

**THE INFLUENCE OF THE MEDIATING QUALITIES OF SACRED SPACE, SYMBOLS  
AND RITUALS ON THE BUILT ENVIRONMENT:**

A Proposed Inter-Religious Retreat and Education Centre for Durban

By

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**2010**

## DECLARATION

Submitted in fulfillment / partial fulfillment of the requirements for the degree of ..... , in the Post Graduate Programme in ..... , University of Kwa-Zulu Natal, Durban, South Africa.

I declare that this dissertation is my own unaided work. It is being submitted for the degree of ..... . In the Faculty of Humanities, Development and Social Science, University of Kwa-Zulu Natal, Durban, South Africa. It has not been submitted before for any degree or examination in any other university.

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Date

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## DEDICATION

To my family and friends.



## ABSTRACT

The following dissertation deals with the qualities of sacred space that influence the architecture for religious building and how these qualities can be used in the creation of an inter-religious facility. The background idea for such a facility is that it will promote dialogue and understanding between religious groups that could lead to greater tolerance, respect and in the end peace between people of different faiths. The project deals specifically with four main stream religions, Christianity, Judaism, Hinduism and Islam. It will look briefly at the ideas and concepts of other religions but as there are thousands of religions and denominations within each, these will not be dealt with in any depth, and more careful attention will be given to the limited four. In order to discover the essence which makes up sacred architecture, secondary literature will be looked at based on key questions and assumptions. From there, various primary sources are looked at. A questionnaire is conducted to determine how the general public and faithful feel towards sacred space. A case study based on specific criteria is conducted of four religious buildings in and around Durban. At each building, the religious leader is interviewed to gain a better understanding of the details of each faith. The results from the case studies and interviews are tabled in order to make a comparative analysis. The data collected shows some interesting trends in the design of sacred space as well as the opinions of the people who use the religious buildings. An interesting feature of the results is that there are more similarities in terms of the architectural treatment of each religion than there are differences. In terms of the relevancy of an inter-religious facility, the findings show that in general people are interested in such an idea. It was also found that an existing inter-faith organization exists in Kwazulu-Natal. The idea of using an inter-faith setup to promote dialogue and understanding is not new the idea. The concept that such a facility could facilitate development of tolerance through understanding is supported by the views of the people who did the questionnaire. In conclusion, it was found that the qualities of sacred space are two-tiered and that to combine them it will be necessary to separate those qualities that are distinct to a particular religion from those that are not. In this way a workable model for an inter-religious or multi-faith facility can be achieved.

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# **CHAPTER ONE**

## **INTRODUCTION**

## INTRODUCTION

Throughout history, religion has been one of the major commissioners of great architecture. This thesis sets out to investigate how sacred space, symbols and rituals influence the design of architecture and whether or not this influence has a mediating effect on the spiritual feeling of those within the space. It proposes that the mediating qualities of sacred space, symbols and rituals can be taken even further to create an environment in which people from different religious and spiritual groups can come together and engage in constructive dialogue and conversation. It will deal with the nature of the architecture required for space that encourages and inspires a spirituality that is common to all religious groups. It will investigate the best possible way to create a place that is familiar and comfortable to different religious societies and provide space that is compatible to the various needs of different religious groups while promoting interaction between them. The application of the principles and thoughts investigated here will be demonstrated in a design project that looks at a centre where different societies can come together to find common ground and understanding between each other to infuse an attitude of tolerance and understanding that is necessary in today's world. One of the key aspects of this thesis will be focused on the symbolism and architectural treatment associated with spiritual space and religion. Almost all religions have some commonalities in their requirements for sacred space; space that promotes awareness of a greater being; space that is conducive to meditation and prayer; promotes tranquility and peace, and a sense of a greater spiritual existence.

### **Background**

Kellenberger (1993: xi) argues that an issue of “ever more pressing concern in today's world of commingled cultures is the relationship between the religions of the world.” One of the main promulgators of conflict in the world is different religious beliefs and the lack of respect and understanding between them. It is not religion itself that is the problem, but a misunderstanding and misinterpretation of others religious beliefs, as well as misunderstanding of peoples own beliefs that leads to conflict. This misunderstanding has

led to the formation of prejudices and stereotypes in society which are often difficult to change. With terrorism a prevalent threat to society, based on religious differences and misunderstanding, and serious conflict in the Middle East, Africa, Ireland and other parts of the world, the need for tolerance and understanding of each other's beliefs is integral to the creation of peace. If the misinformation does not result in conflict, it results in fragmentation within various religious groups which leads to more tension. Various religious leaders around the world have called for an end to conflict and called for tolerance towards each other. Pope Benedict XVI has said that the only path towards peace is to create dialogue and interaction between religions and has demonstrated this by visiting and moving between Jewish and Muslim communities in the Middle East and talking to them and interacting with them. In order for this interaction and peace making process to work, it is necessary to look for precedents of places and countries where it has been done successfully before and understand the fundamental principles that govern an attitude of tolerance. There are already organizations involved in the promotion of interfaith dialogue such as the Interfaith Dialogue Centre (IDC) in North Jersey, America and the KZN Interfaith Council. An extract from the website of the IDC illustrates similar thinking in terms of creating inter-religious respect and understanding:

*“IDC endeavors to promote respect and mutual understanding among all faiths and cultures through partnership with other religious and interreligious organizations by organizing educational and cultural activities such as lectures, seminars, conferences, discussion panels, luncheons and trips to Turkey. By this mission IDC aims to contribute to improvement of diversity, pluralism and multiculturalism in the society.”*

- Interfaith Dialogue Centre (2010)

## **Motivation**

South Africa is a prime example of a place where different ethnicities and religions have learnt to live together in tolerance of one another. Durban specifically is a rare case where in one small area, a mosque; temple and church may be found (Refer to Appendix D to

see an example). These are all main stream religious communities living in and amongst each other, together with the smaller groups and fragmentations within these communities. In fact, KwaZulu-Natal is home to an existing provincial interfaith council headed up by Cardinal Wilfred Napier (SAUPJ: 2010). It is therefore an appropriate place for a centre where religious societies, both local and international, can come to meet, to interact and to talk, on a social as well as spiritual level. The exploration of a multi-denominational architecture and the symbolism attached to it will set a precedent and possible prototype for centres of a similar nature around the world.

## DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES

### **Definition of the Problem**

The problem is about investigating a way in which architecture can become a medium for mediating and promoting dialogue between different religious and cultural societies. The problem arises out of a need for education, tolerance and respect of one another's religion in a world torn by strife and conflict that has permeated throughout history, due to religious misunderstanding that has resulted in it (religion) being blamed for many of the wars and terrorist attacks of recent history. The issues involved in such an architecture is determining the various common elements and symbols between religious groups; that provide interaction space for large groups; acoustic treatment of the meeting spaces as these need to be treated in a similar sense to auditoria and the development of facilities that can cope with the need for retreat space where communities can come and stay, conference space, worship space, lecture space for learning and multi-media facilities. The issues of ritual and requirements of each religious group are also important to understand as different groups may have their own specific catering requirements, dress requirements, gender separation requirements and general religious practice requirements.

## **Aims and Objectives**

The main aim of this research is to illustrate and demonstrate how sacred space, symbols and rituals mediate a spiritual environment and the influence this has on architectural design and then the incorporation of this into the harmonious and peaceful existence of religious communities through the creation of the appropriate environment; with architecture as the primary mediator of the education and dialogue necessary for such an environment.

## **SETTING OUT THE SCOPE**

### **Delimitation of the Research Problem**

As there are many different denominations within Christianity alone, and this project is looking at a multi-religious centre, catering fully for every different believer becomes an almost impossible task. However that is what forms part of this problem, that is, finding architecture that is appropriate for all religions. The project will deal with the logistics and symbolism involved in this, as well as the necessary architectural elements. It will attempt to grasp the fundamental principles that make architecture a spiritually encouraging place as well as attempt to embody the symbolic and abstract elements common in all religious architecture. The idea is not to explore simply a neutral space for religious communities to meet, as this can be done at any other place such as a university/school. Rather it is an opportunity to explore the existence of architecture that demonstrates a harmonic combination of religious elements, showing how these groups can exist together. The focus of the study will be on four main stream religions only, that are Hindu, Christian, Judaism and Islam. This reflects the demographic of the world in that monotheistic religions command a much larger proportion of the world's population than polytheistic beliefs. However, Hinduism still has a very large following, and other belief systems such as Buddhism and Hare-Krishna cannot be overlooked but will not be dealt with in depth. Agnostics, atheists and some traditional beliefs and religious practices will be contextualized into the study but not looked at in-depth. The focus will not be on the specific rules and regulations of each religion with regards to the

architecture, although these will be touched on in the case that they have a definite effect on the final outcome. The focus will be more on the meta-physical aspects of the architecture of each religion, looking at their similarities and different.

## **Definition of Terms**

### Denomination:

A group within a specific religion that has its own set of beliefs based on the beliefs of the religion itself.

### Dialogue:

Positive conversation and interaction between religious societies.

### Mediator:

A feature that promotes and helps in the process of creating dialogue, that helps keep it under control and positive. In this sense, architecture acts as a 'passive mediator'.

### Multi-Denominational:

Appropriate for all religious groups without being neutral/indifferent in order to demonstrate the possibility of harmonious, peaceful living.

### Religious Plurality:

Dialogue and interaction between faiths. Acceptance and tolerance of others beliefs.

### Sacred Architecture:

Architecture that has a religious function or uses a vocabulary of forms consistent with religious practice.

## **Assumptions**

- Religious conflict is a real problem in the world and is on the increase.

- The key to solving the problem is to find middle ground between all religions.
- A radical approach by one religion is not part of the solution, but part of the problem, as has been seen throughout history.
- Durban is a prime location for such a facility due to its colourful mix of religions and cultures that exist happily amongst each other.
- Followers of religion and spirituality are on the increase. People are looking towards this path to find meaning and answers in their lives, as science only provides clinical and often not very encouraging answers.

## **Hypothesis**

Architecture that mediates dialogue between religious and cultural societies can be created by unearthing the essence of the sacred architecture of various religions; understanding their commonalities and differences; and using this to inform the spatial arrangement and symbolic treatment of the built form. The symbols and rituals of various religions have a bearing on the architectural typology and can be incorporated into the built environment by finding and interpreting their commonalities. In this sense, interaction between religions is encouraged, and education through interaction is part of the process towards tolerance and understanding between religions. Architecture has a role to play in so far as it provides the environment in which interaction takes place. In order for such an architecture to be attractive to such a variety of people, special care has to be taken in the treatment and arrangement of the spaces, based on the research and interpretation of results in the case study.

## **Key Questions**

The main question this paper sets out to answer is:

What form or type of architecture would be best for mediating dialogue between different religious and cultural societies?



### Subsidiary Questions

- How can an architecture that embodies symbols and elements of all religions be created?
- What spaces would be most appropriate for religious dialogue and inter-religious interaction and living?
- How can these spaces be treated in such a way that they are comfortable and adequate for everyone, whilst still maintaining a spiritually encouraging characteristic?
- What role does technology have in such architecture?
- What are the acoustics implications of such a design; where there is a need for large public spaces where people can talk and perform and small private spaces where people can retreat to meditate or pray?
- What elements would make it an attractive place for all religious people to come?
- How can the architecture best instill a sense of tranquility, peace and calm within the people that visit there?
- Why would people go to such a place?

### KEY CONCEPTS AND THEORIES

#### **The Phenomenon of Sacred Space**

Sacred space, according to Eliade (1968: 36), is space where three cosmic levels, earth, heaven and hell (or the underworld) come into contact with one another in a single entity. In all religions, people throughout the ages have built and designed places that act as a portal or dimension through which a higher being or divine spirit can be experienced. In Hinduism for instance, the temple is seen as the 'house of gods among men' and a place where the gods can be approached and their divinity discovered (Michell, 1997: 49). In the same way, the Abrahamic religions of Judaism, Christianity and Islam all base their architecture on the idea of the Tabernacle, seen as the 'house of God'. Eliade (1968: 28) acknowledges that in many religions, the entire world is sacred but goes on to argue that the religious person has to accept that they live in a world that does not always appear

‘sacred’ (in fact, it is often profane and ordinary); it is therefore only natural to find that a vast amount of techniques have developed for consecrating (making holy) specific sacred places and spaces. Simmins (2008: 9) argues that a common thread through all religions in creating sacred space is a belief that is ‘tied into concept of cosmogenesis’ which is the story of creation. The concept of cosmogenesis deals with the relationship between directionality and the sacred (Simmins, 2008: 9) which is the vertical arrangement of the three cosmic levels, earth, heaven and hell. In sacred space therefore, it is often seen that the most sacred spaces are those that are vertically closer to heaven, hence in many religions, mountains are often seen as sacred places where people transcend in order to get closer to that which is heavenly. This idea also accounts for the emphasis placed on height in religious architecture throughout the ages.

Bender (2006: 6) explains that sacred space is an energetic phenomenon rather than a material one. He goes on to say that sacred space is a point of connection between the physical, three-dimensional world and the metaphysical world of the spirit. This argument supports the notion of Eliade that sacred space is a point where the three cosmic levels are experienced and expressed. While it is by the material attributes that sacred space is recognized and called into being, it is on the energetic and spiritual level that it is experienced. Therefore sacred space relies on an interaction between the physical attributes applied to it (that come in the form of architecturally designed space, theological symbols and rituals) and the spiritual energy of a realm that exists outside of the known universe (Bender, 2006: 6).

Sacred space is often viewed as a place where people can leave the chaos of the world for a time and focus on the greater meaning of the universe. This idea is tied in with the concept of sacred space as a sanctuary; which is a place where people feel physically safe from disruption during deep process or meditation (Bender, 2006: 7). Boudier and Minh-Ha (1997: 140) state that for example, the mosque that it is a very sacred place where Muslims of the world can come together, friend and enemy, in respect for the sanctified territory. The mosque is seen as a place of safety and retreat. This notion is similar in many religions, particularly Christianity, Judaism, Hinduism and Buddhism, where holy

places are sanctified places of safety and sanctuary. Bender (2006: 7) supports this notion in saying that “such places are filled with a deeply powerful stillness”. This stillness reflects the idea of sacred spaces as places of energy, where the energy is expressed as this powerful stillness. The material attributes that give the space this energy differ from one religion to the next, however two main symbols seem to form concepts for all religions and architectural creations. These two symbols are light and water. The idea of light as a symbol in religion is expressed in this quote:

*“Rays of light and glowing things were celebrated and worshipped as appearances of the divine, becoming woven into primordial symbols and icons, and in churches and temples, as in painting and sculpture, handled as miraculous substances”* Plummer (1997: 17)

According to Moore (1994: 22), when architecture and water are combined carefully and creatively, the potential for meaningful expression is practically limitless. In this sense then, water is a powerful element that can be combined in design to add meaning to space, thereby creating a sense of place. He goes on to state that the world of water embraces every culture; each has its own way of designing with water and including it in architecture. Ando (2003: 6) describes his use of light and water as away to emphasize the passing of time or transience as a part of the spatial experience. This emphasis lends itself to the idea that sacred architecture should express another dimension, beyond the known three.

The entire notion of sacred space as space which transcends its merely physical nature parallels with the concept of place theory. Place theory, as argued by Norberg-Schulz (1979:10), is that a location is elevated to the status of place when it expresses a distinct character or *genius loci*. Timothy and Olsen (2006: 25) argue that the interpretive distinction between space and place is that space lacks meaningful content, and that a space becomes a place when it is punctuated with meaningful content. In conclusion, meaningful content in the case of sacred space is theological content applied by particular religions in the form of symbols and rituals.

## RESEARCH METHODS AND MATERIALS

### **Introduction**

The purpose of this study is to uncover the essential qualities that make sacred architecture 'sacred' and how these qualities affect the design of sacred architecture, and how architecture in turn, affects the quality of a sacred place. The study looks at the possibility and feasibility of combining some of these essential characteristics into a single multi-denominational facility. The aim of this primary research is three-fold. A study will be done through questionnaires to investigate the public's opinions and beliefs with regards to sacred architecture and aim to determine the amount of interest in a multi-denominational facility. The second aspect of the study will be looking at the more involved religious clergy and through interviews gaining insight into their own experiences, knowledge and beliefs on this subject. The third and final aspect will be a case study. The case study will look at religious buildings from different religions. The case study will be focusing on the architectural elements of each building, the spaces, the symbols, the form and how these are influenced by the religious practices of each. The results of the case studies will be tabled in a comparative format to gain an understanding of the similarities and differences between each religion.

### **Research Design**

As outlined in the introduction, the research design will be in three parts. Part one is the use of standardized questionnaires. Zeisel (1985: 157) states that questionnaires can be used to uncover similarities and differences between groups by comparing the answers to the same set of questions asked to a large group of people. The advantage of a questionnaire in this study is that it will get a broad opinion from the public on their feelings and opinions on the subject matter. This is important as the places of worship in consideration are there for the general public and believers of the specific religion. They are the ones who will be interacting and relating to the places most often. The disadvantage of a questionnaire in this study is that most of the people questioned will

not be experts on their religion however this can be controlled through the types of questions asked.

Part two of the research will involve informal interviews with religious leaders of the various groups. Questionnaires and interviews have a lot in common in that they both obtain information from the person or people that are assumed to have the right information (Hofstee, 2006: 133). The idea is to get an opinion and ideas from the people who are presumed to be most knowledgeable in their particular belief system. The advantage of an interview style questioning is that there is greater control in terms of how the questions can be asked and how much is needed to be asked in order to obtain the desired information. The disadvantage of interviewing is the danger of casualness when asking in conversation rather than with a formal written questionnaire.

Part three of the research is the case study. Hofstee (2006: 123) states that a case study is useful when detailed knowledge is required of a certain case for whatever reasons. The case study in this research will be of instances of different religious buildings. In a sense this means that there are separate case studies, however, each will be analyzed under the same criteria, in order to make it possible to put together a comparative analysis of the various buildings. The strengths of this study is that each building can be analyzed and then compared in the same way, which is imperative in understanding how the elements may be combines. Weaknesses in the case study may come about through subjectivity and generalization of results (Hofstee, 2006: 123) and these will be avoided at all costs.

### **Research Materials, Data and Analysis**

The following research materials are used in this study:

- A standardized questionnaire.
- An informal interview sheet, used to direct the course of conversation with the particular person involved.
- A criteria sheet for the case study.
- Photos and sketches for the case study where necessary.

The questionnaire is designed in such a way that it unearths the feelings and opinions of followers of a particular religion with regards the architecture in which they worship. The purpose is to obtain the view of people in general with regards to the topic, as it is the general religious population that makes the most use of, numbers wise, the architecture of sacred spaces. Certain information has been collected, such as age and gender, in the case that a statistical trend can be found between these and the answers provided. The questionnaire is in four parts. Part one simply asks whether or not the person believes in any particular spirituality or religion. This is important, because the questions for one will not be relevant for the other, therefore on answering the person is directed to the next particular section in accordance with their answer. Part two is specifically for those who deem themselves 'religious or spiritually faithful.' Part three is for agnostic and atheists or for those who are not sure. Part four is a general question that pertains to everyone. The data collected here represents the views and opinions of at least 50 people; however one of the weaknesses is that a fair number of people from each religion are not represented, with Christianity dominating the study. Although this is a flaw of the study, the amount of people who responded for each religion is enough to provide a satisfactory result to support the issues related to the topic. The answers will be analyzed in such a way that it looks for trends, support against or for the topic and hypothesis, information regarding the feasibility of an inter-religious facility and the general feeling of people towards sacred space. For a detailed look at the standardized questionnaire, refer to Appendix A.

The informal interviews have been done in such a way that they look for the opinion of the religious leader of a particular case with regards to:

1. The architecture of their particular case.
2. Their attitude towards inter-religious interaction.

The interviews have also been used as a way of better understanding the customs and rituals of each religion and how these affect the space of worship. These interviews are linked to the case studies in that each religious leader interviewed belongs to that particular case study. The interview sheet can be found in Appendix A.

The case study involves the study of different religious buildings in Durban and surrounding areas. Although these can be seen as different 'cases', the purpose of this study is to analyze them under the same criteria in one comparative analysis. This is useful for the overall study of the topic in that it makes an easy to view table of the differences and similarities between religious buildings. Photos and sketches will be used to back-up or illustrate a certain point where needed. The case study criteria sheet can be found in Appendix A.

All three procedures detailed in this chapter lend themselves to investigating the central issues involved in the topic. The questionnaires provide information regarding the views and opinions of the people that one day may be using a space created along the principles that have been unearthed here. The interviews help clarify certain aspects of the practices of various religions as well as their architectural implications. The case studies illustrate the inherent similarities and differences between the architecture of various religious groups.

## CONCLUSION

Chapter 1 outlines the framework in which the rest of this study is set. The background and motivation provide a solid base upon which the body of this work will rest. Namely that in today's society, religious diversity provides a whole new social level of interaction. People of the world mix more today than at any other point in history. In South Africa this is particularly true and this fact provides an excellent opportunity for the exploration of inter-religious sacred architecture. Just as the world has become more diverse; so too have the different architectural responses to the requirements for sacred space. In light of this however, the ancient principles that guided the design of these spaces in the first place are still being applied today. The principles are set out in the theoretical framework; the expression of a dimension beyond that which is readily visible gives sacred architecture its special character through the use of physical, three-dimensional elements. The following chapters go into depth about how the expression of this other, divine dimension is achieved.

## **CHAPTER TWO**

### **SACRED ARCHITECTURE THROUGH THE AGES**



## INTRODUCTION

This chapter sets out to illustrate and investigate how sacred space is designed and the principles that are applied by different religious groups. It begins with an overview of the key principles that each religion is trying to achieve in the design of sacred space; the expression of a religious dimension, a language of architecture that can be interpreted and read, and an experience for the individual worshipper using these spaces. An in-depth look at the elements that go into the design of buildings in four major religions of Hinduism, Judaism, Christianity and Islam shows the similarities and differences between each religion. The similarities between each religion come in the form of prevailing symbolic elements that are used to enhance the spiritual experience. This chapter also explores how throughout history the spiritual experience and architecture have been intertwined; whether it is architecture as a medium that enhances the spiritual experience, or the spiritual experience that enhances architecture. Architecture becomes sacred when the spiritual activities of people manifest themselves in the symbols and rituals of the space required for their functioning.

## COMPARISONS OF SACRED ARCHITECTURE

Sacred architecture has been a part of human history since its inception. Mann (1993: 27) states that in ancient times the temple was built as an image of God on earth, indeed it was believed to be the precinct or territory of God. Since the beginning, humans have explained their existence by and relied upon a relationship to some form of Divine Reality (Kellenberger, 1993) and Mann (1993: 7) argues that throughout history, creativity in the visual arts, architecture and music have been common ways in which people have expressed their religious beliefs.

*“The faithful spared neither physical effort nor personal sacrifice to show their adoration of the Lord and to prepare a testimony to their beliefs” (Conti, 1977: 6)*

The quote above supports Mann's argument and reinforces the idea that people, throughout history, have given their greatest efforts in creating and expressing their beliefs. Conti (1977: 6) goes on to say how not only throughout history, but throughout all places, people of all religions and beliefs have expressed their faith by creating towering temples for their God or gods. In the ancient world, various forms were used to express the spiritual and divine. Ancient civilizations used different forms, but common principles can be found and have been carried through to this day. The same force or will that inspired Solomon to build the temples of Jerusalem, induced others, the Incas, Hindus, Buddhists and Moslems, to glorify and exalt their God or gods by giving their best efforts (Conti, 1977: 6). Mann (1993: 13) argues that the spiritual is the active, dynamic aspect of the psyche, which is independent of the arts and architecture but which is expressed through them. The belief is that these forms are the elements and mediators through which spiritual energy can flow, and reflects a sense of the supernatural and divine. The study of these forms has become a science based on symbolism. In her book, Jones (2000: xiii) argues that architecture gives definite experiences of time in that it documents the interactions through history between people and their sacred and spiritual built environments. Sacred architecture expresses a number of supernatural phenomena associated with spirituality, from creative omnipotent beings, to universal events of nature; as well as the spiritual forces that have formed a basis for political movements in history, and the forces that shape the self. The expressions of these fundamental influences are in a special way revealed and concealed through architecture and through the social events and relations made possible because of architecture. Due to its ancient and historic character, architecture through the ages has developed in it ample experience which has resulted in a super abundance of symbolism and the interpretation associated with it (Jones, 2000). Together, these experiences and interpretations are the edifying moments of culture and the occasions in which culture is constructed. From as early as the Ancient Greek temples and Egyptian pyramids, to the great Gothic cathedrals and beautiful Mosques of the middle ages, the Renaissance classical revival period, the Baroque and Rococo movements through to the Modern age, sacred art and architecture have been the source of some of the most beautiful works of human creativity, driven by a desire to express the spiritual energy that they gain from their beliefs.

It is worthwhile to note the similarities and differences in the architectural design of sacred space. The problem statement is about how the various belief systems symbols and rituals influence the architectural and built form of these sacred environments. In every system of belief there are guiding principles that help the architecture determine the form and order of the building; what elements to use to enhance it and the aesthetic treatment of the exteriors and interiors. The symbols and rituals guiding the creation of these sacred spaces are there to mediate the creation of an environment that greatly increases the spiritual experience.

Religion is a multi-dimensional phenomenon. It moves beyond the typical three-dimensions of the world, that is length, breadth and height required to define things physical, into the dimensions of space/time as well as the supernatural. Architecture is meant to deliver a number of things to people; shelter, comfort and beauty. However, it is argued that sacred architecture is required to do more than just that. To set sacred architecture apart, it requires a sense of spirituality (Richardson, 2004: 7). Wood (1997: 6) writes about how, in many religions, there are places that have, over time, become a holy place or a sacred space. The simple dimensions that define the space of length, breadth and height are still there, but there is now something more. A feeling that the space is special, that at some stage in its past a special event took place which transformed the space from simply a space, into a spiritual place. These places are often marked by a building, monument or shrine (Wood, 1997: 6).

*“Sacred places are like doorways to another world, reminding us that life is more mysterious and wonderful than we can ever imagine” (Carr-Gomm, 2008: 6)*

The quote above supports the notion of religious space being multi-dimensional phenomenon. Carr-Gomm (2008) also provides the notion that a sacred place is not necessarily a human intervention but may be a place in nature that has inspired people to feel a sense of spirituality when near it. These places have been acknowledged by major religions as sacred spaces and places. Sacred places can become points of spiritual tourism where people come to experience something especially sacred about that

particular space. These places may be natural or man-made; they may be specific to certain religions or open for all religions. The architectural interventions may be in the form of worship places, retreat houses, educational facilities, or a combination of these.

Edwards (1968: 78) explains that space is what surrounds everything that exists in space. That is why architecture embraces all the other forms of representation: all works of plastic art, all ornament. Moreover, to the representational arts of poetry, music, acting and dancing it gives their place. By embracing all the arts, it asserts its perspective



**Figure 2.1**

The Acropolis, (Gibberd, 1997: 16)

everywhere. Sacred space is created and defined by architecture. The way in which architecture is composed, the forms used, the materials and elements all work together to create architecture that is the medium of the spiritual experience.

Wotton (1624) bases his architectural theories on the writings of Vitruvius; that architecture should be made up of three primary elements. That is firmness, commodity and delight. Firmness is about the structure and materials, commodity is about the inherent function of the building, and delight is about the visual and special appeal of the building (Davies, 1982: viii). In understanding and interpreting all architecture, it is important to analyze it in terms of these three elements first. The function of the building or architecture needs to be understood as this informs the structure, materials, and aesthetic treatment. Sacred architecture has a very specific function first and foremost, and then ancillary functions that need to be met as well.

The first, and most important function of a sacred space, is to provide an environment where the spiritual experience of the person is greatly enhanced. In figure 2.1, the acropolis in Greece is an ancient example of how it is done. It is set apart from the main town on a hill that is visible from all around. It expresses in its seclusion a sense of peace and tranquility, while at the same time, in its treatment and architectural form, a sense of

power and majesty, drawing the viewer's eye up to the heavens. The function of the form is to enhance the spiritual experience, by being an iconic centre that can focus the person's mind on the divine and spiritual. In interpreting and developing knowledge of the underlying architectural principles of sacred spaces and place, the function of the space and the people it is designed for needs to be first understood. The typical function of any religious building is worship, but worship itself needs to be divided up (Davies, 1982: viii). Worship can be in the form of prayer, meditation, music, ritual, physical involvement and personal experience. Jones (2000: 48) argues that the interpretation of sacred architecture means understanding it in its entire circumstance; that the materials should be seen as an element; the people interacting with the space along with all their burdens of expectations, traditions and religious opinions; and the occasion related to the inherent function, that may be a ceremony or simply a person's inner desire to come closer to the Divine Reality in which they believe. These views are supported by Chang (1956: 62) as he writes that any existing architectural form belongs to itself and has its temporal, spatial and personal factors of formation. Material, climate, social function, historical background and, most important of all, the mentalities of the persons directly or indirectly participating in the design need to be correctly interpreted in order to be understood.

Experience has a lot to do with creating a memory. A space can create a memory, simply by being well designed for its inherent function.

*"It is the stabilizing persistence of place as a container of experiences that contributes so powerfully to its intrinsic memorability. An alert and alive memory connects spontaneously with place, finding in it features that favour and parallel its own activities. We might even say that memory is naturally place-oriented or at least place-supported."* - Edward S. Casey on understanding of place memory. (Hayden, 1995: 10)

The idea of place as a container of experience is about how architecture is like a container, giving boundaries to the various experiences of the people using and

interacting with it. Architecture is what converts a space into a place. This notion is supported by the argument of Tubbs (1942: 39) where he says that space is primarily conditioned by the nature of work done in it, and that these spaces must be beautiful as well as functional. However, while the function may condition the space, architecture shapes it and defines in. Hand-in-hand these two elements work together to create a place that is unique and spiritually uplifting. Architecture is meant to deliver a number of things to people; shelter, comfort and beauty (Richardson, 2004: 7). However, sacred architecture is required to do more than just that. To set sacred architecture apart, it requires a sense of spirituality. This spirituality is found in the experience of the people in the environment which the architecture defines. Richardson (2004: 7) goes on to argue that this spirituality is a quality that adds significantly to their cultural value since they are meant to arouse in the experience something beyond the physical satisfactions of space and, in many cases, say something about the community that they serve.

One of the conundrums of architecture is creating a building or form that is beautiful, symbolic, sculptural and artistic, while still balancing the practical demands of the discipline, such as the need to accommodate people and their anthropometric requirements; or meeting the economical restraints of the client. It is about striking a balance between the desire and dreams of the architect and the real world restraints. Sacred architecture is especially difficult in this regard as it demands that it be beautiful, symbolic, significant and spiritually uplifting. Richardson (2004: 9), in talking about the architect of a specific work, states that Holl's (the architect) desire to express spiritual and philosophical meaning does not preclude him from very practical applications. Richardson goes on to describe how Holl has achieved part of his dream and desire through the organizing of spaces to create the experience of a journey that is a metaphor of man's path to enlightenment. He does this instead of using architecturally significant materials or way out there forms. The experience of sacred architecture can be thought of in two ways, as set out by Jones (2000: 56) where she argues that sacred space can be experienced by the indigenous users of the space or by academic reflections of the experience of that place. The first deals more with common lay people and how they

interact in their environment, while the second is more about observation for academic purposes. In designing sacred architecture, it is important to understand both.

History shows that sacred architecture should be designed in such a way that it enhances the spiritual experience. It is in designing for this experience that the application of symbols and ritual influence the built form, as these symbols contain in them an expression of the beliefs of the religion concerned. This chapter has explained and looked at the relationship between architecture and spirituality.

## TEMPLES, CHURCHES AND MOSQUES

The title of this section illustrates the chronological order in which these three major religious structures originated. The term temple is often associated with the most ancient forms of sacred architecture; however, it is still used today to describe a number of buildings related to various main stream religions such as Hinduism, Judaism and Hare-Krishna. Christianity brought to the architectural world the architectural typology of Churches, and Islam the Mosque. The section deals specifically with the broad characteristics of Hindu temples, Jewish Temples or Synagogues, Churches and Mosques. A brief overview of other religious building will be given at the end.

Mikula, Kearney and Harber (1985: 5) state that Hinduism was never founded as many other religions were but rather that it has always existed; that it grew as it collected the different religious beliefs of nations conquered and conquering nations. Mann (1993: 50) explains that Hindu temples are designed to contain the '*shakti*' which is the divine spirit. The divine spirit is seen as an entity or force that is present and flows through the forms in a determined way (Mann, 1993: 50). In South Africa, where such tightly-wound communities existed as in KwaZulu-Natal, there was a mixing of building ideas between North Indian and South Indian communities (Mikula, Kearney, Harber, 1985: 11). Where in India, the building styles of each would be distinct, it is nearly impossible to distinguish one from the other in KwaZulu-Natal. An important concept of the Hindu religion is the idea of circumambulation (Mikula, Kearney, Harber, 1985), which is the

ritual movement of a worshipper around the sacred space or temple, symbolizing a path of movement from ordinary life into the spiritual. The sacred space around which circumambulation is performed is known as the ‘*mandala*’ (Mann, 1993: 50). Hindu temple designers have freedom in terms of design in that only a few major criteria had to be fulfilled:

*“orientation (generally east-west), the square plan form of the shrine (cella), the axial alignment of an external altar and the stylized flagpole (kodi pole).”*  
(Mikula, Kearney, Harber, 1985: 10)

Above the shrine is usually a tower or dome that through time has become very similar to a Buddhist Stupa (Mikula, Kearney, Harber, 1985). Mann (1993: 50) notes that the pinnacle of the dome is “surmounted by umbrellas”, that symbolizes the movement of the soul through layers of consciousness. A detailed example of the elements of a temple and its dome structures can be found in Appendix A.

Judaism is the base religion out of which grew Christianity and Islam, so many of the characteristics and ideas found in Churches and Mosques can be traced back to the synagogue.

*“The tabernacle was a tent, a portable sanctuary specifically designed for a nomadic people. It could be dismantled when necessary and transported from camp site to camp site. It was the first sanctuary the Hebrews ever constructed, and hence the forerunner of the Temple in Jerusalem and the ancestor, infinitely remote, of every synagogue ever built.”* (Meek, 1995: 28)

Meek (1995: 28) explains that the temple originated out of the idea of a Tabernacle, which was a tent that acted as a “portable sanctuary” specifically designed for a people on the move. Simmins (2008: 34) gives a brief overview of how the synagogue developed as he says that “at first Jews worshipped at sacred sites outdoors, then at the temple, and then at the synagogue, which simply means, assembly.” While a number of elements go into the composition and arrangement of a synagogue space, the most



important element required in a synagogue is the ark in which is housed the Torah, which is ancient scripture, containing in it the Pentateuch, which are the first five books of the Bible (Simmins, 2008: 34). The earliest temples were held with nostalgic importance, however Simmins (2008: 34) states that the Jews had a practical approach, and all that was required was the presence of ten men, called a *minyan*, in any building or house, and the presence of the Torah. Where both these requirements were fulfilled, there a temple was created. Although this was the case, more formal buildings were designed for this purpose. Simmins (2008: 34) states that in Jesus's time the Temple would have featured the following elements: Gate (Gate Beautiful), Altar (in front of court), Court of Men, Court of the Gentiles, Court of Women and Inner Court. These elements are not definitive however; as Simmins (2008) goes on to argue that there was never "a single approved style of synagogue" and that "Judaism has demonstrated itself to be very pragmatic and highly varied in its architectural responses." As before, the only requirement in that the Torah is present, and this is housed in an Ark within the Synagogue. In order for a service to take place, a quorum of ten men is required although in some reformed Jewish communities, this quorum can be made up of men or woman. Another important element that goes into a Synagogue is the 'bimar' which is simply a raised platform from where the Torah is read. Although this is not an essential element, it is found in nearly all traditional synagogues as it helps direct the focus and attention of the people onto the reading of the Torah (Meek, 1995: 15).

Davies (1982: 90) argues that the history of churches is intricately connected to the history of the Roman Empire, since it was the Roman Empire that legalized Christianity under the leadership of Constantine. Before the legalization of Christianity, worship space was relegated to houses of those practicing at the time (Davies, 1982: 90). After this, buildings large enough to hold the mass of newly converted followers were needed and the basilica, which was then a Roman court house, was adopted and adapted to suit the needs of Christianity. Due to such a diversity of beliefs within Christianity itself (refer to Appendix B), it is difficult to pick out the definite elements that go into a typical Christian church. Although there have always been break away sects since the inception of the church, the first major break away came in the 14<sup>th</sup> century when the church was

divided effectively into two, Catholics and Protestants (Chadwick, 1995). It is important to note that the Protestant reformation involved the creation of a sect of Christianity that did not entirely reject the traditions and teaching of the Catholic Church, although some based their faith on a rule of '*sola scriptura*', that is by the bible alone (Chadwick, 1995). Due to the fragmentation of Christianity throughout history, strict rules for Christian churches in general are non-existent. However, there is a clear distinction between more orthodox forms of Christianity and the more radical breakaways. That distinction is the inclusion of an altar within the church. Davies (1982: 98) suggests that the importance of an altar is because it is essential to the celebration of the Eucharist. At this point it is interesting to note the similarity here between Christianity, Judaism, Hinduism and the ancient religions and cults of the Egyptians, Aztecs, Greeks and Romans in that the altar is a common element, always used as a holy platform for sacrifice (Davies, 1982). While the Eucharist is an essential element of the Catholic Church and Eastern Orthodox, some churches that still include its practice (Anglican, Methodist, Lutheran) do not place as much importance on it. The distinction between churches by the inclusion of an altar or no altar is important as it has a very definite affect on how the architecture of the church is perceived. It can be thought of in this way: the Eucharist in the Catholic tradition is believed to be the true body and blood of Jesus Christ and where it is celebrated, Christ is truly present in physical form (O'Connor, 1994: 46). The architecture of a church is therefore geared towards emphasizing, illuminating and celebrating the presence of Christ, who, according to Christian belief, is God. In a literal sense then, the traditional Church is perceived as the 'house of God'. It is built for God and to give glory too God (Davies, 1982). On the other hand, the churches that have rejected the idea of the Eucharist as central to Christian worship and celebration have treated their architecture as more functional places where the faithful can gather, the concept is basically that the church is the people rather than the building.

Davies (1982: 118) suggests that the design of a mosque is inseparable the practice of Islamic worship. He states that a Muslim is encouraged to observe the "ritual of prayer (*salat*) five times a day." This involves reciting the Koran and performing a number of movements such as standing, bowing, sitting, kneeling and prostrating. Simmins (2009:

41) states that “in Islamic traditions, all sites are holy, and God is said to dwell everywhere.” It is possible then that daily prayer five times a day can take place anywhere; however, a mosque is the formal place where it can be done as a community. The term mosque simply means ‘place of prostration’ (Simmins, 2009: 41). The only essential elements, as described by Simmins (2009: 41) are that it be an enclosed space and that it has an indication of the direction to Mecca. Abdulmalik, Anz and Kahera (2009: 8) support the notion of Simmins (2009: 41) that all places are appropriate for worship where they argue the *pious maxim* (idea or saying) that ‘the whole world is a mosque’ and therefore it “sanctions the injunction of public worship anywhere in the world.” Davies (1982: 119) argues that since the Muslim form of worship is very simple, little is required in the “way of liturgical furniture.” The central worship space of a mosque generally consists of a carpeted floor patterned in such a way that it orientates the worshiper towards Mecca. There are no chairs as sitting is done on the haunches. There is a stand for the Koran and a *minbar* or pulpit from where the sermon is preached (Davies, 1982: 119). This pulpit is usually a small flight of stairs that rises away from the congregation. Davies (1982: 119) goes on to say that also notable is the *mihrab* which is a concave niche in the wall facing Mecca. The shape of the mihrab has acoustical implications in that it helps the voice resonate to the people. Abdulmalik, Anz and Kahera (2009: 5) suggest that “primarily a mosque is a place of spiritual repose, a spiritual sanctuary” and there is no strict criteria for the design of the mosque except for the separation of men and woman, and the orientation of the mihrab towards Mecca.

