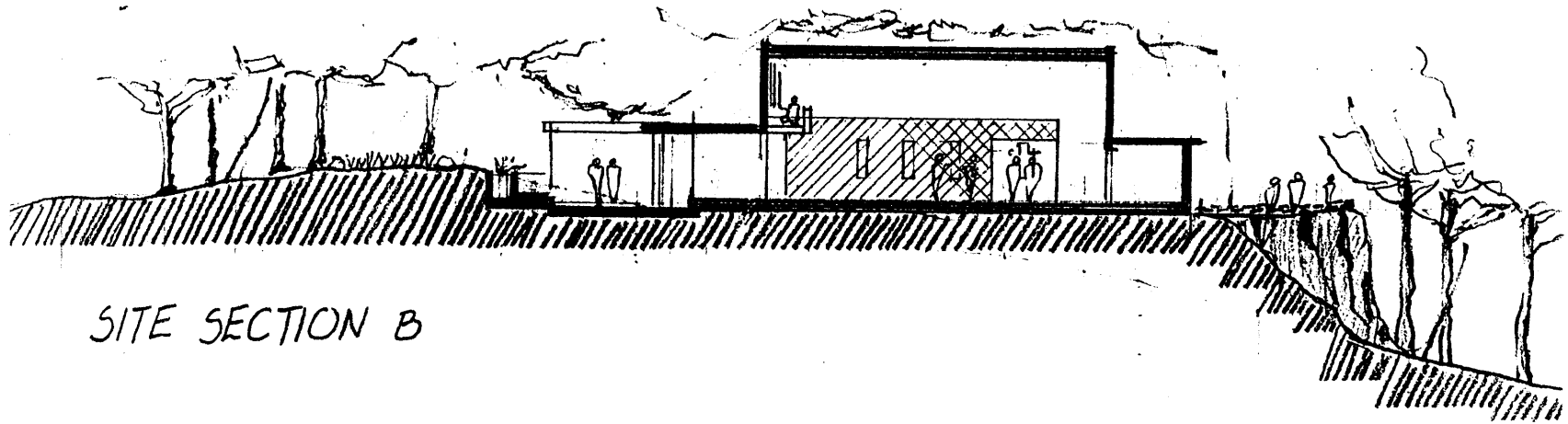


SITE PLAN
23 CHRS

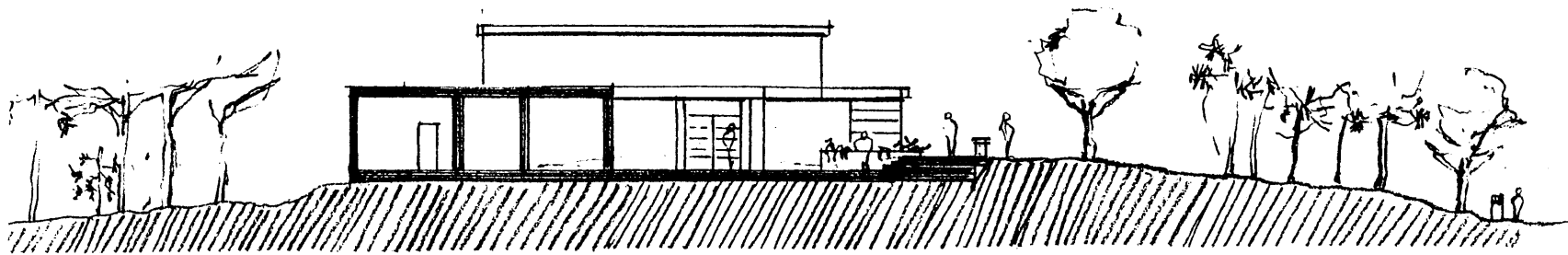




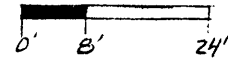
SITE PLAN
5 CARS

