



NAMIBIA UNIVERSITY OF
SCIENCE & TECHNOLOGY

EXAMINING ARCHITECTURAL TYPOLOGIES OF RELIGIOUS ARCHITECTURE IN WINDHOEK: A RESPONSE TO COVID-19

By: Tapiwa Teta

**EXAMINING ARCHITECTURAL TYPOLOGIES OF RELIGIOUS ARCHITECTURE IN
WINDHOEK: A RESPONSE TO COVID-19**

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Master of Architecture (Professional) at the Namibia University of Science and
Technology.

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I, Tapiwa Teta declare that the work contained in the mini-thesis entitled:
EXAMINING ARCHITECTURAL TYPOLOGIES OF RELIGIOUS ARCHITECTURE IN
WINDHOEK: A RESPONSE TO COVID-19, is my own work and that I have not
previously in its entirety or in part submitted it at to any university or other
higher education institution for the award of a degree.

Signature

June 2022

Abstract

The typologies of religious facilities and buildings were examined in an attempt to propose a systematic design approach which considers adaptation to growth in terms of expansion and contraction, and environmental challenges including pandemics such as Covid-19.

The research examined existing religious spaces within Windhoek. The analysis focussed on existing formal and informal activities, spatial organisations and infrastructure typologies.

The research informs the design of a religious a facility ranging from a specific church to a religious complex that could house several Christian churches or activities with various needs.

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1.1. BACKGROUND TO THE STUDY

Diseases and pandemics have often given rise to changes in architecture and design (Garofalo, 2020) and when on 11 March 2020, the World Health Organisation declared Coronavirus Disease 2019 (COVID-19) a global pandemic (Cucinotta & Vanelli, 2020), this equally had some implications on the adaptive and re-design possibilities of buildings, including churches and other religious structures.

Historically, pandemics have influenced city planning and this can be seen in health sensitive elements dominantly reflecting in architecture and urban developments (Eltarabily & Elghezanwy, 2020). Through the array of historical precedents that connect urban planning and architecture and public health, it thus has been critical to explore how architecture can make communities and urban environments more adaptive to diseases (Garofalo, 2020). Historically, disease outbreaks such as Ebola, the Spanish flue, swine flu, the Zika virus and others have necessitated planners and architects to apply design strategies and zoning techniques that can transform existing buildings to improve health outcomes.

This intersection of architecture and disease and well-being has further been demonstrated through how cities cleared slums in response to the bubonic plague, prioritised plumbing and water reticulation systems due to typhoid, yellow fever and cholera, improved open-air sanitariums to treat tuberculosis, and of late the “greening” of the built environment to counteract environmental pollution. More so, the application of healing design techniques (Garofalo, 2020) and the re-design and modification of buildings and spaces to support infection control and fight obesity as well as the adaptive reuse of buildings particularly to contain “amplifiers” has brought in the “design for wellness” concept to fight specific challenges (Eltarabily & Elghezanwy, 2020; Garofalo, 2020).

1.2. STATEMENT OF THE PROBLEM

Therefore, given such a background, the present Covid-19 pandemic has and is forcing critical architectural engagements to think about the ways in which architects can adapt, innovate, restructure, design and re-design buildings that can respond to issues of critical concern. And one such overlooked area is that of religious buildings which normally house masses of people, and yet given the current ‘new normal’, these buildings should be adapted and redesigned in order to create buildings with both spiritual and health giving intents.

Designing and adapting buildings in response to critical social and epidemic catastrophes is a significant challenge in the field of architecture. This problem manifests itself through the possible design rigidities that are inherent in religious structures/buildings which may pose challenges to redesigns and building modifications that can respond to unforeseen circumstances. As a consequence of and owing to the Covid-19 pandemic, there are and will be short and long term architecture and design changes that are currently unknown, un-researched and under-researched, particularly with regards to religious building design changes that can help people to avoid transmitting diseases.

These are concerns that are worth researching for them to be understood, as a way to proffer innovative solutions to this critical challenge, particularly from an architectural perspective. Central to this concern is that the Covid-19 pandemic has shown that there is an intrinsic relationship between public infrastructure and the cultural economy, and how construction designs are amenable to adaptive design and redesign. Whether it is new buildings to be designed or existing architectural designs and structures that need to be modified, redesigned and re-imagined in the face of the current pandemic, the problem is that with specific reference to religious structures in Windhoek, there is dearth of empirical information on how architecture can be an agent to help reduce risk through adopting design strategies that can prevent, control and combat the spread of disease whilst still giving the same feeling of community, sense of fellowship, as well as sense of faith.