Churches, Mosques and Temples are sacred buildings that have become landmark places in many countries around the world. Davies (1982: vii) states that millions of tourists annually visit numerous temples, churches and mosques around the world. Olsen and Timothy (2006: 1) support the statement by Davies, stating that “religious travel is not a new phenomenon”. Olsen and Timothy go on to say that religion has been an important driving force behind travel for centuries and is the oldest form of non-economic travel with approximately 240 million people a year going on a pilgrimage; the majority of which are Christian, Muslim or Hindu. The increase in religious tourism of the past century has confounded many who thought that it would die out because of the scientific

revolution (Olsen and Timothy, 2006: 3). Campo (1998: 41) says that modern religious pilgrimage “appears to be at odds with our widely held belief in the progressive development of the West into a complex modern civilization based on science, technology, and reason, rather than on magic, religion and irrationality.” It is not only pilgrimage that accounts for the travel of people in the context of religious tourism. People travelling to visit other countries will often visit sacred places of worship as these are enveloped and filled with historical character, often expressing in the grandest way the nature of society at the time of their construction.

Sacred architecture in each religion tends to show a trend that there are one or two essential elements in the design of the sacred space that need to be adhered to, but otherwise in some instances many of the specifications can be left out. It is possibly because of the lack of prescription in terms of how these buildings should look that so many different and interesting approaches have been given throughout history. It is this variety that supports the industry of spiritual tourism, as there are differences in religious architecture based on time and location. No matter the differences however, the important elements in each religion that have to be included provide the sense of familiarity that is so important in attracting people to places.

## SYMBOLS IN SACRED ARCHITECTURE

The experience of sacred architecture is greatly enhanced and mediated by the various symbolic elements that need to be expressed in different religions. Symbol and ritual are intricately linked and are a part of almost every religion today. Symbolic content may be broken up into various major categories as they expressed in certain ways, either in elements applied to architectural design such as water and light, or through more literal elements such as art and sculpture.

It is postulated that more than anything, water is a source of life and a symbol of life and that this life-giving water appears over and over as a common thread woven through the religion, literature, and art of every culture (Moore, 1994: 17). In his essay on painting,

Kuo-hsi (1959: 47), describes water as a living thing and goes on to describe its calming, tranquil qualities as he explains:

*“Its aspect may be deep and serene, gentle and smooth; it may be vast as the ocean, winding and circling. It may come from a place rich in springs and may flow afar. It may form waterfalls rising up against the sky or dashing down to the deep earth; it may delight the fisherman, making the trees and grass joyful; it may be charming in the company of mist and clouds or gleam radiantly, reflecting the sunlight in the valley. Such are the living aspects of water.”*

Water has long been used as an element to promote and express cleanliness, calmness, the beauty of creation, life and serenity. Religions from the beginning of time have used water in some form or another but all have used it in as a way of purification (Moore, 1994: 22). Davey (1998: 204) argues that since Roman times, water has been a life-enhancing adjunct to buildings, intensifying their meaning and impact. This is an important notion to understand in the design of sacred architecture as the concern should be with exactly that; to create meaning and symbolism; and to intensify the impact or the place-memory of the building. A religious or sacred building should not merely be a space where people gather for a common need, but should be elevated to the status of a “place”, something that will inspire a memory or some deeper spiritual understanding. The argument of Christian Norberg-Schulz (1979: 10) is that a location is elevated to the status of a place when it expresses a distinct character or *genius loci*. Water can be used to give character to a place. Identity and character are closely linked; people who recognize a place by the environment read its character and recognize the essential features that make it up. Whyte (2003: 39) says that an essential quality of *genius loci* is to make man feel at home on earth. This notion is important, especially in sacred architecture, as not only should it become a sanctuary, or ‘second-home’, for man, but also has often been dubbed a house of God, or place of residence of the Divine Reality in which people believe. To express this notion of home on earth, of place and of unique character requires the creation of a man-made environment, which is the built environment (Whyte, 2003: 39).



**Figure 2.2**

Church on Water, (Richardson, 2004: 8)

Water can act as a link between the divine and the human, as the divine is often seen as the creator of all life, and humans are the greatest of all life creations. Water is a symbol of this life, as well as a symbol of the purity and divinity of what religions and beliefs call God. The church on the water by Tadao Ando is an example of the use of water to enhance the spiritual experience. The sense of tranquility and stillness required for deep meditation is greatly enhanced by the use of water surrounding a cross as a focal point. Moore (1994: 22) illustrates how water used in architecture is viewed when he says that any study of architecture and water has at its disposal a rich history of meaning and tradition as well as a foundation in mesmerizing physical and natural wonders. When the fusion of architecture and water is treated carefully and creatively, the potential for meaningful expression is practically limitless. From these words it can be seen how water has been used through the ages to enhance a space, to create a place, and to evoke a certain response from the people who experience it.



**Figure 2.3**

Church of Light (Richardson, 2000: 13)

Light, like water, appears over and over again as a common element and symbol in sacred architecture. A common theme in religion is light conquering darkness, overcoming the shadow and bringing about a promise of a better life. This symbol is often seen and used in architecture in the way openings are treated, lighting sources are placed and the effect these can give. The Church of Light by Tadao Ando illustrates more clearly than any words the impact that light can have on a spiritual space. Even more so than water, light is a symbol of the Divine. Schittich

(2002: 10) argues that sacred spaces must evoke moods, be unique in their function and have symbolic content. This can be done by the interplay and material qualities of its enclosure and by how light is directed. Brogan (1997: 6) argues that the greatest use of light in sacred architecture appeared in the Baroque period. Here the symbolism and imagery of light and dark were the ideal expression of religious mysteries and were used to inspire devotion. He goes on to say that the character of Baroque, in the “expression of movement, emotion, irrationality, spirituality, motion and atmosphere” was greatly enhanced and shown through the brilliant manipulation of light in the space, designing with natural light to cast shadows where needed and illuminate where desired to more greatly reflect the mysteries of faith that were part and parcel of the spiritual experience. Plummer (1997: 16) argues that the play of light around us makes the world endlessly compelling. People should feel drawn to a sacred space, to want to be there and stay there and meditate there. The use of light and the play of light can enhance this. Plummer goes on to say that “light was often distributed in space to provide clear and easy vision” but more than that it has also been “shaped into a sensuous and beautiful phenomena meant to be deeply felt for their own sake, and for echoes they awake in the innermost part of the soul.” People are drawn to light like any other creature. In the darkness there is no direction, no clarity. But light can provide clarity and direction. Too much light is overpowering, so a careful use of it can be applied to provide the right amount of illumination, while still casting a shadow that may represent the mystery that is the soul of the human being. Plummer (1997: 17) argues that the powers of light are dazzling and inspire the physical world; people from the beginning of time realized this and acknowledged it through elaborate myths and religious beliefs.

*“Rays of light and glowing things were celebrated and worshipped as appearances of the divine, becoming woven into primordial symbols and icons, and in churches and temples, as in painting and sculpture, handled as miraculous substances.” (Plummer, 1997: 17)*

Plummer (1997) also argues that light cannot be properly experienced without darkness and the contrast it provides. The power and beauty of light relies upon the shadow to give

it substantial presence, and a background from which to shine. He argues that darkness has its own value for the mythic mind, bringing to a space an aura of mystery, and a “brooding atmosphere to induce contemplation”, as well as providing the matrix which prepares for reviving light. On his own building, the Church of Light, Ando (1997: 29) says that “the openings have been limited in this space, for light shows its brilliance only against a backdrop of darkness”. This supports the notion as set forth by Plummer, in that light works best when contrasted to the shadow. This is true in many senses, for example, the use of candle light to create a dimly lit romantic setting. The play of light and dark can be used to enhance a mood or experience, especially in sacred architecture, where the experience of the divine, which is light, is so important. It almost represents the darkness through which people journey on their path to enlightenment.

Light and water are symbolic elements of nature that can be incorporated into an architectural design in such a way as to enhance a certain aspect of it. In sacred architecture especially, these two symbols give an abundance of opportunity for interpretation of ideas and principles. Art is slightly different however, in that it is more a literal creation of a human idea and thought. Art has always been a part of religious architecture (Davies, 1982), and that various forms of it have been expressed by different



**Figure 2.4**

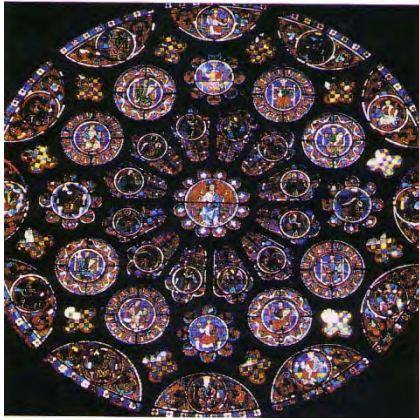
Goddess of Mercy Temple, (Mann, 1993: 73)

religions. Art is used to express spiritual ideas, stories and meanings. It has been an integral part of architecture throughout history. Below are some images that represent different art forms from three different religions that are inspired by the myths, legends and beliefs of those religions.

Figure 2.4 shows how Hindu people use colourful sculpture as their main form of art. Each figure represents a different Deity in their religion, or some ancient hero that did something great for the people. The idea of the art is meant to remind the people of the past



stories associated with Hinduism, stories of heroism, good will, kindness and of wrong doings that should not be repeated. In figure 2.5, the design of a stained glass window is shown.

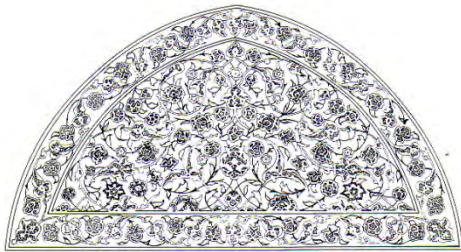


**Figure 2.5**

Chartres Cathedral, (Mann, 1993: 145)

Stained glass became one of the greatest forms of art in the Christian religion, and like Hindu sculpture, was used to tell biblical stories, or stories of Saints and great people of the religion. One of the greatest aspects of stained glass is its character to let light in, whilst being illuminated itself, greatly enhancing the effect. The Christian religion is not unfamiliar with many other forms of art such as painting and sculpture. Indeed, the Sistine Chapel, by Michelangelo, is one of the greatest examples of religious painting on architecture ever created.

In the Islam tradition, Davies (1982: 133) states that literal representation of human figures is strictly forbidden as it is seen as a form of idolizing and worshipping that which is not God. This has resulted in all Islamic art being characterized by calligraphic



**Figure 2.6**

Sehzade Mosque, (Davies, 1982: 134)

representations and patterns. Figure 2.6 shows how beautiful patterns are used by Islamic artists to create motifs that may inspire a Muslim's thoughts to thoughts of the beauty of creation, whilst not distracting them from the central element which should be Allah. In all religious or spiritual architecture there is some artistic application to the aesthetic of the building, as well as the use of light in a special way, and in most instances the use of

water; water whether it is as an architectural element in the form of a water feature, moat or pond or as an element in the ritual practice of the religion.

In understanding how geometry is intricately linked to sacred space, the following statement by Lawlor (1982: 10) can be considered where he says that "geometry deals

with pure form, and philosophical geometry re-enacts the unfolding of each form out of the preceding one.” He goes on to say that the creation of the world can be mapped out by geometry, starting with the first action. Geometry then can be seen as the final order of a process manifested in a material form. Simmins (2008: 53) distinguishes between two types of geometric ideologies, one being applied and the other being theoretical. Applied geometry is the practical application of geometric rules to design, and has little theoretical underpinning. However theoretical geometry has a deeper meaning that may not be immediately accessible. It is through theoretical geometry that sacred architecture can be enhanced. Sacred geometry in particular is geometry that is imbued with deeper meaning. Simmins (2008: 54) explains how certain “geometrical relationships transcend practicality” and these relationships can be used to please the “mind as well as the senses with their properties.”

In many ways, sacred geometry can be seen as a metaphor of universal order (Lawlor, 1982: 16). Symbolically, Lawlor (1982: 16) says that the circular mandala or circular sacred diagram is a familiar image throughout religions of the world. The circle is usually divided into four parts that are interrelated and can be seen as metaphors of the four directions, four elements, the four seasons or divided up further into the twelve signs of the zodiac. These are just some of the ideas that can be expressed through the use of a mandala, but Lawlor (1982: 16) goes on to say that it is most consistently used to express the notion of cosmos, that all reality is organized as a unified whole. In light of the use of a circular diagram in sacred symbolism one can analysis Papanek’s (1995: 91) writing, which supports Bender’s (2006: 6) notion that sacred space is an energetic phenomenon, saying that this energy is affected by the shape of a space as every structure has a unique resonance arising from its proportions, and thus serves as a template for dynamic energy depending on its particular shape. Papanek (1995: 91) goes on to say that energy flows in spirals and circles; therefore in a rectangular shape it tends to “pool in certain areas”, but in round shapes it tends to create a “spiraling vortex of rising and falling energy”. These ideas can be applied to the design of architectural space to manipulate how the space is interpreted and add mystery and intrigue to these spaces, in essence giving them meaning. The particular details of sacred geometry in art and architecture have not been

discussed or illustrated here in any details, but an understanding of the principle behind the use of theoretical geometry is important when designing in order to add meaning to space.

One of the most important parts of an architectural design is the treatment of the landscape and context surrounding it. Within the landscape the four elements discussed above can be applied and used and the landscape itself can become a form of expression of the spiritual characteristics associated with a sacred space. Robinson and Markert (1979) put forth this question: What is the advantage of attending a temple or a church away from a crowded city? They answer by saying simply that it is the view, the integration into the landscape, the experience of natural life and of the quiet and tranquility of spaces beyond the hustle and bustle of the city. Landscaping is an integral part of the design of sacred architecture, as it can be used to enhance the spiritual experience. Landscaping can even be done within the city, and treated in such a way to provide a 'sanctuary' from the noise outside. As discussed earlier, water can be incorporated into the design of sacred space as a symbol of purity, of life, of the divine and the serene. So too can light, and so too can the landscape. The natural ground and vegetation is all part and parcel of life as created by the divine being of each and every religion. In it the essence of spirituality can be experience, and if done well, greatly enhanced. Probably more so than any other religion, in Islam, the courtyard is of extreme importance, both in the residential building and in the design of Mosques and Madrassas. Ragette (2003: 59) states that the "courtyard is the nucleus of Arab planning." Culturally, the courtyard to the Arab is much more than just a device for obtaining privacy and protection (Al-Masri 1978: 31). Al-Masri goes on to say that for the Arab, the courtyard is part of a microcosm that parallels the order of the universe itself. In this symbolic pattern, the four sides represent the four columns that carry the dome of the sky. It is imperative to understand the importance of the courtyard in this culture as a development that came about as an environmental response, coupled with a strong symbolic meaning that make it an indispensable part of the design of any house or building. The significance of the courtyard and the spiritual experience does not need to be limited to the Islamic tradition though, and can be used to enhance the experience of any religious building.

Zami (2004: 79) states that “reading, recitation, prayer, meditation and relaxation are part of the activities in the open-air courtyard in Islamic Architecture.”

Symbolic content in religious architecture has been an important part of it throughout history. The fact that sacred architecture has to it an added dimension of spirituality has to be acknowledged. This dimension necessitates the need for expression through the architectural environment that lends itself to interpretation. It is through interpretation that sacred architecture is experienced. Interpretation is enhanced by symbolism and ritual that is created by the treatment of certain architectural elements, the application of art to architecture and with design that pays attention to context, landscape and nature.

## CONCLUSION

Religious dimensions in sacred space are reflected in each and every aspect in the design of religious buildings. The idea that sacred places are like “doorways” (Carr-Gomm, 2008: 6) that transcend the banality of this world and give a sense of the heavenly and divine. Sacred architecture must enhance the spiritual experience of a person within the space, otherwise its function is lost and it is no longer sacred. The idea of sacred is contained in the experience rather than just in the physical properties as well. Symbols and rituals are the elements that enhance this experience, but experience can only be had if there is an active participant. Hayden (1995: 10) talks about experience as memory, yet it is only through the people that memory is maintained. The elements specific to each religion make up the core of how people experience their particular space. The elements, such as light and water that are common to all religious architecture are the ones that make up the core of exactly what people experience, which is generally considered to be divine beauty, sacred tranquility and spiritual energy. Once this enhancement of experienced is achieved, it opens the pathways for religious pilgrimage and exploration, which lends itself to greater religious tourism. The forth coming chapter deals with the more utilitarian nature of sacred space and the requirements for buildings of religious nature.

## **CHAPTER THREE**

### **ARCHITECTURAL IMPLICATIONS OF SACRED SPACE**

## INTRODUCTION

This chapter deals specifically with the requirements of space that go into religious places of worship. All building typologies have certain requirements that need to be met by architecture. For example a house needs certain elements that an office may not, and an industrial building requires a different treatment to a sports facility. In the same way, sacred space has requirements of its own. These requirements are governed by certain factors that, as in the previous chapter, aid and enhance the spiritual experience of the people using the space. The major elements that affect the design of spiritual space are: the need for ritual, which are concrete patterns that religious groups follow to express their belief (Lugira, 1999: 70); the function of worship and the spaces around the worship space that are ancillary, such as administration, waiting, information, ablution, catering, accommodation and outdoor space; the psychological and physiological impact music, noise and colour have on the people within a space and the appropriate design response.

## SPATIAL REQUIREMENTS AND RELATIONSHIPS

Ritual is an inseparable element from intense religious practice. Even if a denomination or religion claims to be non-ritual based, the act of going to worship habitually becomes a ritual in itself. According to Jones (2000: 60) ritual is an event and ceremony driven exercise, used to structure and enhance the spiritual experience. Lugira (1999: 70) states that “rituals are the concrete expression of belief.” Ritual is strongly based in tradition, and is used to carry forth traditions from the past. The architectural implications of ritual relate to the structure it requires. Ritual is pattern driven, and people experiencing it have the choice to conform to it or not to conform to it. Jones argues that the exploration of that conformity or non-conformity raises two important questions as she says:

*“The first concerns the history and tradition in the experience of architecture, which in a sense legislates or moderates the superabundance of architecture. The second concerns the transformative, potentially coercive, power of ritual-*

*architectural events, which enables such occasions to facilitate changes that are profound though not always pleasant.” (Jones, 2000: 60)*

The ritual nature of the spiritual experience governs to a certain extent that which belongs in the sacred space. In a church for example, the use of central processional axis is common, and a sanctuary at one end, around which the seating is organized. The tradition of many Christian churches is to have a ritual of procession in and out of the spiritual experience, and this ritual influences the planning and the form. In Islam, there is a ritual separation of men and women, of washing feet and removing shoes before entering the sacred space, of facing Mecca and worshipping on one's knees. These all affect the design of the space, as provision needs to be made for ancillary spaces for the removal of shoes, of spaces for women, and spaces for men. In all religions, rituals are closely tied with community celebrations and festivals (Lugira, 1999: 70). Refer to appendix E for calendars of celebrations in each religion.



**Figure 3.1**

Hagia Sophia, (Alexander, 2001: 103)

Ching (1996: 338) argues that the manner in which the functional or symbolic differences among a building's elements are revealed is critical to the establishment of a visible, hierarchical order among its forms and spaces. It is in the ritual needs of the spiritual experience that order among the forms and spaces needs to be created, and is achieved.

Davies (1982: viii) argues that the central function of a religious space is worship. It is worship and its spatial requirements that define the planning principles of a space. Alexander (2001: 380) talks about how planning can become a “living structure” and a “highly complex system of centres,

like those in nature, which support each other, and where each part, in itself, is alive.” The idea of centres is one that he has supported and argues for, and applies to the planning and design of religious space. Centres help to focus and give order to the space. This is necessary for worship spaces and the very essence of worship is to focus the

thoughts on the divine. This is done through the planning principles, by dividing the space up into areas of elements of worship. For example, in a church, the people may sit on pews on either side of a central aisle that is on axis with a sanctuary and altar, where the peoples attention is meant to focus during worship. The sanctuary is given a central, important position in order to create legibility and clarity. As discussed before, the use of light and water can help emphasize the legibility of centres. The Hagia Sophia (Figure 3.1) is an example of how light is used to enhance the worship space, as Alexander (2001: 103) states “the sunbeams are essential centres in the wholeness.”

According to Robinson and Markert (1979) today’s religious buildings are used more than one day per week, more than just on the ritual occasion. The designer of these places should therefore be aware of the day-to-day needs of the community. Indeed, in Islamic culture, the mosques and madrassas were not only places of worship, but places where people went to learn and to work; because of this, the spatial requirements go beyond simply being a space for worship to a space where everyday activities take place such as administrative work, classes, learning, eating and sleeping. Zami (2004: 82) argues that that is why madrassas always have accommodation facilities where students reside and learn. A retreat centre especially may need to be more than just a religious building, as it will have to provide place for people to live. Living means eating, sleeping and moving about. These ancillary spaces must not detract from the spiritual experience of the main worship space, and if well designed, should enhance the experience and be integrated into the central function of worship.

It is important to note at this point the different customs and rules regarding the preparation of food in each religion. Christianity being the most lenient has very few rules, except that a person should respect their body and eat healthy. On certain festivals, such as Good Friday, only fish is eaten and it is common practice to fast on each Friday during lent (Beaver, 1982: 366). Judaism and Islam share very similar rules regarding preparation and eating. In Judaism, food must be made “Kosher”. Kosher meat is meat that is especially prepared by a *shochet* (Beaver, 1982: 304). A *shochet* is a trained and ordained person entitled to slaughter animals for eating. The method for slaughtering



should be pain free, clean and the meat must be soaked and salted to remove all blood. Meat and dairy must never be eaten together, and the utensils used in the preparation of each must not be mixed. Similarly, meat that is forbidden (such as pork and shellfish), must not even touch the cutlery used in the preparation of meat that is allowed. In Islam, Regenstein, Chaudry, and Regenstein (2003) state that Halal laws are made for health reasons. Allah has made all things available for people to consume except those things that may cause harm to people. The laws are very similar to Kosher laws as they are based on the same Old Testament scripture. In both instances, cleanliness is of utmost importance; dirty utensils should not be used in the preparation of food and utensils that have touched non-Halal food must not be used. In the Hindu religion, the laws are not as strict as in Judaism or Islam, but many Hindu's will follow a vegetarian lifestyle, or eat all meats except beef. Beaver (1982: 182) says this is because the cow is seen as the living symbol of the Mother of Earth. Beaver goes on to say that "although some Hindus eat meat, the majority are vegetarian, for reverence for the cow is also a symbol of reverence for all animals."

When talking about ancillary space, it is important to consider the need for outdoor space. As discussed earlier, courtyards are outdoor spaces that can be a holy place for study and prayer (Zami, 2004: 82). The outdoor space brings the active participant in worship closer to creation, to nature, which is at the very heart of the spiritual experience. The outdoor space may be a courtyard, or a square on access with the facility, or a garden, landscaped to be tranquil and express the qualities required for deep meditation. It is outside that water can be experience, either as a bubbling fountain, expressing life and abundance of energy, or as a still lake, or as a river where there may be a ritual and habitual washing of feet and body. Many great religious rituals were first performed outside; baptism for example was first done in rivers. Sermons were given from mountains and hills; spiritual journeys were experienced in the desert; all these can become symbolically represented in the sacred space, as the traditions and activities of the past bear so much importance on the spiritual experience today.

Sacred space is defined and created by the activities and events that take place within it. These activities and events are focused on the supernatural, spiritual and divine and expressed through ritual and symbolism. With any building, there are secondary functions that need to be catered for along with the primary function. The primary function of a religious building will be worship or meditation; along with this there may need to be provision for people to stay, to gather as a community for functions, to learn and to teach and to experience nature as part of a divine creation. The rules about food should also be remembered if there are to be provisions for catering, especially if there are going to be inter-religious activities, as the requirements for each may upset the requirements of another.

## MUSIC, SOUND AND NOISE

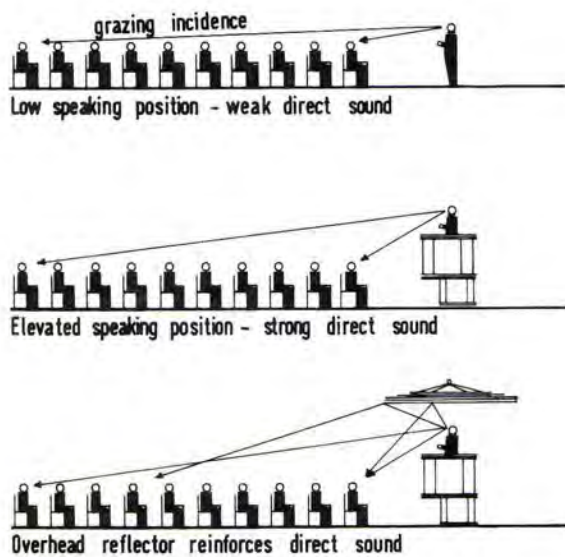
The requirements for a sacred space go beyond just the spatial requirements. In many ways a sacred space can be drawn parallel to an auditorium or concert space, when the acoustics have to be very good especially if there is music and preaching. At the same time however, these spaces may be required to exude a certain amount of silence, to enhance the meditation experience. It is therefore necessary to account for the architectural implications of the acoustics required for such a space.

Music and preaching have always been a part of religious architecture. Whether it is in songs of praise, or the call of the mosque, or the sermon and reading given from the pulpit, the consideration of these is essential to the design of sacred architecture (Allen, 1981: i). Allen argues that the most frequent acoustic problems in places of worship are: Inadequate hearing from the usual speaking position; relations between the organ, organist and choir; depressing conditions for congregational singing; poor conditions for concert use. These problems can be addressed using the following means.

According to Allen (1981: 1) directionality is one of the means in which acoustics can be improved in a sacred space. The positioning of the main speaker and source of music so

that the direction of their noise travels to the congregation most directly. This also involves the people being able to see the speaker, as being able to see them improves audibility. By using sound boards, Allen (1981: 2), states that the directionality of the sound can be greatly controlled and improved. Allen (1981: 2) talks about how reverberation can be one of the major problems in reducing hearing quality, but if the space is carefully designed, the people themselves can be used to absorb reverberation.

With the advent of the technological age, the use of amplification has become prevalent, but has to be done carefully in the design of spaces work properly. Some communities still prefer a natural sound rather than an amplified sound and the best way to achieve good directionality is explained in diagram 3.1.



**Diagram 3.1**

Speaking Positions, (Allen, 1981: 15)

By raising the pulpit and introducing sound boards, the increase in the number of directions the sound can travel can clearly be seen, so that the maximum amount of sound can reach every member in the audience (Allen, 1981: 14). A note on the placement of the choir: According to Allen (1981: 9) the choir may find it more difficult to sing where it is open, rather than in a partly enclosed space such as a chancel or choir loft or where they are backed by choir stalls set not far apart. This will make the choir sound more full and whole.

The careful treatment of acoustics is essential to maintaining the spiritual experience of the active participant in the space; if the acoustic are very bad it can be distracting and upset the process of worship, which is to uplift the mind and inspire closeness to the Divine Reality.

Grueneisen (2003: 01: 008) quotes directly from Steen Eiler Rasmussen:

*“Can architecture be heard? Most people would probably say that as architecture does not produce sound, it cannot be heard. But neither does architecture radiate light and yet it can be seen. We see the light it reflects and thereby gain an impression of form and material. In the same way we heard the sounds it reflects and they, too, give us an impression of form and material. Differently shaped rooms and different materials radiate differently.”*

Sacred space has a certain characteristic; it has a silence about it that may not be a literal silence, but rather a tranquil silence. There still may be the soft trickle of a water fountain, or the chirping of the bird outside penetrating into the spiritual space; but these can aid the experience rather than detract from it. The quote above explains that as architecture can reflect light, and light can enhance the spiritual experience, so it can reflect sound, and sound can have the same effect. But if it is designed badly, with the wrong materials, the way in which it reflects sound may detract from the spiritual experience. If a room was left entirely white, with mirrors on the walls, and light was left to pour into it, the experience would be daunting and unpleasant. But the careful contrast of light on shadow, on materials that absorb and reflect can make the experience awe-inspiring and uplifting. The same with sound: if there is too much use of materials which reflect, which do not insulate; if the forms are such that the sound bounces everywhere, that all the noises of the world are heard within, the experience will be lost. But if there is careful juxtaposition of elements so that the sound from outside is almost all absorbed, so that some sounds are reflected, some are absorbed, and some are not apparent at all, then the experience can become uplifting and pleasant. Grueneisen (2004: 1: 10) argues that parallels between buildings and sound have been known and studied for centuries where “intersecting elements and common threads can be found in the conceptual and theoretical realm.” Both arts borrow elements from each other, and both arts support and enhance the other.

Sound and noise are always around, even in the most 'silent' space, silence can seem noisier than no silence. As the saying goes; silence is deafening. To create architecture when sound and noise can be used to enhance the spiritual experience can be a daunting task, however it is integral and a very important aspect. Whether it be through the design of good acoustics or treatment in such a way that a space feels peaceful, the importance the implication of sound cannot be underestimated.

## COLOUR AND SACRED SPACE

*"A fundamental truth: man needs colour. Colour is immediate, spontaneous expression of life... it takes possession of the entire wall and gives it the power of blood, or the freshness of the prairie, or the brilliance of the sun..."*

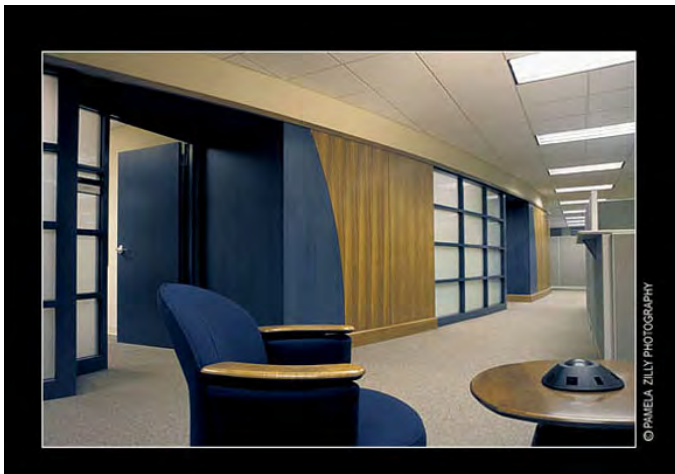
(Le Corbusier, 1937)

From this quote the fascination with the effect colour can have on human mood and perception by architects and designers can be seen. Frean and Calderwood (1957: 3) argue that colour has effects on human psychology and physiology. These effects can be understood by understanding the significant association of each colour with a specific mood as set out by Wright (2007: 2).

Wright (2007) argues that red is lively, stimulating and friendly but can also be seen as aggressive. Blue is serene and often associated with the intellectual side of life, being calming and passive, however it can also be seen as cold and unfriendly. Yellow is the optimistic colour, and can lift the spirit, but used in the wrong combination can appear dull and increase anxiety. Green is the easiest colour to see, and is associated with life and restfulness, however, used badly and it can be perceived as boring and dull. Violet is often associated with the spiritual, inducing introspection and introversion, suitable for meditation; it can however, if used too much, come across as cheap and easy, and promote too much introversion and relate to "selfishness". Orange has been related to physical comfort and warmth, but used too brightly may come across as childish and

frivolous. Pink is a colour that can represent physical tranquility, femininity, love and sexuality; if overused it can be draining to look at and painful. Grey is the most psychologically neutral colour, and can be used to offset brighter colour, yet, grey in abundance can cause people to instinctively draw inwards and want to “hibernate”. This is why on cold, rainy days it is often very comfortable to sit indoors under blankets and drink hot drinks. Black is the “smart” colour and can be used to create sharpness and a look of sophistication. Against black all the other colours look their brightest. Used too much and it can be heavy and over powering. White is the colour of light; it is clean, pure and sharp, and without it there could be no other colours. Darker, cool colours look best with white, while bright, warm colours can look dull against it. Brown is the colour of earth, and gives a sense of warmth and nature. It will often be used in interior decoration of houses to promote a homely, warm feel. But too much of it can look dull and unsophisticated.

By understanding these principles, the ideas can be applied to sacred space to enhance the spiritual experience. The effect of colour psychology and combination of colours is best shown in real life settings:



**Figure 3.2**

Office Interior (Zilly, 2009)

In figure 3.2 the use of blue, brown and white can be seen to create a cool, calm environment. There is a sophisticated feel to the office, while the brown adds a touch of warmth. The blue looks corporate and intellectually stimulating. Although this scheme works well, there is a sense that it is too sterile, too cold.

Figure 3.3 is the interior of a restaurant. Weger (2005: 1) argues that “restaurants often use red to stimulate appetite”. Red grabs people’s attention and is often used in social



**Figure 3.3**

Restaurant Interior (Restaurant 23: 2009)

whilst not losing a sense of style and sophistication. It can be assumed by the decoration and colour use that this is not a cheap restaurant.

space to accent areas and liven up activity. Weger does caution however that entirely red rooms can make people feel anxious. This restaurant interior illustrates the use of red for the seats and to draw attention to a feature wall with artwork on it. The subtle use of brown to add warmth is a delicate touch. The dark red and dark wood furniture features are offset by the white walls. This space gives the impression of friendly and welcoming,



**Figure 3.4**

Timber Lounge (Precision Craft: 2009)

Figure 3.4 is the interior of a house that demonstrates the use of natural material to determine the colour scheme. The extensive use of brown is not overdone, makes the space feel homely and inviting. The idea of sitting around a warm fire in total comfort is not hard to imagine in this space. The dark brown of the leather couches is offset against the lighter shades of brown and

gray throughout the room, drawing attention to them whilst not overpowering.



**Figure 3.5**

Church Interior (Richardson, 2004: 68)

Figure 3.5 is an example of a sacred space, given a special colour treatment. The cool blue floor has a calming effect, not drawing much attention to itself and providing contrast with the warmth of the brown above the sanctuary. The warmth of the brown enhances the experience of the light in the space. As discussed earlier, light is best experienced when enhanced by shadow. The blue of the floor provides a darkness which offsets the light about the altar.

The psychology of colour and how it can affect space can be seen in the examples above. Although three of them are not sacred as such, they do illustrate important lessons, that colour has affects on the human psyche, in which the spiritual experience is felt. It is therefore only sensible that the designer pay careful attention to the combination of colours in their design, as these can have a serious and far reaching affect on the participants within the worship space.

## CONCLUSION

It is impossible to separate architecture entirely from function and utilitarian need but as Richardson (2004: 114) states, because sacred architecture has mystical and divine value, it is possible to relax the stringent application of practicality to design. Acknowledgment of practical elements is a necessity however, yet these spaces can be incorporated into the overall feel of the sacred tranquility and dimension discussed throughout this paper. The ritual need of religion is broad, from annuals ritual festivals to daily practices; these rituals are what help define boundaries for design. The design of sacred space is not a blank canvas, but a tricky and challenging task, trying to create something out of the ordinary that at times often demands very ordinary restrictions, such as good acoustic design, colour psychology or challenging and exciting structure. In the coming chapter, three precedents of design are used to illustrate how architects have dealt with the challenges of creating sacred place, but with the added challenge of creating spaces of religious diversity and inter-action.



## **CHAPTER FOUR**

### **SACRED ARCHITECTURE THAT MEDIATES INTERFAITH DIALOGUE**

## INTRODUCTION

In this section, three precedents of sacred architecture are given and the principles governing each are analyzed. All three are similar in that they address the added issue of religious plurality through combining the similarities of sacred spaces, symbols and rituals between religions and creating a working, homogenous design. The idea of creating unity through diversity is the driving force behind the following designs and in the words of Pareck (2005: 17) “given good will on all sides” these places “can become sources of great richness and vitality”. In each case, privacy for the individual and respect for each person’s individual beliefs is given while still encouraging but not forcing a sense of community.

## NON-DENOMINATIONAL SPACE: A PRACTICAL EXAMPLE

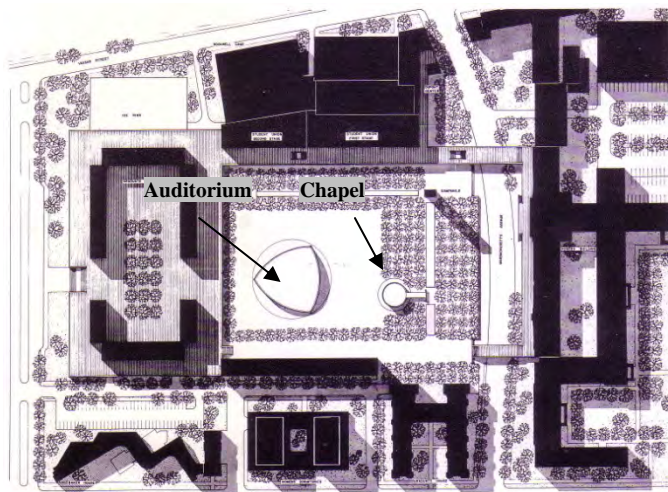
The Chapel at the Massachusetts Institute of Technology is an example of a non-denominational religious building by noted architect, Eero Saarinen (Temko, 1962: 29). The Chapel was designed along with an Auditorium for the M.I.T. campus; it was given to Saarinen as an opportunity to create a major public space at M.I.T. (Temko, 1962: 28) however, Temko (1962: 28) goes on to say that the result was a “partial architectural success and failure of civic design.” Saarinen (1962: 36) explains the apparent failure in terms of creating a public space by saying that the buildings were possibly too introverted and “egotistical”. The introversion of the Chapel however can be seen as a concept of creating a space that is sacred in that it helps those inside to focus inward on prayer and meditation. The following section looks at the elements that have gone into designing this Chapel and how they relate to the topic.

Saarinen (1962: 36) states about his own work that since this example is uniquely non-denominational it was essential in the design to make an environment which was not derived from any particular religion, but from fundamental spiritual feelings. These fundamental spiritual feelings are the qualities of sacred space that this thesis sets out to investigate, so this precedent is appropriate. Being non-denominational, it also illustrates

how the qualities of sacred space can be put to use without being favourable to any particular religious group. Although this is true to a certain extent in this example, the inclusion of an altar could be a point of contention for some religious groups, although for most, an altar is a typical part of their religious architecture.

The chapel was designed as a joint project with the auditorium; located in the centre of the busy city campus of M.I.T. Saarinen (1962: 34) relates how he found that the site was surrounded by a ‘man-made’ nature of buildings about six stories high that were, in essence, boxes with holes punctures in them all around. One of the challenges of the design was deciding how these two new buildings should relate to their surroundings (Saarinen, 1962: 34). The final decision was to create a contrast because:

*“...a box-like structure in these surroundings, differing from the adjacent dormitories and apartment buildings only by the absence of windows, would be an undistinguished anticlimax.”* (Saarinen 1962: 34)



**Figure 4.1**

M.I.T Chapel and Auditorium Site Plan, (Temko, 1962)

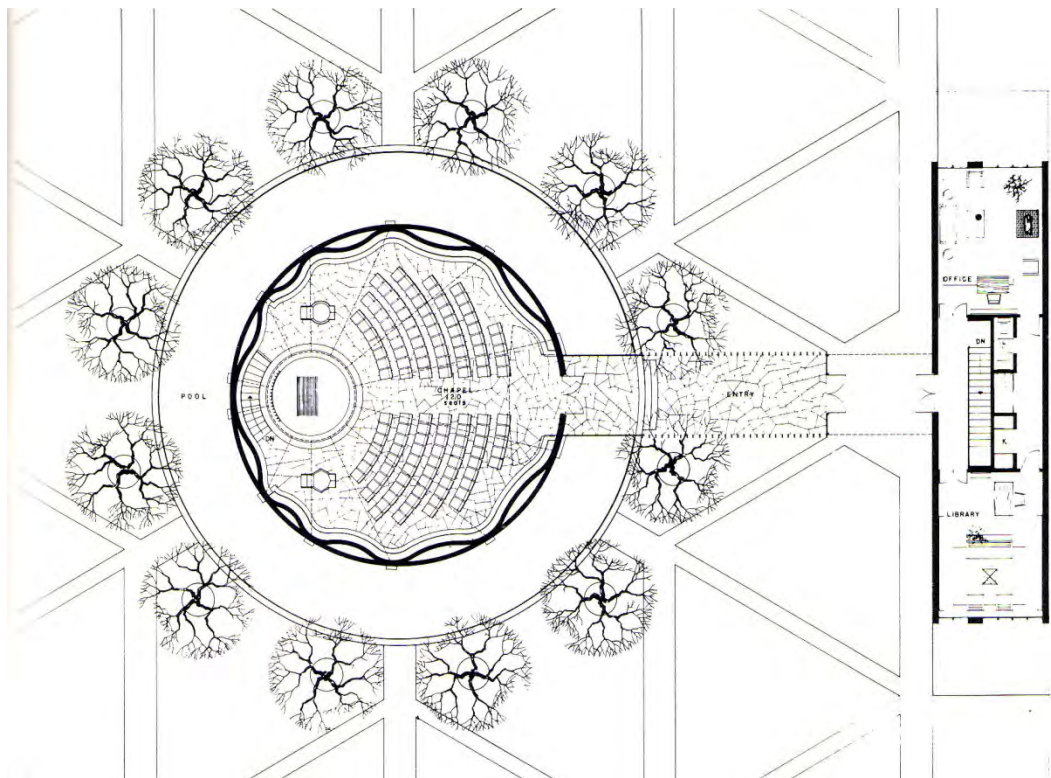
Temko (1962: 28) argues that because the architect went through so much trouble to make the buildings different, the buildings themselves did not sit in harmony with each other. The very shapes of the buildings seem to oppose rather than compliment as can be seen in figure 4.1. Saarinen's

(1962: 36) words reflect his feeling towards the success and

failure of the design where he states that the shapes of the buildings are closed and they contribute nothing toward creating unity within a space that needs it so badly. He says that from the start, it was conceived that these buildings and their site would form a great square, but working out how this was to be achieved was neglected. A notable feature

about the site as well is the landscaping around it and how the trees have been used as a barrier between the main campus and these two buildings. Saarinen (1962: 34) states that the idea for the chapel was to create a space where one could feel completely removed from the world outside, and the landscaping and positioning of the buildings on the site has been done in such a way to enhance that feeling.