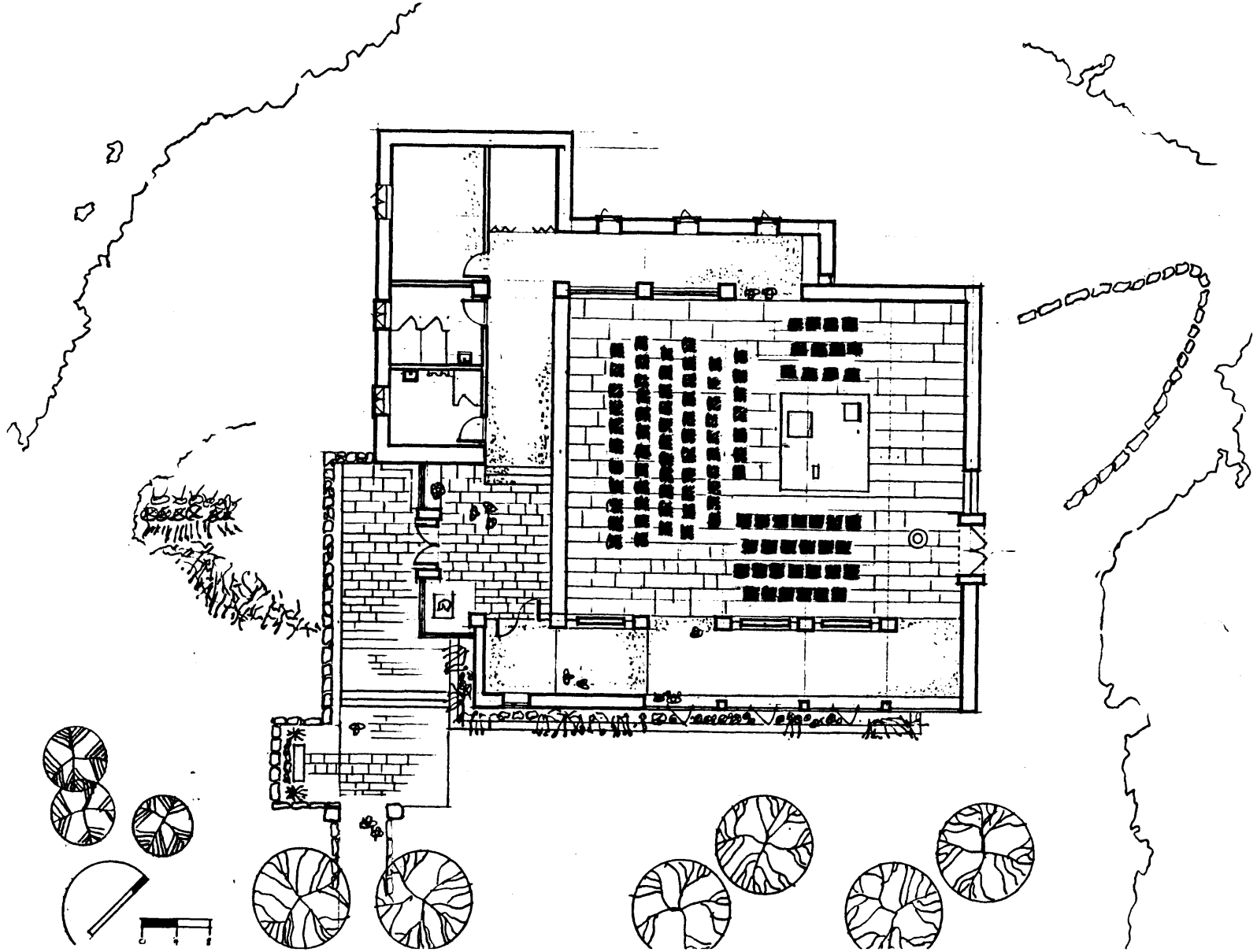


SITE SECTION B

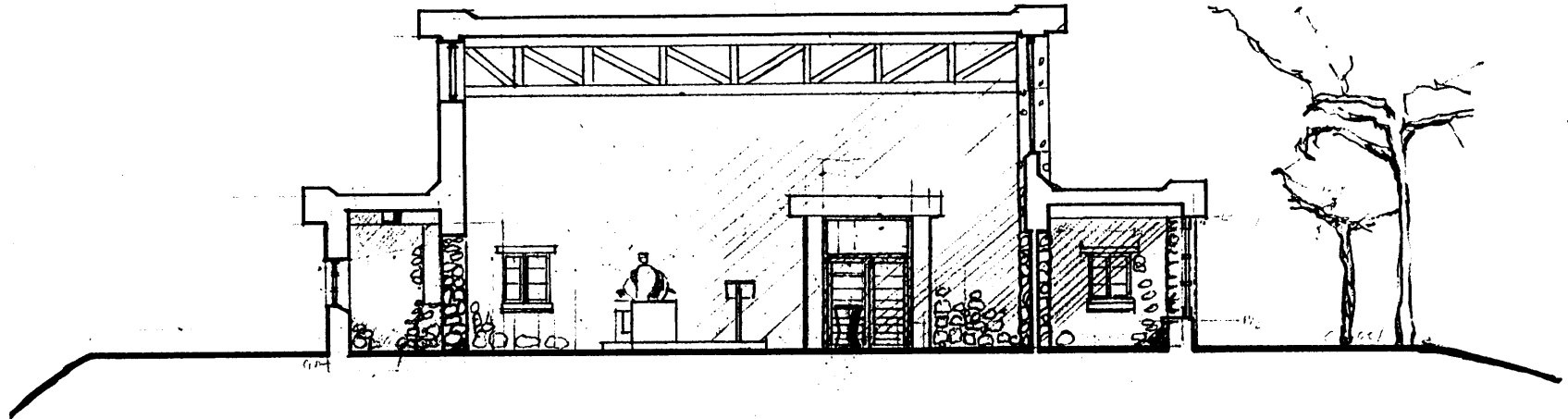


SITE SECTION A



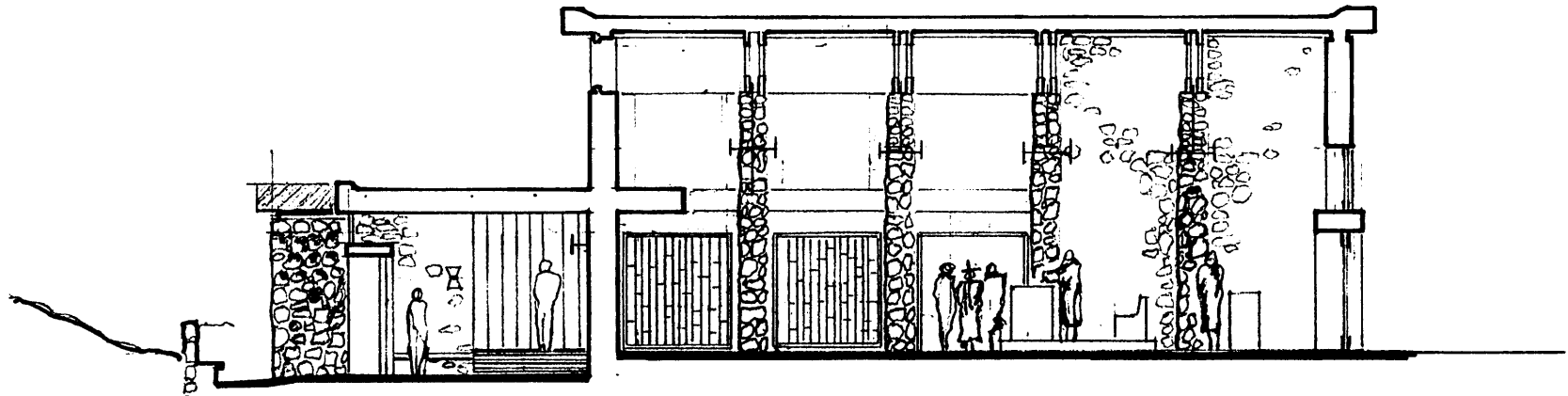


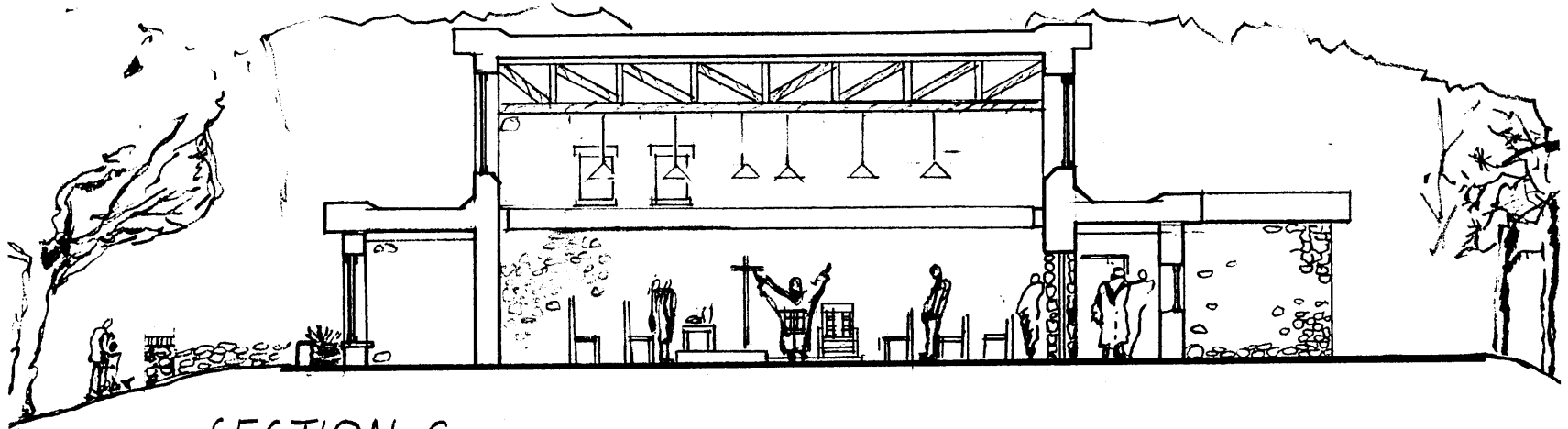