1.3. OBJECTIVES OF THE STUDY

1. To explore the ways in which architecture can make religious facilities more responsive to environmental and health challenges, by particularly focussing on the case of Covid-19 pandemic.
2. To assess how Covid-19 impacted the use of religious public spaces in Windhoek.
3. Analyse how the design and typology of religious buildings have been challenged because of the Covid-19 pandemic.
4. Examine typological interventions that might address the challenges of expansion and contraction in response to the health and safety of such religious facilities.

1.4. RESEARCH QUESTIONS

1. In what ways can architecture and design make religious facilities more responsive to environmental and health challenges, particularly considering the case of Covid-19.
2. In what ways has Covid-19 impacted the use of religious public spaces in Windhoek?
3. How has the design and typology of religious buildings been challenged because of the Covid-19 pandemic?
4. What are the typological interventions that can address the challenges of expansion and contraction as well as responsiveness to health and safety by such religious facilities?

1.5. LITERATURE REVIEW

There has been a notable interest in the research about the impact of Covid-19 on public spaces as evidenced by Honey-Rosés, Anguelovski, Chireh, Daher, Bosch, Van Den, ... Villagomez (2020), who attempted a review of the emerging questions in the discipline of architecture due to the impacts of Covid-19. At the time of Honey-Rosés et al.'s (2020) writing, half of the world was in various degrees of lockdowns, curfews, and social distancing, as protective measures on public health. In addition, Sandford (2020) proffers that these worldwide restrictive measures went as far as forcing people to stay at home and thus avoiding unnecessary public movement unless they were handling essential service matters. As such, notable cities such as Rome, New York, and Barcelona that are well known for vibrant street activities had empty streets as occupants stayed at home. Therefore, social and economic activities worldwide experienced severe and unanticipated disruptions and in this fold are religious buildings which stood abandoned. To ameliorate the situation, it is important to explore the role of architecture and adaptive design in improving health outcomes, regulate the spread of disease and improve the usability of religious buildings.

Owing to the above mentioned issues, urban designers, town planners, architects, engineers, and landscape designers are beginning to think about the impacts of the pandemic as well as the future of public space re-designs and new building designs (Honey-Rosés et al., 2020). Moreover, Adam (2020) has written about cities that heal and cities with the best positive and adaptability as some of the theoretical responses during and after times of crises such as the present one in question. The central argument is that purposefully designed spaces should be able to help reduce the risk of spread, containment and treatment of infectious diseases such as Covid-19.

Of late, virtual church services have gained ground but this has increased once more due to restrictions of face-to-face gatherings due to Covid-19. With regard to virtual services, Russell (2016) researched the effects of virtual services on the spiritual wellbeing of elderly believers in an attempt to determine if the teleconferencing services could be a replacement of the brick and mortar church buildings. In Russell's (2016) discussion of findings, it was highlighted that, "Although the callers couldn't see each other, they could hear the service at the same time and therefore communicated in the common space over the phone though the participants were in different places" (p, 90).

Pertaining to church buildings, religious architecture has always had a special role in the formation of urban space as this results in the creation of sacred objects which remain outstanding for a long period and they resultantly inform developments around them (Gil-Mastalerczyk, 2016). Most church infrastructure always start with a church hall with ancillary rooms and given the availability of space, this expands into a multipurpose community centre (Gil-Mastalerczyk, 2016; Krishna & Hall, 2019). However, beyond the church buildings, meeting the spiritual demands of the congregants, at the present, there is a need for the buildings to meet new life-threatening challenges such as Covid-19 through the application of design changes that can help people to prevent the transmission of diseases. What is evident is that Windhoek as a city, and specifically the religious buildings in the city, and the need for adaptability, conversion and re-imagination, cannot be left out on such checks in the Namibian context, and yet there is a need for academic research on this specific area hence the need for the present study.

2

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2.1 GENERAL CHURCH GROWTH AND CHANGES

Churches grow as populations grow, but there are cases where populations start to shrink or other religions take over, thus leading to the disuse of church buildings. This brings in some challenges in conserving these heritage structures, and in many cases this leads to either demolishing them or opting for adaptive re-use (Krishna & Hall, 2019). In the case of church re-use in Buffalo, Krishna and Hall (2019) looked at the “faith to faith conversion” of buildings where one Roman catholic building was converted to an Islamic Mosque and the other one to a Buddhist temple. This therefore entails that church buildings should be designed with adaptable re-use in mind.