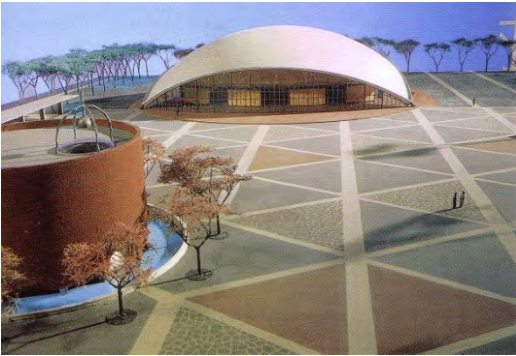
Saarinen (1962: 36) explains that after exploring many shapes for the chapel in the site plan, the “round cylindrical form seemed right”. He goes on to say that in plan, this shape also seemed the best as it was basically a chapel with the function of being a simple space, where a person could come and pray and be in intimate contact with the altar. At the west-end the entrance lobby or narthex can be seen in figure 4.2. This seems a bit counter-intuitive as it’s almost expected that the chapel should open onto the square as seen in figure 4.1, however, it has no relationship to it and almost turns its back on it. This can be seen as a deliberate ploy to enhance the effect of feeling removed from the outside world. The interior wall is curved; Saarinen (1962: 36) states that this is both for acoustic reasons and to create a lack of sharp definition in order to “increase the sense of



**Figure 4.2**

Chapel Plan, (Temko, 1962)

turning inwards.” A moat of water can be seen around the main chapel building, as well as some trees and an interesting layout of paths. A comparison between an original model and the actual aerial view is interesting in noting how much of the exterior layout was achieved. The paths and landscaping in the model are much more formalized and the trees carefully placed around it.



**Figure 4.4**

M.I.T Model, (De Long & Ford, 2008: 136)



**Figure 4.3**

M.I.T Aerial View, (De Long & Ford, 2008: 136)

In the actual setting, the paths are less formal and the trees aren't carefully placed to follow the shape of the building. It is also possible to see the extent to which the buildings seem to turn their back on each other. The narthex is connected to the chapel with an entry passage. Saarinen (1962: 36) feels that the connection between the narthex and the chapel is clumsy; however he states that he is happy with the interior of the building, claiming that he has managed to create a place where an individual can contemplate things larger than himself.

One of the most striking features of the M.I.T. Chapel is the interior light-well which can be seen in figure 4.5.

*“A dark interior seemed right – an interior completely separated from the outside world (to which the narthex passage would serve as a sort of decompression chamber).” (Saarinen, 1962: 36)*

The effect is enhanced by a shimmering screen of mirrors created by Harry Bertoia that hangs under a translucent dome above the altar (Temko, 1962: 29).



**Figure 4.5**

M.I.T Chapel Interior, (Saarinen, 1962: 37)

Water is a symbol of purity and life, light a symbol of the super-natural and divine spirit.

Saarinen (1962: 34) reflects that on his travels he'd seen at a mountain village a "bright moonlight overhead and a soft, hushed secondary light around the horizon". He goes on to say that that sort of bilateral lighting seemed best to achieve an 'other-worldly' or spiritual sensation. In order to achieve a similar effect, Saarinen has used an internal light well and mirror screen above the altar, along with light being reflected up from the moat through arches that take their form in the curves of the wall. Figure 4.6 and 4.7 illustrate how this is achieved and their effect. As discussed earlier in this thesis, the importance of light and water to religion cannot be over-stated.



**Figure 4.7**

Moat and Arches, (De Long & Ford, 2008: 151)

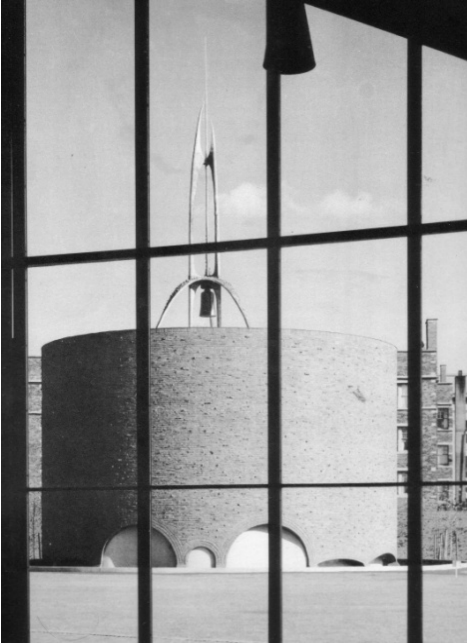


**Figure 4.6**

Reflected Light, (De Long & Ford, 2008: 152)



It is common in many religions to have some form or way of calling people to a particular place of worship. Churches and Temples often have bell towers and Mosques have Minarets. The chapel at M.I.T. is no exception with the inclusion of a bell tower seen in figure 4.8. The tower does not represent a form particular to any religion but takes



**Figure 4.8**

Chapel Bell Tower, (Saarinen, 1962: 39)

on a rather abstract quality. Saarinen (1962: 36) argues that a spire such as this is really halfway between architecture and sculpture and that it is therefore necessary for the architect to determine the right scale and proportion of such an element. The sculptor should be sympathetic to the architectural problem and Theodore Roszak (the sculptor) has achieved that by bringing to the spire a special sensitivity. Temko (1962: 29) argues that the chapel itself is sculpture; that it's pure, cylindrical form and hierarchical nature and introversion are qualities that almost automatically preclude its function from anything that is not spiritually based. Along with the chapel and bell

tower, the entrance foyer includes an office and a library. It is interesting to note that throughout history religious buildings have been attached to some form of educational facility. Here is no exception, being on a university campus and having its own resource of information in the form of a small library.

The M.I.T. Chapel is an excellent example of how elements associated with the sacred spaces of different religions have been combined sensitively into a non-denominational facility. The idea of turning inwards and creating an introverted space to enhance the atmosphere commonly associated with meditation and prayer provides a good precedent for similar projects. The use of natural lighting to enhance the mood of the space as well as the water in the surrounding moat, the landscaping and general tranquility of the site all lend towards creating an environment which is conducive to spiritual activity.

## ARCHITECTURE AS AN EXPRESSION OF RELIGIOUS PLURALITY

The two buildings discussed in the following section are different to the M.I.T chapel as they are considered multi-denominational facilities rather than non-denominational ones. Richardson (2004: 114) states that it is a different act to produce a multi-denominational space to a non-denominational one; that is, to recognize specific religions and give prominence or space to their iconography, tradition and sacred texts all in one designated site. Creating an environment where various religions and belief systems can operate can be a daunting task, but in today's world, the idea of religious pluralism, which is interaction between faiths and dialogue, is an integral part of society (Kellenberger, 1993). The concept of having one facility for a multitude of faiths is not new and has been achieved by architects such as Bernard Desmoulin and KierenTimberlake Architects.

Desmoulin's work is the meditation centre and cemetery in France, which is a multi-denominational facility. The brief was to create a space that accommodated the needs of family and friends of the Muslim, Christian, Jewish, and Buddhist soldiers who died there.

KierenTimberlake were the architects entrusted with the design of the multifaith centre at Wellesley College in USA. Kazanjian and Kieren (2009) explain that the site is a protestant chapel that went into disrepair, the basement of which was being used more and more for the celebration of different faiths as well as becoming the heart of a program run by the college on interfaith dialogue called Beyond Tolerance. The brief was to restore the existing chapel and create a full-fledged interfaith centre in the basement below it. In comparison to the meditation centre in France, which is a centre where people of faiths go about their form of worship adjacent to one another but not really mixing, this is more about the inter-relation and interaction of faiths in one facility.

These two buildings are similar in the sense that they deal with inter-faith interaction through architectural design. Therefore they will be looked at comparatively, over-



viewing the different responses by each architect. There are differences and similarities in each response, yet neither is more correct than the other and both deal with the same single issue; that is how to create one building for different religions to act and interact simultaneously without being offensive or biased to any one particular faith.

An interesting aspect of each centre is how each responds to the particular context they are in. The meditation centre is located in a war memorial, used to serve those who come there as tourists or to visit lost relatives and friends (Richardson, 2004: 114). The chapel is located in the heart of Wellesley college campus. The interfaith centre is located in the



**Figure 4.9**

Meditation Centre, Frejus, France  
(Google Earth)



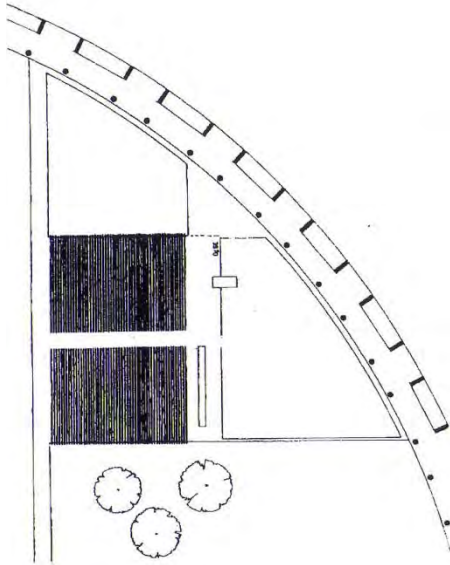
**Figure 4.10**

Houghton Chapel, Wellesley College  
(Google Earth)

basement of the chapel and responds to the diversity of students at the college in terms of religious affiliation as well as the existing interfaith program run at the college (Kazanjian and Kieren, 2009).

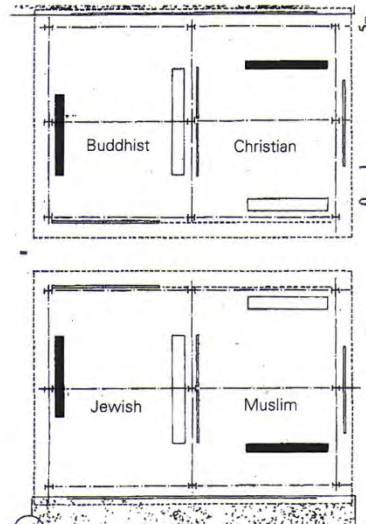
According to Richardson (2004: 114) the solution to the brief for the meditation centre in France was to construct four shelters, seen in figure 4.12, which provided defined space for contemplation but were open to the semi-wild landscape. Each shelter was home to

one of four religions. The walls seen in the plan are feature walls which house scripture from each of the particular faiths.



**Figure 4.12**

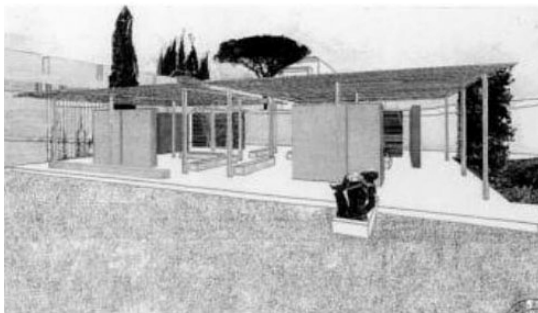
Meditation Centre Site Plan (Davey, 1997: 52)



**Figure 4.11**

Meditation Centre Plan (Davey, 1997: 52)

The design of the spaces is minimalistic, and the idea is to create a semi-outdoor feel. Richardson (2004: 114) states that in designing the space, Desmoulin felt that because of



**Figure 4.13**

3D Rendering (Richardson, 2004: 115)

“its metaphysical value, religious architecture frees itself from a strict adherence to utility to achieve a mystical and poetic dimension.” The rendering in figure 4.13 illustrates how the spaces are open, only partially blocked from the other, which lends itself to the architect’s concept, as stated by Davey (1997: 52) that people of different

religions should be able to contemplate and pray in privacy but also have a sense of community.

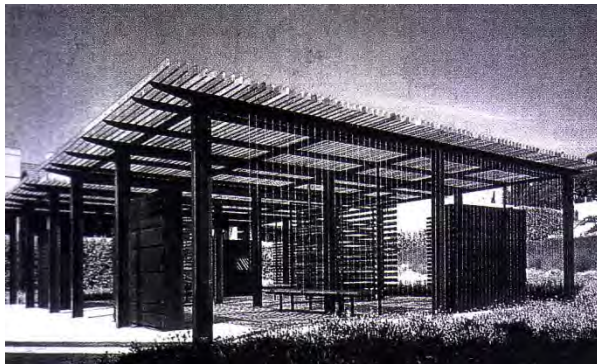
The image below was taken on an exceptionally sunny day that, in the words of Davey (1997: 54), cast shadows which give presence to the essence, time and memory as they slowly move during the course of the day. The idea was to create a space that emphasized



**Figure 4.14**

Perspective Photo (Richardson, 2004: 114)

The photo below shows how each space is minimal in the treatment of furnishings, each space having only a bench and feature wall, open to the elements and defined only



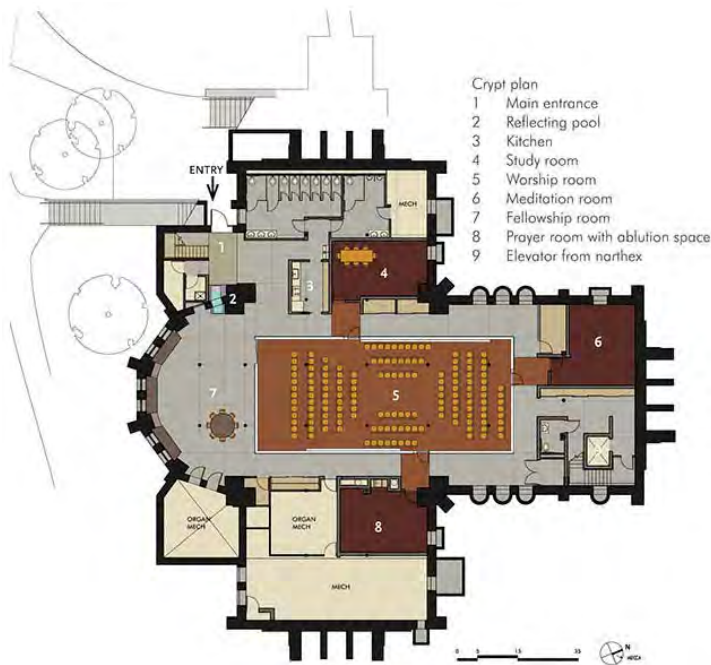
**Figure 4.15**

Perspective Photo (Davey, 1997: 54)

the arrangement of opposites in a space by interplay of shadow and light, open and closed, hard and soft, community and privacy. At the far end of this photo, the steel cased wall is seen that acts as a focus point in each quarter of the building. Each wall has an inset slab engraved with scripture from the particular religion. Richardson (2004: 114) states that this was done to replace the religious forms of the mihrab in Islam, the altar in Christianity and the ark and shrines found in Temples.

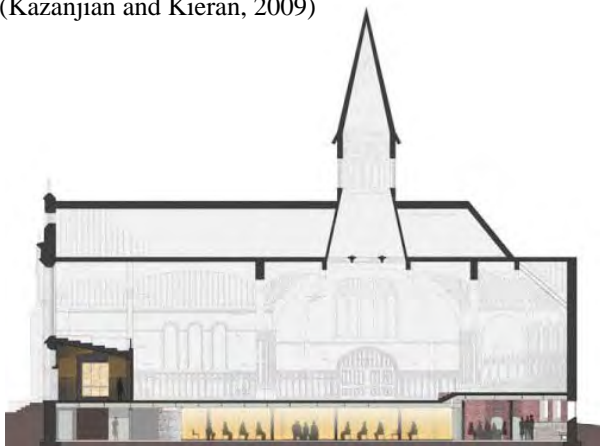
through screens and a pergola. Davey (1997: 54) argues that the steel framework gives the building an almost “Greek clarity and nobility” and says that the material itself expresses “war, destruction and endurance.” This ties in with the concept outlined in chapter one, that sacred architecture should express a fourth dimension and be imbued with meaning beyond itself.

Kazanjian and Kieran (2009) state that one of the major challenges in the design of the interfaith centre was the understanding and accommodating the spaces needed for the existing religious and spiritual life program. Previously the activities of the multifaith program, religion specific worship, community gathering, musical performances, lectures and rituals were all held within the existing chapel and basement, but these spaces were



**Figure 4.16**

Plan of Interfaith Centre Below Wellesley College Chapel  
 (Kazanjian and Kieran, 2009)



**Figure 4.17**

Section (KieranTimberlake, 2008: 3)

run down and inadequate. In response to the needs of the program, the layout was based around a central worship space, seen labeled 5 in the image left (KieranTimberlake, 2008: 7). Three more specific rooms dedicated to prayer, meditation and study are arranged around this space (see 4, 6, 8). KieranTimberlake (2008: 7) goes on to that the three rooms around the worship room are places necessary for the practice of the communities individual practices and beliefs but also for “encounter and dialogue with one another” within the multifaith centre.

A section through the chapel illustrates how the interfaith centre sits below the chapel, with the central worship room the main feature. The worship room is entered from the fellowship room (no. 7) which is an informal foyer for the students, staff and academics to gather as one community. To enter the



multifaith centre a person must go through the chapel first a down a flight of stairs into the main entrance where a person is greeted by a reflecting pool. The emphasis on tranquility, quality of light and the use of a water feature again ties back to the use of



**Figure 4.19**

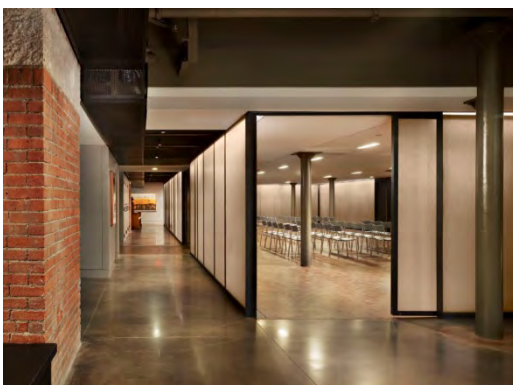
Entrance Stairs (KieranTimberlake, 2008: 4)



**Figure 4.18**

Reflection Pool (KieranTimberlake, 2008: 5)

light and water in the creation of religious architecture. The quality of the space is greatly enhanced by the use of natural materials such as stone, the warmth of face brick walls juxtaposed to the darker, cooler feel of the smooth concrete floor. To enhance the quality



**Figure 4.20**

Worship Room (KieranTimberlake, 2008: 8)

of light in the space, special translucent panels made of linen encased with resin were used as the walls for the worship room. This gave it an almost mystical glow when seen from the outside. It is through effects like these that the spiritual experience can be greatly enhanced.

The three spaces below are the fellowship room, meditation room and prayer room respectively. When viewed together like this,

it's possible to see the thematic use of materials and colour throughout the project. Like the meditation centre in France, there is a play on opposites to give a sense of balance and order; warm is juxtaposed to cool, hard to soft, light to dark.



**Figure 4.21**

Fellowship Room

(KieranTimberlake, 2008:8)



**Figure 4.23**

Meditation Room

(KieranTimberlake, 2008:8)



**Figure 4.22**

Prayer Room

(KieranTimberlake, 2008:8)

The activities that take place at the multifaith centre or as a result of it can be summed up in this quote:

*“Wellesley also offers programs on spirituality and education including wellness programs, pastoral counseling and spiritual direction, meditation, yoga, dance, and labyrinth walks to help students incorporate healthy practices into their lives and learning.” (Kazanjian and Kieran, 2009)*

In addition to this, KieranTimberlake has set out guiding principles in the following table:

EDUCATION	Make a place of spirituality that serves the educational mission of the college.
BEYOND TOLERANCE	Balance particularity and pluralism in a place where all feel welcomed, that no single group owns.
EQUITY OF VOICE	Inspire conversations that recognize each voice, yet acknowledge that tensions are where life happens.
DISCOVERY	Provoke and inspire people to grow to a new place.
INCLUSION	Provide opportunity and enough space to see, hear and experience other forms of expression.
CELEBRATION	Make a place of memory and education which is not specifically religious, but spiritual.

**Table 4.1**

Extract from KieranTimberlake (2008: 9)

The two buildings discussed here are similar in principle but are unique in the architectural response to the specific environments and requirements. Certain basic principles are shared; one being that people using multifaith facilities should be allowed

and encouraged to be individual in their faith, but also encouraged to share and interact with people of other faiths. In both instances this has been achieved by having central organizing elements. In the meditation centre, France, this was the circulation route that guided a person into the middle of the space from which they would possibly meet another of a different faith and then disperse to their separate religious space. In the multifaith centre at Wellesley, this is achieved with the use of a central organizing worship room that acts as a coordinating element for community that all the individual more private spaces are organized from. In both instances, the sense of community is emphasized by using semi-transparent boundaries.

## CONCLUSION

Inter-religious facilities provide a challenge to architects in the sense that they require the application of architectural elements that make a building feel spiritual, while being suitable for people from different religions and cultures. All three buildings here have a different response about how this is meant to be done, but a common principle can be seen throughout. That principle is the application of metaphysical symbols that are common to all religious architecture, such as light and water. The specific elements of each religion have been removed to create more general spaces that are suitable for prayer and meditation for anyone from any faith. In most religions, especially the four main stream religions detailed in this thesis, the concept of good will and tolerance towards all people is encouraged, and these inter-religious spaces support this attitude. In an interview with Paddy Meskin, president of the World Conference on Religion and Peace, SA chapter, she explains that inter-religious activity most often takes place when people come together for common cause. This is shown especially in the meditation centre at the cemetery in France, where people from different cultures can come to visit their relatives who died in war, sharing a common cause with the others. In the Houghton Chapel at Wellesley College, students come together to engage in activities that promote tolerance and understanding towards one another. It is important to understand the things that bring people together, as these can be used to encourage interaction between faiths.

## **CHAPTER FIVE**

### **A CASE STUDY OF RELIGIOUS BUILDINGS AROUND DURBAN**



## INTRODUCTION

The following chapter looks at the case of religious buildings in and around Durban. Four particular buildings have been selected, a Catholic Church, Mosque, Hindu Temple and Progressive Jewish Synagogue. These have been combined into a single 'case' and will be looked at as a comparative study, determining similarities and differences between the various religions. There are many different types of religious buildings and many different denominations, so this study is not definitive but rather aims to gain a broad understanding and overview of the elements that go into religious architecture and how they compare between different religious groups. There is a danger of generalization, however, this will be avoided and where necessary, other religious building examples will be pointed out to clarify a point. The priority is to determine whether some elements could be combined in an inter-religious facility and how these would be best combined. Included in this chapter is an overview of a questionnaire that was conducted on people in and around Durban. The questionnaire focuses on unearthing the elements that religious lay people feel go into making a spiritual space feel sacred. The questionnaire results in conjunction with the case study results are analyzed and discussed in the next chapter.

## QUESTIONNAIRE

The questionnaire has been designed to capture the feelings and opinions of a pool of people towards spiritual or sacred architecture and how it affects their experience. For a full set of questions, refer to appendix A, and for a full set of results, refer to the excel document on the attached CD-ROM. A number of questions were asked, however the ones that yielded interesting results and trends and have a definite relationship to the overall topic will be looked at in the following chapter.

Since the majority of people who use sacred places of worship are not specifically trained in religious practice, it only made sense to get an overview of their feelings towards architecture and their spiritual experience, as they are the ones who 'fill the pews.'

Chadwick (1995) states that in some forms of Christianity, the people are what make up the church, and not just the buildings. In a way, this concept applies to all religions, as they would not exist without the people who follow them.

While these results provide a good overview of people's opinions with regards to the topic, a possible discrepancy is that the majority of those that answered were Christian, and the majority of Christians were Catholic. With this in mind however, good conclusions and analysis can still be drawn out of these results. For example, people's feelings towards what makes a place feel sacred to them won't necessarily be different according to their religion but rather their own personal feelings. Another limitation is that the results would be more definitive if the survey could be done over an extended period of time with a much larger population, however for this study the population group is sufficient.

For a full overview of results, refer to Appendix A

## CASE STUDY

Sacred space and architecture is a phenomenon that belongs to every religious and spiritual group and it has been this way since the inception of human kind's history. The four religions that have been chosen are main stream religions, and some of the oldest. Many other denominations are derivatives of these four with the exception of some eastern religions such as Buddhism. The case study aims to provide examples that support the initial topic; that is unpicking the elements that mediate the spiritual experience of the people within them, compare them and determine their similarities and differences and come to a conclusion about if and how these elements could be best combined into an inter-religious facility.

The case study itself is conducted in and around Durban CBD, KwaZulu-Natal, South Africa. The building closest to the city centre is the Umgeni Road Hindu Complex. Temple David, a Reformed Jewish Synagogue is located along Ridge road which sits on

the Berea of Durban. The Mosque at 45<sup>th</sup> Cutting serves the Sherwood community, and Our Lady of Lourdes Catholic Church is in the heart of Westville, just 15 minutes drive from Durban CBD. All these building are on sites that are located in busy commercial areas, and it's interesting to note that each one has used a barrier of landscaping or offsetting the building on the site to give a removed feeling from the hustle and bustle outside. The map in Appendix D illustrates the proximity of these places of worship to each other. As was stated before, Durban is an interesting case in that religious groups and communities lives so closely and tolerate one another. Even these four buildings are further apart than would be the average distance between places of worship in Durban. Places of worship found in cities can often be seen as city 'sanctuaries' where people can go and escape the business and noise of the city without having to travel far.

As has already been stated, the case study will be of four religious buildings in and around Durban. Although this will not give a very in-depth view of the particular elements that go into each and every religious building, some of the results from this study can be generalized as being typical of all religious buildings for a specific religion. This will give a broad overview and understanding of essential elements, rather than a detailed analysis of elements that may be site specific, denomination specific, culturally specific or architecturally specific. As an example, roof designs of religious buildings of the same religion may be vastly different; however, these do not affect the essential qualities that belong in the architecture of that specific religion. The interview answers in table 9.2 (Appendix A) are limited in the sense that the interviews weren't conducted formally, but rather as conversations, so the answers are subject to interpretation. Also, as was the case with the Hindu Temple Complex, the priest's English was not very good, so the answers were not as detailed as the others.

The data was collected by visiting each building and making observations on prescribed criteria, see appendix A. It has been tabled in Appendix A, table 9.1 so that comparative analysis is simple and effective. Photos were taken where necessary and possible and will be shown to illustrate a certain point. Photos of the Hindu complex were prohibited so making a definitive comparative analysis of photos is not possible. A basic sketch

diagram of the planning arrangement of each building can be seen in appendix D. Table 9.2 (Appendix A) details the responses from interview with the religious leader from each case in point.

## CONCLUSION

By comparing these four religious building types in the format above, it's been possible to easily see the similarities and differences between them. These similarities and differences will be discussed in the next chapter in conjunction with the results from the questionnaire. An overview of the results show:

- All these religions have rituals and customs that have a direct impact on the requirements for sacred space.
- There is a definite similarity in terms of the logic behind the inclusion of certain elements in these buildings; however it's just been expressed in different ways.

It could be said from the questionnaire findings that religion is still relevant in today's society, given the 73% who said they still practice. On a deeper inspection into the results, it's also interesting to find the other 23% who said they do not believe in a particular religion or faith were in most cases still interested in learning about different religions and belief systems. A few of the questions were open ended so that people could express in their own words their feelings towards a particular question. Open ended questions were also used where a justification for a previous response would prove interesting. A basic overview of the results shows that people feel that:

- Architecture has an effect on their spiritual experience
- People are interested in learning about each other's beliefs
- Religion is still relevant and very much a part of today's issues in society.

In chapter six and seven, the results tabled in Appendix A in conjunction with the secondary literature are analyzed and discussed, with full recommendations and conclusion given in chapter seven.

## **CHAPTER SIX**

### **ANALYSIS AND DISCUSSION**

## INTRODUCTION

The following chapter analyses the results from all three methods of collecting data for the study. In certain instances, it will be necessary to refer back to the secondary literature to support a point. From the findings in the research, as well as the secondary literature, it will be possible to come up with a conclusion in terms of the original hypotheses and recommendation on how this conclusion should be best applied in a design project. The analysis will look at the results based on broad points related to the topic, and pull information that pertains to these points from the results in the questionnaire and case study sections.

In every instance of the case study, each building had a number of ancillary buildings attached to it. As stated before in the secondary literature, Robinson and Markert (1979) argue that today's religious buildings are used more than one day per week, more than just on the ritual occasion. In every case, the building complexes had halls for social activities and gathering that went beyond the traditional form of worship. Some form of accommodation for staff and visitors. Offices are a necessity and are seen in every instance. Possibly the most interesting is that in each case, the particular religious building had some form of library or resource centre. These facilities support the notion of religious buildings throughout history as being centres of learning and knowledge. While none of these spaces directly affect the main sacred space in terms of spirituality and worship, they have an important role to play in the gathering of the communities involved in these religious buildings. It is important to note the requirements for catering for each religion. It was shown in the results that the laws regarding food for each religion are given. If these religions were to be brought together in an inter-religious facility, it is possible that separate kitchen and stores will be needed catering for the needs of each.

## ESSENTIAL ELEMENTS OF THE MAIN BUILDING

The essential elements of the main worship spaces of these buildings go beyond just the physical elements but also have to do with the planning arrangement and layout of the particular building. In each instance of the case study, the interior of the main worship space was symmetrical. Traditionally, most religious building inside are symmetrical, however, judging by the responses in the questionnaire and interviews, this is not necessarily essential but rather just common practice.

There were similarities in terms of the function of elements within each of these building although the way they have been designed and their name are different. For example, in each case except for the Jewish Temple, there is a building element which is used to call and gather people to the central worship space. The church has a bell tower, the mosque has loud speakers that have replaced the traditional minaret and the Hindu temple has a kodi pole to which can be attached a bell.

Each building also has one very distinct symbol related to the particular religion. For Christianity, it is a cross, which in more orthodox traditions has a crucifix attached to it. Islamic culture generally has a crescent moon, Judaism has the Star of David and Lion of Judah, and Hinduism has a statue of their major deity, Sheeva or Vishnu. Within the space of each, it is interesting to note that areas that are considered 'most holy' are raised and demarcated by steps. Only in the mosque, it is completely flat. However, this may be due to their belief that all places and spaces are holy because they were created by Allah. There is one main element for each of these buildings that are essential to them being a Church, Mosque, Synagogue or Temple. In the church it is the Altar, in the mosque it is the Mihrab, in the Synagogue it is the Ark for the Torah and in the Temple it is the shrine to their major deity. By looking at the results of the questionnaire it's possible also to see what elements people feel make a space feel sacred for them. Here are some of the most popular responses:

- Large space and open volume
- Grand designs and drawing the eye up

- Altar
- The symbols
- Beauty

This response from an Islamic participant supports the Islamic notion that all spaces are sacred:

- *I think anywhere can be sacred, but it is more tangible when it is defined by a threshold that affects accessibility. Muslims can pray anywhere as long as they face the correct direction. personally any quiet, 'safe' area (someplace where a person wouldn't happen to walk through)*

The most striking feature about each of the religious cases studied in terms of arrangement is that each, except the Hindu temple, has an entrance foyer. This can be seen as a typical architectural inclusion because essentially these buildings are auditoriums, however they seem to serve a greater purpose in that they provide a very calm, tranquil and almost 'sacred' space in its own right that precedes the bigger worship space. In the Hindu temple, the entrance foyer can be seen as being 'outside' in the form of a *mandala* that serves the ritual purpose of a path used for circling the temple before prayer. In terms of seating arrangements, only the Church and Synagogue have fixed seating while the Mosque and Hindu Temple have no fixed seating or no seating at all. This is possibly due to the fact that in Islam and Hinduism, prayer and worship often involves prostration and kneeling. Refer to the plan diagrams and photos in Appendix D to see how these building are typically arranged. In Islam, a space for washing before entry into mosque is absolutely essential as the Imam from the 45<sup>th</sup> Cutting Mosque stated, cleanliness is only second to Godliness. A photo of a typical cleaning space in a mosque can be seen in appendix D, figure 9.10. In the Hindu complex as well, a space for washing feet is provided outside before a person can step onto the *mandala*. When worshipping in all the buildings, the orientation takes the form of a longitudinal setup, where the people face a far wall at which point some essential element is placed such as an altar, shrine or in the case of Islam, the Mihrab. It must be noted however that in Orthodox Jewish Synagogues, the setup often takes the form of 'theatre in the round' where the bimah or altar is in the centre of the building. Refer to diagram 9.14 in



appendix D. The rituals and customs of each religious tend to have an effect on the arrangement of the space. For example, in Islam and Hinduism it is customary to remove shoes before entering the worship space, so areas are provided for shoes to be kept and removed. In Christianity, especially some of the more traditional forms, a procession usually takes place at the beginning and end of the services, so a central aisle is often seen. Gender requirements in Islam and Judaism have an important affect on the arrangement of space. In the interview with Hillel Avidan, Rabbi at Temple David, he explains that in the Orthodox Tradition a designated area for woman was provided during worship. Refer to diagram 9.14 in appendix D. In the reformed tradition, this separation is seldom seen. In Islamic culture, men and women do not worship together and women have a completely separate space in which they can worship.

In terms of the landscaping, parking, site and urban context it is interesting to note that in each case the buildings were in busy commercial or industrial areas. In order to deal with the noise and commotion of the outside world, the buildings have been placed on the site in such a way that they are somewhat removed from the main street, and shielded with the use of trees and gardens. Only the mosque sits very close to the street, however, the thick walls and entrance foyer shield the mosque itself from the street. All these buildings have a sense of removal from the outside world.

From observation and questioning, the qualities that go into making sacred space can be unpicked. The questionnaire asks which qualities the people who did the questionnaire make a space feel sacred. They were asked to select a few out of the following:

- Quality of Light
- Quality of Space
- Symbols
- Art
- Outdoor Surroundings

The most popular is the quality of light. This seems to be an essential element in the composition of sacred architecture. In each case visited, the quality of light was good,

dim, but not so there is a lack of visibility. It was the right light to set the right 'mood' for worship. Quality of space was next popular then symbols, art and outdoor surroundings respectively. In terms of quality of space, this can be defined as a space that makes you feel a certain way. In the questionnaire, people were asked to select how their particular place of worship makes them feel out of the following choices:

- Comfortable
- Happy
- Help to Meditate/Pray
- Tranquil
- None of the Above

Out of these, calm was the most popular, then comfortable. Only two respondents selected none of the above. For full results see Appendix A. On observation, each case was an environment that is quiet and introverted, promoting a sense of peace and tranquility. Each case had a large volume and made good use of natural light. In the Mosque and Hindu Temple, incense could be smelt and the smell has a relaxing effect.

In terms of artwork, Christianity and Hinduism seem to promote figurative art much more extensively than Islam and Jewish Cultures. In fact, figurative representation is banned in Islam. In Judaism, this is also the case; however it is not as strict as Islam in this regard. Christian art traditionally uses all mediums of artwork and shows characters from Bible stories and stories of the Saints. Icons of Jesus and Mary in the Catholic tradition are very common. In Hinduism, statues of deities are seen ordaining all temples and are used for worship and prayer. To see an example from artwork from each, refer to appendix D.

In attempting to determine the relevancy of an inter-religious facility, it is necessary to get an overview of people's attitudes and feelings towards inter-religious activity. The results from the questionnaire provide some insight. When asked whether they would be comfortable attending services at a different religion's place of worship, 88% said yes. However, only 75% said they would be interested in going to an inter-religious facility where they could learn and interact with people from other religions. With the majority of

responses being in favour of such a facility, it seems relevant to consider creating one. This is also supported by the fact there is already an inter-religious organization in KwaZulu-Natal to which Rabbi Hillel Avidan, who was interviewed, belongs. Another interesting result of the questionnaire is in the last question where people were asked if they thought religion was a cause of any conflict in the world. 84% replied yes, and the general feeling when asked to justify was that religious conflict is due to people's own misnomers and stigmas they attach to other religions. Fanaticism is also a key factor in the cause of religious conflict.

## CONCLUSION

From the results gathered in the questionnaire, interviews and case study, it seems that religions have more in common than not. Most of the customs, rituals and rules that affect the architectural design come about from the same logic and common sense, but the execution and design response of each has its own unique characteristic. By being sensitive and respectful towards the uniqueness of each religion, it will be possible to combine certain elements, however it is also the case that certain elements may have to be left out or removed in order to avoid offending a particular group. Developing an understanding of the essential qualities that make sacred space 'sacred' has been a crucial part of this study as a whole. How these will be applied and used will be discussed in the next chapter. Certain qualities of sacred spaces can be seen to be qualities that should be imbued in every type of architecture, the idea of creating quiet, comfortable places where people feel at ease.

## **CHAPTER SEVEN**

### **CONCLUSIONS AND RECOMMENDATIONS**

## INTRODUCTION

By looking through the conclusion from the first chapter through to the previous chapter, a number of important findings affect the overall conclusion of the topic. To begin; it has been shown that throughout the age's architecture for religious buildings has been designed in such a way that it enhances the spiritual experience. Part of this spiritual experience owes itself to the inclusion of religious symbolism which is often used to focus the mind. It has been found that sacred space can't be designed in isolation from activity, and that the activities that take place within a sacred space are very important in determining whether or not it is sacred. From the precedent studies, it has been shown that both multi-denomination facilities and non-denominational facilities have been created before, and in both instances have used sacred space as a medium to drive the inter-religious activity. The relevancy of religion in today's society is still strong, supported by the positive response of people in the questionnaire's towards religion as a whole. In terms of rituals and customs, these have been shown in the secondary literature and research data to have an important affect on the design and layout of the religious buildings of various religions. Similarities in terms of architectural treatment outweigh differences significantly, in that the places are more similar in that the underlying essence behind them is the same and over-shadows the unique differences that go into expressing this essence.

## CONCLUSIONS AND RECOMMENDATIONS

The initial thesis statement suggests that the qualities of sacred space, symbols and rituals have mediating qualities that affect the experience of sacred architecture and that this effect can be used to mediate dialogue between different religious groups in an inter-religious centre. To determine whether or not this is a feasible assumption, it was necessary to look at a number of points.

Architecture has been found to affect the quality of the experience within a sacred space. In turn, the requirements of sacred space have defined how the architecture should

respond to these requirements. This puts the built form in a position of passive mediation, where good architecture and arrangement of space can provide a platform on which healthy interacting between religions can take place. Sacred space and religious buildings are made up of very distinct elements that belong to each religion, as well as elements that are common to all, that are not distinct, but have a very important role to play. These are the elements of lighting, atmosphere, and environment and are elements that could be seen as those that appeal to the senses. A number of other factors contribute to enhance these elements described above. It has been found that artwork, landscaping, and the use of water, volume and design contribute to creating environments conducive to prayer and meditation. While it may be very difficult to combine the distinct elements of representational symbols and traditional forms, it will be exciting and possible to combine the not so distinct elements that go into creating a sacred atmosphere. With the knowledge that inter-faith activities are already in existence to combat the problem of stigmatism and misunderstanding, as well as results showing that people believe this is a path towards which tolerance can be promoted, the relevancy of an inter-religious facility becomes apparent.

Sacred architecture has been shown in this study to be invested with certain characteristics that set it apart from everyday utilitarian architecture. These characteristics are aimed at enhancing a spiritual experience, or raising the mind above worldly obsession in order for a person to focus and contemplate the greater meaning of life. These are qualities of calmness, peace, tranquility and silence and can be used in an inter-religious environment to promote this sort of attitude towards one another that will lead to tolerance and respect. The idea is about the experience of sacred architecture as a tool to enhance this inter-religious interaction. It has been argued that any form of architecture, even a street, can be used for 'conflict resolution'. However, not all forms, especially not a street, exhibit qualities that would be associated with peace, tolerance and understanding.