PRELIMINARY FLOOR PLAN



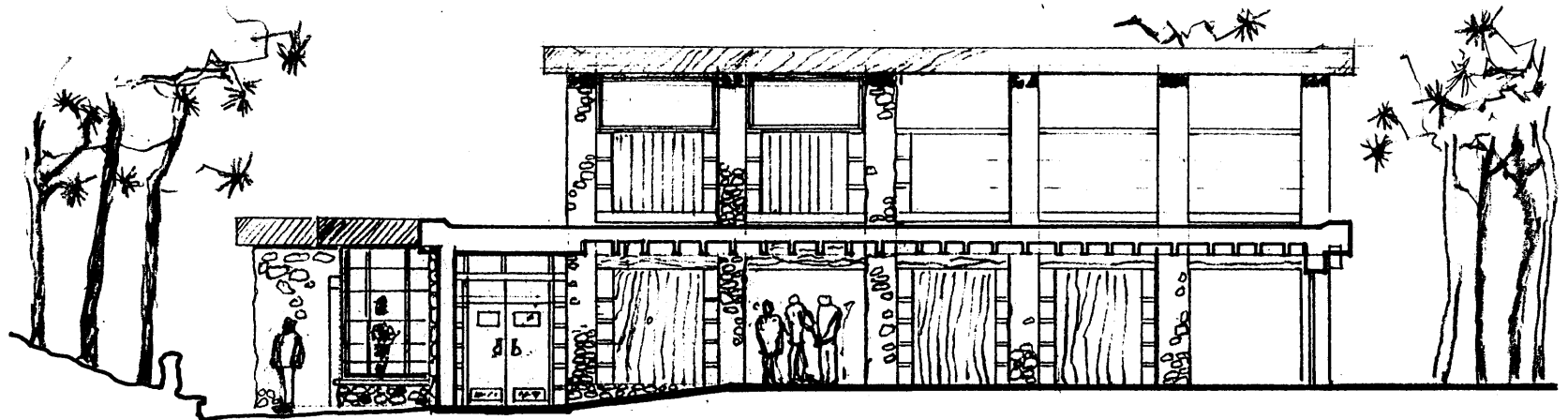
SECTION A ^

SECTION B v



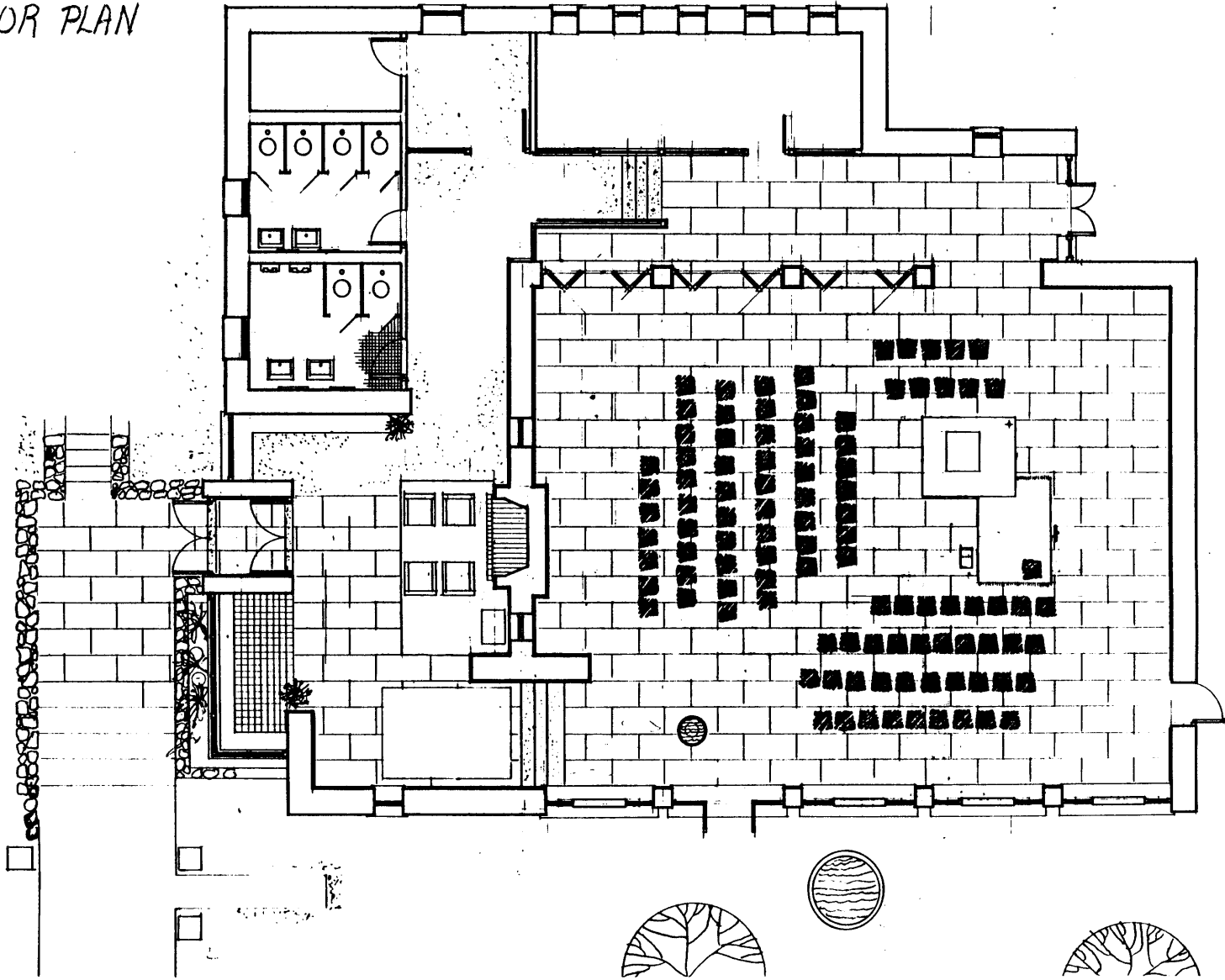


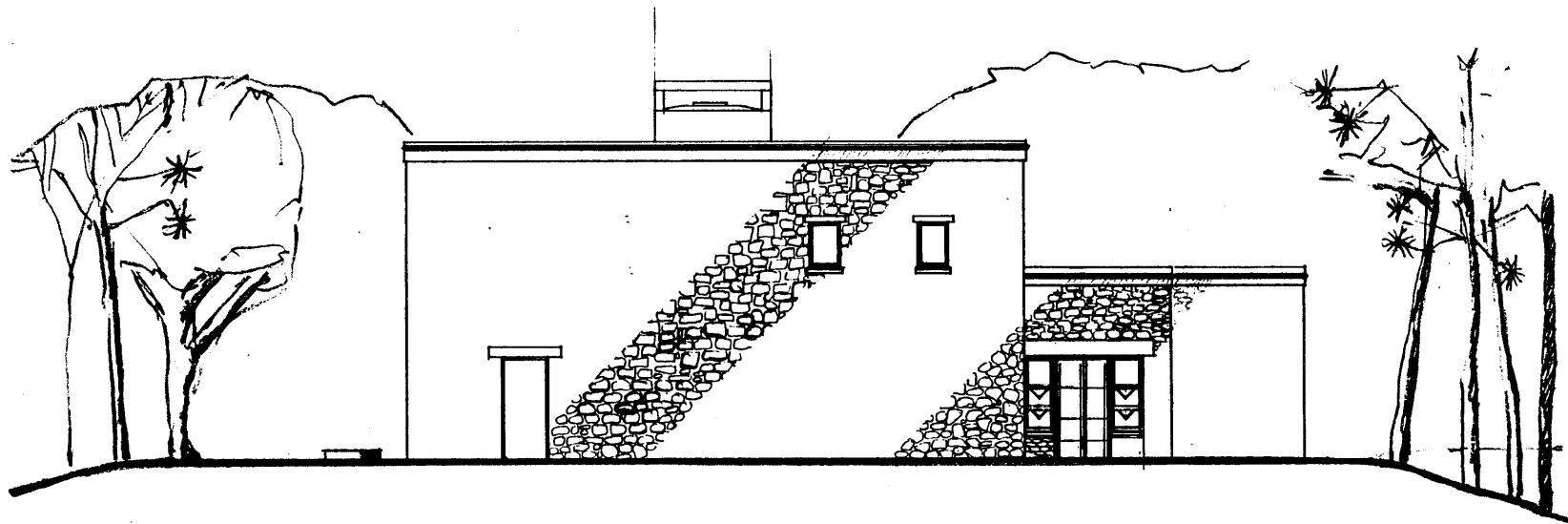