Fig 2.1: Picture collage by Author 2021, images from:
<https://www.fairplanet.org/editors-pick/the-hidden-economy-of-africas-fast-growing-megachurches/>
<https://www.wbur.org/hereandnow/2020/08/21/sam-fender-socially-distant-show>
https://www.instagram.com/p/B_c9exVJVyz/?utm_source=ig_embed&ig_rid=762b38a1-2ae4-4a63-a91a-899e0cceb240

2.2 VIRTUAL SERVICES

Virtual church services have gained ground but this has increased once more due to restrictions on face to face gatherings due to Covid-19.

Whilst some would find it well with attending online services from the comfort of their houses, some would argue about lack of spirituality in it. Among some of the advantages are issues such as no more driving to church, sometimes no preparations at all like taking breakfast early, bathing, or even dressing nicely as in situations with face to face attendance.

The benefit of online services is that they are recordable and as such they can still be watched again and again or sent elsewhere for the spread of the word and mostly to the youth.



Fig 2.2: Watching online services from the comfort of your home.

<https://i.pinimg.com/originals/3d/d9/9b/3dd99bd0a2777bd95a05b3276a3c4a87.jpg>

2.3 RITUAL ALTERATIONS DUE TO COVID-19

During the Covid-19 outbreak, the church's internal space has seen drastic changes and adjustments to meet the social distancing and face masking regulations introduced to reduce the spread of the virus. This has reduced the number of occupants and, at times, this has led to the closure of church buildings.

Social distancing with regards to child baptism / christening contrary to what Mark 10:16 which says: "And he took the children in his arms, placed his hands on them and blessed them" has been replaced by water gun spraying as seen on fig 2.4.

Fig 2.5 shows Mafair United Methodist Church members brought in cardboard substitutes with their face images to church as a way to inspire the preacher during online worship. The Pastor used to look at people as he preached for:

- Motivation
- Eye contact
- Question and answer
- Singing together
- Praying together



Fig 2.3:
<https://www.ucanews.com/news/masses-resume-in-indonesias-catholic-majority-province/88677> Social distancing on administering holy communion



Fig 2.5: Motivation for Pastor during virtual service
<https://www.holston.org/article/revival-amidst-coronavirus-13538243>



Fig 2.4: Social distancing on child baptism/ christening
<https://www.babygaga.com/priest-performs-baptism-water-gun-social-distancing/>

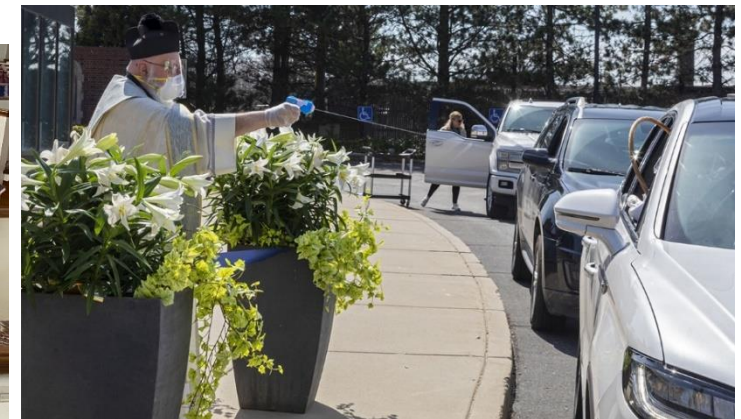


Fig 2.6: Drive through Easter blessing through water gun
<https://www.theguardian.com/world/2020/may/17/priest-holy-water-squirt-gun-detroit>

2.4 THE NEW NORMAL WITH ITS LAYERS OF RITUAL ALTERATIONS AND SPACE USAGE: A CASE OF UNIVERSAL CHURCH IN WINDHOEK CBD

Universal Church Windhoek CBD:

The Universal Church's Sunday indoor service was not spared from the drastic changes and adjustments to meet the social distancing and face masking regulations aimed to reduce the spread of the Covid-19 virus. This reduced the number of occupants and at some point, led to multiple services being scheduled throughout Sunday in order to accommodate all members, and unfortunately at some point, total closure of church buildings as well.

The pictures from fig 2.9 to 2.16 are extracted from a Universal Church Sunday service video as watched on their face book site: <https://www.facebook.com/universalnambibia/videos/sunday-of-power/680390756239279>

- a) Old look with traditional verticality, and
- b) New look after renovations with modern horizontality
- c) Social distancing within the service
- d) Disinfecting the church after service
- e) Temperature check on entrance
- f) Sanitisation at entrance



Fig 2.7: <https://hi-in.facebook.com/EagleFMNam/posts/2886823991539241>



Figure 2.9: Social distancing



Fig 2.11: Temperature checking



Fig 2.8: <https://m.facebook.com/universalnambibia/photos/join-us-every-sunday-10am-32-independence-avenue-ausspanplatz-windhoek-nam%C3%ADbia-/2346422072129865/>