As already stated in the conclusion, there seem to be elements that make up sacred architecture that can be divided into two categories. Those are elements particular and

distinct to a religion, and those that are common in the creation of sacred architecture as a whole. In the design of the proposed inter-religious facility, it will not be possible and may prove fickle to combine all the distinct elements of different faiths into one building. By the same token, having separate buildings for each on one site may prove only to enhance the divisions and differences. Like all the building shown in this study however, each has a number of ancillary and administration facilities attached to it. In the same way, because this is an education and retreat facility, it will be a complex of buildings that maybe include classrooms, libraries and auditoria. However, the idea is to create a central inter-religious space based of qualities invested in sacred architecture. The recommendation is to use the idea that there are two categories of elements that go into sacred architecture, and create a shell that exhibits the qualities of the category with all the common elements on the religions. Within this shell can be plugged any distinct elements for one particular religion. So for instance, if an Islamic community wishes to use the facility for itself on one occasion, the shell can be set up in such a way that it displays the distinct characteristics of a mosque as well as the qualities of sacred space that are not particular to a religion. In the same way, a church community can set up a Church, Jews and Synagogue, and Hindu's a temple. Even religions which were not studied in detail will be able to create their space within a space. If a number of different religions were visiting the facility together, the shell would be sufficient to create an environment that is invested with sacred qualities common to all, without given preference to any one religion and thereby offending the people.

## CONCLUSION

The research findings have supported the initial hypothesis statement that architecture can mediate dialogue between religious and cultural societies by getting to the essence of the essential characteristics of sacred architecture. By establishing a set of similarities and differences between each, it is possible to design an inter-religious facility within a set framework. This framework is made up of symbolic and ritual elements found in each religion, determining the common element that drives the creation of the sacred sites, namely good will and faith.

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## **APPENDICES**



## APPENDIX A

### Questionnaire

Answer questions as they relate to you. For most answers, check the boxes most applicable to you or fill in the blanks.

- No Name(s) or Contact information is gathered.
- These questions are for the purpose of the thesis only.
- If you have any queries, please email me at: [matthew@retailtrading.net](mailto:matthew@retailtrading.net)

#### STEP 1

Age \_\_\_\_\_

Gender \_\_\_\_\_

#### PART 1

1. Do you believe in a particular religion/belief system?

Yes \_\_\_\_\_

No \_\_\_\_\_

If you answered NO to the above please continue to Part 3.

PART 2 (ON COMPLETION, PLEASE SKIP PART 3, AND FINISH PART 4.)

2. What religion/belief system do you follow?

3. Do you practice your religion actively by attending services on a regular basis?

Yes \_\_\_\_\_

No \_\_\_\_\_

4. Does your religion have a particular place (building) of worship?

Yes \_\_\_\_\_

No \_\_\_\_\_

If so, what is it?: \_\_\_\_\_

\_\_\_\_\_

5. Are there any requirements you have to adhere to before entering your particular place of worship?

Yes \_\_\_\_\_

No \_\_\_\_\_

If yes, what are they?: \_\_\_\_\_

\_\_\_\_\_

6. Do you have to observe these requirements at all times when entering, or only before a special service?

7. Are there any rules regarding separation of the men and woman?

Yes \_\_\_\_\_

No \_\_\_\_\_

If yes, what are they?: \_\_\_\_\_  
\_\_\_\_\_

8. Are there any rules or regulations regarding dress-code when attending a service?

Yes \_\_\_\_\_

No \_\_\_\_\_

If so, what are they?: \_\_\_\_\_  
\_\_\_\_\_

9. What do you like the most about your place of worship? (With regards to the architecture specifically).

10. Do you feel that the building/place in which you worship has an effect on the quality of your experience?

Yes \_\_\_\_\_

No \_\_\_\_\_

11. What qualities of space do you think are necessary in order for it to be considered sacred?

12. What physical characteristics do you think have the most effect on your spiritual experience while in your place of worship?

Building Form	_____
Art	_____
The Symbols	_____
Quality of Light	_____
Quality of Space	_____
The Outdoor Surroundings	_____
Other:	_____

13. Does your place of worship make you feel:

Calm	_____
Tranquil	_____
Help You Meditate/Pray	_____
Happy	_____
Comfortable	_____
None of the Above	_____

14. Why do you think it makes you feel this way?

15. What do you think are the most important aspects of your particular place of worship with regards to the building/architecture?

16. What elements about your place of worship stand out to you the most?

17. Do you think your place of worship is similar in any way to the places of other religions?

Yes        \_\_\_\_\_

No        \_\_\_\_\_

18. What do you think are the similarities/differences? (If any).

19. Would you be comfortable attending a service at a place of worship of a different religion to learn about it and experience it?

Yes        \_\_\_\_\_

No        \_\_\_\_\_

20. Do you think the qualities of a sacred place can enhance your spiritual experience while you are in it?

Yes        \_\_\_\_\_

No        \_\_\_\_\_

21. Would you go to a multi-denominational facility where people from different religions could come together to learn about one another in an environment that is designed to reflect the qualities of sacred space from various religions?

Yes        \_\_\_\_\_

No        \_\_\_\_\_

22. If no, why not?

23. Do you think religion is still relevant in today's society?

Yes        \_\_\_\_\_

No        \_\_\_\_\_

### PART 3

24. Do you believe in any form of spirituality?

Yes        \_\_\_\_\_

No        \_\_\_\_\_

If so, what do you believe in?: \_\_\_\_\_  
\_\_\_\_\_

25. Do you think there is a spiritual dimension, but are not sure what it is?

Yes \_\_\_\_\_

No \_\_\_\_\_

26. Do you believe that some places in the world can be considered sacred/spiritual?

Yes \_\_\_\_\_

No \_\_\_\_\_

27. If yes, what qualities do you think make them this way?

28. Would you go to a multi-denominational facility where people from different religions/belief systems could come together to learn about one another in an environment that is designed to reflect the qualities of sacred space from various religions?

Yes \_\_\_\_\_

No \_\_\_\_\_

29. If no, why not?

#### PART 4

30. Some people would say that religion is one of the main causes for conflict and wars throughout history. Do you think this is true?

Yes \_\_\_\_\_

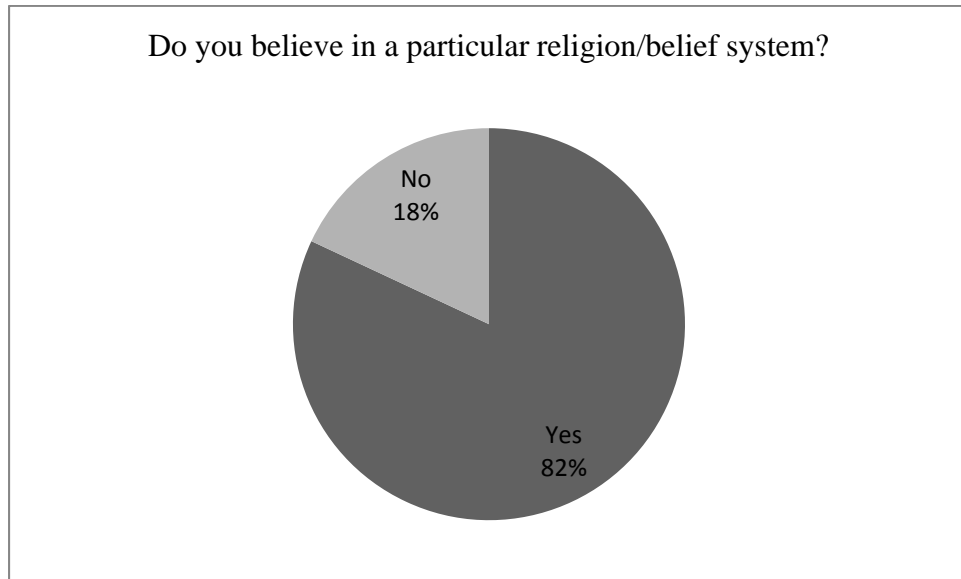
No \_\_\_\_\_

31. If yes, why do you think this is so?



## Overview of Questionnaire Results

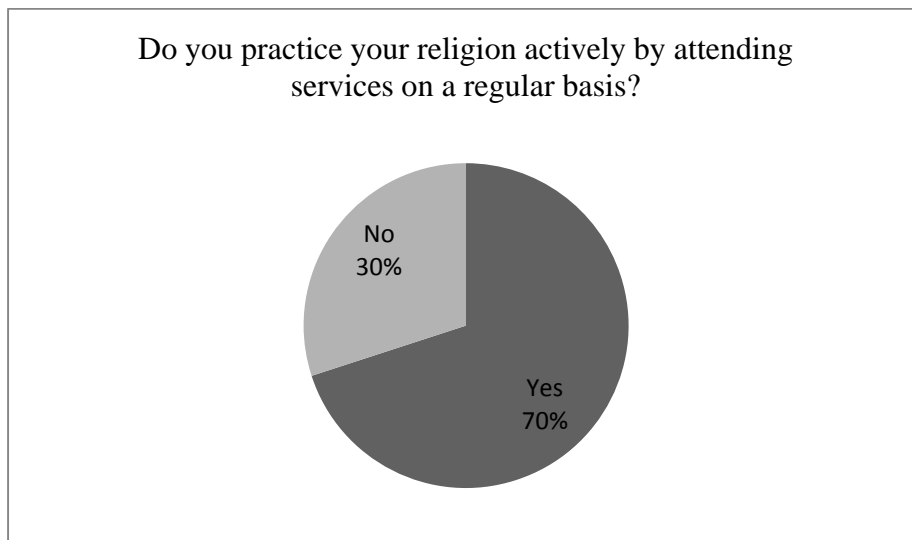
Diagram 9.1 reflects the demographic of people who still consider themselves a part of a particular religious system of belief out of a total of 61 people.



**Diagram 9.1**

(Author's Own Results)

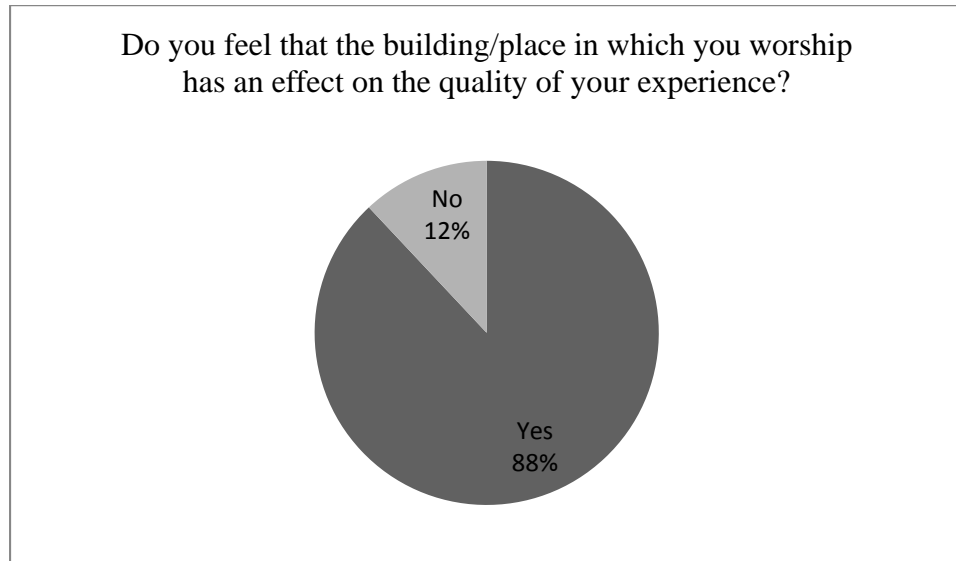
The next diagram, 9.2, shows how many out of the 70% that still believe in some form of religion practice regularly.



**Diagram 9.2**

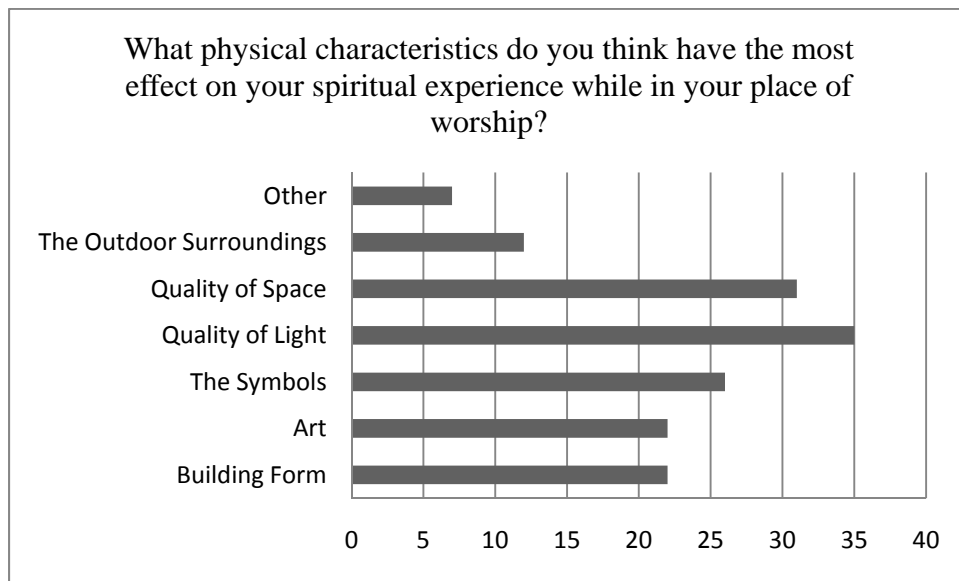
(Author's Own Results)

Diagram 9.3 is interesting when looked at in conjunction with diagram 9.4.



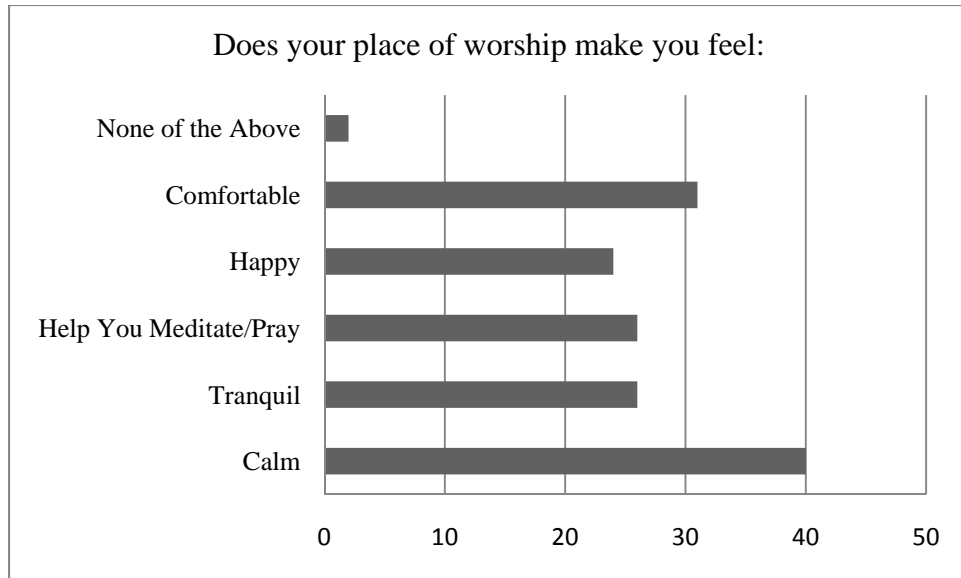
**Diagram 9.3**

(Author's Own Results)



**Diagram 9.4**

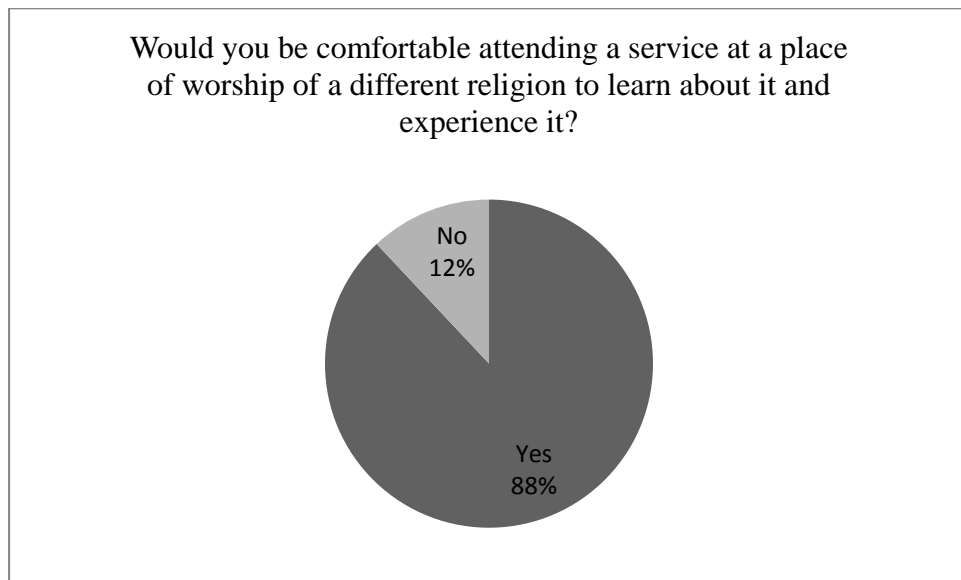
(Author's Own Results)



**Diagram 9.5**

(Author's Own Results)

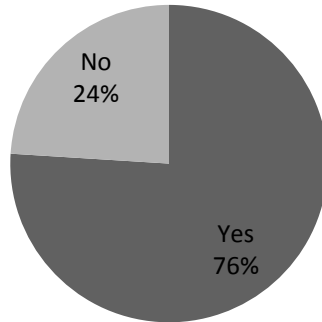
The next two diagrams illustrate the willingness of people who practice their own religion to be involved in exploring and learning about other religious beliefs.



**Diagram 9.6**

(Author's Own Results)

Would you go to a multi-denominational facility where people from different religions could come together to learn about one another in an environment that is designed to reflect the qualities of sacred space from various religions?

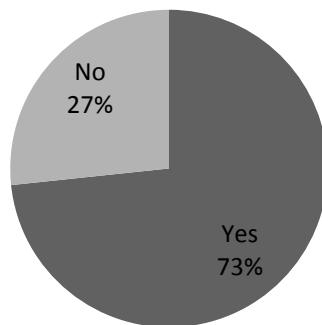


**Diagram 9.7**

(Author's Own Results)

The same question was asked of the 27% who either do not believe in anything or do not know what they believe in and the result is shown in diagram 9.8.

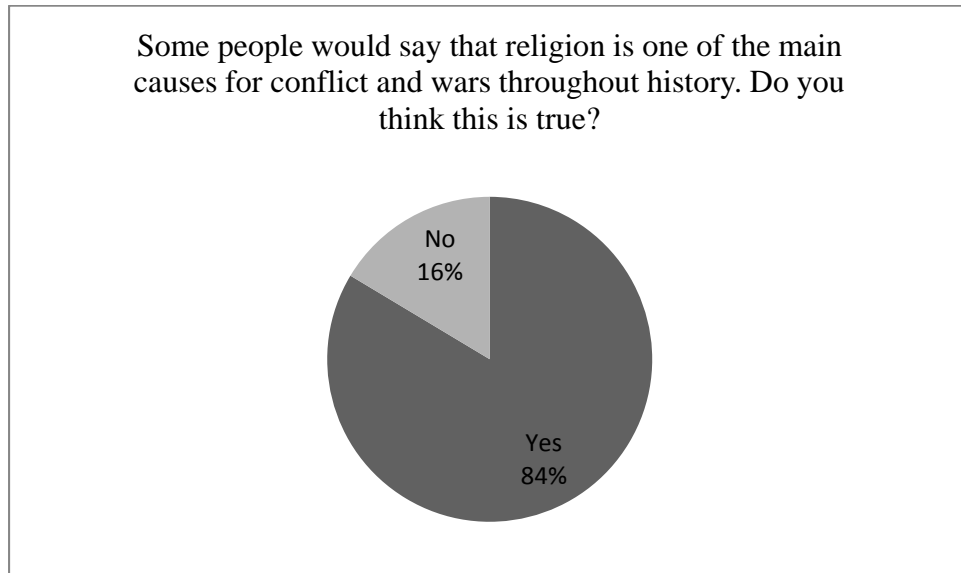
Would you go to a multi-denominational facility where people from different religions could come together to learn about one another in an environment that is designed to reflect the qualities of sacred space from various religions? (People who do not par



**Diagram 9.8**

(Author's Own Results)

The last question was applicable to everyone answering the questionnaire. See diagram 9.9.



**Diagram 9.9**

(Author's Own Results)

## Interview Criteria Sheet

- Introduce Self and Topic
- **THE INFLUENCE OF THE MEDIATING QUALITIES OF SACRED SPACE, SYMBOLS AND RITUALS ON THE BUILT FORM -**

It looks at the essential elements that make up sacred architecture from various religions. The idea is to determine what would be the best approach to design a multi-denominational facility for the gathering of various religions to learn about one another.

Would it be possible for me to meet with you anytime this week as I would like to ask you some questions regarding the church's view on certain aspects of my topic. The intention is to get an idea of the feasibility and issues that would be involved in such a facility.

- Rituals and Customs: their effect on Architecture (Washing of Feet, Separating People, Choir, Clergy)
- Rules regarding prayer, participation in other belief systems.
- Meditating or praying in the same space as someone of a different religion.
- Catering Requirements.
- Gender Requirements.
- Importance of inter-religious dialogue and interaction. What space would be best?

Thanks you for your time!

Matthew

## Case Study Criteria

Case Study Name: \_\_\_\_\_

Facilities on Site: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Symmetrical/Asymmetrical: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Essential Building Elements: (Towers, Spires, Minarets etc.)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Arrangement of Space of Main Building: (Sanctuaries/Altars/Pulpit/Niche/Entrance/Gender Separation  
Etc.)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Outside Gathering Space: (Any space for ritual cleansing before entering?)

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Landscape Features:

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Artwork: (Symbolic, Representational, Literal, Sculpture)

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Qualities of Space (Light, Volume, Height, Smell, Noise)

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Parking and Gathering:

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---

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---

Site Context and Urban Relationship

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## Case Study Results Table

Table 9.1

	Our Lady of Lourdes	45 <sup>th</sup> Cutting Mosque	Temple David	Umgeni Hindu Complex
Religion	Christian – Catholic	Islam	Jewish (Progressive)	Hindu
Facilities on Site	<ul style="list-style-type: none"> <li>- Main Church</li> <li>- 2 Halls</li> <li>- 3 Classrooms</li> <li>- Offices</li> <li>- Accommodation for priest and visitors</li> <li>- Bell Tower</li> <li>- Resource Centre</li> </ul>	<ul style="list-style-type: none"> <li>- Mosque</li> <li>- 2 Halls</li> <li>- Madrassa (Education Facility)</li> <li>- Children's play facilities</li> <li>- Accommodation for Imam and family.</li> <li>- Library</li> </ul>	<ul style="list-style-type: none"> <li>- Temple</li> <li>- Offices</li> <li>- 2 Halls</li> <li>- Some staff accommodation</li> <li>- Library</li> </ul>	<ul style="list-style-type: none"> <li>- 3 Temples (1 for Shiva, 1 for Vishnu, 1 for Hanuman)</li> <li>- Offices</li> <li>- Staff accommodation</li> <li>- 4 Halls (Mainly for Weddings)</li> <li>- Library</li> </ul>
Symmetry/Asymmetry	Church Building – Symmetrical interior	Mosque interior symmetrical	Temple interior symmetrical	Each temple is symmetrical.
Essential Building Elements: (Towers, Spires, Minarets etc.)	<ul style="list-style-type: none"> <li>- Bell Tower with Symbolic Cross</li> <li>- Crucifix</li> <li>- Altar</li> <li>- Central Aisle</li> <li>- Pulpits</li> <li>- Raised Sanctuary</li> </ul>	<ul style="list-style-type: none"> <li>- Dome with Symbolic Half Moon</li> <li>- No Minaret</li> <li>- Mihrab and Quibla</li> <li>- Wall Facing Mecca</li> <li>- Mimbar (Pulpit)</li> <li>- Place for Shoes</li> <li>- Washing Areas</li> </ul>	<ul style="list-style-type: none"> <li>- Bimah (Altar and Pulpit)</li> <li>- Ark (For Torah)</li> <li>- Everlasting Light</li> <li>- Raised Sanctuary</li> </ul>	<ul style="list-style-type: none"> <li>- Kodi Poll</li> <li>- Pedestal for Kodi Poll also External Altar</li> <li>- Mandapa Hall (Main Worship Space)</li> <li>- Raised Sanctuary for Shrines</li> <li>- Dome over Shrines</li> </ul>
Arrangement of Space of Main Building:	<ul style="list-style-type: none"> <li>- Entrance foyer at front of Church with definite barrier between main space.</li> <li>- Choir loft above entrance foyer.</li> <li>- Chapel in entrance foyer.</li> <li>- Main church space.</li> <li>- Raised sanctuary with altar and pulpits.</li> <li>- Pews for seating.</li> </ul>	<ul style="list-style-type: none"> <li>- Entrance foyer precedes mosque.</li> <li>- Definite barrier between entrance foyer and mosque.</li> <li>- Mihrab and Quibla wall orientated to mecca.</li> <li>- Mimbar (Pulpit) next to Mihrab.</li> <li>- No seating, all worship takes place on carpet.</li> <li>- Designated washing</li> </ul>	<ul style="list-style-type: none"> <li>- Entrance Foyer with store room and ablution facilities attached.</li> <li>- Main temple space.</li> <li>- Raised sanctuary for Bimah and secondary pulpit.</li> <li>- Ark in the wall at the sanctuary end.</li> <li>- Seating on pews facing forward (reformed style).</li> </ul>	<ul style="list-style-type: none"> <li>- No Entrance Foyer</li> <li>- Entry from path around Temple.</li> <li>- Space preceding path for removal of shoes and washing, no shoes on path or in temple.</li> <li>- Main temple hall on axis with Kodi Poll.</li> <li>- Raised sanctuary for shrines to god's.</li> </ul>

		areas precede entry into mosque.		
<b>Outside Gathering Space</b>	<ul style="list-style-type: none"> <li>- Parking area outside main entrance but can be used to gather if necessary.</li> </ul>	<ul style="list-style-type: none"> <li>- Parking area outside main entrance but can be used to gather if necessary.</li> <li>- Public gathering place between two halls lower than mosque forms courtyard.</li> </ul>	<ul style="list-style-type: none"> <li>- Courtyard like space between main temple and offices.</li> </ul>	<ul style="list-style-type: none"> <li>- Large gardens and trees, designated washing areas. No parking inside facility, space and gardens used for weddings and other ritual ceremonies.</li> </ul>
<b>Landscape Features</b>	<ul style="list-style-type: none"> <li>- Trees and planting act as barrier between building and main road.</li> <li>- Well kept gardens on either side of the church.</li> <li>- Statues and ponds on periphery of parking lot.</li> </ul>	<ul style="list-style-type: none"> <li>- Mostly hard surfaces, paving or screed. This is not typical however, often Mosques have gardens or water features.</li> </ul>	<ul style="list-style-type: none"> <li>- Trees and planting act as barrier between building and main road.</li> <li>- Gardens and landscaping in courtyard between main temple and administration buildings.</li> </ul>	<ul style="list-style-type: none"> <li>- Large garden and lots of trees creates a sense of removal from very busy Umgeni road.</li> <li>- Paths (called 'mandala') around temple for ritual practice of circling (circumambulation) temples before prayer. No shoes.</li> </ul>
<b>Artwork:</b>	<ul style="list-style-type: none"> <li>- Mainly representational and figurative of important figures from Bible or stories of Saints.</li> <li>- Use of many forms of art, painting, sculpture, stained glass windows.</li> <li>- All windows in main church building stained glass.</li> <li>- Large stained glass window over entrance as feature window.</li> <li>- Crucifix above</li> </ul>	<ul style="list-style-type: none"> <li>- Symbolic and geometric.</li> <li>- No representation is allowed as this is against the second commandment (Do not make idols.)</li> <li>- Geometric drawings of buildings and places often seen.</li> <li>- Calligraphic extracts from Koran used to decorate or as art.</li> <li>- Very seldom some forms of plant life will be shown but it is unusual.</li> </ul>	<ul style="list-style-type: none"> <li>- Like Islam, representation is not allowed although not as strict.</li> <li>- Little artwork seen in this building, except on curtains concealing Ark.</li> <li>- Lions are shown on curtains. These are the coat of arms of Jerusalem and represent Lion of Judah. This is the only representational art found in temple and is strictly symbolic.</li> </ul>	<ul style="list-style-type: none"> <li>- Many representational sculptures of God's and Deities.</li> <li>- Sculpture and statues are an important part of worship.</li> <li>- Refer to Appendix B for an illustration of such artwork.</li> </ul>

	sanctuary, most common in Catholic tradition.			
<b>Qualities of Space</b>	<ul style="list-style-type: none"> <li>- Very tall ceiling steeped and slanted. Large volume of space/</li> <li>- Quiet inside, sense of peace and tranquility.</li> <li>- Incense smell only when incense is used on ritual occasions, otherwise no particular smell.</li> </ul>	<ul style="list-style-type: none"> <li>- High ceiling, good quality of natural lighting.</li> <li>- Smell of incense.</li> <li>- Calm and tranquil within.</li> </ul>	<ul style="list-style-type: none"> <li>- High ceiling and large volume.</li> <li>- Quiet and calm.</li> <li>- Good quality of natural light, dim and peaceful.</li> </ul>	<ul style="list-style-type: none"> <li>- High ceiling and enough volume and space.</li> <li>- Quiet in the entire complex, some traditional hindi music playing in background.</li> <li>- Very strong smell of incense.</li> </ul>
<b>Parking and Gathering:</b>	<ul style="list-style-type: none"> <li>- Parking outside main entrance and at the back end of the church.</li> <li>- Gathering within building.</li> </ul>	<ul style="list-style-type: none"> <li>- Off-street parking mainly, also a shared parking lot with building next door. Gathering in Foyer and outside main space.</li> <li>- Courtyard space available as well.</li> </ul>	<ul style="list-style-type: none"> <li>- On-street parking, some parking within building complex.</li> <li>- Gathering in courtyard outside temple or in temple foyer.</li> </ul>	<ul style="list-style-type: none"> <li>- On-street parking.</li> <li>- Large outdoor garden and lawn for gathering as well as wash area.</li> </ul>
<b>Site Context and Urban Relationship</b>	<ul style="list-style-type: none"> <li>- Situated in centre of Westville surrounded by shops, offices and a school.</li> <li>- Very visible.</li> <li>- Landmark feature.</li> </ul>	<ul style="list-style-type: none"> <li>- Situated just off Jan Smuts highway. Accessed with a secondary Street.</li> <li>- Surroundings include petrol garages and residential complexes, busy intersection.</li> <li>- Visible, on a hill.</li> </ul>	<ul style="list-style-type: none"> <li>- Situated in Musgrave area on Ridge Road.</li> <li>- Surrounded by residential and commercial property.</li> <li>- Busy area.</li> <li>- Not as noticeable as Church and Mosque.</li> </ul>	<ul style="list-style-type: none"> <li>- Situated in busy Umgeni road.</li> <li>- Surroundings include commercial and light industrial.</li> <li>- Offset from street with large garden and lots of trees.</li> <li>- Main buildings difficult to see from street due to offset.</li> </ul>

## Interview Results Table

**Table 9.2**

	<b>Our Lady of Lourdes</b>	<b>45<sup>th</sup> Cutting Mosque</b>	<b>Temple David</b>	<b>Umgeni Hindu Complex</b>
<b>Religion</b>	Christian – Catholic	Islam	Jewish (Progressive)	Hindu
<b>Leader</b>	Fr. Julian Davey	Imam	Rabbi Hillel Avidan	Junior Priest
Rituals and Customs: their effect on Architecture	<ul style="list-style-type: none"> <li>- Altar for Eucharist (essential element)</li> <li>- Pulpit for reading of Word of God.</li> </ul>	<ul style="list-style-type: none"> <li>- Must face Mecca when praying.</li> <li>- Removal of Shoes and cleansing of feet and hands before entering.</li> </ul>	<ul style="list-style-type: none"> <li>- Reading of Torah from Arc at the Bimah.</li> <li>- Must wear a skullcap or cover head in some way.</li> </ul>	<ul style="list-style-type: none"> <li>- Circumambulation (Ritual circling of Temple before prayer)</li> <li>- Removal of Shoes and cleansing of feet and hands before entering.</li> </ul>
Meditating or praying in the same space as someone of a different religion?	<ul style="list-style-type: none"> <li>- No particular rules but one must remember the second commandment, do not worship false gods.</li> </ul>	<ul style="list-style-type: none"> <li>- All places considered sacred as created by Allah, so fine for prayer however must not worship other gods.</li> </ul>	<ul style="list-style-type: none"> <li>- Also remember second commandment however praying can be done anywhere.</li> </ul>	<ul style="list-style-type: none"> <li>- No rules, it's okay to worship wherever but Temple is the main place of worship for Hindu's.</li> </ul>
Catering Requirements	<ul style="list-style-type: none"> <li>- No particular rules except the obvious, eating or drinking things that could intoxicate.</li> </ul>	<ul style="list-style-type: none"> <li>- Food must be Halal. Preparation of food must be done with utmost cleanliness as cleanliness is second only to Godliness. No pork, or animals that have not been slaughtered. Food must be blessed in the name of Allah.</li> </ul>	<ul style="list-style-type: none"> <li>- Food must be Kosher.</li> <li>- Kosher foods are generally from animals that have been slaughtered; they must chew the cud and have split hoofs. No pork. Fish and birds are allowed if they do not prey on other animals.</li> <li>- Preparation must be with clean utensils and in some cases, if utensils have prepared non-kosher foods</li> </ul>	<ul style="list-style-type: none"> <li>- Most Hindu's are vegetarian, however this is not strict.</li> </ul>

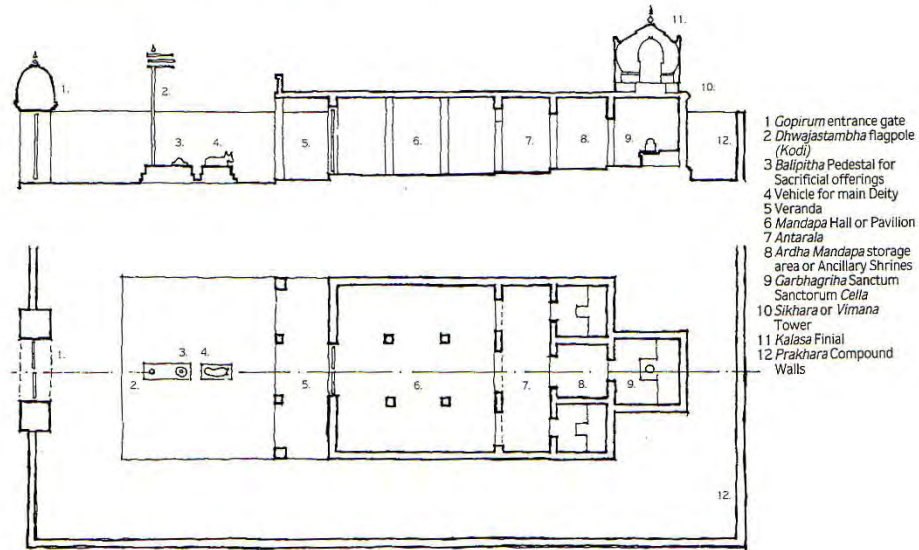
			<p>before they should not be used.</p> <ul style="list-style-type: none"> <li>- No meat and dairy products should be consumed in the same meal.</li> </ul>	
Gender Requirements	<ul style="list-style-type: none"> <li>- No separation of gender during worship.</li> </ul>	<ul style="list-style-type: none"> <li>- Women do not worship or pray with men.</li> </ul>	<ul style="list-style-type: none"> <li>- In reformed tradition, women can worship with men, in orthodox, women must be separate.</li> </ul>	<ul style="list-style-type: none"> <li>- No particular rules however there must be elements of respect to one another.</li> </ul>
Importance of inter-religious dialogue and interaction. What space would be best?	<ul style="list-style-type: none"> <li>- It would be difficult to design a space that satisfies all religions and therefore may end up being diffused.</li> </ul>	<ul style="list-style-type: none"> <li>- Tolerance and understanding is important in peace however there will always be fanatics who think their way is the only way.</li> </ul>	<ul style="list-style-type: none"> <li>- Inter-religious dialogue is important and there is already an inter-religious organization in KwaZulu-Natal headed by Cardinal Wilfred Napier.</li> </ul>	<ul style="list-style-type: none"> <li>- Anyone is allowed to come and worship at the Hindu temple and for the Hindu there are no issues regarding other people's religions or beliefs.</li> </ul>

## APPENDIX B

### Extract from Traditional Hindu Temples in South Africa (Mikula, Kearney, Harber):

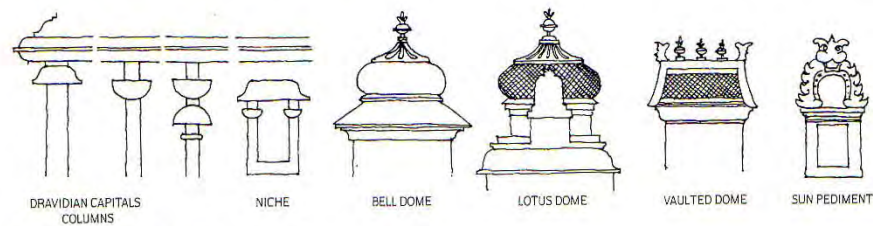
#### THE MAIN ELEMENTS OF THE SOUTH INDIAN TEMPLE

Each element of the South Indian temple is symbolic representing some aspects of the deity. Thus the bell, rung to call the gods to attention before prayer, represents the eternal sound *ohm* and three crossbars on the *kodipole* represent the natural elements. The external altar, its vertical and horizontal elements, represent the male and female forces while the whole temple is said to be a representation of the divine with the head as the *cella* and tower, and the arms as the sidechapels.



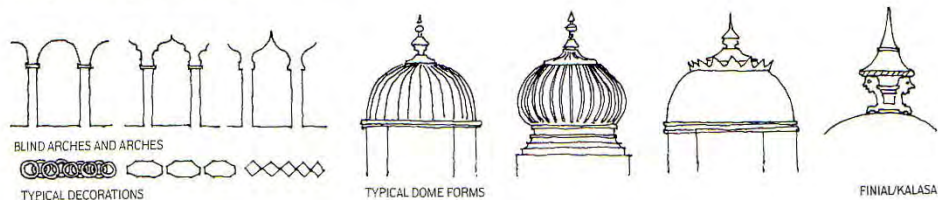
#### DETAIL ELEMENTS OF THE SOUTH INDIAN TEMPLE

The traditional details derived from the *Silpa Sastras* have become generally accepted by local builders and knowledge of them allows identification.