SECTION C



SECTION D

FLOOR PLAN

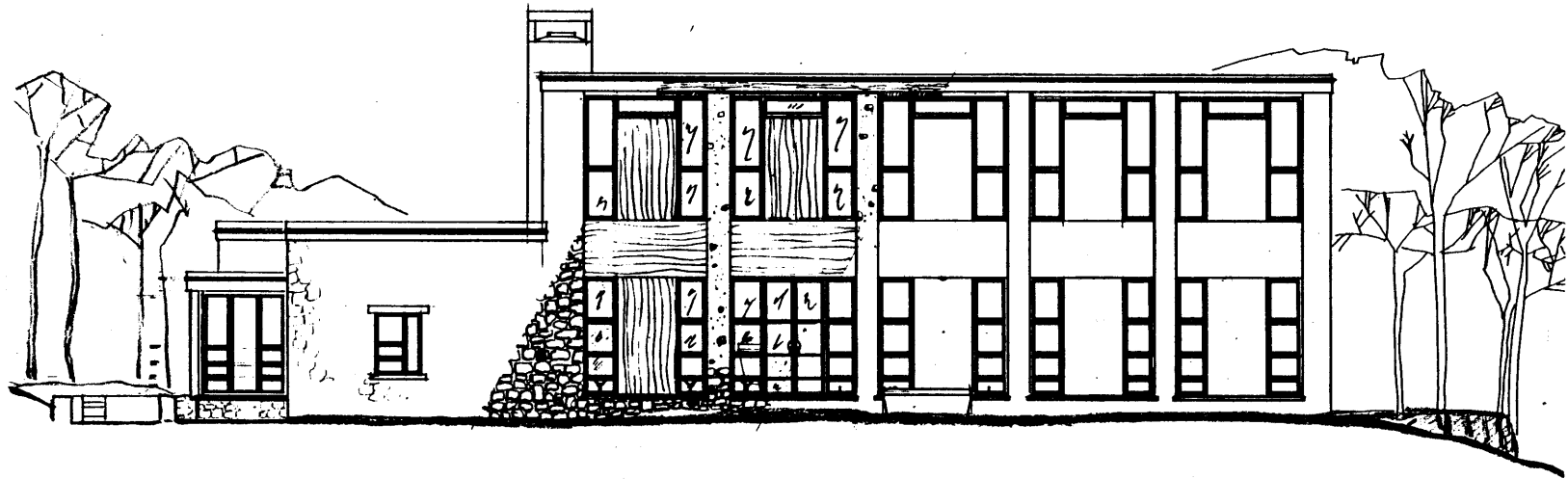




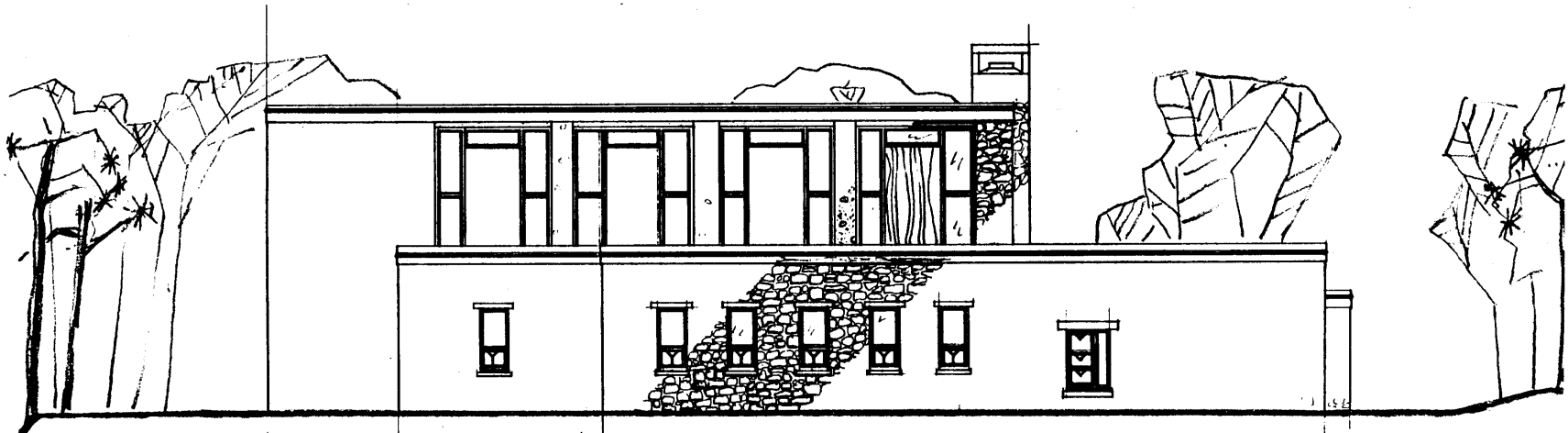
EAST ELEVATION



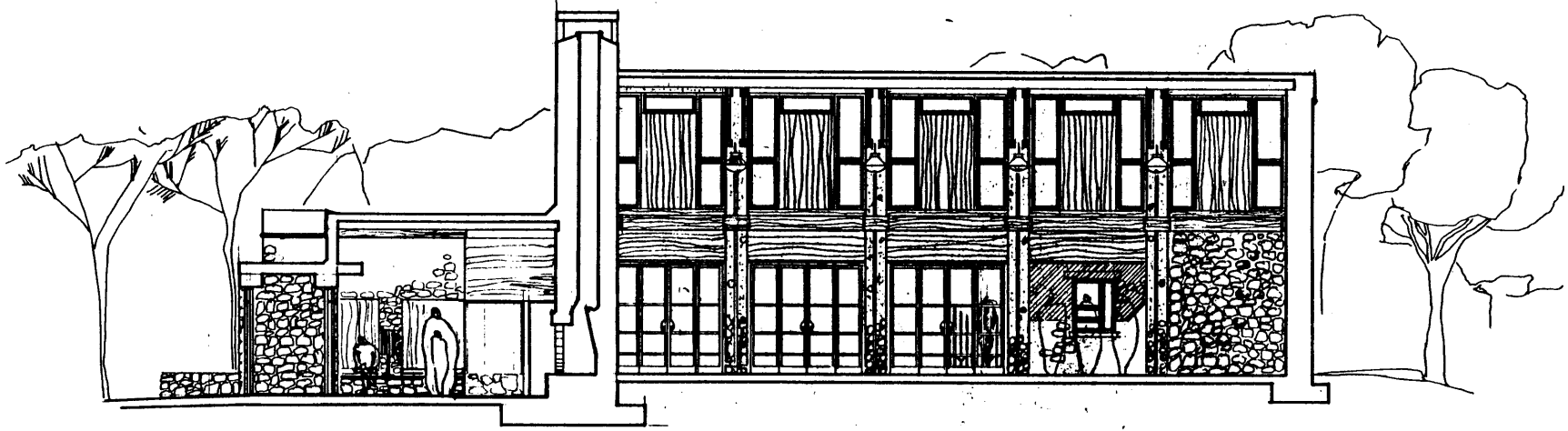