Fig 2.10: Sanitation of chairs



Fig 2.12: Sanitisation at entrance

Universal Church Windhoek CBD:
Service video extract in pictures
(Continued):



Fig 2.13: Attendance register



Fig 2.15: Restrictions to one person at a time



Fig 2.17: Social distancing on pulpit

g



Fig 2.14: Social distancing in service



Fig 2.16: Social distancing floor markings



Fig 2.18: Face masks

i

j

- g) Registration at the entrance
- h) Worship with face masks on
- i) One person at a time to avoid congestion and contact in the small spaces
- j) Social distancing floor markings
- k) Social distancing within the service
- l) Virtual water baptism

k

l

2.5 WHERE IS THE CHURCH IF NOT IN THE CHURCH BUILDING?

The question which one would ask in this case is: What is the church after all? Is it the building?

One can observe that people would not be stopped from worshipping due to epidemics, pandemics and or any other forms of challenges. This is as it was in the time of persecution of the church in Acts 5:42, which says, “Day after day, in the temple courts and from house to house, they never stopped teaching and proclaiming the good news that Jesus is the Messiah”. On the same note, the church services can be held in the house, office, playground, restaurant, etc.

In Jesus’s times, he would find strategic places to fit crowds. For example, Luke 5:1, “One day as Jesus was preaching on the shore of the Sea of Galilee, great crowds pressed in on him to listen to the word of God”. Likewise, those of today can utilise open spaces such as parking spaces and outdoor yards in church premises, etc.



Fig 2.19: God can be worshiped in the parking lot and whilst seating in the car. <https://www.wtkr.com/news/rock-church-international-holds-drive-in-service>



Fig 2.21: <https://anglicanalliance.org/covid-19-how-can-churches-respond/>



Fig 2.20: Outdoor service, sitting in family groupings https://www.instagram.com/p/B_c9exVJVyz/?utm_source=g_embed&ig_rid=762b38a1-2ae4-4a63-a91a-899e0cceb240

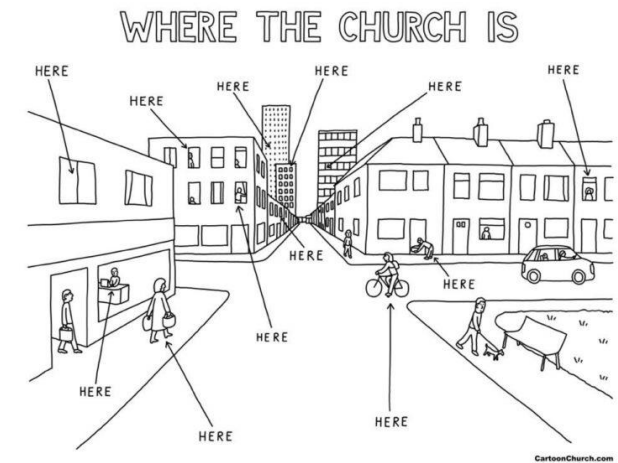


Fig 2.22: The church is not the building but the people, meaning the church can be anywhere where people can commune, <https://greenroomblog.org/2020/07/22/where-is-the-church/>

ISSUES, POSITIONS AND THE NEW NORMAL

2.6 CHURCH ATTENDANCE

Apart from shrinking populations are questions relating to what could cause the drops in church attendance in some churches while others are flourishing. This could possibly be what Dr Patrick M. Quinn, Lead Pastor of Century Church meant by saying, “The 20th Century model for building churches focused on the church buildings, whereas we believe that the future of the church is to focus on how to build the community first” (Norris, 2019).

ISSUES, POSITIONS AND THE NEW NORMAL

2.7 CHURCH FINANCES

The church's reliance on place-based contributions tied to worship was exposed by the Covid-19 shutdown. Some church members lost their employment, enterprises, and or wages, whilst others earned minimal cash while working from home, had to cut their spending costs and eventually some could not prioritise paying their tithes and offerings considering that many were not going to church at some point.

Traditional methods of promoting generosity, on the other hand, have been losing effectiveness for years. A few of the churches in Windhoek are international churches, and most of them are African, if not Namibian, with no outside financial support. These directly rely on membership for financial support and thus felt the most significant impacts of Covid-19.

At the same time, these local churches rely on membership fundraising for their infrastructure development, thus eventually their projects are done in phases as the finances build up. This can be seen at church construction projects happening around at the moment, with some having been at the same stage for a year or two to allow members to raise more funds, for example, the One Nation Church in Dorado (p.17) and the Otjomuise Church (p.19). Flexible designs are ideal in such scenarios.