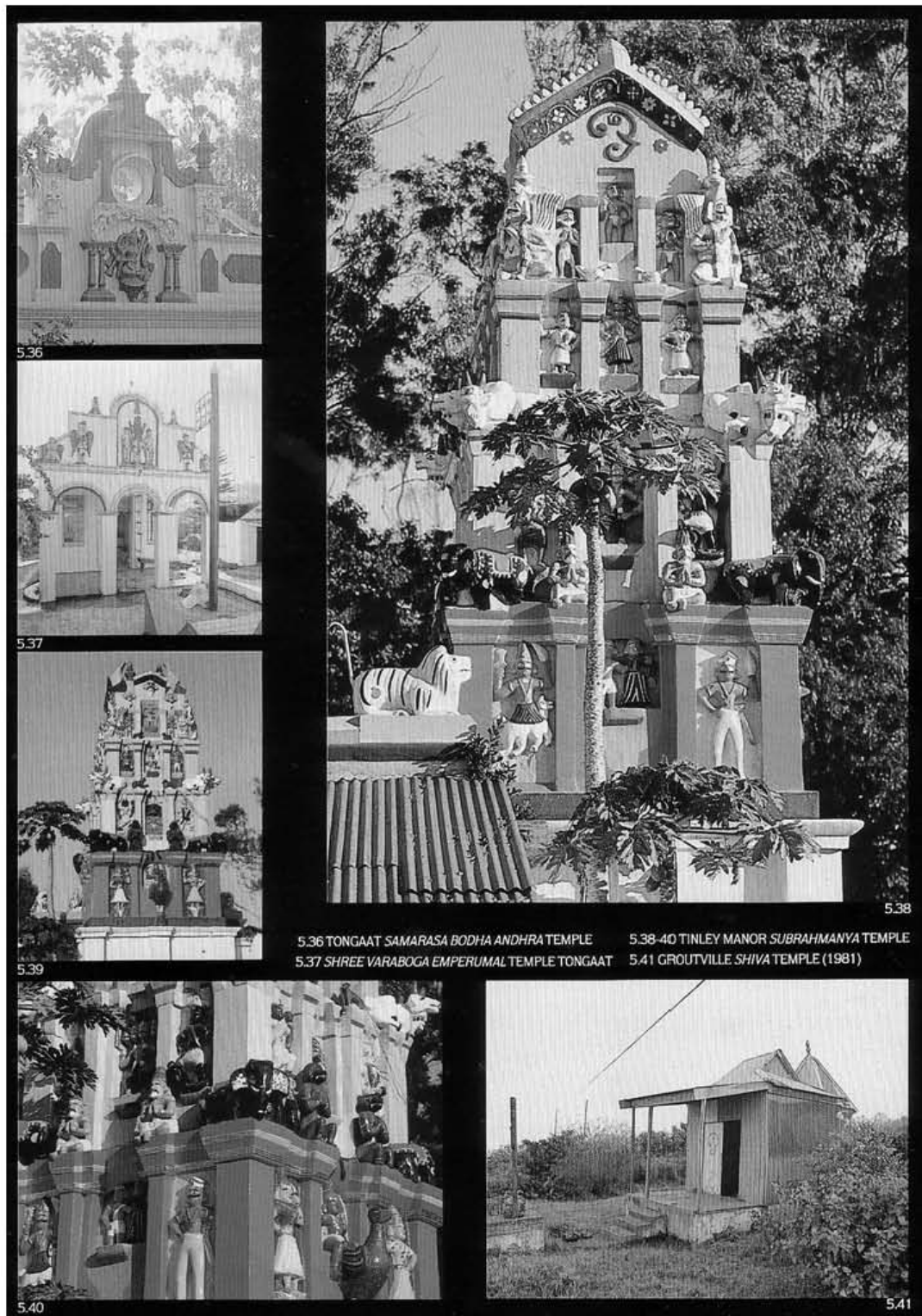
#### THE ELEMENTS OF THE NORTH INDIAN TEMPLE

The main elements of the North Indian temple, vertical line, single *cella* have already been discussed. Being such a mixture of styles it is probably best identified as, being "definitely not South Indian". Some detail elements do however, reoccur and although they are mainly Islamic, they do help to identify these buildings or the builders.



**Figure 9.1**

Traditional Hindu Temples (Mikula, Kearney, Harber 1985: 12)



**Figure 9.2**

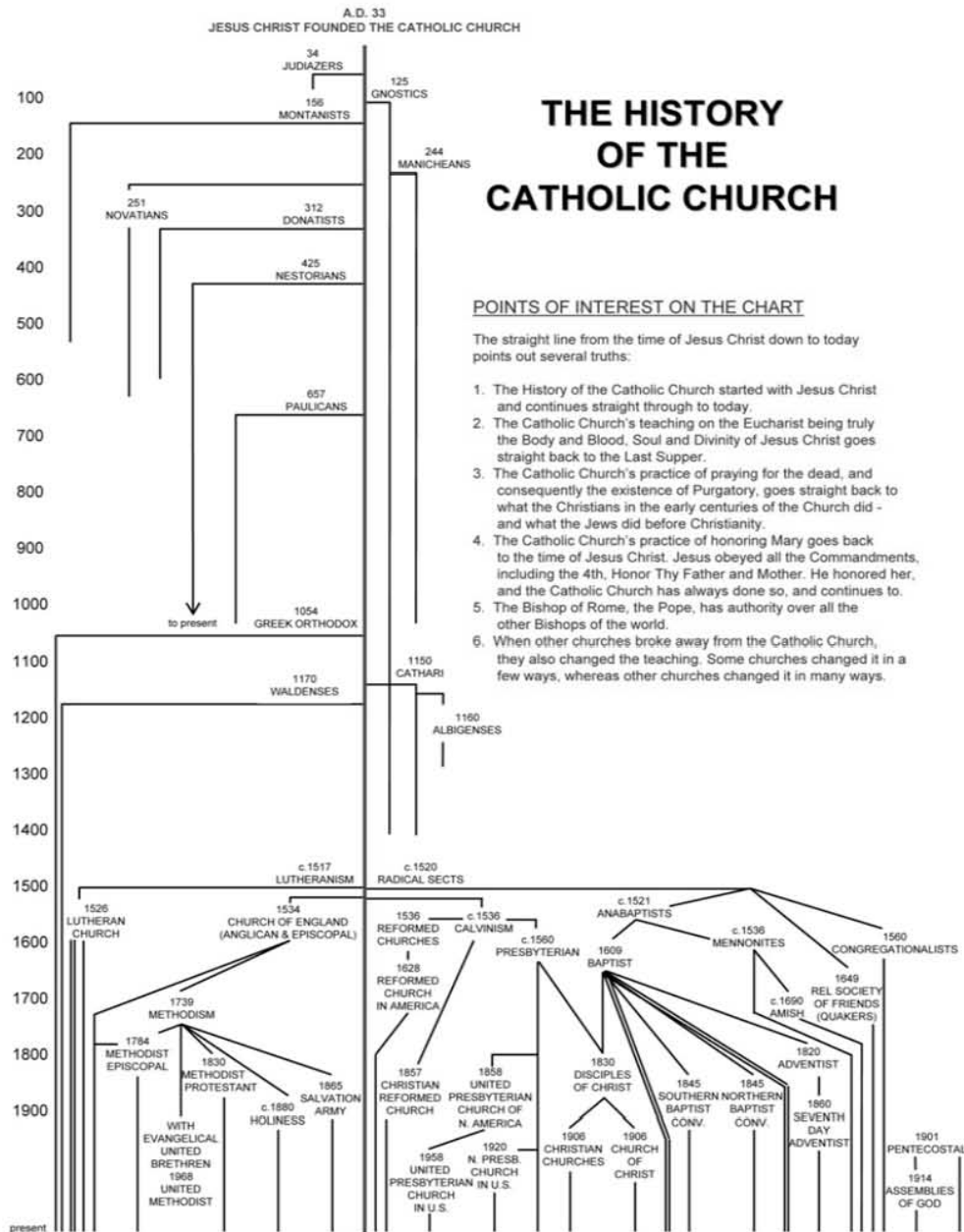
Temple Statues and Artwork

(Mikula, Kearney, Harber 1985: 45)



## APPENDIX C

The following diagram illustrates the branching off of various Christian sects from the Catholic church, that is commonly accepted as the first church of Christianity.



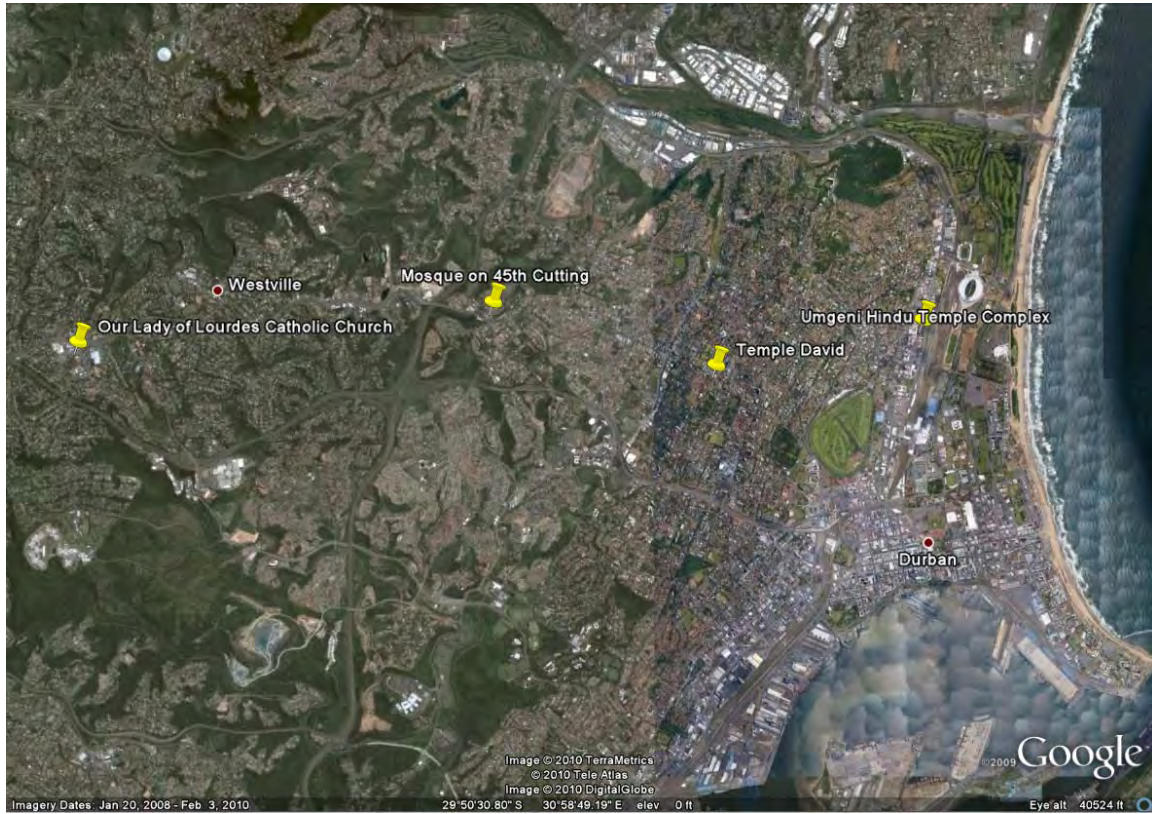
**Figure 9.3**

Catholic Church Timeline (St Charles Borromeo Church: 2009)

Accessed 10/05/2010

## APPENDIX D

### Places of Worship in Durban



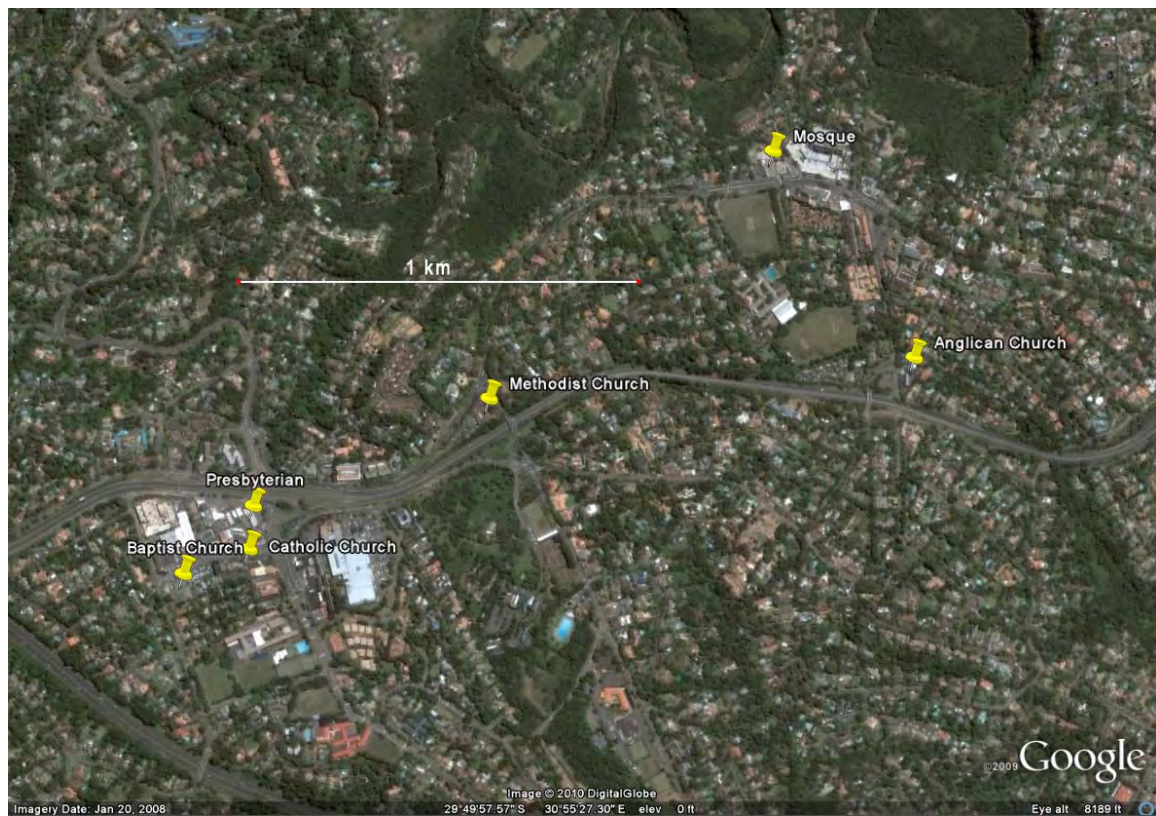
**Figure 9.4**

Case Study Sites (Google Earth)

Approximate travel time by car from Catholic Church:

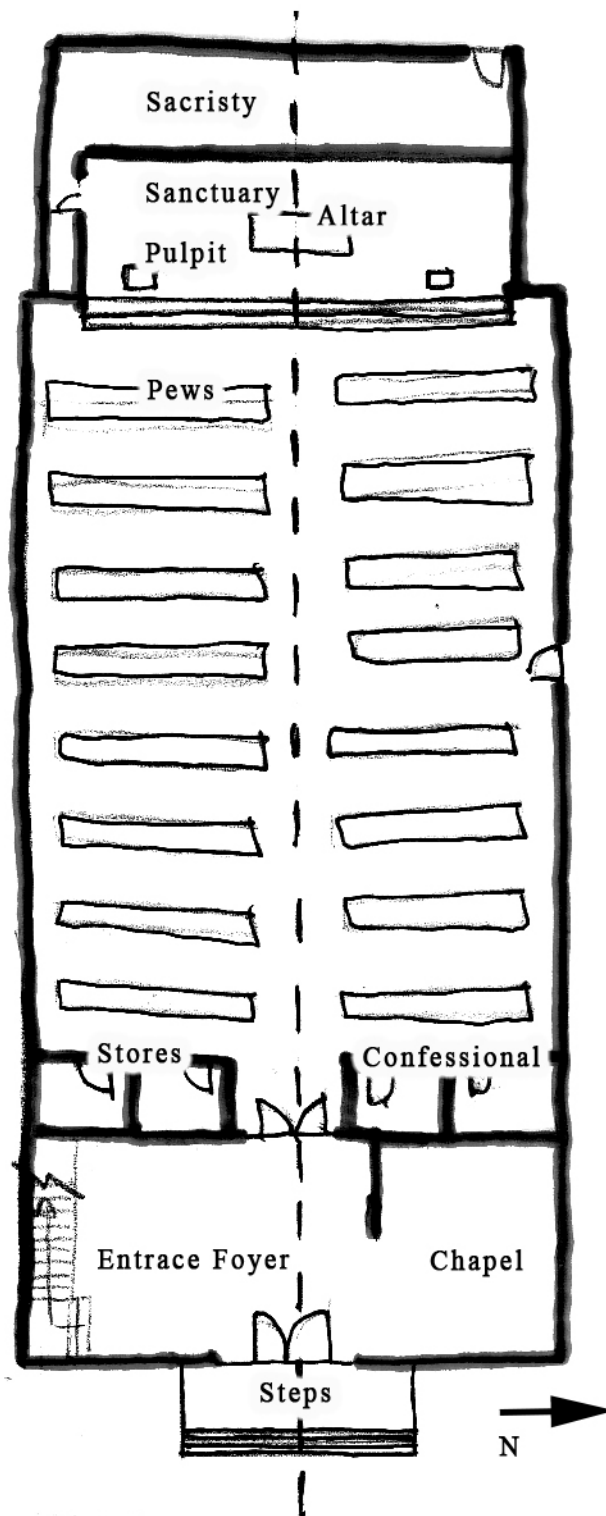
- Mosque - 3 minutes.
- Temple David - 10 minutes.
- Hindu Temple - 15 minutes.

The above times illustrate the proximity of places of worship in Durban, and these are only for select cases. Figure 9.5 illustrates how close these buildings actually get in and around Durban, showing a map of Westville and the main religious building within it.



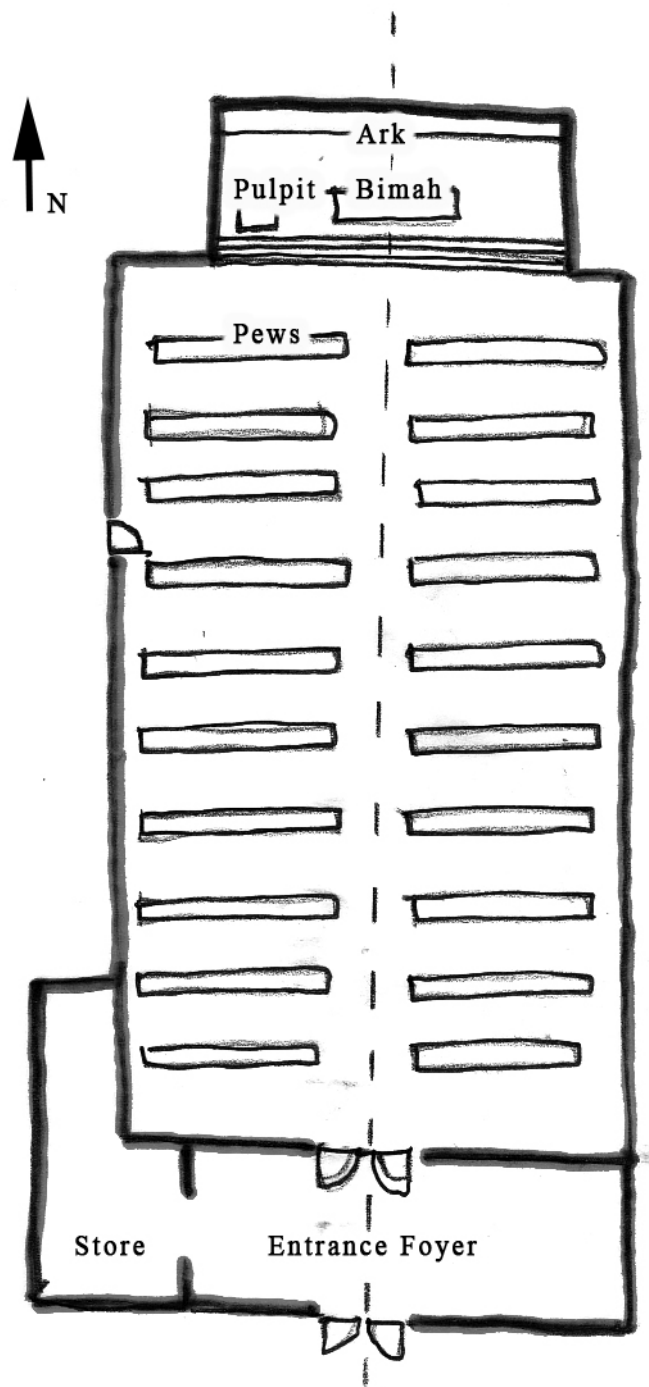
**Figure 9.5**  
Proximity of Places of Worship in Westville (Google Earth)

## Plan Diagram of Selected Cases

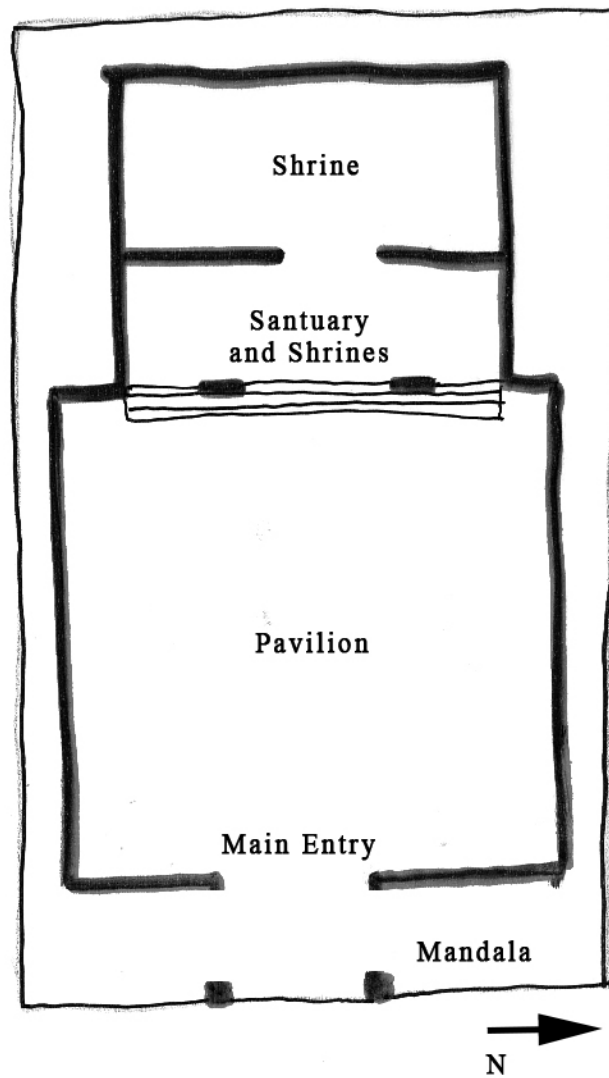



**Diagram 9.10**

Our Lady of Lourdes Catholic Church (Author's Sketch)



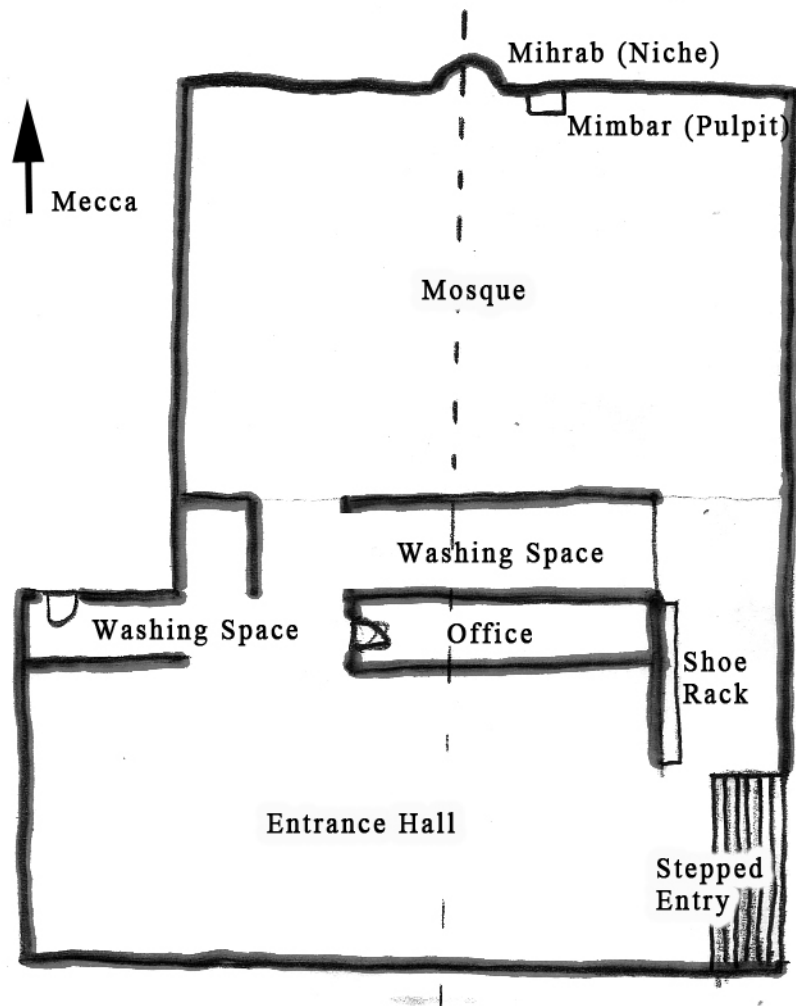
**Diagram 9.11**  
Temple David Plan (Author's Sketch)



 Kodi Pole and  
Altar

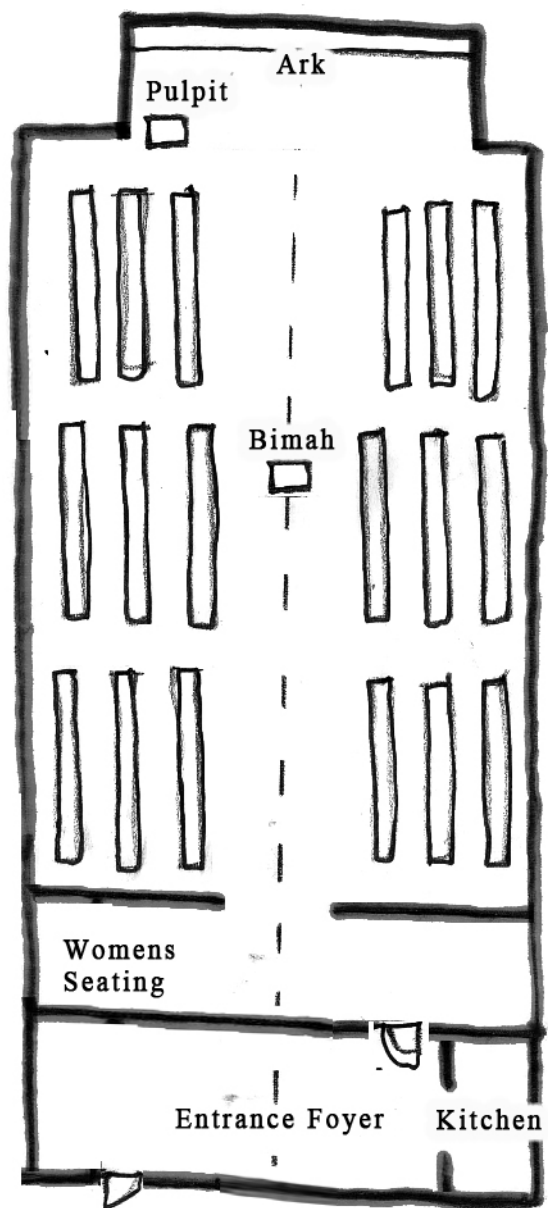
**Diagram 9.12**  
Hindu Temple Plan (Author's Sketch)





**Diagram 9.13**

45<sup>th</sup> Cutting Mosque (Author's Sketch)



**Diagram 9.14**

Orthodox Synagogue Plan  
(Author's Sketch)





**Figure 9.7**  
Mosque Interior (Author's Photo)



**Figure 9.6**  
Artwork in 45<sup>th</sup> Cutting Mosque (Author's Phot)



**Figure 9.10**  
Washing Space in Mosque (Author's Photo)



**Figure 9.11**  
Quality of Light in Entrance Foyer of Mosque  
(Author's Photo)



**Figure 9.9**  
Temple David Interior (Author's Photo)



**Figure 9.8**  
Temple David Ark (Author's Photo)



**Figure 9.12**

Our Lady of Lourdes Catholic Church

(Our Lady of Lourdes Catholic Church: 2009)



**Figure 9.14**

Our Lady of Lourdes Catholic Church, Interior

(Our Lady of Lourdes Catholic Church: 2009)



**Figure 9.13**

Our Lady of Lourdes Catholic Church, Stained Glass

(Our Lady of Lourdes Catholic Church: 2009)

## APPENDIX E

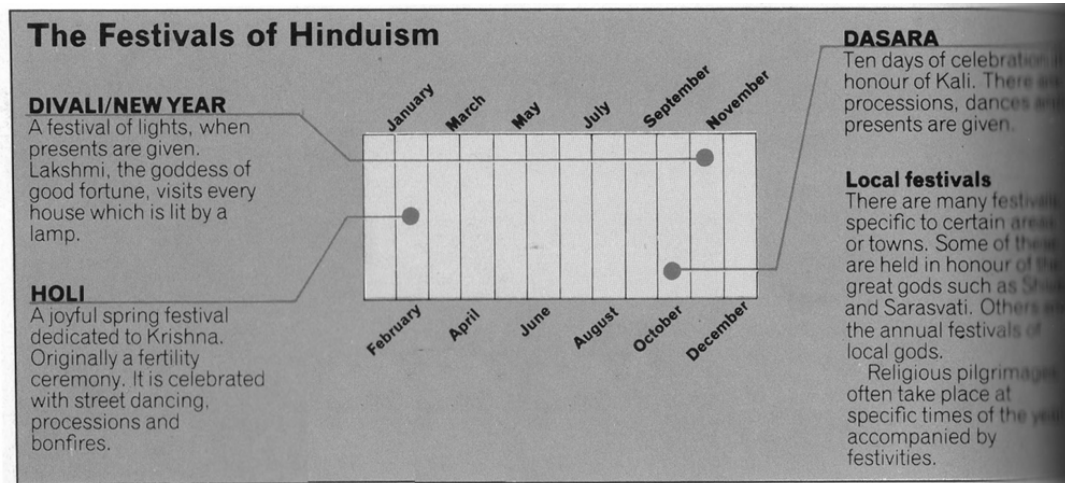


Figure 9.15

Hindu Festivals (Beaver, 1982: 194)

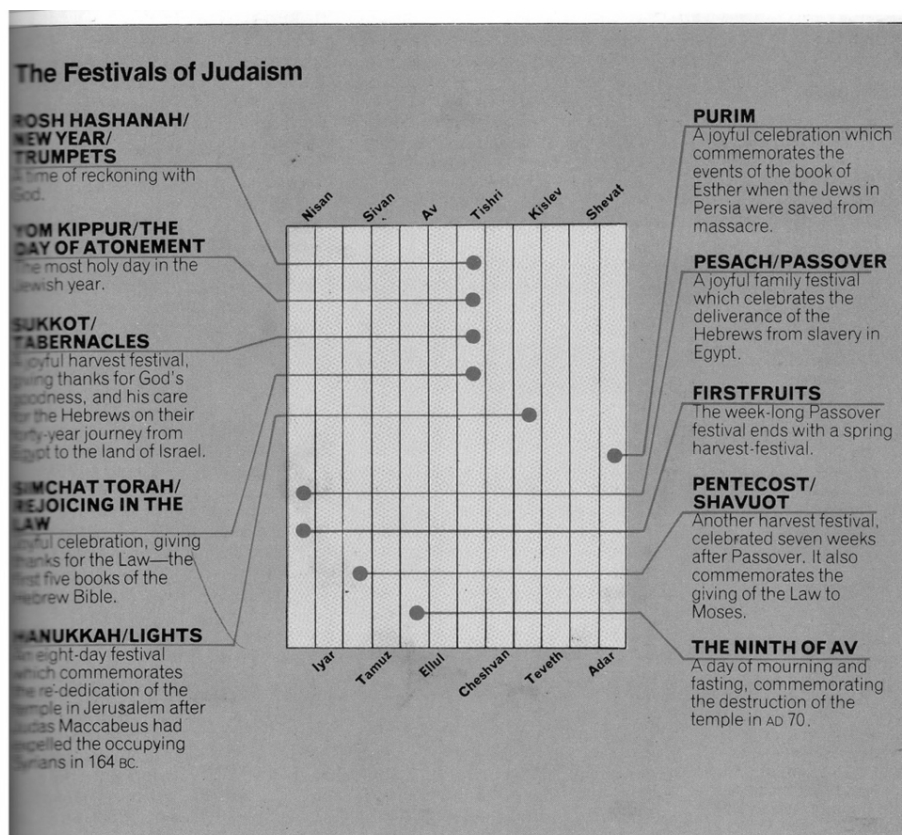


Figure 9.16

Jewish Festivals (Beaver, 1982: 275)



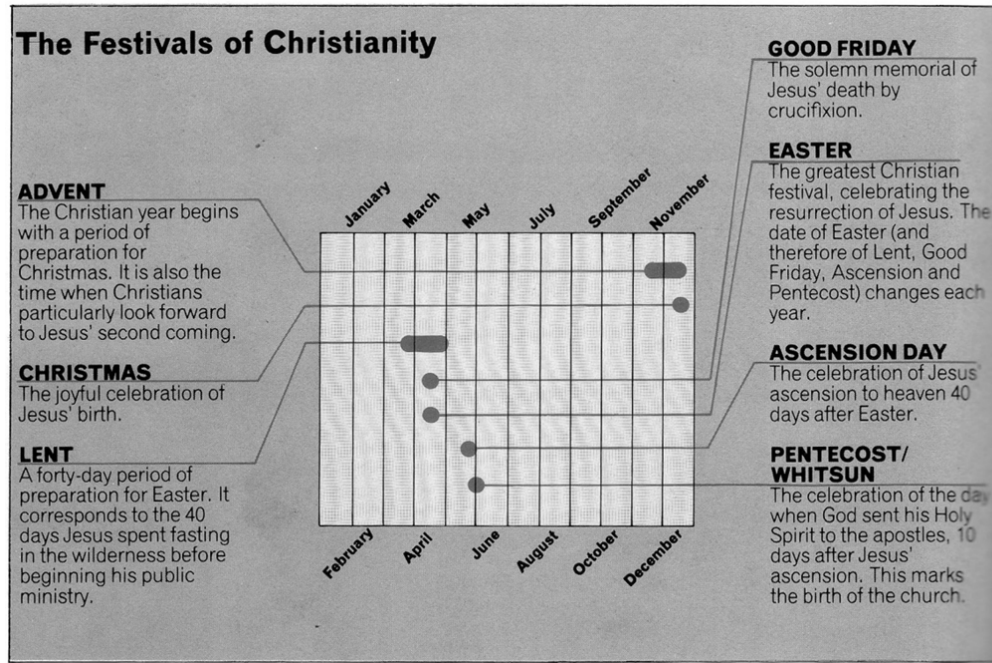


Figure 9.17

Christian Festivals (Beaver, 1982: 366)

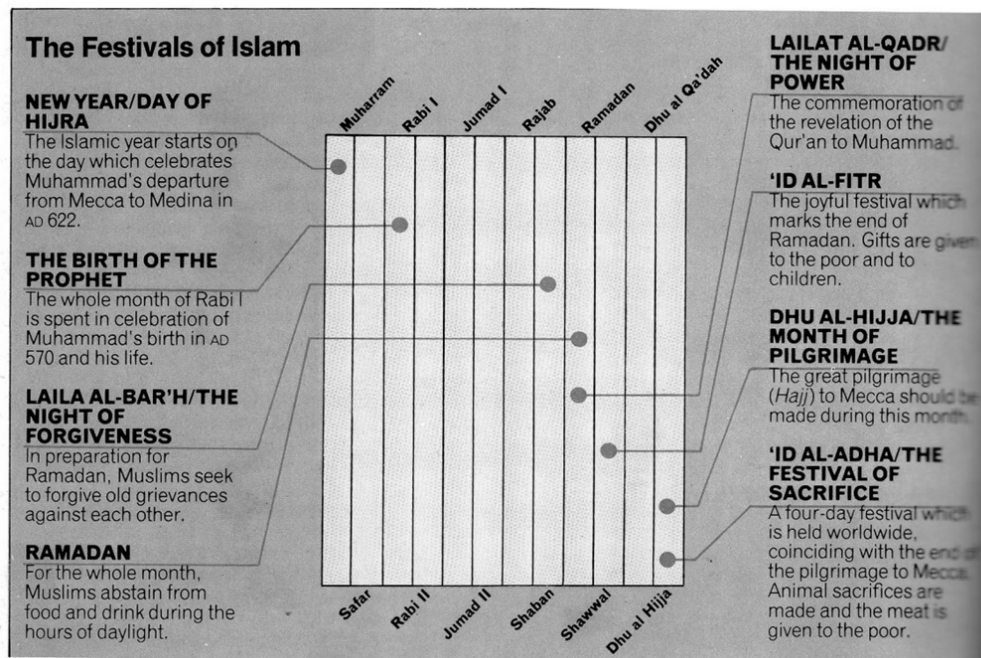


Figure 9.18

Islamic Festivals (Beaver, 1982: 320)

The Influence of the Mediating Qualities of Sacred Space, Symbols and Rituals on the Built Environment

**A PROPOSED INTER-RELIGIOUS RETREAT AND EDUCATION CENTRE FOR DURBAN**

**DESIGN REPORT**

By

**MATTHEW ROBERT ARGALL**

**2010**

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## **CHAPTER ONE**

### **INTRODUCTION, CLIENT AND BRIEF**



## INTRODUCTION

The proposed design project is fundamentally based on the argument of Kellenberger (1993: xi) that an issue of “ever more pressing concern in today’s world of commingled cultures is the relationship between the religions of the world.”

Throughout history, religion has been one of the major commissioners of great architecture. The proposal based on the idea that the mediating qualities of sacred space, symbols and rituals can be taken even further to create an environment in which people from different religious and spiritual groups can come together and engage in constructive dialogue and conversation.

The research findings have supported the initial hypothesis statement that architecture can mediate dialogue between religious and cultural societies by getting to the essence of the essential characteristics of sacred architecture. By establishing a set of similarities and differences between each, it is possible to design an inter-religious facility within a set framework. This framework is made up of symbolic and ritual elements found in each religion, determining the common element that drives the creation of the sacred sites, namely good will and faith.

One of the main promulgators of conflict in the world is different religious beliefs and the lack of respect and understanding between them. It is not religion itself that is the problem, but a misunderstanding and misinterpretation of others religious beliefs, as well as misunderstanding of peoples own beliefs that leads to conflict. This misunderstanding has led to the formation of prejudices and stereotypes in society which are often difficult to change. With terrorism a prevalent threat to society, based on religious differences and misunderstanding, and serious conflict in the Middle East, Africa, Ireland and other parts of the world, the need for tolerance and understanding of each other’s beliefs is integral to the creation of peace. If the misinformation does not result in conflict, it results in fragmentation within various religious groups which leads to more tension. Various religious leaders around the world have called for an end to conflict and called for tolerance towards each other. Pope Benedict XVI has said that the only path towards peace is to create dialogue and interaction between religions and has demonstrated this by visiting and moving between Jewish and Muslim communities in the

Middle East and talking to them and interacting with them. In order for this interaction and peace making process to work, it is necessary to look for precedents of places and countries where it has been done successfully before and understand the fundamental principles that govern an attitude of tolerance. There are already organizations involved in the promotion of interfaith dialogue such as the Interfaith Dialogue Centre (IDC) in North Jersey, America and the KZN Interfaith Council. An extract from the website of the IDC illustrates similar thinking in terms of creating inter-religious respect and understanding:

“IDC endeavors to promote respect and mutual understanding among all faiths and cultures through partnership with other religious and interreligious organizations by organizing educational and cultural activities such as lectures, seminars, conferences, discussion panels, luncheons and trips to Turkey. By this mission IDC aims to contribute to improvement of diversity, pluralism and multiculturalism in the society.”

- Interfaith Dialogue Centre (2010)

South Africa is a prime example of a place where different ethnicities and religions have learnt to live together in tolerance of one another. Durban specifically is a rare case where in one small area, a mosque; temple and church may be found (Refer to Appendix D to see an example). These are all main stream religious communities living in and amongst each other, together with the smaller groups and fragmentations within these communities. In fact, KwaZulu-Natal is home to an existing provincial interfaith council headed up by Cardinal Wilfred Napier (SAUPJ: 2010). It is therefore an appropriate place for a centre where religious societies, both local and international, can come to meet, to interact and to talk, on a social as well as spiritual level. The exploration of a multi-denominational architecture and the symbolism attached to it will set a precedent and possible prototype for centres of a similar nature around the world.

### **The Notional Client**

The client for the project is a joint venture between the eThekweni Municipality, KZN inter-religious council and the World Conference on Religion and Peace.

The KZN inter-religious council and the World Conference on Religion and Peace are both non-profit organizations and in collaboration with the municipality have come up with the necessary funding for the project, aided by the municipality. The eThekweni council believes that the project is in the best interest of the city as it celebrates the diversity of culture that exists in and around it. This proposed facility will augment tourism and provide a starting point for spiritual tourism within the city.

The KZN Inter-Religious Council is a non-profit organization headed up by the Cardinal Wilfred Napier that brings together leaders of different faiths throughout KZN in order to create dialogue, understanding and tolerance amongst one another. All religions have a common goal of goodwill towards people and the Inter-Religious Council holds outreach programs and workshops focused on activities of such nature (SAUPJ: 2010).

The WCRP is an international organization with offices based in Durban. Like the KZN Inter-Religious Council, the WCRP focuses on the coming together of people from different religions to work together towards tolerance and peace. The image below illustrates the diversity of the people involved in the WCRP.