WEST ELEVATION



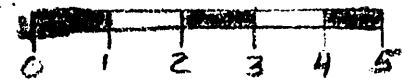
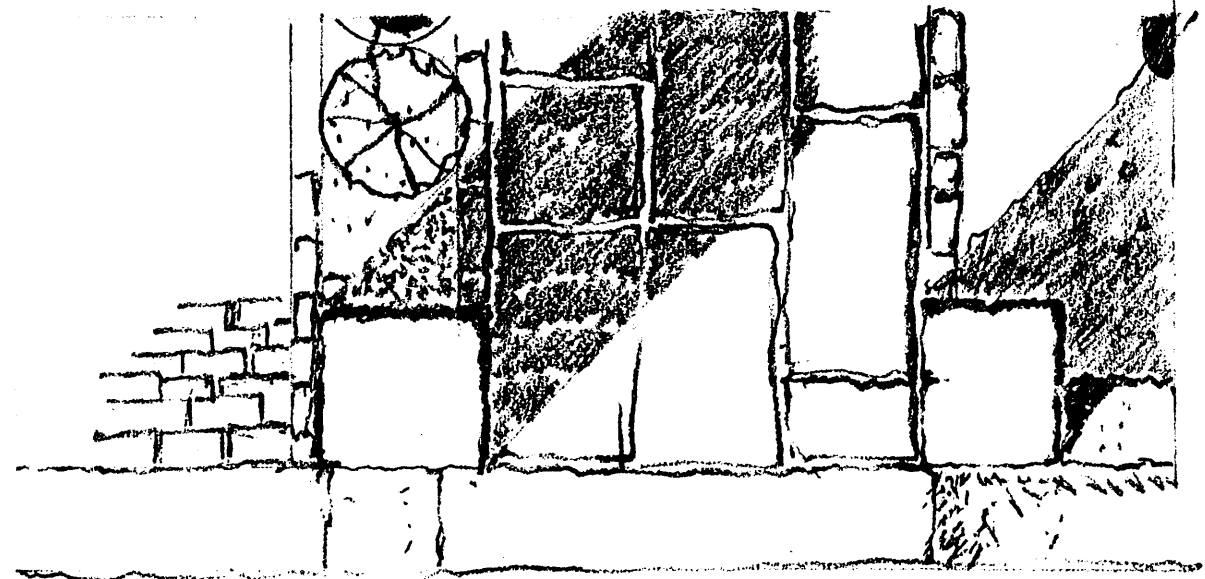
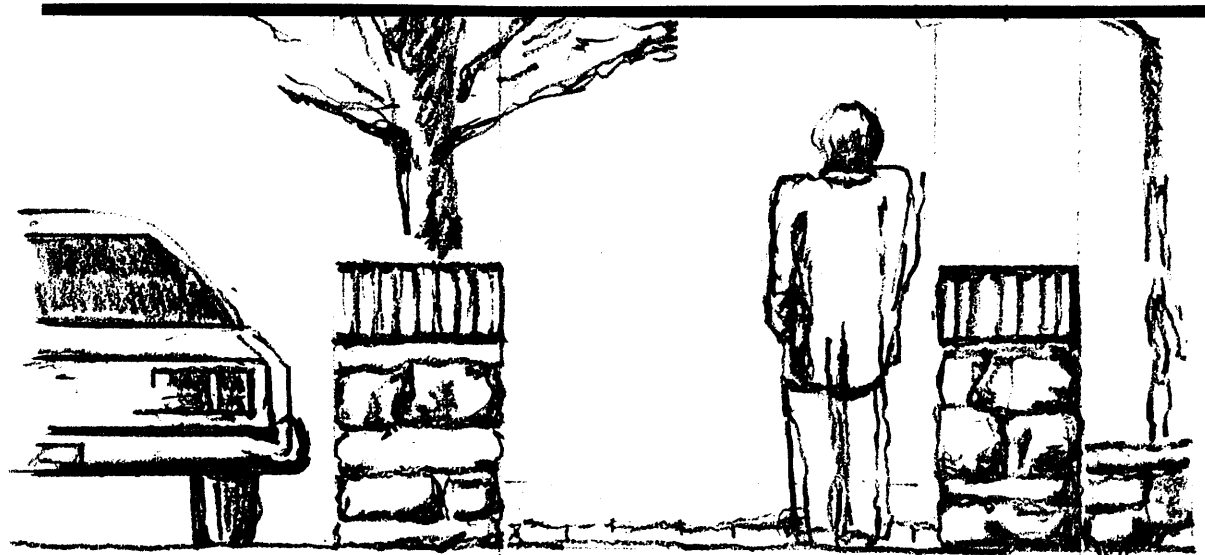
SOUTH ELEVATION