Covid-19: Churches struggle to rake in offerings

News - National | 2021-06-21

Page no: 5



by Hileni Nembwaya



THE Covid-19 pandemic has severely hampered church donations, resulting in congregations being cash-strapped.

Fig 2.23: <https://www.namibian.com.na/212493/archive-read/Covid-19-Churches-struggle-to-rake-in-offerings>

3

HISTORY OF CHURCH ARCHITECTURE

STUDY OF THE BROADER TYPOLOGICAL DEVELOPMENT OF CHURCH ARCHITECTURE AND LITURGICAL SPACES

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STUDY OF THE BROADER TYPOLOGICAL DEVELOPMENT OF CHURCH ARCHITECTURE AND LITURGICAL SPACES

3.1 Overview:

The study of religious architectural monuments is particularly helpful in tracking the beginnings, development, and decline of various historical cultures. It also helps in imagining potential future church architectural typologies.

Notably, there has been seemingly permanent and immutable fundamental ways of organizing ritual activities and this led to establishment of two systems of ritual arrangement. The first one being the longitudinal plan in which the congregation forms a linear procession toward a terminally positioned sacred object; the second is the centripetal plan upon which the congregation groups around a centrally positioned sacred object. Both types have conceptual value and have determined architectural form for centuries.

To a bigger extent, the architectural form was determined by liturgical function, though one would realize certain historical periods had a relatively high degree of ritual specification of form, such as in the Romanesque and in the Baroque, whereas other periods show a low degree of ritual specification, as in churches of the Renaissance and 19th-century revivalism. Renaissance preference for centralized form promoted an architecture of merit, but its primary concern was not liturgical function.