*“The World Conference of Religions for Peace is the largest international coalition of representatives from the world's great religions who are dedicated to achieving peace. Respecting cultural differences while celebrating our common humanity, Religions for Peace is active on every continent and in some of the most troubled places on earth, creating multi-religious partnerships that mobilize the moral and social resources of religious people to address their shared problems.”* (Religions for Peace: 2011)



(Religions for Peace: 2011)

## **Client Brief**

The eThekweni Municipality in conjunction with the KZN Inter-Religious Council and the World Conference on Religion and Peace (SA Chapter) has commissioned the building of an inter-religious center that celebrates the prominent and diverse existence of religions in Durban and their peaceful co-existence. The center must provide a facility out of which these two organizations can operate, as well as facilities for retreat workshops, religious education (in the sense that people can come here to learn about all religions and their unique characteristics), inter-religious conferences and workshops, conferences and meetings of a particular religious group, worship and meditation facilities and accommodation facilities for travelling pilgrims as well as religious leaders. The building must be located close to existing religious buildings of different religions and play into the idea of “spiritual tourism” where people will come to learn about and appreciate the existence of religious groups other than their own and see how these groups peacefully co-exist.

## **Schedule of Accommodation**

### **ENTRANCE**

- Foyer
- Parking
- Toilets
- Office
- Gallery
- Store Room

### **PUBLIC**

- |                                    |       |
|------------------------------------|-------|
| • Adjustable Hall – 400 People /   | 400m2 |
| • 2 Small Halls – 100 People /     | 100m2 |
| • 2 Lecture Theater – 100 People / | 100m2 |
| • 2 Conference Rooms – 10 People / | 50m2  |
| • Library –                        | 200m2 |

- Small Chapel / Jama'at Khana / Temple(s) / Sanctuaries
- Gallery
- Library
- Restaurant or Café – 100m2
- Shop
- 2 Store Rooms – 25m2
- 1 x Male Ablutions (4 WC, 4 Urinals, 4 Basins)
- 1 x Female Ablutions (5 WC, Baby Room, 4 Basins)
- 2 x Disabled WC (Male and Female)

#### ADMINISTRATION

- 4 Offices for KZN Inter-Faith and WCRP – 15m2
- 2 Meeting Rooms – 25m2
- 1 Media Room (Photocopying, Printing)
- 2 Male Bathrooms, 2 Female Bathrooms
- 1 Store Room – 15m2

#### ACCOMODATION

- 2 x Luxury, 2 Bedroom Rooms - 30m2
- 4 x Silent Rooms, Sleeps 2 – Quiet, Simple. - 12m2
- 1 x Kitchen - Must Acc. All Eating Habits 200m2
- 1 x Hall – Divisible for Men and Woman? 200m2
- 1 x Male Bathroom (2 WC, 1 Urinal, 2 Basins)
- 1 x Female Bathroom (3 WC, 2 Basins)
- 1 x Disabled WC
- 2 Store Rooms - 20m2

#### ANCILIARY FACILITIES

- Bin Area
- Meter Room
- Electrical Room
- Plant Room(s)
- Store Rooms

## OUTDOOR FACILITIES

- Landscaped Park – Safe, Quiet, Defensible
- Areas for Contemplation / Meditation
- Spiritual Hotspots
- Water Features

## CONCLUSION

The proposed project will aim to deal with all the client's requirements and be solidly founded on the principles developed in the research document. The first stage is to choose an appropriate site for the building. From a general perspective, Durban and its surrounding areas will be the zone considered because of the diversity and proximity of different religious groups as well as the existence of inter-religious originations.

## **CHAPTER TWO**

### **SITE SELECTION AND ANALYSIS**

## INTRODUCTION

The sites that were considered were initially chosen based on the following criteria, namely: accessibility, space, shape, environment, views and proximity to existence places of worship. In terms of accessibility, sites that were along main routes or close to them but still offered a calm and tranquil environment was preferred. Space on the site had to be enough to have all the required facilities on. The shape had to be conducive to a building that required a large gathering space. The environment had to have qualities that would enhance the experience of mediation, peace and tranquility. Views out from the site were looked for but not entirely necessary. Proximity to places of worship was important as most visitors to the site would come from existing places of worship. The idea that existing places of worship and the proposed inter-religious retreat and education center could work in tandem was an important factor.

### Site Criteria Table

- Accessibility
- Proximity of Religious Buildings of All Different Religious Groups.
- Space for exploration of the outdoors.
- Views
- Pollution (Noise, Sight, Smell)
- Proximity to Other Important Cultural, Education and Conference Facilities in Durban.

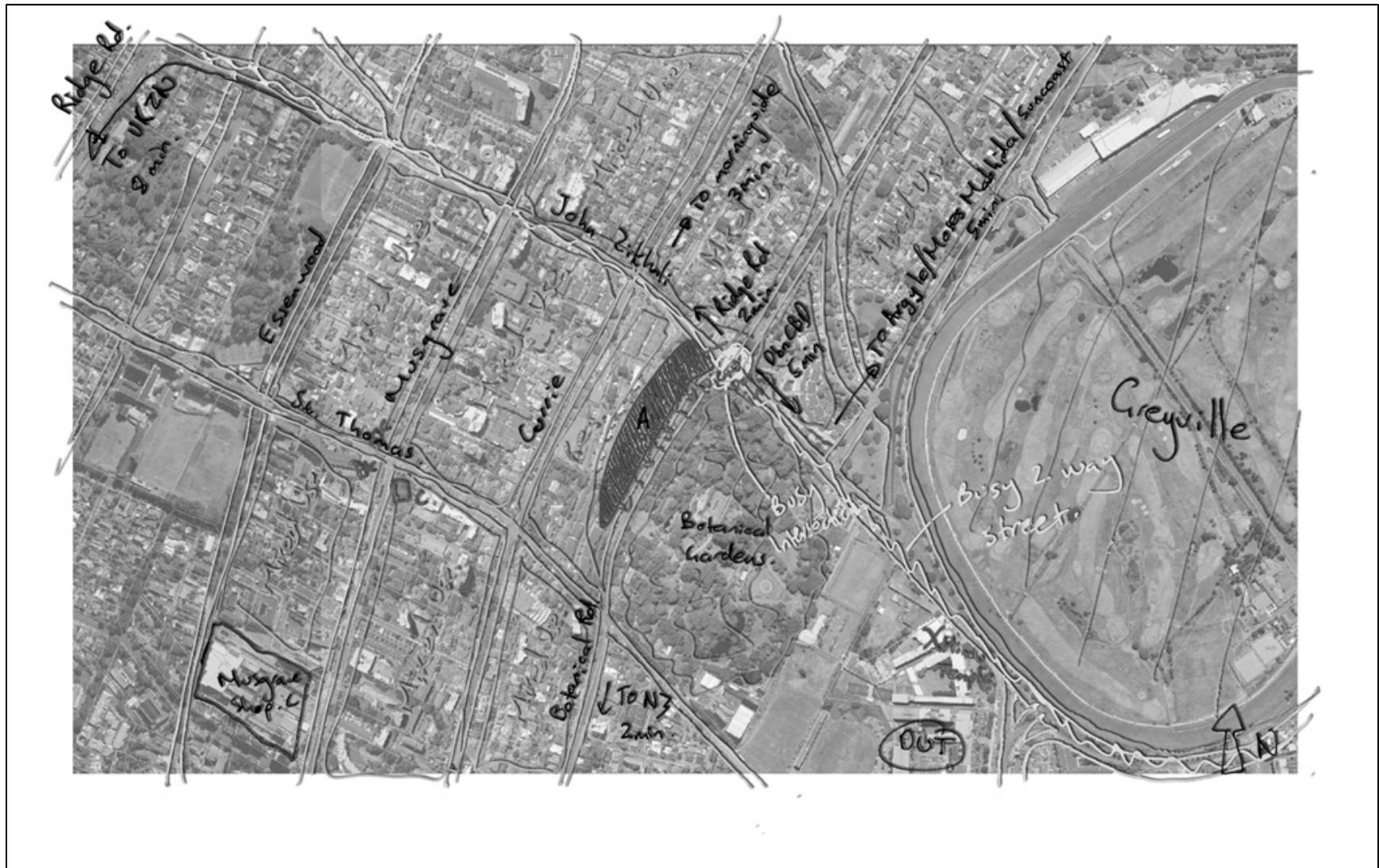
Each site will be given a score for each point out of 10. 10 is the best, 1 is the worst. The site with the highest score will be the strongest contender; however, if a site with a lower score is preferred, full justification will be given.



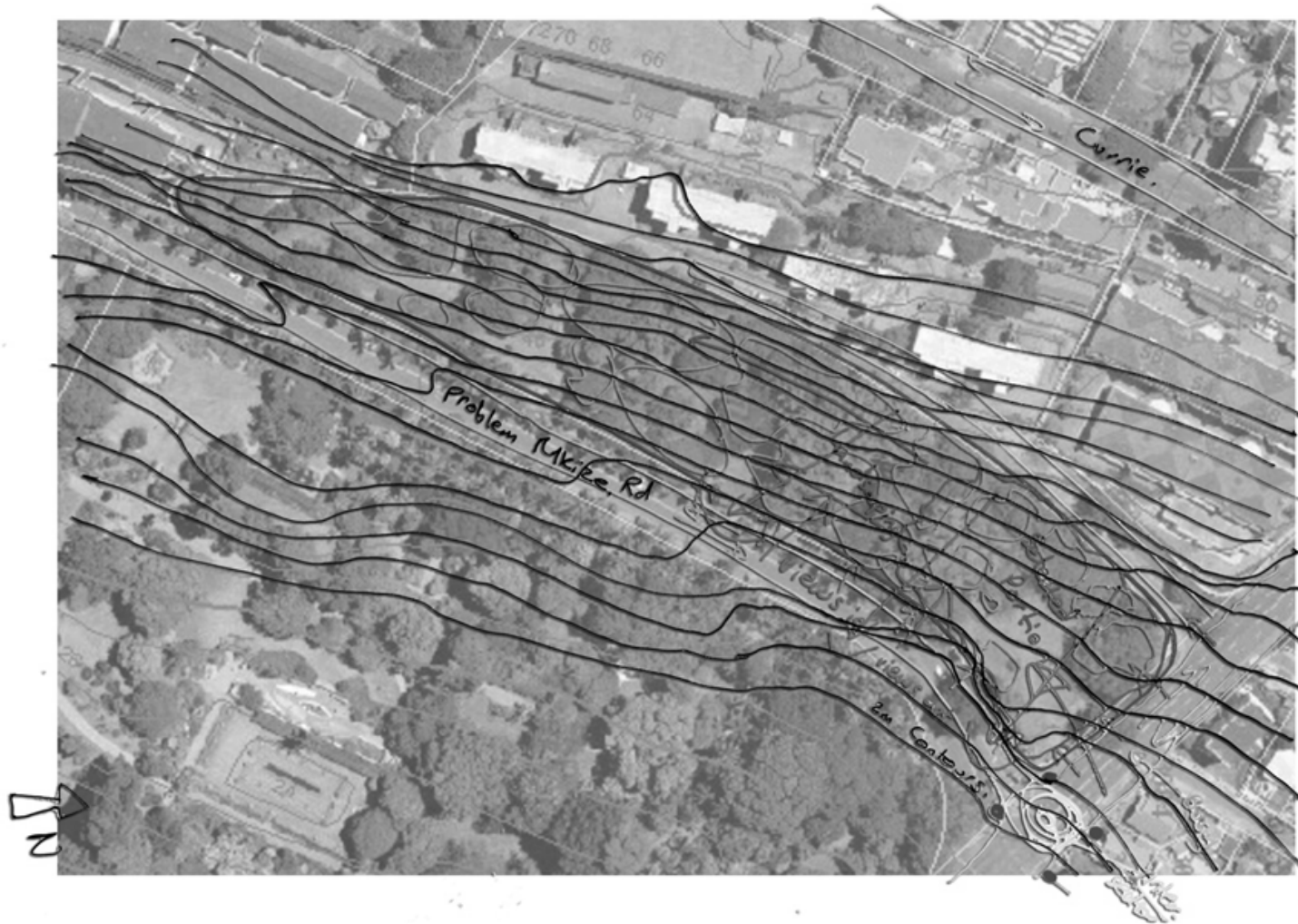
## Proximity Map



Site A



### Site A: Micro



## Site A: Pictures



View from North end entrance (John Zikhali Road)



View from East end up slope of site (from Problem Mkiza Road)

Location: Corner of Problem Mkiza and Botanical Gardens Road, opposite Botanical Gardens.	
Reason: The gardens act like a "sink" within the city, a place where a person can go an escape the hustle and bustle of the city. With a similar concept in mind, this site provides the perfect opportunity for a santous space in a busy area.	
Advantages:	Disadvantages:
Quite location in a busy area.	Protected site, building will have to be very sensitive to the environment although this could be seen as an advantage.
Close to nature goes hand-in-hand with the ideas of beauty and truth expounded by religions and their ideals.	Not much room for urban development.
Easy to find, close to the city and surrounding areas.	Site is narrow and may caus the building to leak further into the natural setting.
Nature acts as a natural filter to all types of polution; noise, sound, smell.	
Proximity to existing religious centers of all religions, Christian, Jewish, Hindu and Muslim.	



View up John Zikhali Road

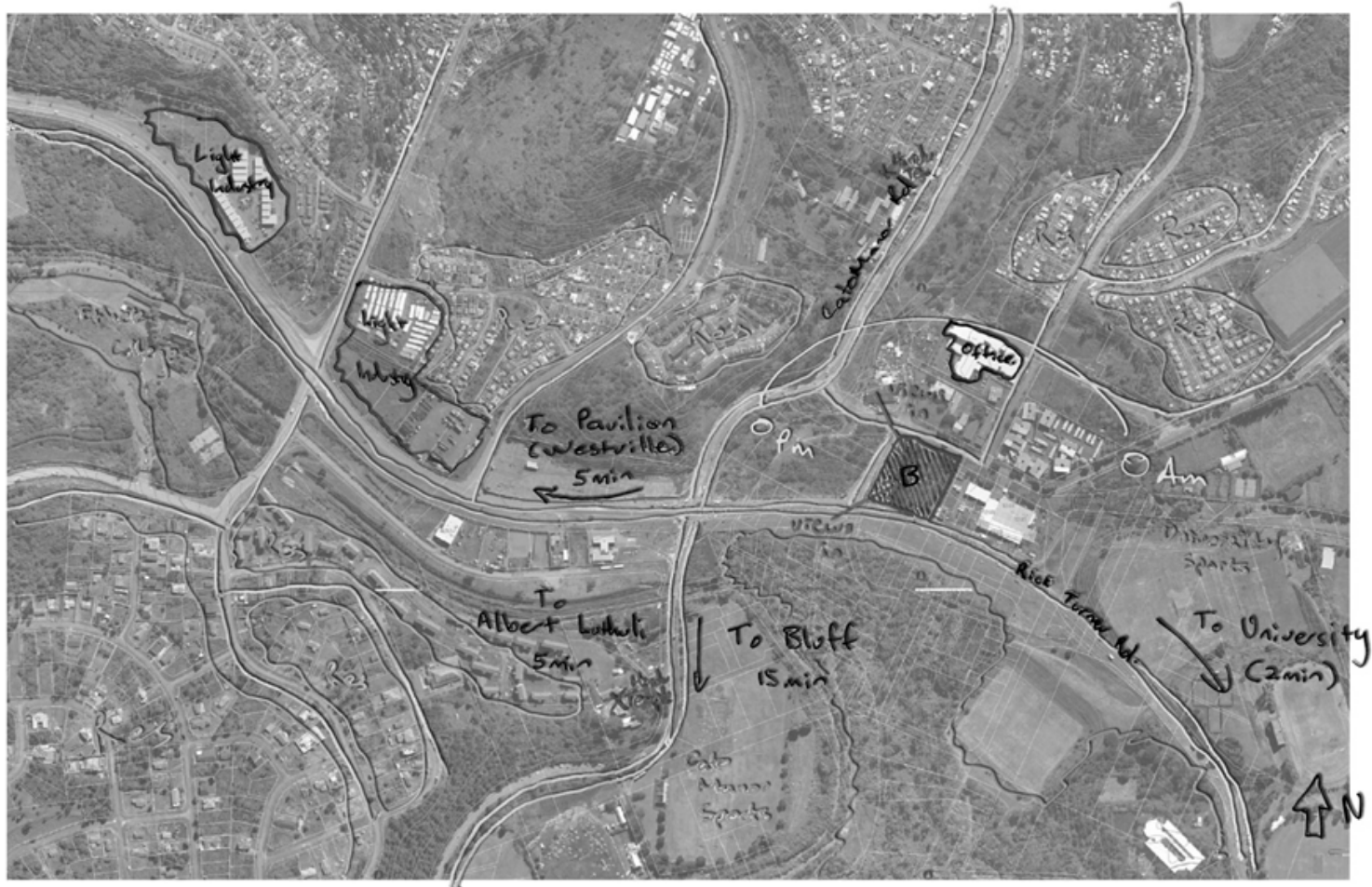


View from North End along edge of site (Problem Mkize Rd)



View at intersection of Problem Mkize and John Zikhali Road.

Site B



Site B: Micro





## Site B: Pictures



Rick Turner corner edge of site.



West edge of site.



West edge of site towards Rick Turner Road.



North edge of site.

Location: Corner of Rick Turner road and Cato Manor Road.	
Reason: Along a main route and close to university, possibility of using it as an extension of this learning Hub.	
Advantages:	Disadvantages:
Close to university, as it is meant to be a source of knowledge and development of understanding.	Quite a busy and noisy area.
Will receive lots of passing traffic and draw interest from academics, students and other people working in amenities near by.	Not much to look at in terms of the surroundings, it is very bland.
Easy to access and to find.	
Good urban opportunity to explore an upgrade to the surrounding urban fabric.	

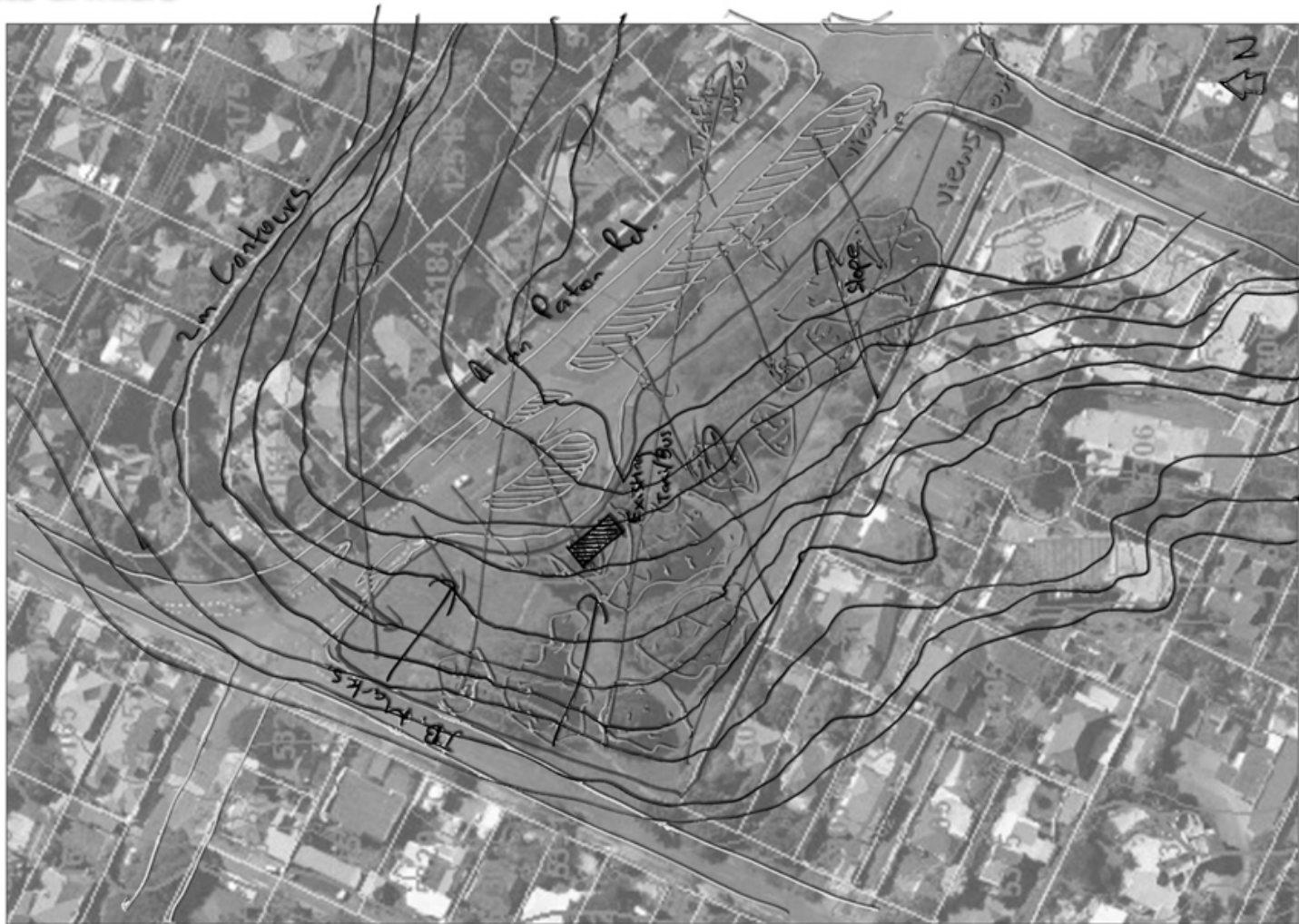


View from Rick Turner Road towards West.





### Site C: Micro



## Site C: Pictures



View from JB Marks road into site.



View from JB Marks road over site.

Location: Corner of Alan Paton and JB Marks	
Reason: Close to City, Quiet, Views are good.	
Advantages:	Disadvantages:
Close to university, as it is meant to be a source of knowledge and development of understanding.	May be too close to residential.
Quiet area as in a residential suburb.	Indigenous trees may get in the way and be difficult to move.
Close to main routes.	
Lots of open space.	



View from West end to South side of site.



View from up South - JB Marks Road.



View into site.

## Scoring

Each site is given a score out of 3, with 3 being the most favourable condition for that particular criteria, 2 being medium and 1 being undesirable.			
	Site A	Site B	Site C
Accessibility	3	3	3
Proximity to Local Places of Worship	3	1	2
Outdoor Space	3	1	2
Views	3	1	3
Noise Pollution	3	2	3
Proximity to Relevant and Important Places	3	2	2
Slope	2	3	2
Orientation	2	3	3
Need for Removal of Indegenous Vegetation	2	1	2
<b>Total</b>	<b>24</b>	<b>17</b>	<b>22</b>
Max	30	30	30
<b>Percentage Favourable:</b>	<b>80.00%</b>	<b>56.67%</b>	<b>73.33%</b>

## Final Site Selection

Initially Site A presented itself as the ideal site for this project, but after further investigation and some design drawings it was found that it was too long and narrow to suite the type of building required. The building required a site that was both long and wide but met similar criteria to that of site A. The next site considered is just 500m from site A and meets all the criteria except for the views.





## Site Analysis

### Locality Plan



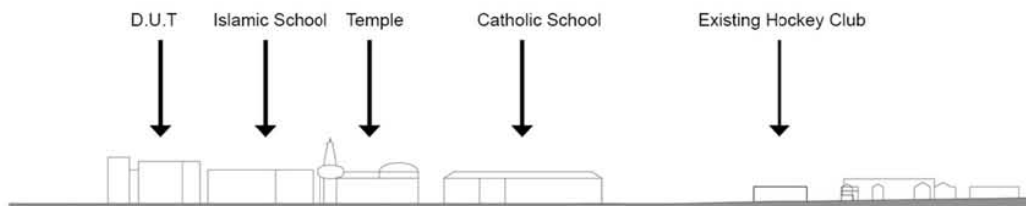
### Site Photo's



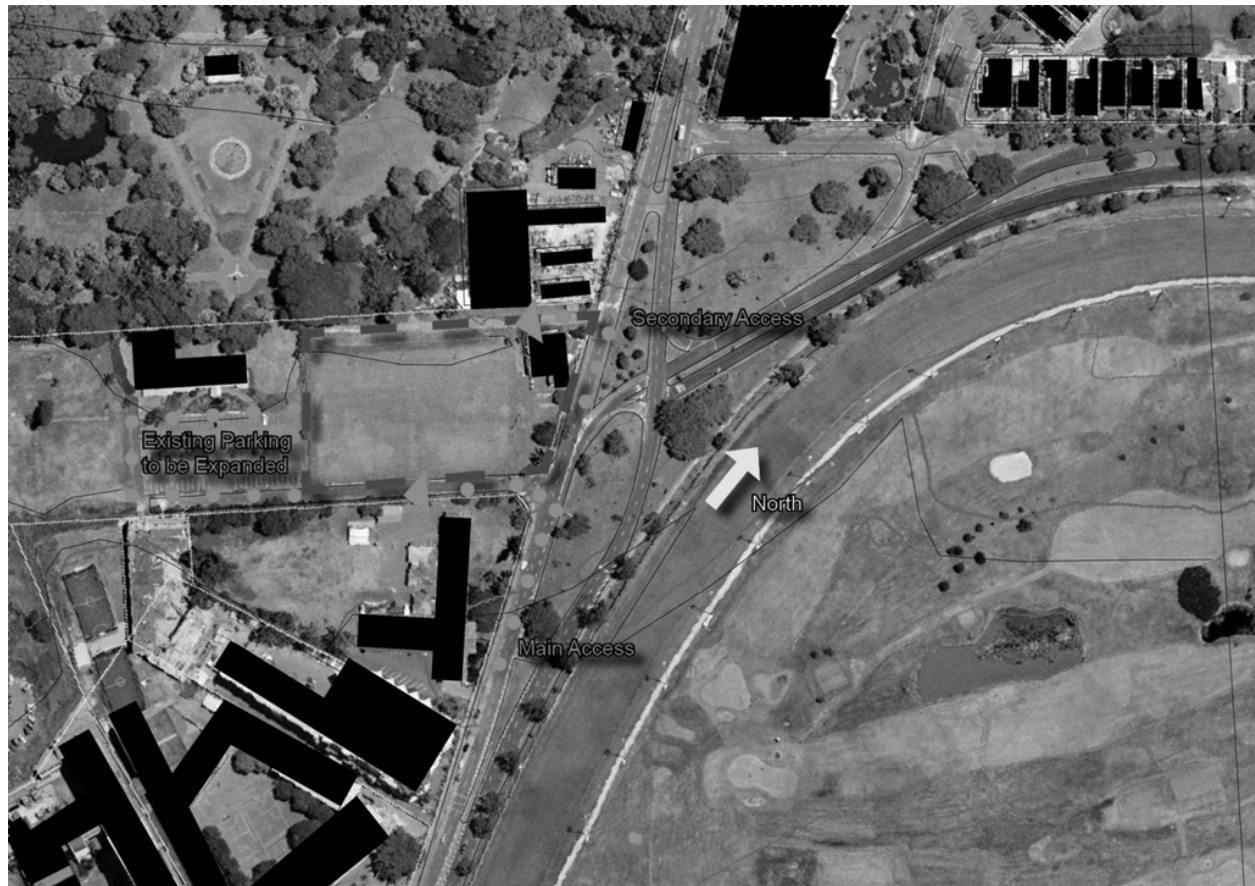
## Environmental Analysis



## Street Elevation And Site Section



## Site Access



## CONCLUSION

The chosen site is well suited to the proposed new project because of its location at the end of a line of different religious buildings. It is easily accessible from a main road, but has very quiet areas on all sides except the street side. It is adjacent to the botanical gardens and provides an opportunity for the sites to work together. The orientation of the site is good, with the main street elevation on the north-east side, where the largest façade of the building will be placed. The site has a main access point and a secondary access point that can be used to divide private from public entry to the building.

## **CHAPTER THREE**

### **DESIGN DEVELOPMENT AND RESOLUTION**



## INTRODUCTION

From the research findings, certain conclusions and recommendations were reached about how best to go about designing an inter-religious facility. The recommendation was to use the idea that there are two categories of elements that go into sacred architecture, and create a shell that exhibits the qualities of the category with all the common elements of the religions. Within this shell can be plugged any distinct elements for one particular religion. So for instance, if an Islamic community wishes to use the facility for itself on one occasion, the shell can be set up in such a way that it displays the distinct characteristics of a mosque as well as the qualities of sacred space that are not particular to a religion. In the same way, a church community can set up a Church, Jews and Synagogue, and Hindu's a temple. Even religions which were not studied in detail will be able to create their space within a space. If a number of different religions were visiting the facility together, the shell would be sufficient to create an environment that is invested with sacred qualities common to all, without given preference to any one religion and thereby offending the people. On further investigation, it was also found that this facility will be two-tiered in that on one side there will be the functional, everyday requirements of a building such as this; and on the other, there will be the need to create a space invested with the qualities of a spiritual environment. Certain elements and concepts were used as drivers for these ideas.

## THEORETICAL ISSUES

The key issue is summed up in the initial thesis question that asks: What form or type of architecture would be best for mediating dialogue between different religious and cultural societies?

On closer inspection of the site surroundings, it was found that the specific religious needs of each person are met by the existing buildings and there was not a need for the development of more mosques, churches, temples or synagogue's. It was therefore found that the best approach was to design a building that did not aim to usurp the current religious buildings in the area, but rather augment them with a facility that provided the essential requirements for anyone of any religion to go there as well as a facility that could be used for inter-religious gatherings, hired out

for specific purposes, and used as an education and retreat facility. The idea then was to create a normal building that had an overwhelming sense of place. Place theory, as argued by Norberg-Schulz (1979:10), is that a location is elevated to the status of place when it expresses a distinct character or *genius loci*. Timothy and Olsen (2006: 25) argue that the interpretive distinction between space and place is that space lacks meaningful content, and that a space becomes a place when it is punctuated with meaningful content. In conclusion, meaningful content in the case of sacred space is theological content applied by particular religions in the form of symbols and rituals.

The key aims of the design are then to:

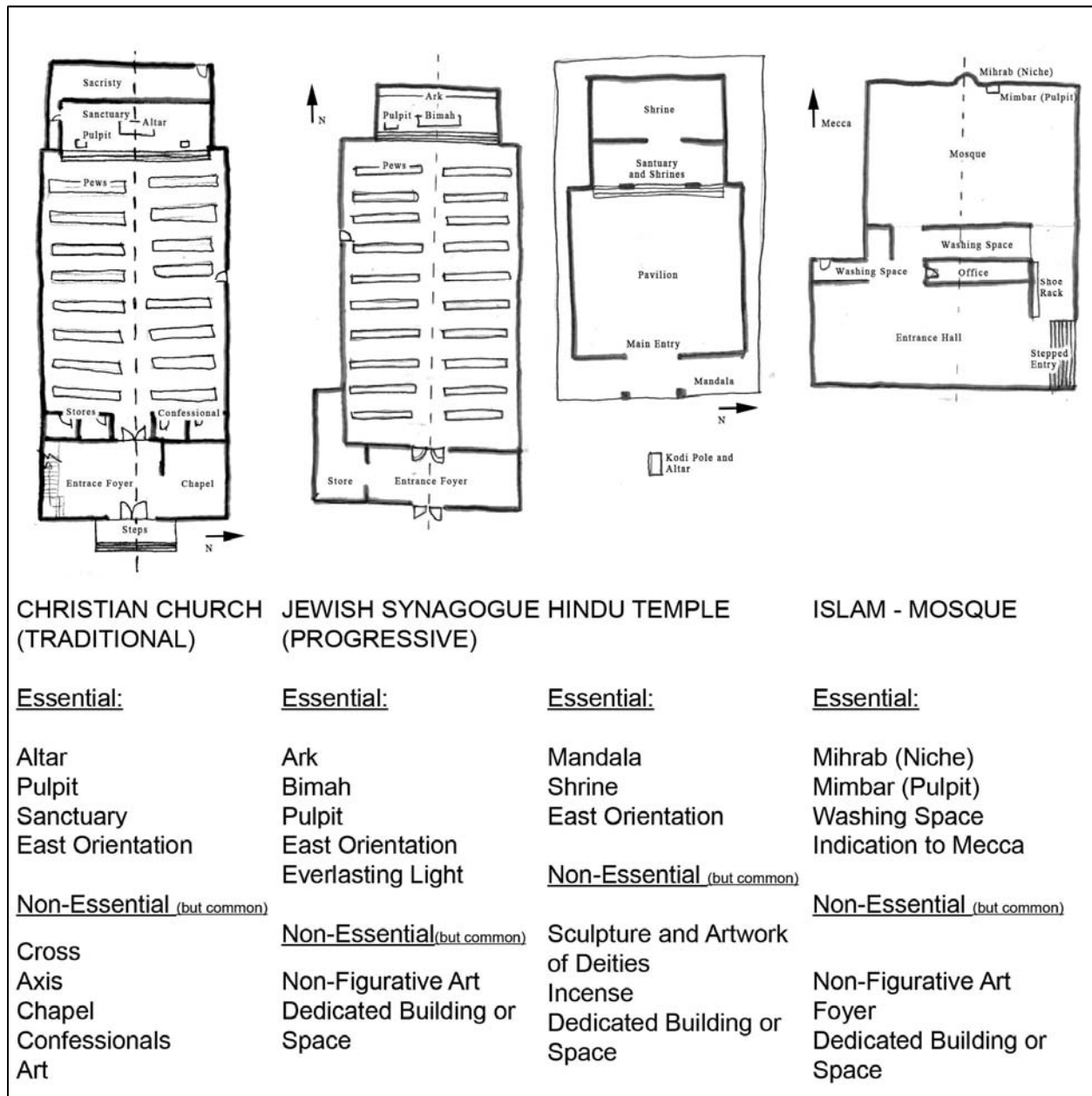
- Create a building that is a meaningful place.
- Not to emulate existing religious building is an eclectic mix up of building styles, but rather to take a more back-stage approach and create an appropriate architecture that anyone can use.
- Create a building that will be used continuously, everyday, day and night.
- Create a safe and defensible space.

## CONCEPTUAL DEVELOPMENT

### **The Concept of Versatile Sanctuary**

The concept of a versatile sanctuary is that the similar architectural elements of religious spaces of worship that are essential to the ritual act of worship can be contained within any space. It was found in the research study that the essential elements of each religion that make a space suitable for a particular religions type of prayer and worship are the interior elements only and are only a few. Most religious buildings are recognized by the external elements; however these are seldom elements that are essential to the practice of ritual worship. For example, the Minaret on a Mosque is a feature typical of almost each and every mosque; however, it is not an essential element and only came about as a result of the need to call people to worship. In the modern world, this is often replaced with a loudspeaker and sometimes is not used at all. In airports,

skyscrapers and many very public and monolithic buildings; chapels, temples, mosques and synagogues are created within rooms inside these building by simply having a few essential elements required in the creation of these space.



## Light

The idea of light as a symbol in religion is expressed in this quote:

*“Rays of light and glowing things were celebrated and worshipped as appearances of the divine, becoming woven into primordial symbols and icons, and in churches and temples, as in painting and sculpture, handled as miraculous substances”* Plummer (1997: 17)



Church of Light (Richardson, 2000: 13)

Light appears over and over again as a common element and symbol in sacred architecture. A common theme in religion is light conquering darkness, overcoming the shadow and bringing about a promise of a better life. This symbol is often seen and used in architecture in the way openings are treated, lighting sources are placed and the effect these can give. The Church of Light by Tadao Ando illustrates more clearly than any words the impact that light can have on a spiritual space. Even more so than water, light is a symbol of the Divine. Schittich (2002: 10) argues that sacred spaces must evoke moods, be unique in their function and have symbolic content. This can be done by the interplay and material qualities of its enclosure and by how light is directed.

- Light can be used to evoke moods.
- Light can give meaning to a space.
- The contrast of light and dark is an important characteristic of architecture, as it provides clarity, light and shade and interest.

## Water

Water has long been used as an element to promote and express cleanliness, calmness, the beauty of creation, life and serenity. Religions from the beginning of time have used water in some form or another but all have used it in as a way of purification (Moore, 1994: 22). Davey (1998: 204)

argues that since Roman times, water has been a life-enhancing adjunct to buildings, intensifying their meaning and impact. This is an important notion to understand in the design of sacred architecture as the concern should be with exactly that; to create meaning and symbolism; and to intensify the impact or the place-memory of the building. A religious or sacred building should not merely be a space where people gather for a common need, but should be elevated to the



Church on Water, (Richardson, 2004: 8)

status of a “place”, something that will inspire a memory or some deeper spiritual understanding. The argument of Christian Norberg-Schulz (1979: 10) is that a location is elevated to the status of a place when it expresses a distinct character or *genius loci*. Water can be used to give character to a place. The church on the water by Tadao Ando is an example of the use of water to enhance the spiritual experience. The sense of

tranquility and stillness required for deep meditation is greatly enhanced by the use of water surrounding a cross as a focal point.

- Water promotes the feeling of tranquility and calm.
- Water is a cool element and acts as a natural heat sink.
- Water has long be associated with all religions of the world as a symbol of purity and new life.

## **Community and Individuality**

From the research findings it was seen that religious worship is a two-fold phenomenon. On the one hand there is community worship and activities, where the people come together to pray and learn together. On the other hand, it is an individual experience where each person searches for meaning and a greater truth. The idea is that the stronger the individuals, the stronger the community, sort of like the links of a chain. It is therefore necessary to address both these tiers in

the design project, by providing a civic space where people can come together as well as private spaces for individual meditation and reflection.

- Provide community spaces such as halls, courtyards, worship areas.
- Provide meditation areas where individuals can go and have peace and quiet.

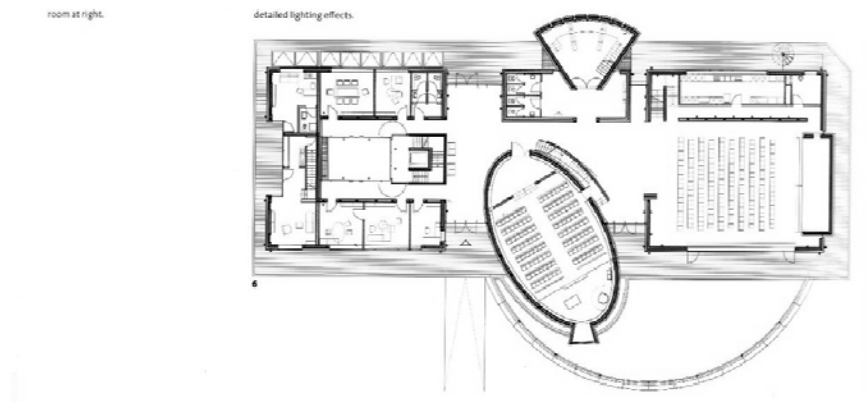
### Light and Water Precedent

New Synagogue Chemnitz, Germany



Source: (Richardson 2004: 52)

One of the main concepts for the new Synagogue in Chemnitz, Germany was to have a shape that is an “*elliptical exposed concrete crown growing towards heaven with a glazed rim.*” (Richardson 2004: 56) This concept illustrates how sacred space and place should move into new dimensions of conceptualization, spirituality, space/time and something that inspires a greater spiritual experience in the visitor. This idea can be seen in the plan and in the photo.