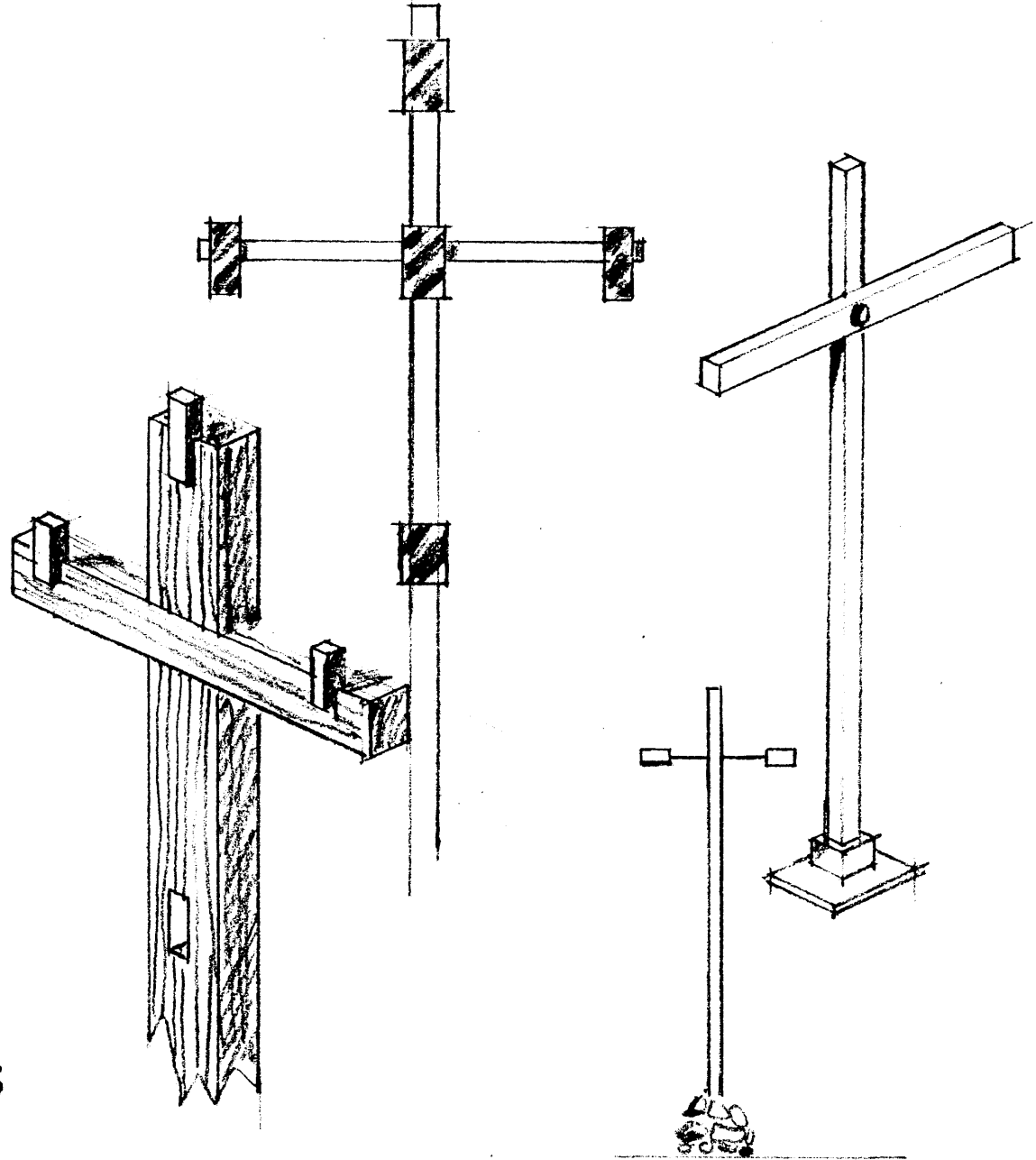
NORTH ELEVATION



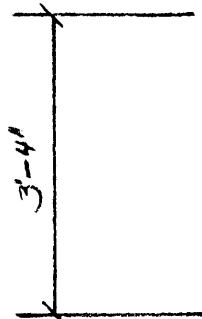
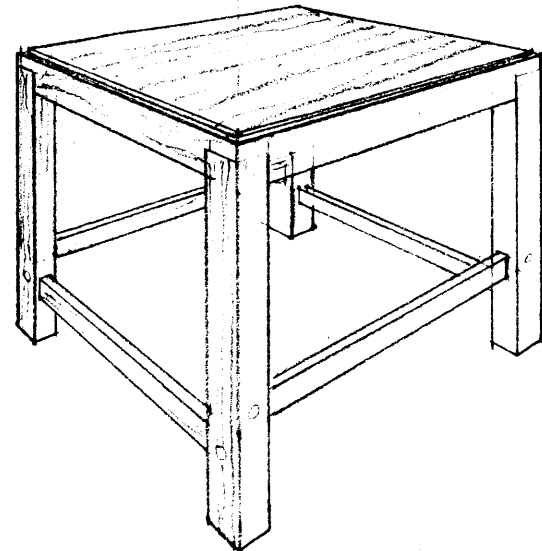
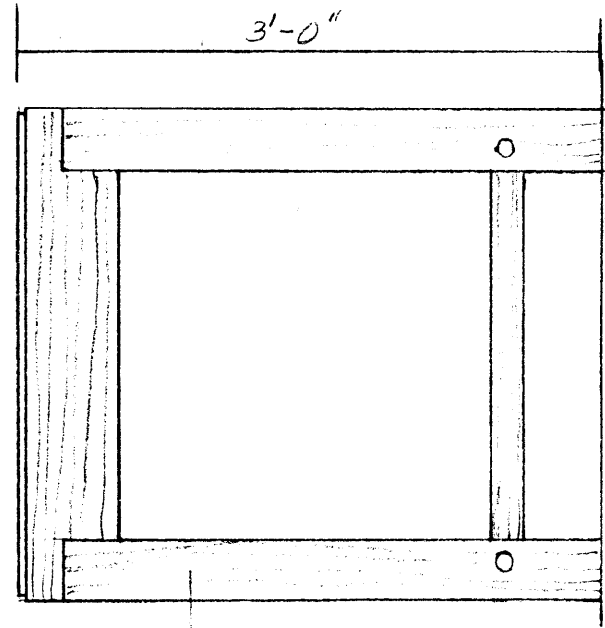
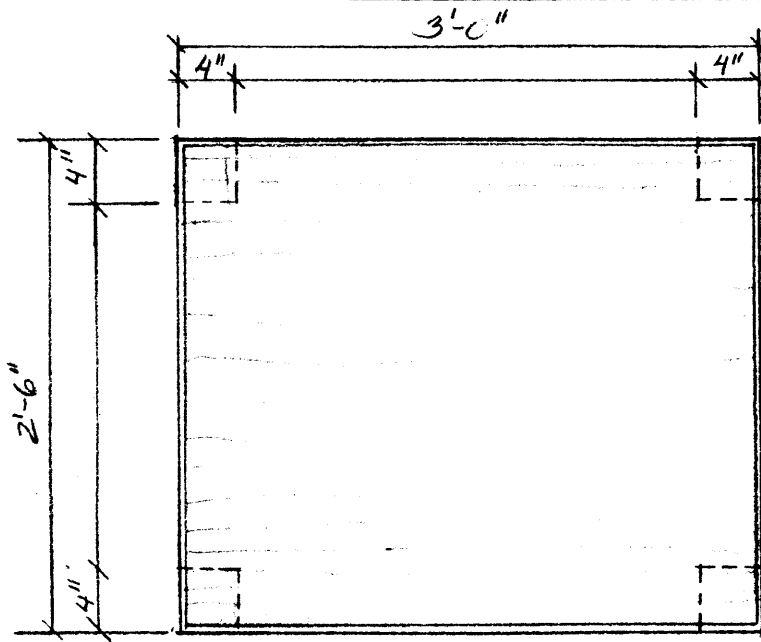
SECTION AA