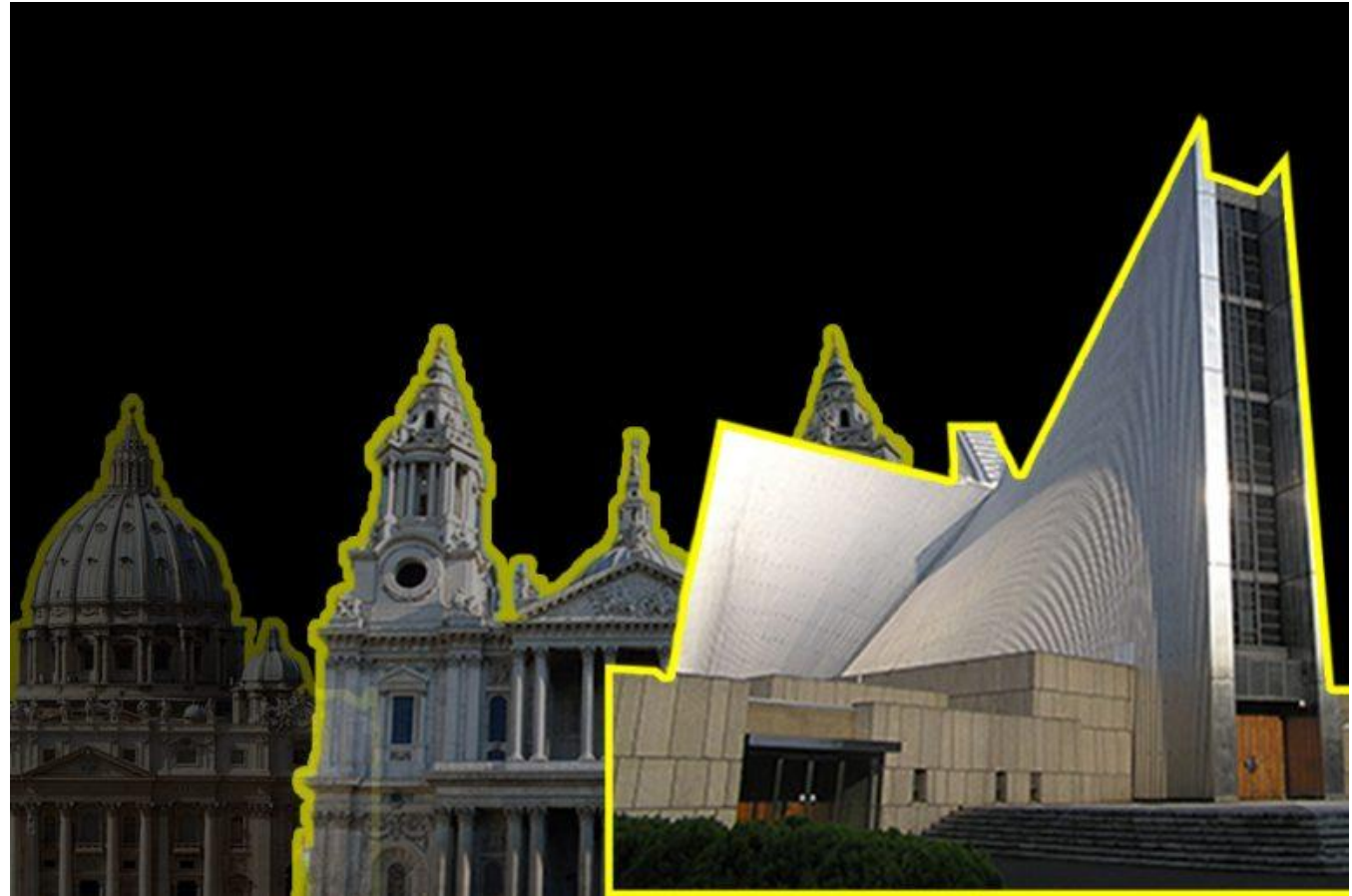


Fig 3.1. Photo collage by Rajput Darshika
(<https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a651-evolution-of-cathedral-architecture/>)

3.2 HOUSE CHURCHES

The Christian Faith was illegal in the Roman Empire prior to 313 AD, when the Emperor Constantine issued the Edict of Milan permitting the Christian Faith to flourish publicly. What is remarkable about these early liturgies is how formal they were despite the fact that they were conducted under less-than-ideal circumstances

These places of worship could be part of the home or the whole house used since it was during the time of church persecution by the Jews. It is notable that the major thing which will distinguish this home church from any other house would be the baptistery.

The spaces comprised of:

1. Entrance
2. Courtyard
3. Baptistery
4. Teaching area
5. Assembly room

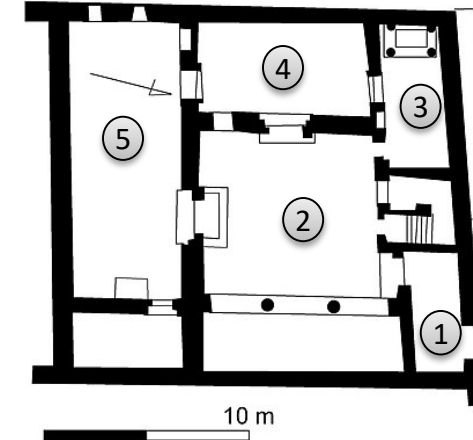


Fig 3.2. House Church at Dura, Syria,
(https://www.researchgate.net/publication/323027272_Early_Church_Architectural_Forms_A_Theologically_Contextual_Typology_for_the_Eastern_Churches_of_the_4th-6th_Centuries_2007_Buried_History_Monograph_No_3_Australian_Institute_of_Archaeology_Melbourne)

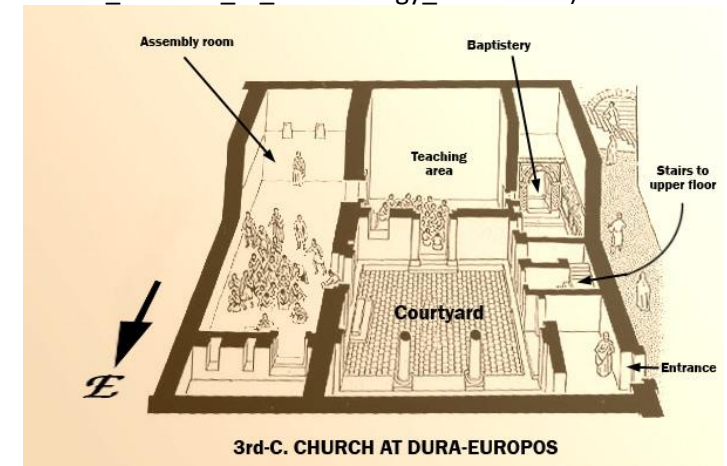


Fig 3.3. House Church at Dura, Syria,
<http://blog.adw.org/2014/08/the-ancient-mass-in-the-house-churches-was-not-as-informal-as-many-think/>

3.3 ROMAN BASILICA

The church only came out of hiding (house churches) when Constantine the Great became the emperor of Rome and impressed Christianity and made it legal giving its followers the freedom to worship. The house churches became too small and therefore they started building places of worship. They borrowed the form from the Roman Basilica, a public building which had been used for judiciary purposes with changes to suit the church's needs. These were longitudinal buildings with a naïve flanked by either single or double aisles as in Fig 3.4. While the West kept a predilection for the pure basilica plan, the East favoured the domical-basilica plan and some would prefer merging of the longitudinal and centripetal plans.