Source: (Richardson 2004)



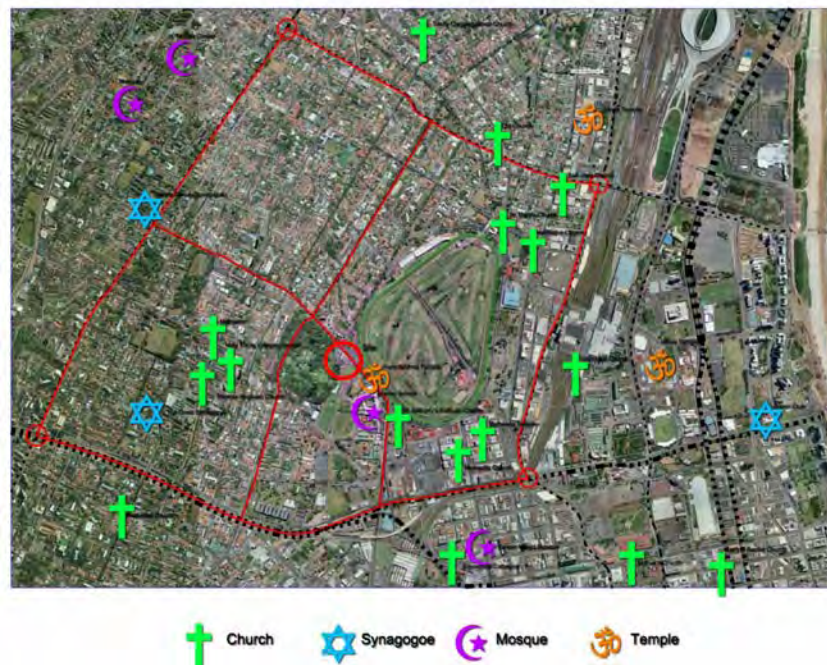
Source: (Richardson 2004)

In the above figures a narrow, semi-circular water basin is seen that the architect, as Richardson (2004: 56) puts it; used to form a “*symbolic barrier, or threshold, between the narrow slope of the lawn bordering the street and the synagogue entrance.*” The interior, as illustrated by figure 20, is made up of contrasts that enhance the colours and light of the space. The colours of blue



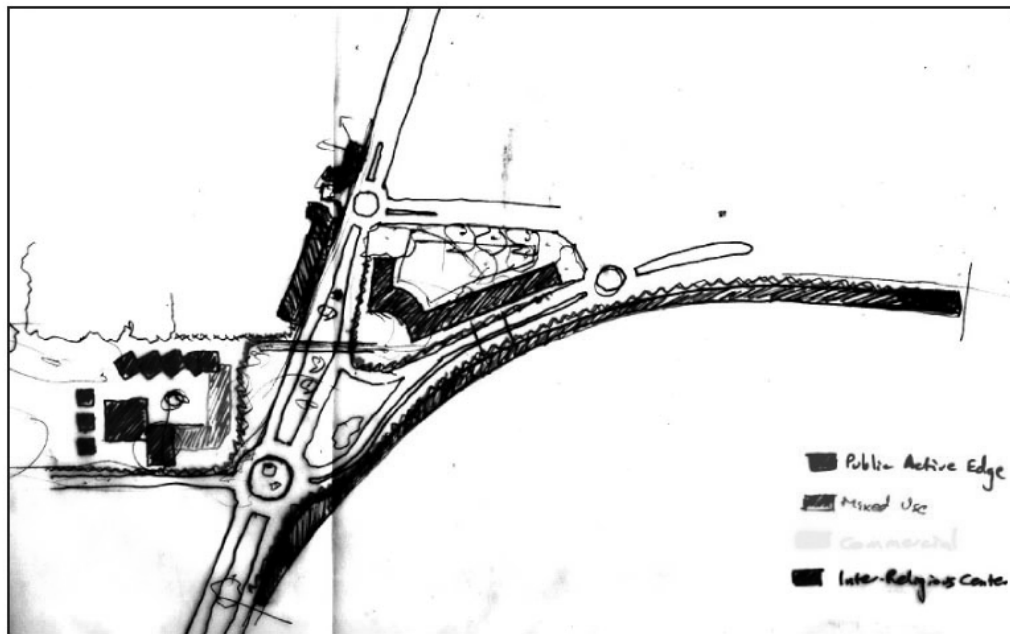
and white are traditional in the Jewish culture and are offset by the stark off-shutter concrete and warm timber sanctuary walls. A narrow window in the far wall and ceiling lights bring a soft light into the space, while two stars of David hang illuminated over the space. The space is spiritually rich and enhance by the natural flavour of the floor and seating, as well as the elliptical shape being maintained into the interior. On either side of the central space is another auditorium and then administration and accommodation facilities. Richardson (2004: 56) describes the interior in this way: *“Amid such bright and bold effects, feelings of joy and wonder pervade the interior. It is not a space that puts one entirely at ease, more in pleasant anticipation. The architect deliberately set the traditional ceremonial elements off-center of the elliptical axis, in order ‘to leave the center empty... in this was a balance between worldly meditation and religious prayer is brought into this space.’”*

## URBAN DESIGN DEVELOPMENT



The map above illustrates the proximity and types of religious buildings close to the site, circled with a large red circle. The black dotted roads are the main roads in Durban. The red lines illustrated the boundary of Musgrave and shows how easy it is to link to the site. The red circles in the corners of the Musgrave square are not more than 2km from the site.

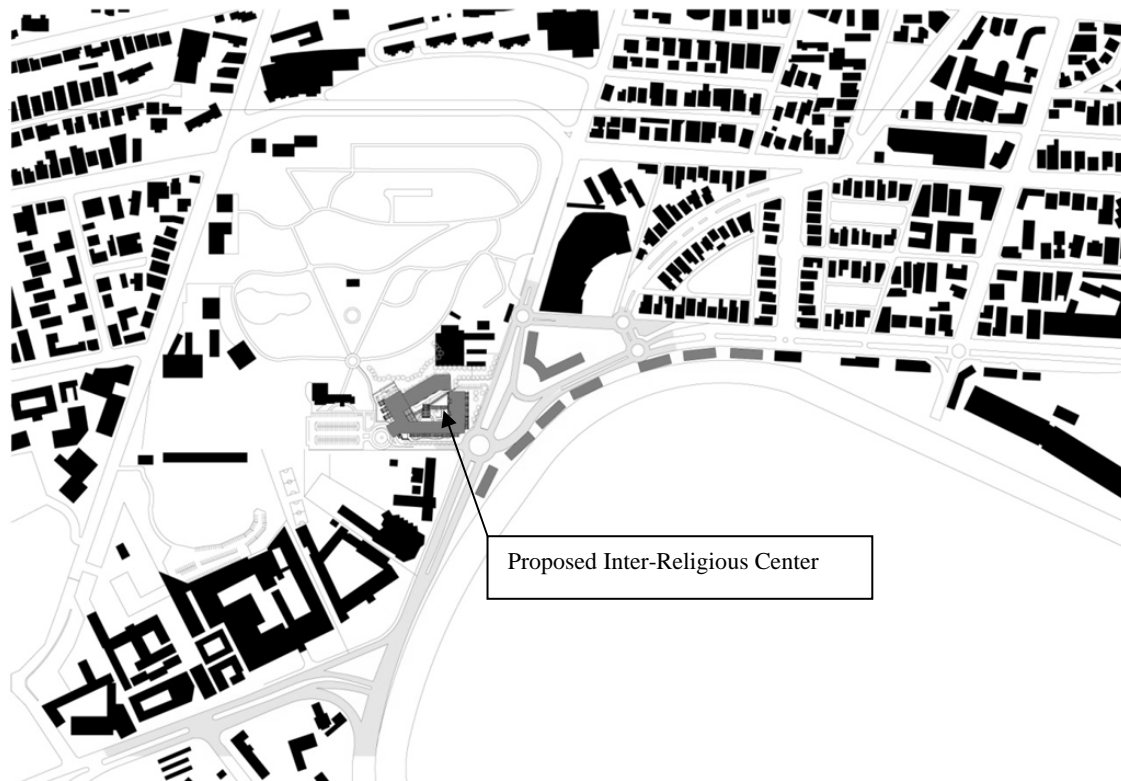




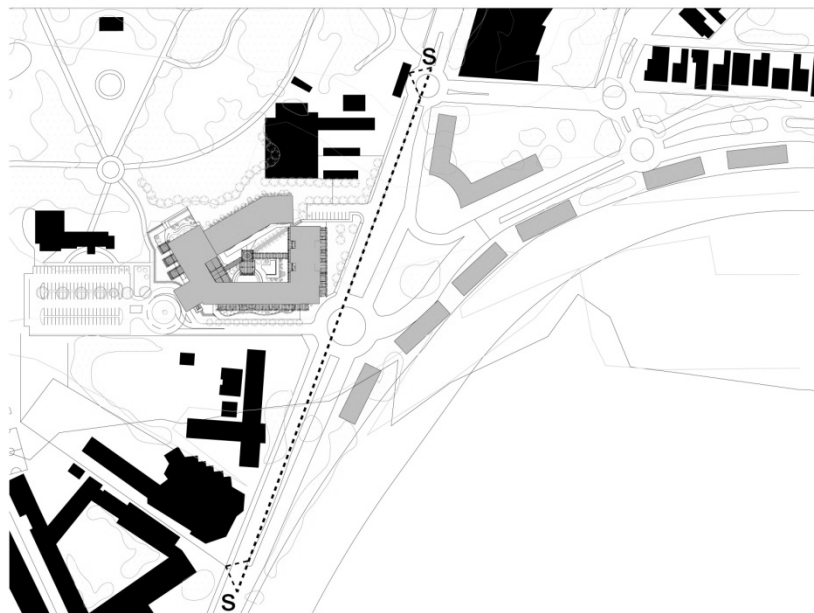
This is a sketch showing the proposed new active edges of the site as well as the new inter-religious center. In order to activate the edges, proposed mixed use development is shown in orange.

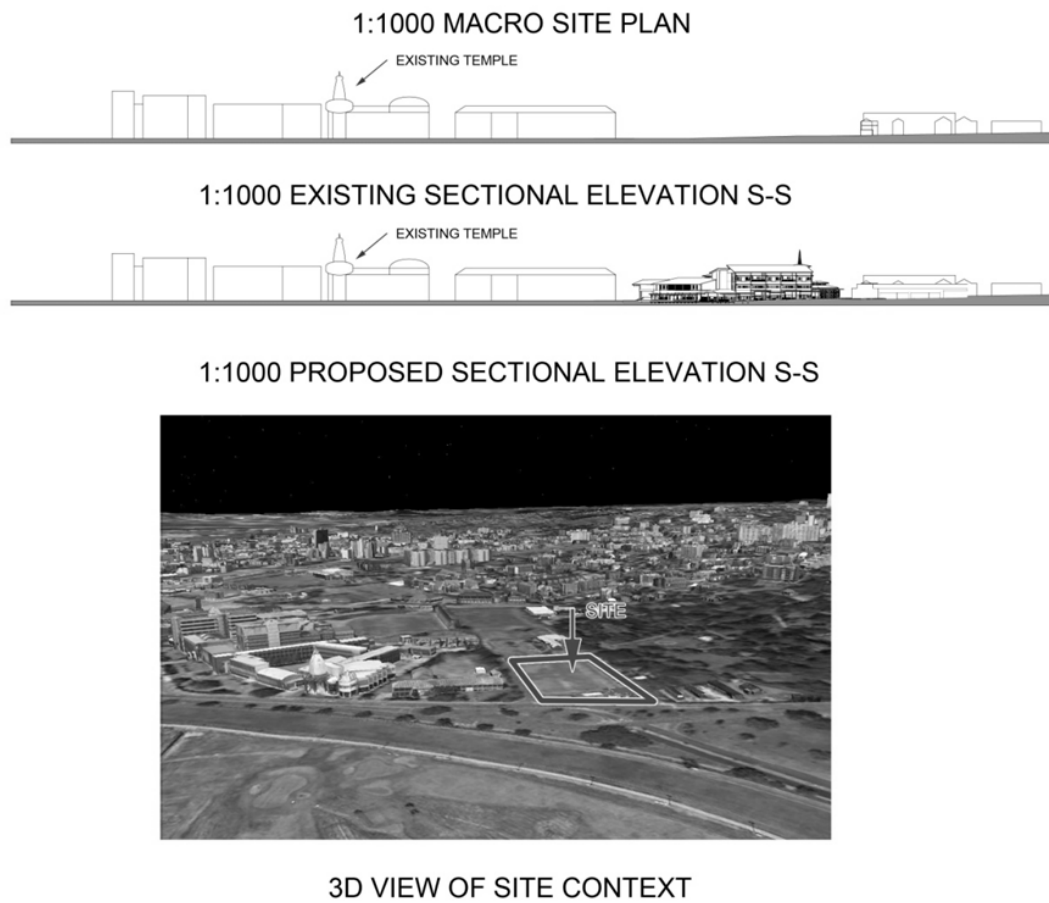


The above illustration shows the proposed active edges as well as the introduction of turning circles into the urban framework in order to calm a very busy road.



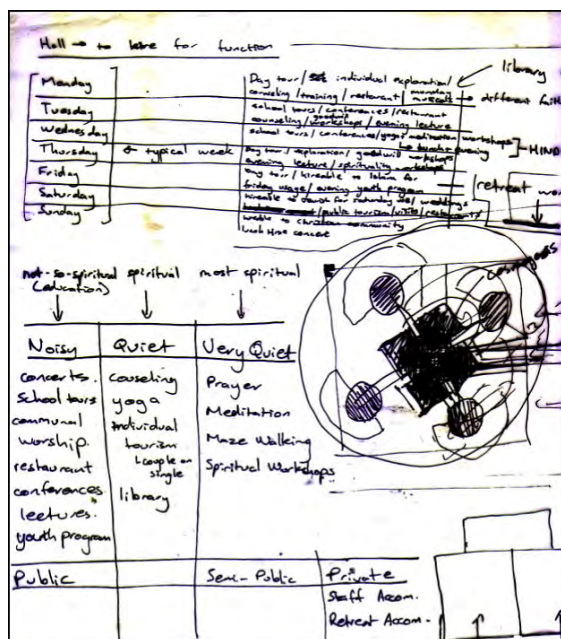
This figure ground sketch shows the footprint of the proposed new building as well as the proposed future mixed use development around the site. Below is a closer look at the site.





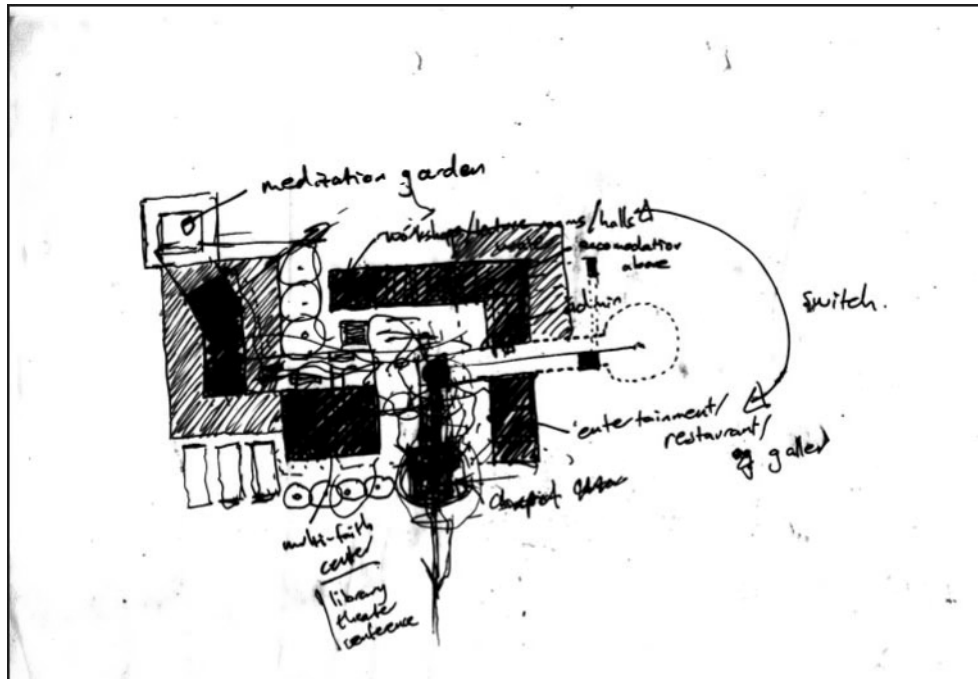
The above images show the context of the site. The street elevation illustrates how the building will fill in the “missing tooth” of the urban landscape. One of the concepts is to talk to the existing tower of the Hare Krishna temple and this is done with the design of a smaller tower for the building.

## DESIGN DEVELOPMENT

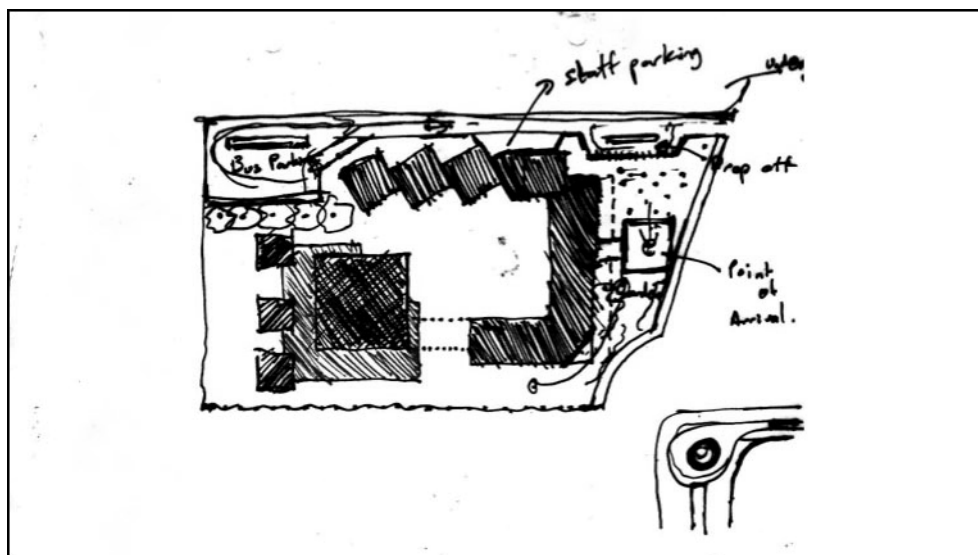


In this illustration the concepts of creating environments that were peaceful and tranquil were explored. A rough activity schedule was put together. The zoning was conceptualized into noisy, quiet and very quiet zones. From there further design exploration could take place. The activity schedule is further conceptualized in the table below. In order to keep the building busy, halls and the building will be available for hire for religious functions of a specific group such as weddings and festivals.

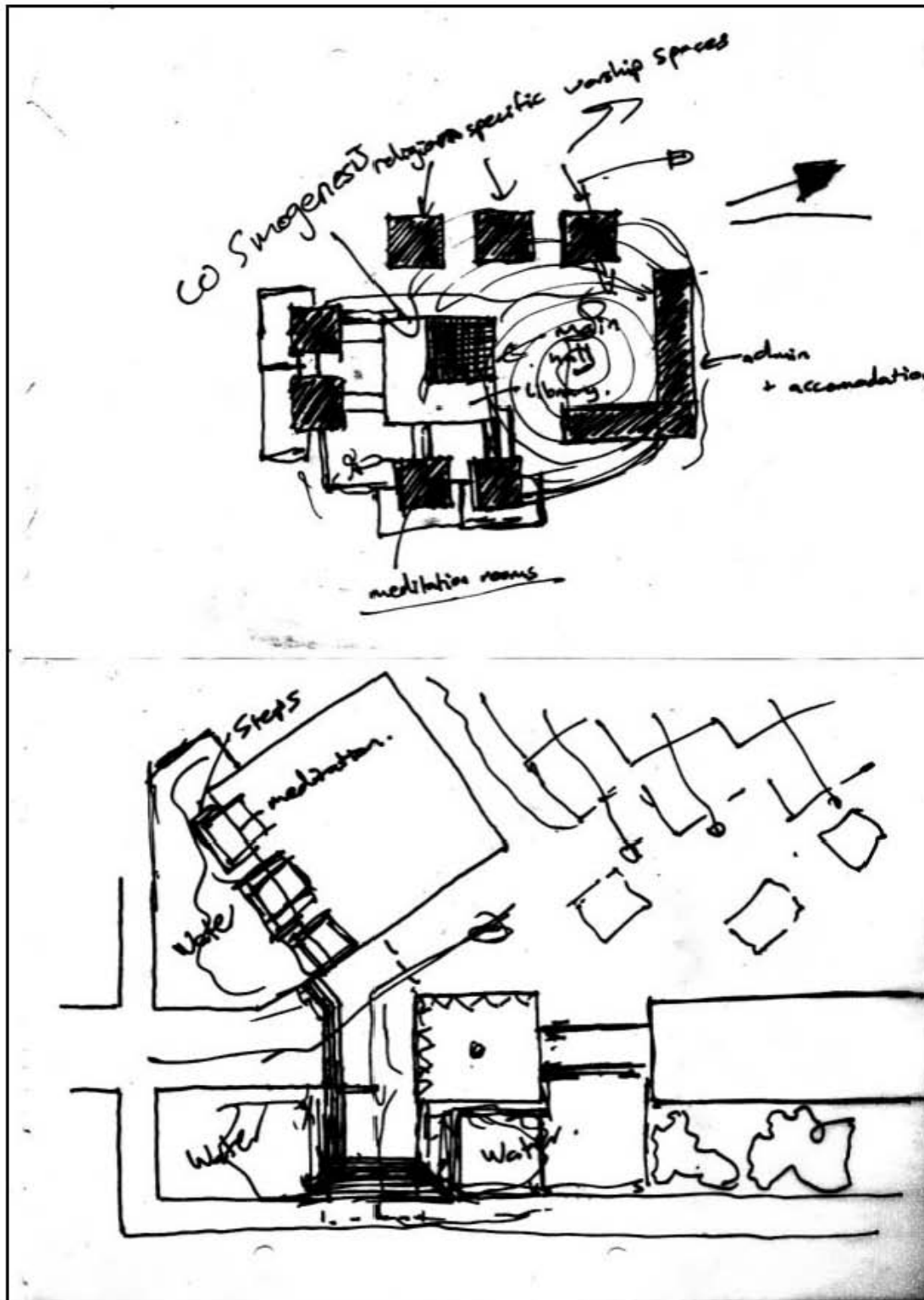
Typical Week			
<b>Monday</b>	Day tour / individual exploration / counselling / training / restaurant / Monday concert or musical	library open for study	multi-purpose hall available for hire
<b>Tuesday</b>	school tour / conference / restaurant / counselling / goodwill workshops / evening presentation or lecture	library open for study	multi-purpose hall available for hire
<b>Wednesday</b>	school tour / conference / restaurant / counselling / yoga and excersize classes / meditation workshops / hindu worship	library open for study	multi-purpose hall available for hire
<b>Thursday</b>	day tour / individual exploration / counselling / training / restaurant / spiritual workshops	library open for study	multi-purpose hall available for hire
<b>Friday</b>	Friday tour / islamic worship / evening youth program / group retreat program	library open for study	multi-purpose hall available for hire
<b>Saturday</b>	jewish worship / weddings / public tours / visits / lunch time concert / evening musical or dance	library open for study	multi-purpose hall available for hire
<b>Sunday</b>	christian worship / lunch program / meditation workshops / spiritual workshops	library open for study	multi-purpose hall available for hire



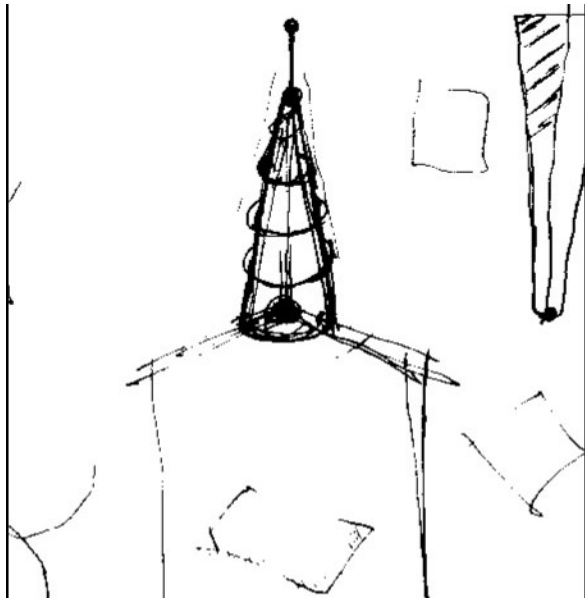
Zoning Sketch 1



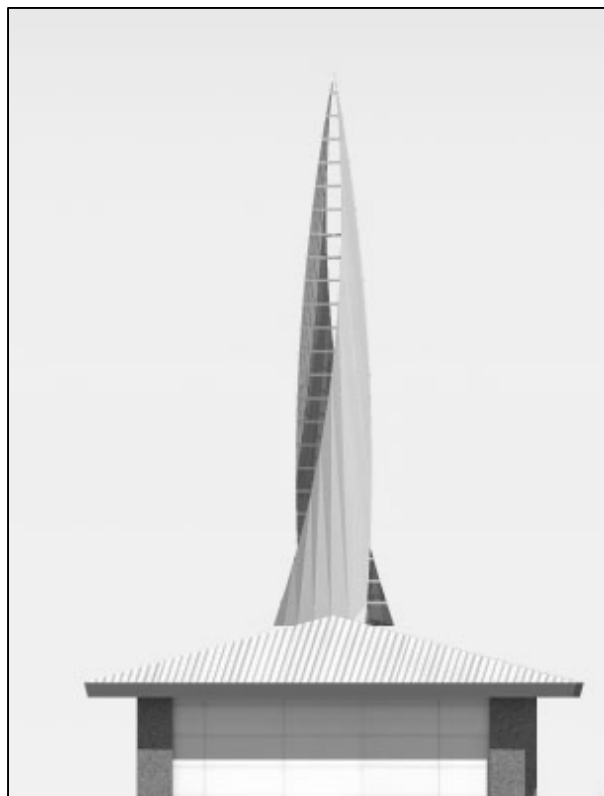
Zoning Sketch 2



Zoning Sketch 3

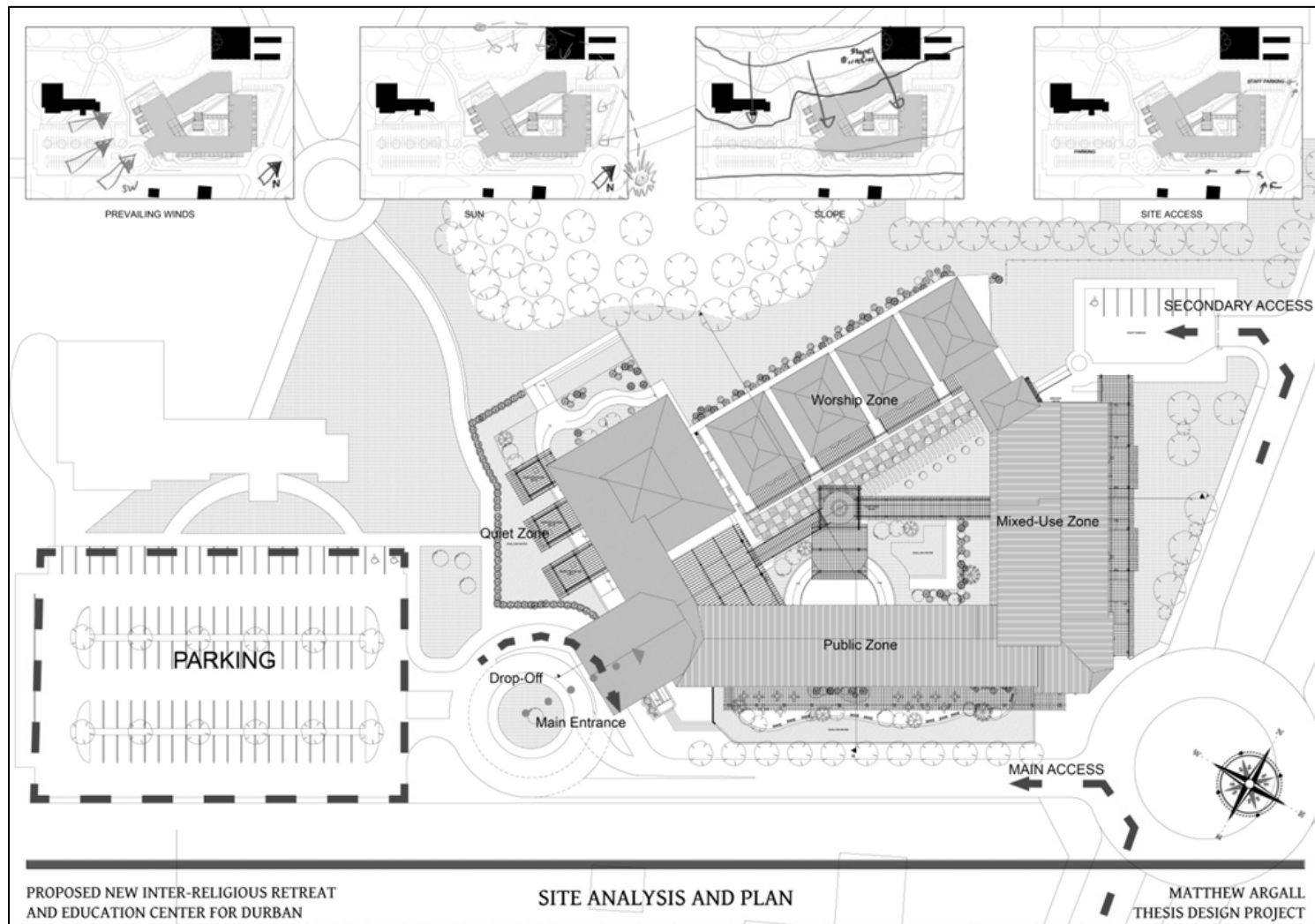


This illustration shows the conceptualization for the tower on the north-east façade of the building. The idea is to keep the spire abstract in order that it can be interpreted by each religion in any way they so wish. The concept for the spire was that it should be an abstract representation of unity. The final product can be seen below.

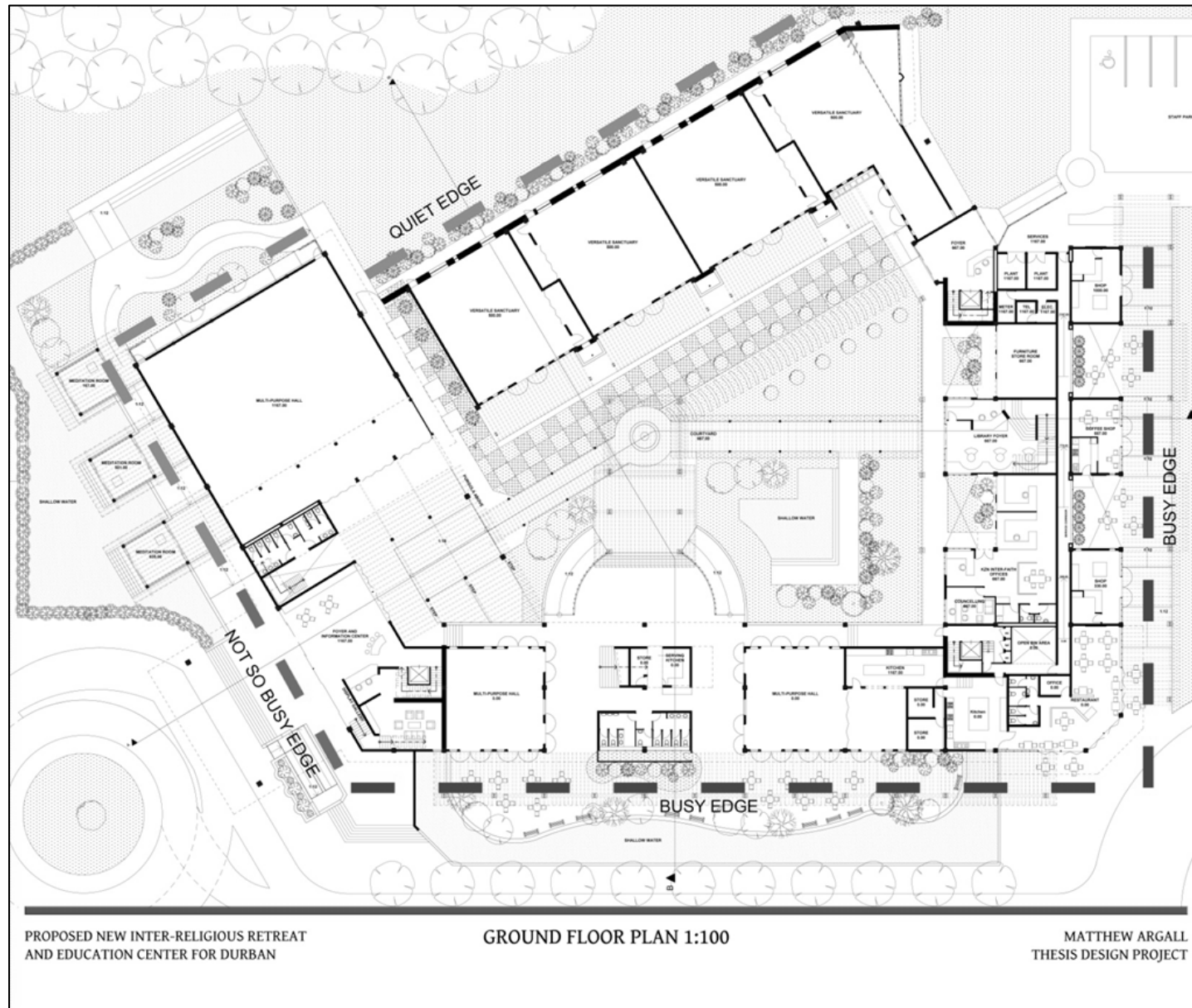


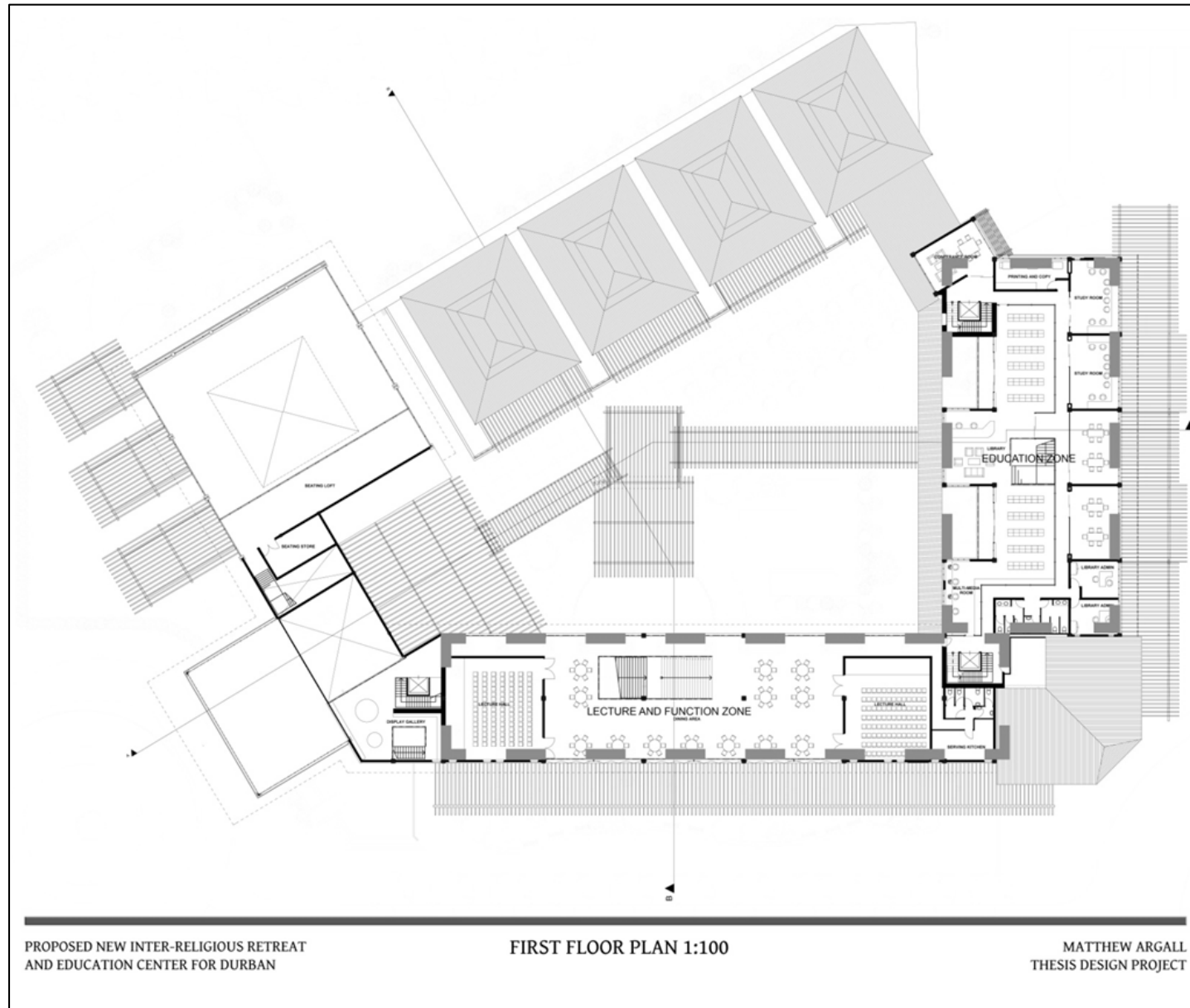
Render of sculpture on tower.

## DESIGN DRAWINGS

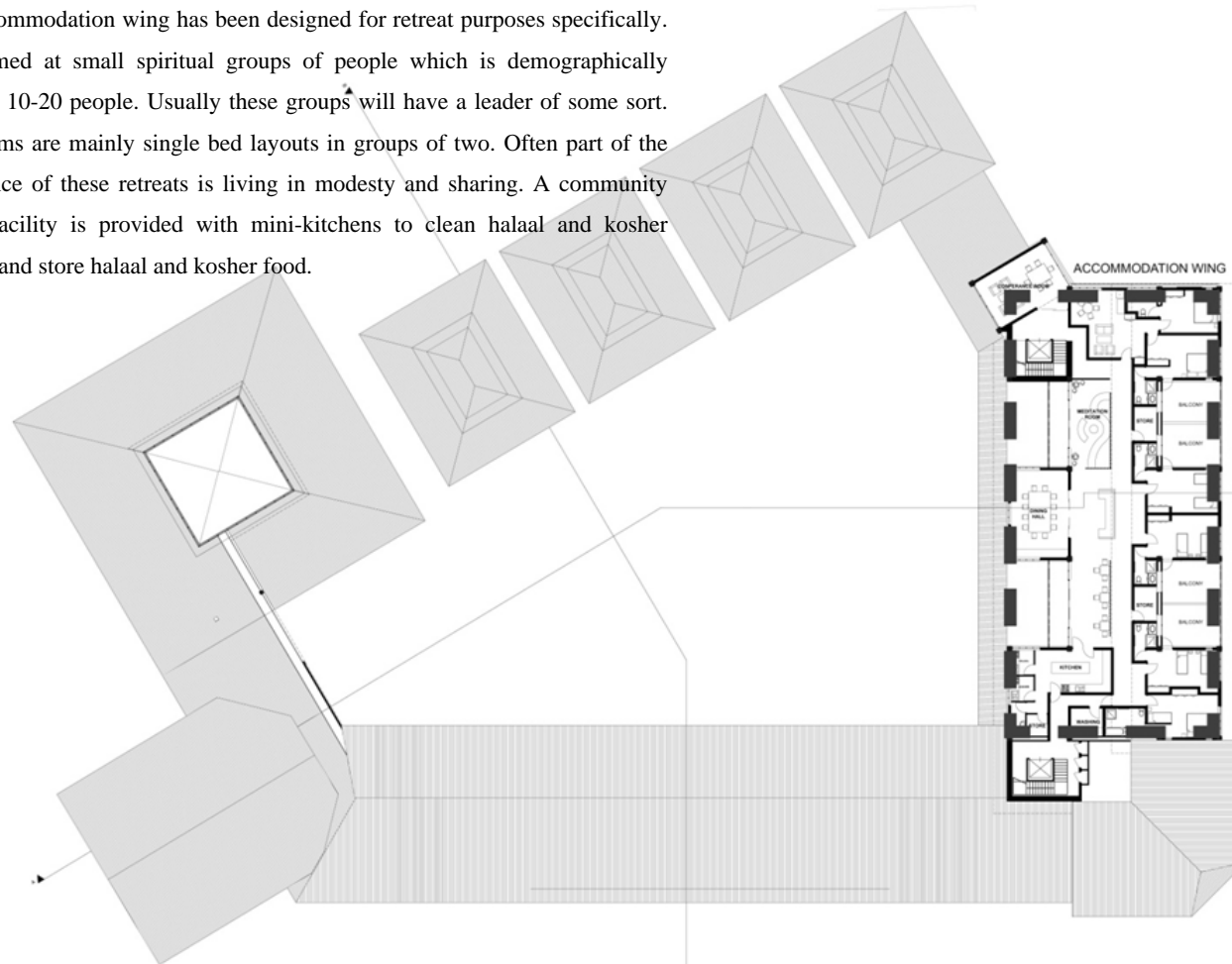








The accommodation wing has been designed for retreat purposes specifically. It is aimed at small spiritual groups of people which is demographically between 10-20 people. Usually these groups will have a leader of some sort. The rooms are mainly single bed layouts in groups of two. Often part of the experience of these retreats is living in modesty and sharing. A community eating facility is provided with mini-kitchens to clean halaal and kosher utensils and store halaal and kosher food.