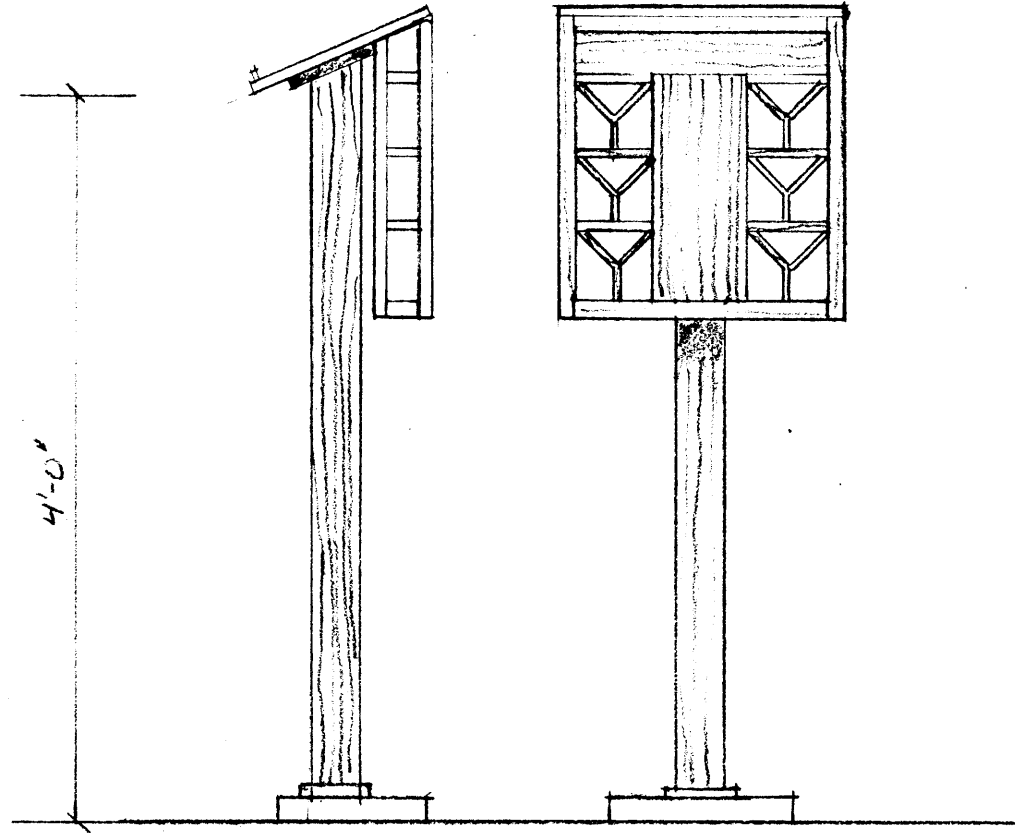
ENTRANCE STUDY



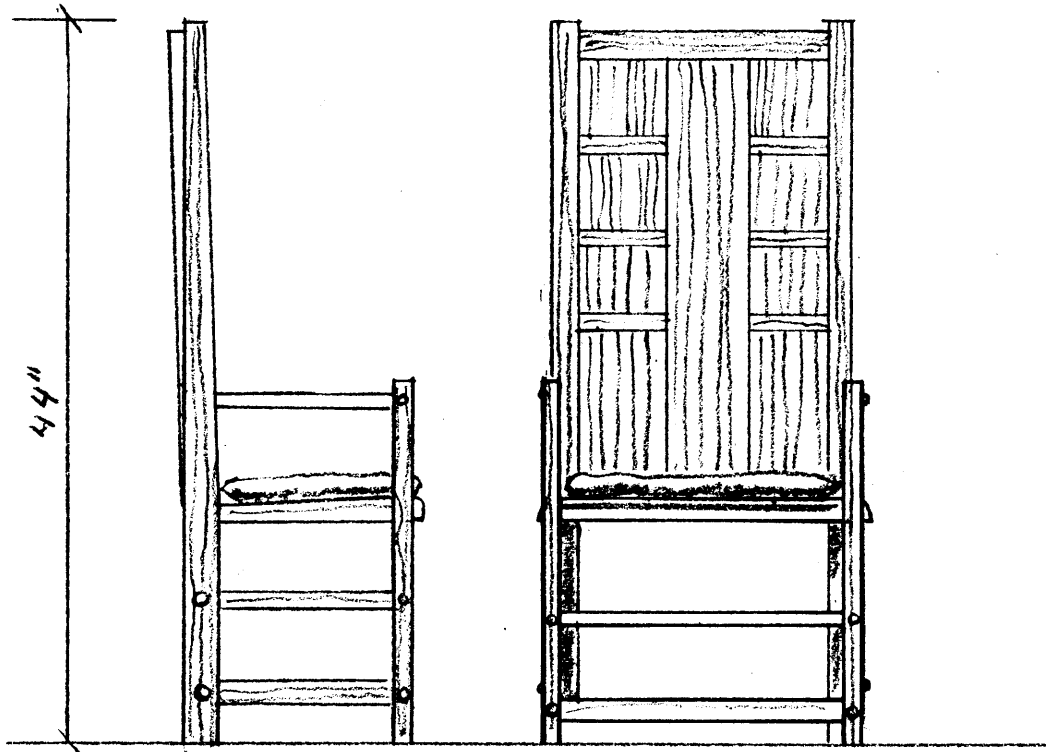
PROCESSIONAL CROSS



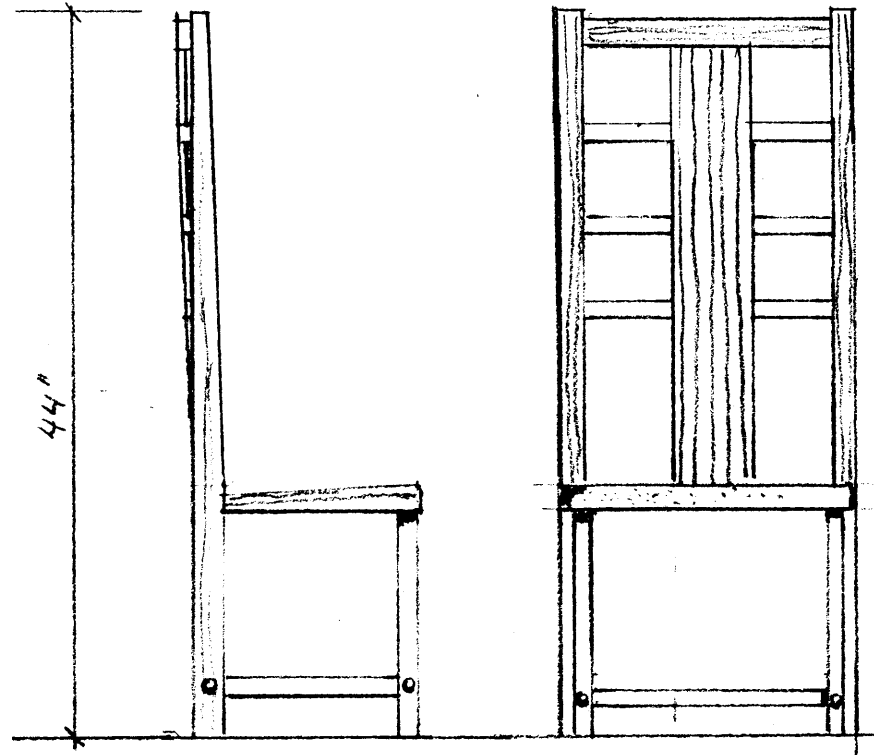
THE ALTAR
QUARTER SLICING



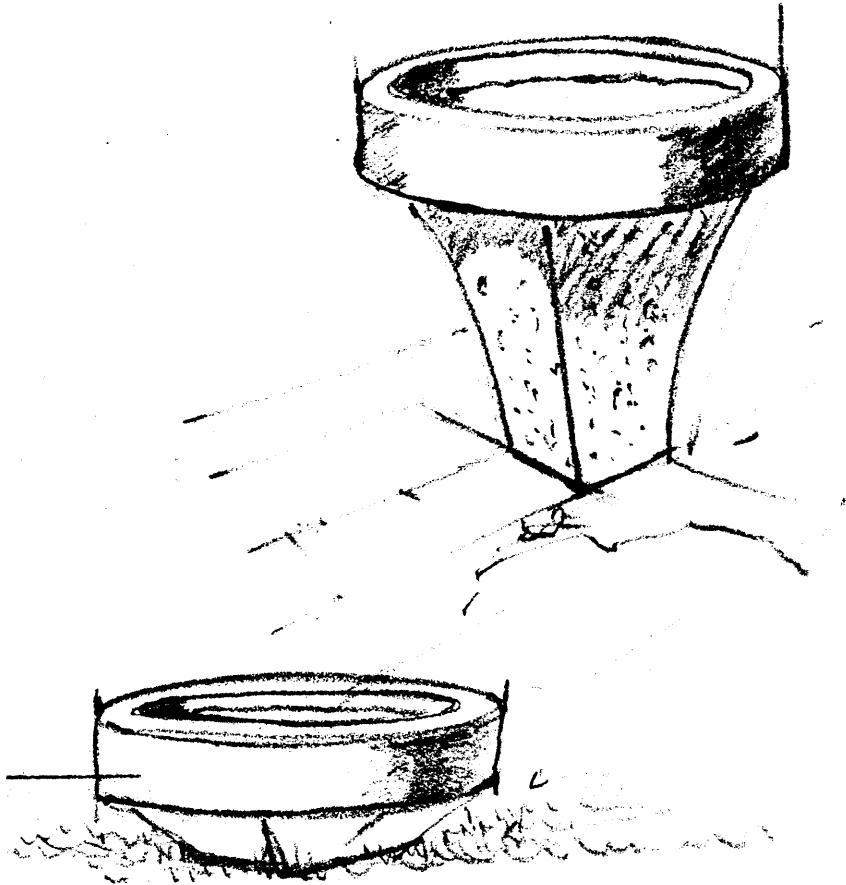
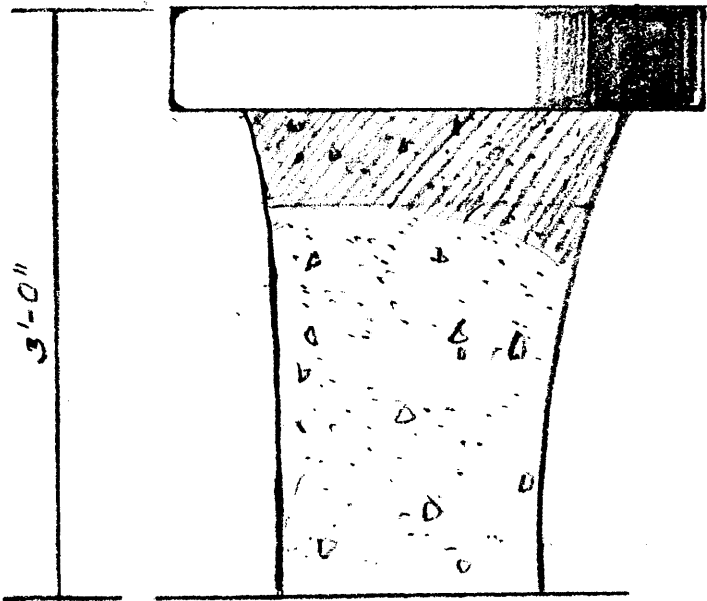
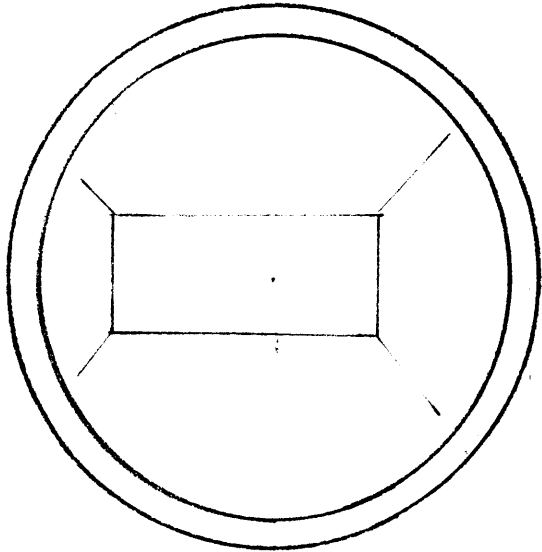
THE AMBO



PRESIDER'S CHAIR



CHAIR FOR ASSEMBLY



BAPTISTRY

SOURCES OF
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1. Church Buildings, The New Churches Research Group,
p. 371-372.
2. Architecture for Worship, E.A. Sovik, p. 54.
3. New Churches, Richard Gieselmann, p. 18.
4. Tradition Becomes Innovation, Bartlett & Hayes, p. 115.
5. Bartlett & Hayes. p. 80.
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8. Photographs by Author.
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