The longitudinal layout had an apse housing the altar with the transept forming a cruciform shape.

Roman Basilica

Year:

Major features as seen on Fig 3.3:

1. Entrance/gatehouse
2. Nave
3. Aisle/double
4. Crossing of the transept
5. Apse
6. Narthex
7. Atrium

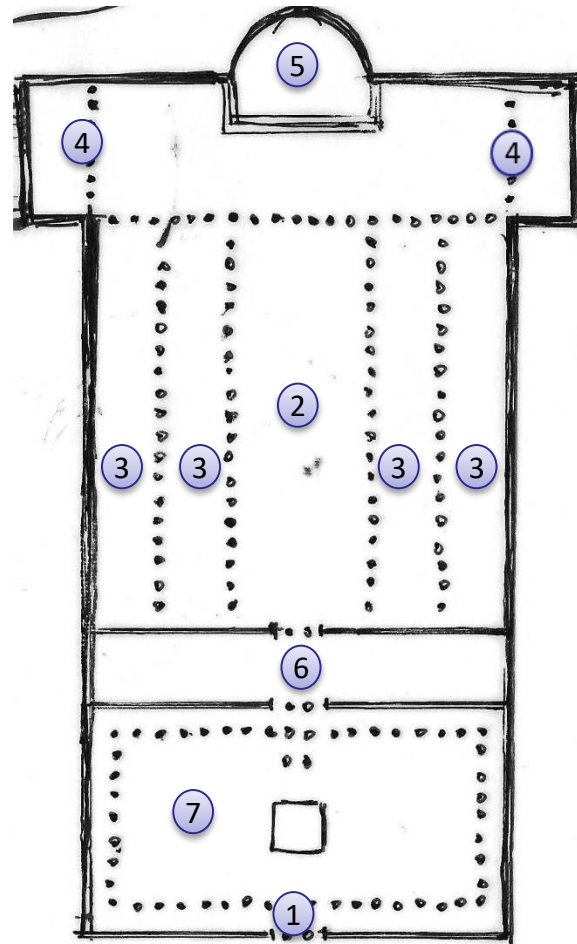


Fig 3.4. Roman Basilica Sketch Floor Plan (Author 2021).

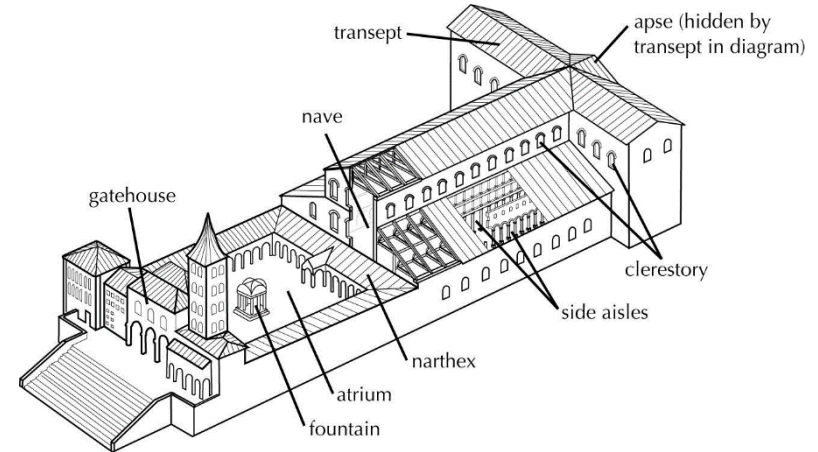


Fig 3.5. Roman Basilica Isometric view.

3.4 ROMANESQUE 1100-1200

Romanesque can be identified as a series of linked styles rather than a single style since it resulted from the decentralization of Europe into independent feudal republics, which gave rise to a range of distinctive regional idioms.

However, due to the strong unifying influence of monasticism, Romanesque developed into an international architectural style. The early crusades and the great pilgrimages opened up new channels of connection, ensuring that the Romanesque style spread throughout western Europe.

Large churches were constructed in a reduced Roman style with hefty columns, thick walls, small window openings, and semi-circular arches as organised monasticism grew. The pre-Christian traditions were combined into a new decorative style that included spirals, zigzags, and ornaments.

During this time, painted murals and lofty vaults in masonry saw a comeback.