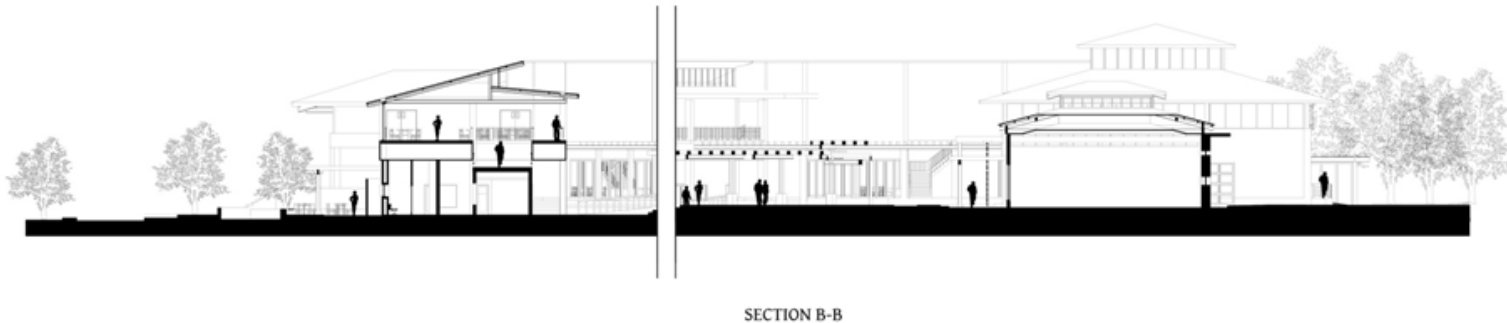
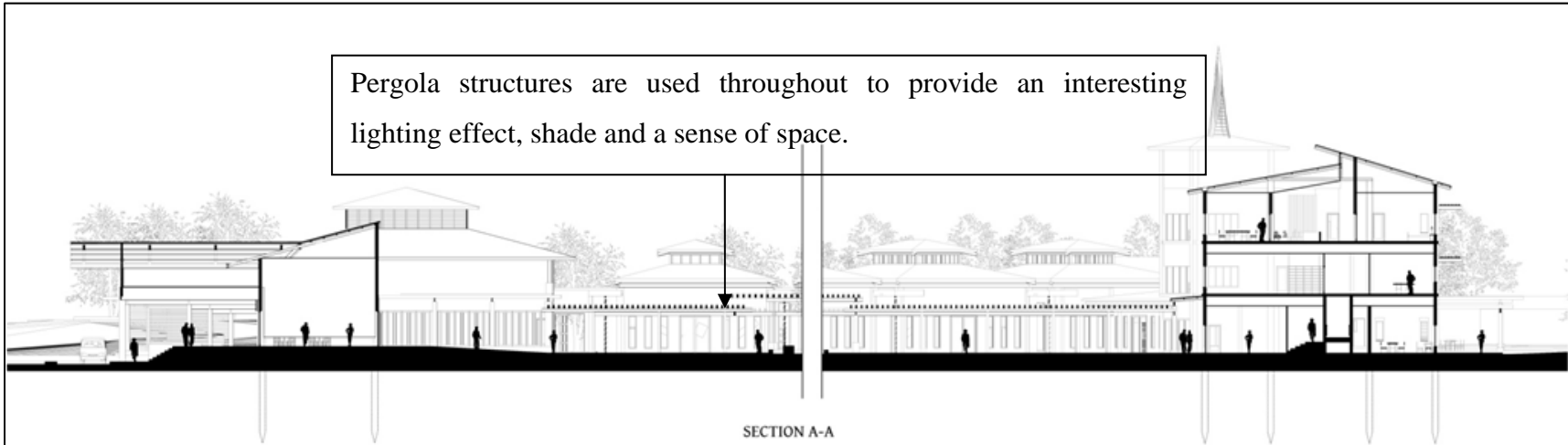


PROPOSED NEW INTER-RELIGIOUS RETREAT  
AND EDUCATION CENTER FOR DURBAN

SECOND FLOOR PLAN 1:100

MATTHEW ARGALL  
THESIS DESIGN PROJECT

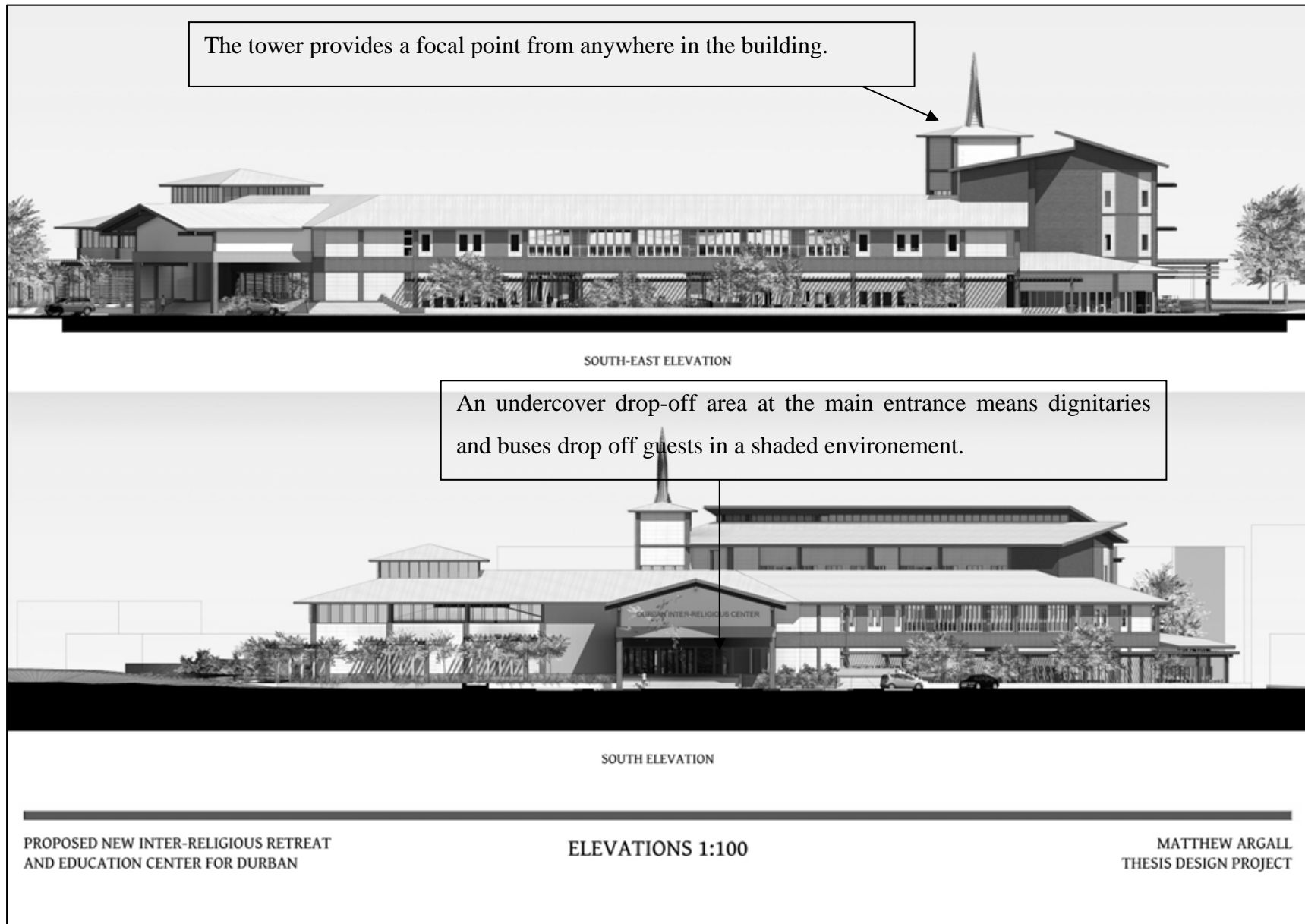
Pergola structures are used throughout to provide an interesting lighting effect, shade and a sense of space.

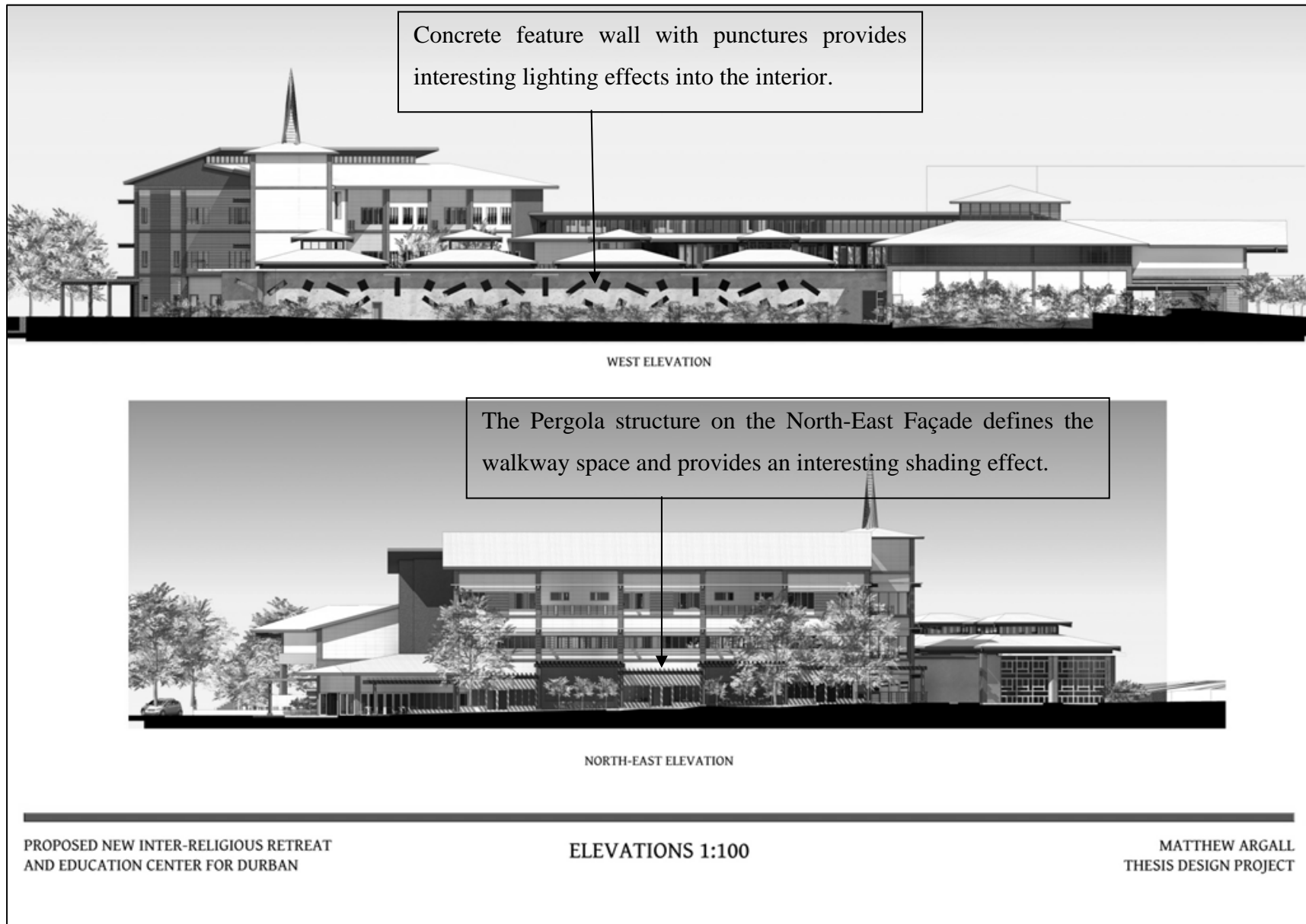


PROPOSED NEW INTER-RELIGIOUS RETREAT  
AND EDUCATION CENTER FOR DURBAN

SECTIONS 1:100

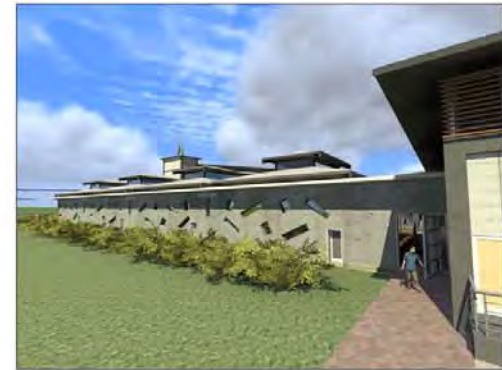
MATTHEW ARGALL  
THESIS DESIGN PROJECT



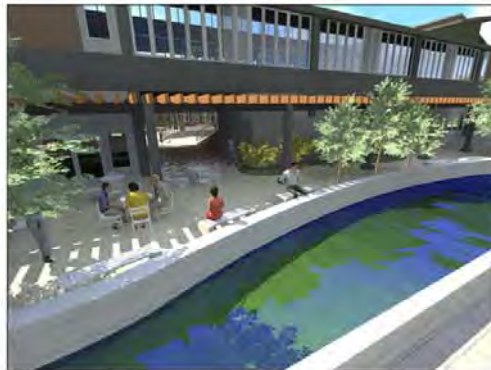




VIEW A: ENTRANCE



VIEW B: NORTH-WEST



VIEW C: SOUTH



VIEW D: COURTYARD VIEW



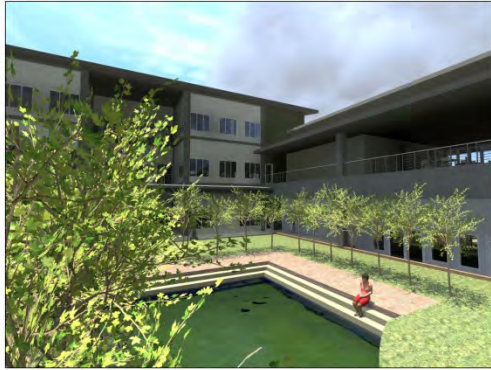
VIEW E: NORTH-EAST WALKWAY

PROPOSED NEW INTER-RELIGIOUS RETREAT  
AND EDUCATION CENTER FOR DURBAN

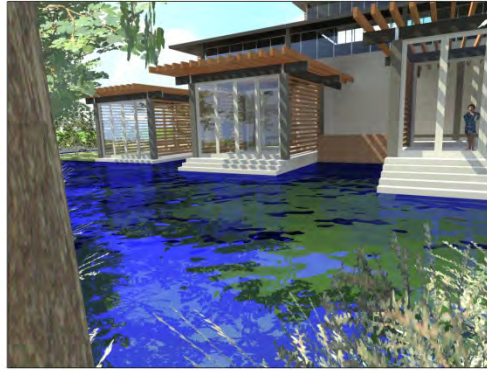
3D PERSPECTIVES

MATTHEW ARGALL  
THESIS DESIGN PROJECT





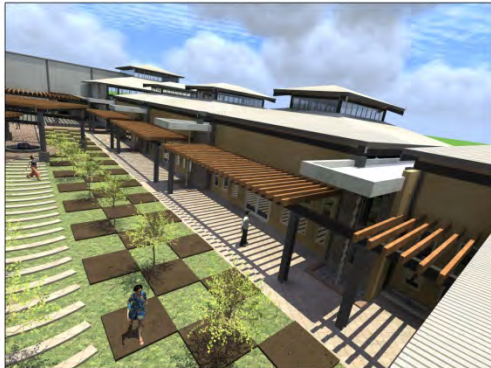
VIEW F: MEDITATION AREA



VIEW G: MEDITATION ROOMS



VIEW H: ENTRANCE TO RELIGIOUS SPACES



VIEW J: VIEW OF RELIGIOUS SPACES



VIEW K: VIEW FROM SOUTH WING



VIEW L: CONTEXT

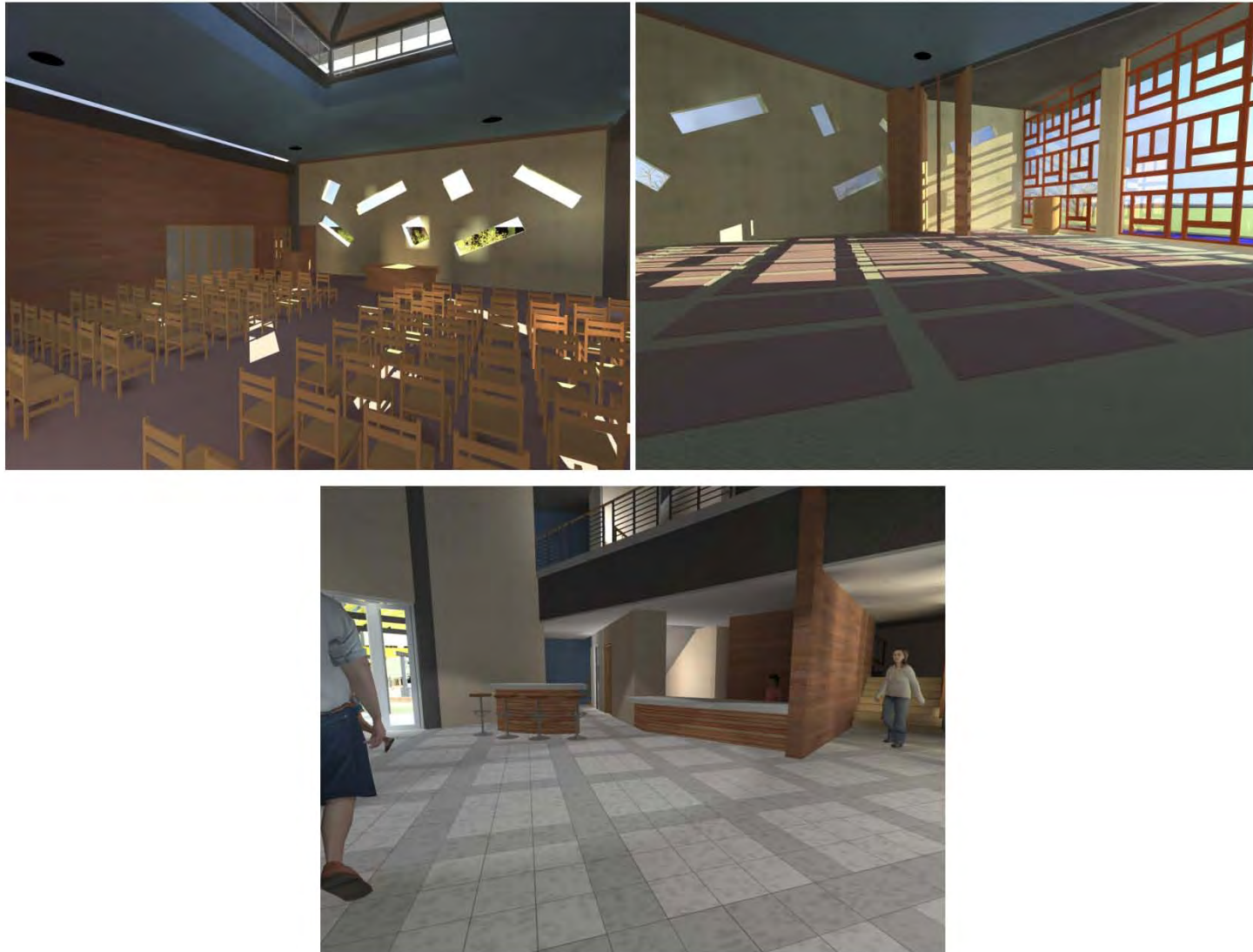
PROPOSED NEW INTER-RELIGIOUS RETREAT  
AND EDUCATION CENTER FOR DURBAN

3D PERSPECTIVES

MATTHEW ARGALL  
THESIS DESIGN PROJECT



## INTERIORS



## TECHNICAL REPORT

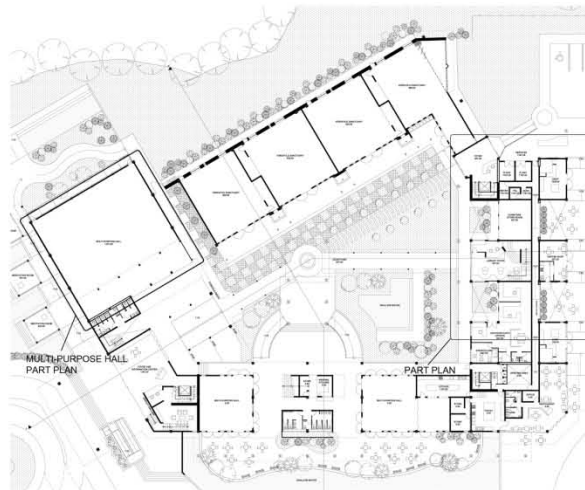
- Shear walls at the circulation cores provide support and lateral stability to the building.
- Services are provided along a central corridor in the ceiling and moved vertically up a service shaft at the central circulation core.
- The south-east wing is on a 7.5m x 10m Grid system, chosen because of the requirements for large hall spaces.
- The north-east wing is on a 5m x 7.5m x 5m grid that allows the building to be stepped for natural ventilation
- The building uses concrete slabs and columns.

### Areas:

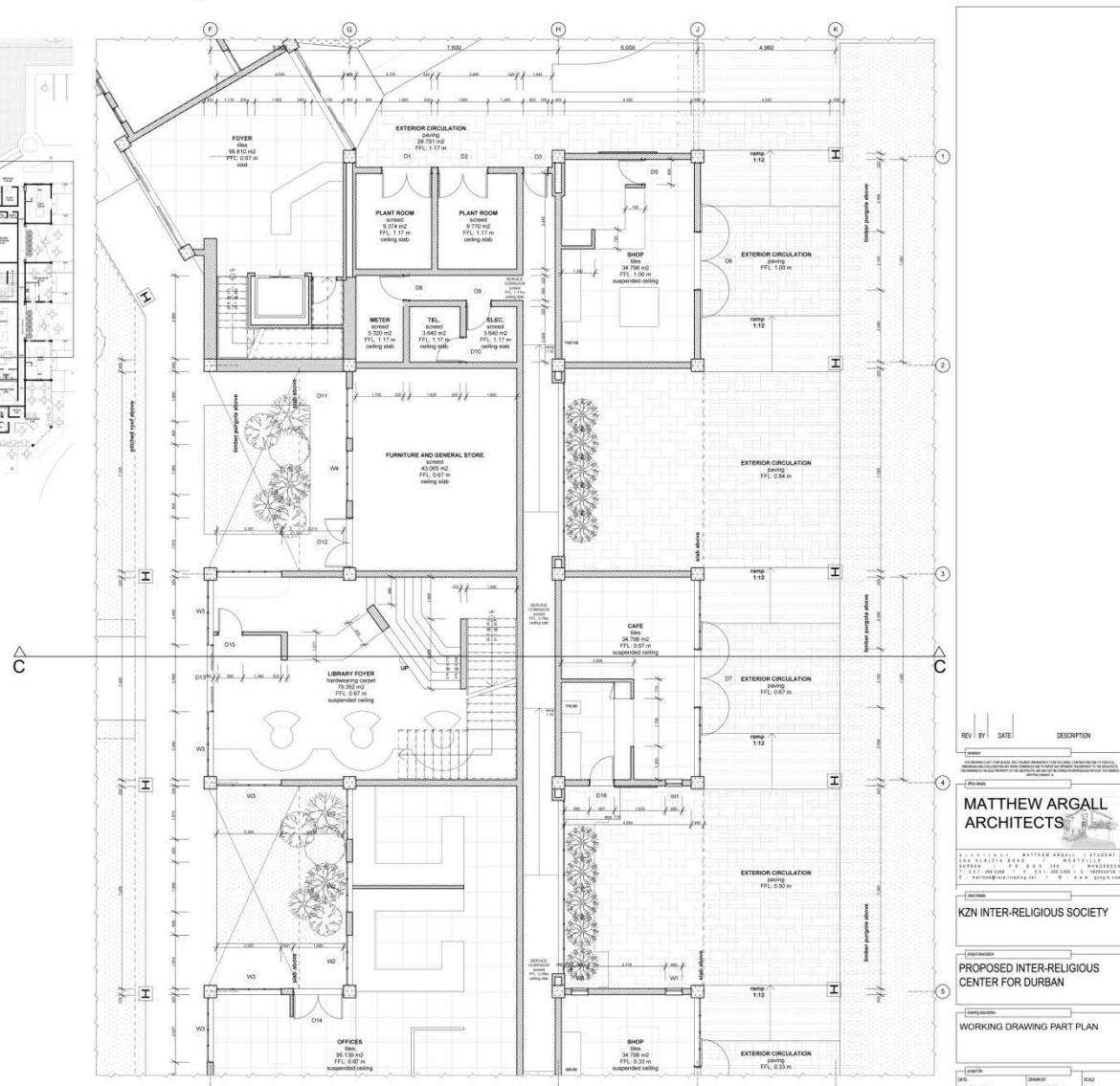
Ground:	2834m <sup>2</sup>
First:	1322m <sup>2</sup>
Second:	621m <sup>2</sup>
Circulation:	1087m <sup>2</sup>
<b>TOTAL:</b>	<b>5864m<sup>2</sup></b>



# The Influence of the Mediating Qualities of Sacred Space, Symbols and Rituals on the Built Environment

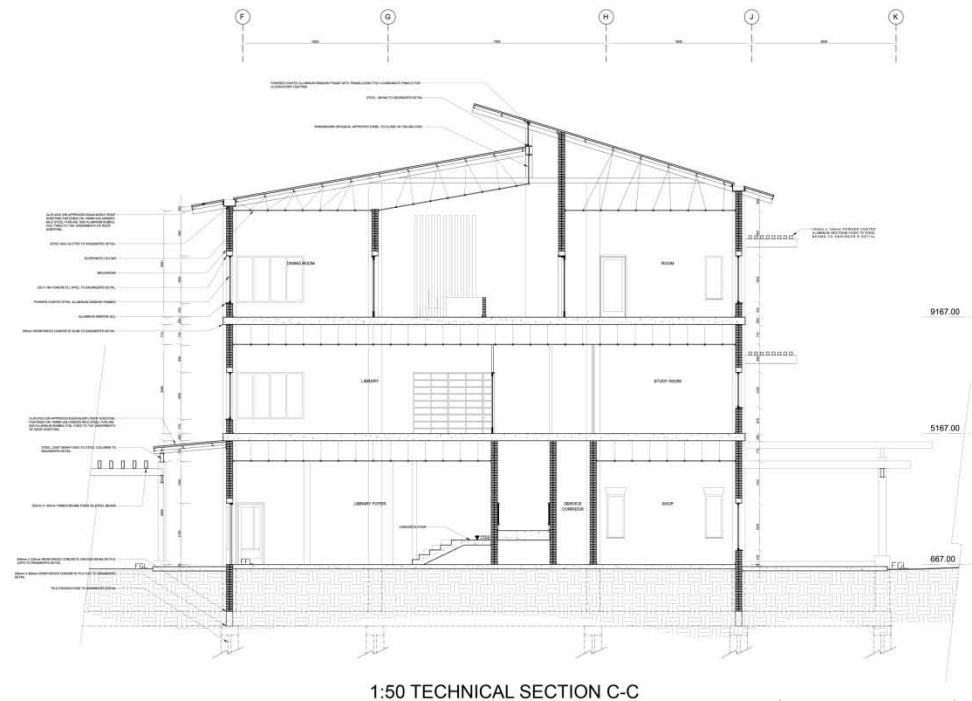
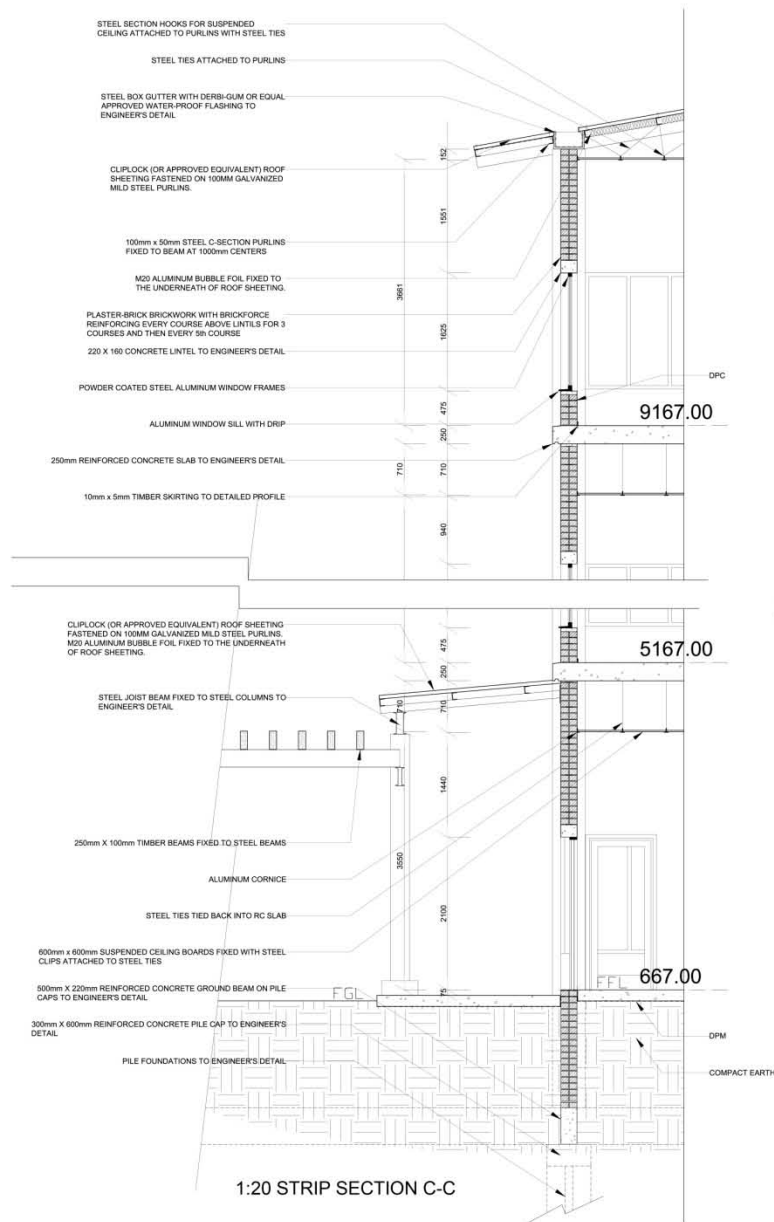


GROUND FLOOR PLAN



WORKING DRAWING PART PLAN - 1:50

# The Influence of the Mediating Qualities of Sacred Space, Symbols and Rituals on the Built Environment



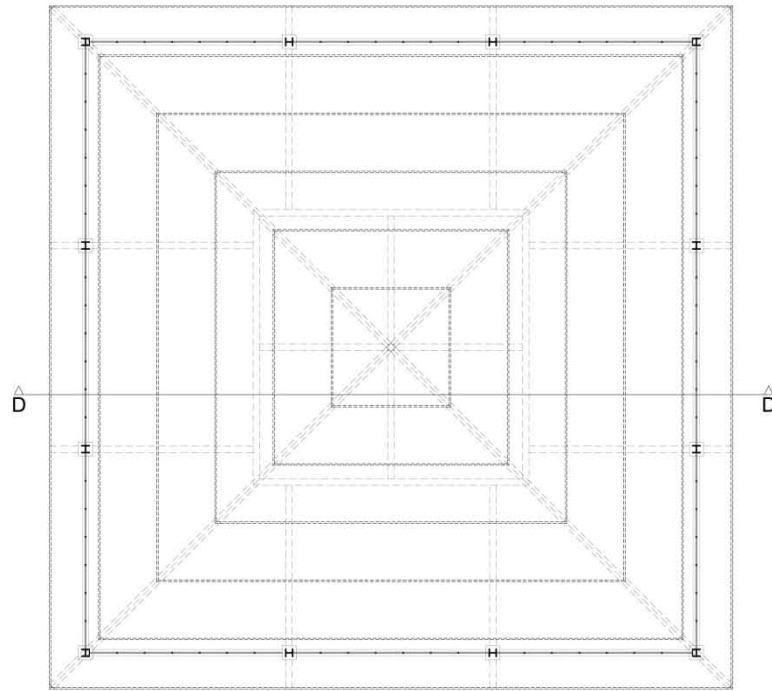
REV	BY	DATE	DESCRIPTION
1	MA	20 JAN 2011	ISSUED FOR PERMIT
2	MA	20 JAN 2011	ISSUED FOR PERMIT
3	MA	20 JAN 2011	ISSUED FOR PERMIT
4	MA	20 JAN 2011	ISSUED FOR PERMIT
5	MA	20 JAN 2011	ISSUED FOR PERMIT
6	MA	20 JAN 2011	ISSUED FOR PERMIT
7	MA	20 JAN 2011	ISSUED FOR PERMIT
8	MA	20 JAN 2011	ISSUED FOR PERMIT
9	MA	20 JAN 2011	ISSUED FOR PERMIT
10	MA	20 JAN 2011	ISSUED FOR PERMIT

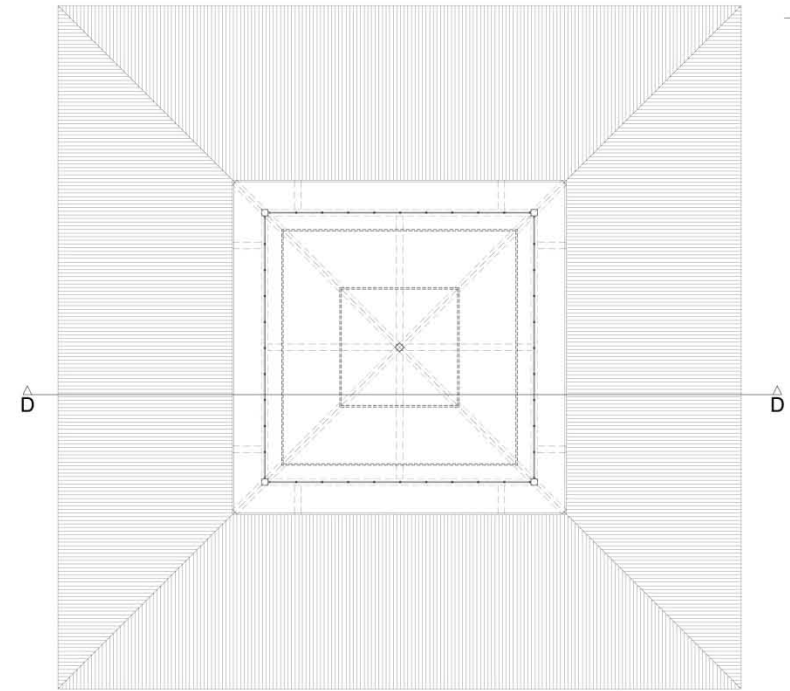
<b>MATTHEW ARGALL ARCHITECTS</b> 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 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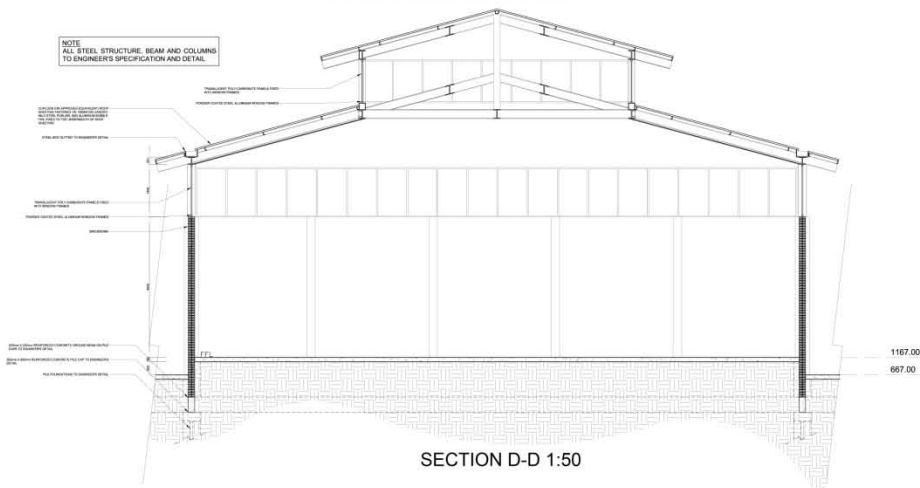
## The Influence of the Mediating Qualities of Sacred Space, Symbols and Rituals on the Built Environment



ROOF TRUSS LAYOUT 1:50



UPPER ROOF TRUSS LAYOUT 1:50



SECTION D-D 1:50

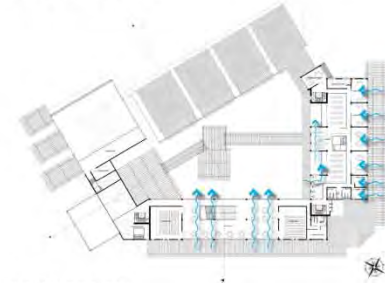
[illegible]

## ENVIRONMENTAL

### VENTILATION



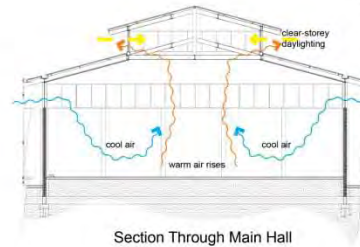
### GROUND FLOOR



### FIRST FLOOR

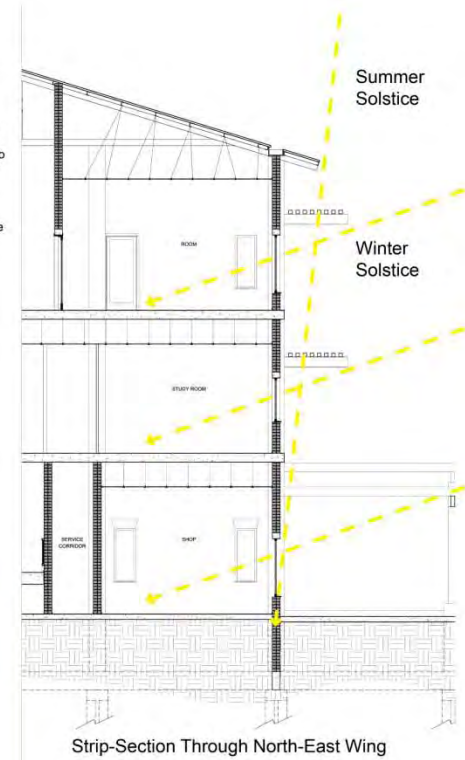
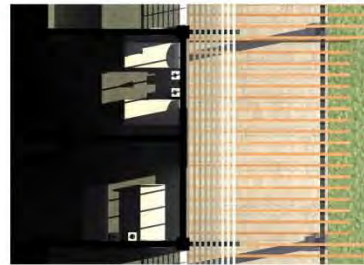
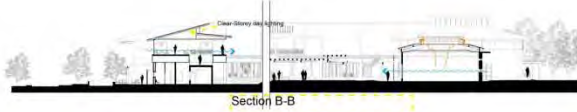
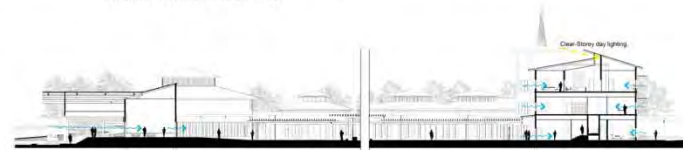


### SECOND FLOOR



### Notes:

- All rooms have natural lighting and ventilation, with cross-ventilation applied strategically.
- A central air-conditioning system is used and turned on for the summer periods of the year. Durban is especially humid in summer and natural ventilation does not prevent humidity, so air-conditioning is necessary for comfort.
- Pools of water around the building not only act as tranquil places, but also provide a natural heat sink as wind that blows across them will be cooler as it enters the building.
- The longest, tallest facade of the building faces north-east which is a good orientation for Durban, especially on the accommodation level.
- Purgola's and trees are used to provide shading and give character to the spaces.



## CONCLUSION

The concepts and theories discussed informed and guided the design process.

- Worship spaces are should be versatile and have the essential elements required for each religion
- Light and water are be used to give meaning to the place; enhance the experience of the place and to provide an atmosphere of peace and tranquility.
- The design is appropriate for community practice as well as individual exploration and education.

The building itself is not flashy architecture and takes a more back-stage place amongst the existing religious buildings in the area, augmenting them and providing a destination facility where people can come together in order to engage in dialogue, education, retreats and other community functions. At the same time, it provides facilities for individual exploration, counseling, meditation and prayer, allowing people from various faiths to come here for community functions, and still have areas to go to when they need to pray or meditate. The building provides space for large functions such as inter-religious gatherings, festivals, seminars and shows. It also provides space for smaller functions such as goodwill workshops, weddings, classes and lectures. The library provides a resource of religious educational material and can serve as a facility that augments existing theological study centers around the area.

Overall, the building acts as a hub of cultural, community activity aimed at promoting dialogue and understanding amongst people of different walks of faith. With dialogue and understanding comes tolerance, and with tolerance, peace.

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