Speyer Cathedral: Rhine, Germany

Year-1024-1106

Architect: Unknown

Major features as seen on Fig 5:

1. Entrance/gatehouse
2. Nave
3. Aisle/Single
4. Crossing of the transept
5. Apse
6. Narthex

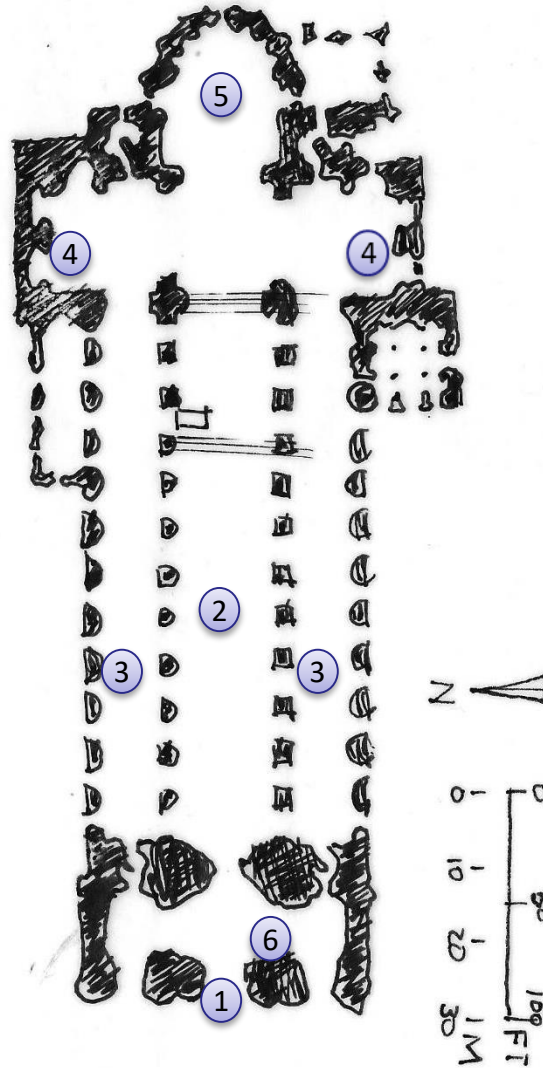


Fig 3.6: Sketch Floor Plan of Speyer Cathedral (Author 2021).



Fig 3.7. Speyer Cathedral:

<https://en.wikiarquitectura.com/building/speyer-cathedral/>



Fig 3.7. Speyer Cathedral: <https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a651-evolution-of-cathedral-architecture/>

3.5 GOTHIC 1160-1530.

With the advancement of engineering knowledge by the middle of the 12th century, cathedrals took on a new form with lofty arches, stone vaults, and tall towers.

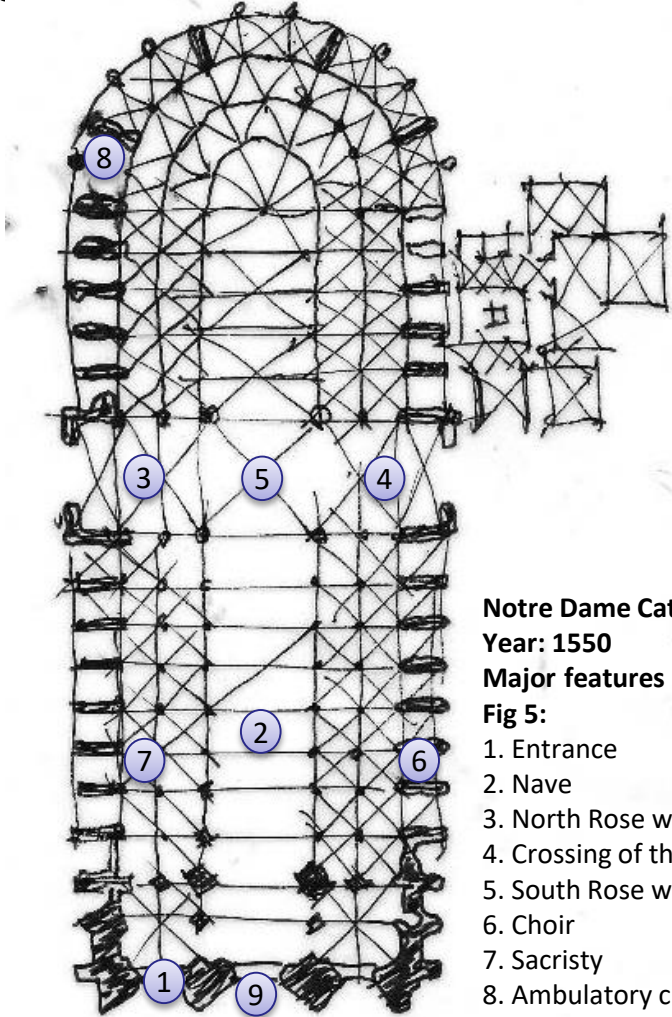
Larger windows, lighter-weight vaulting supported by stone ribs, and, most notably, the pointed arch and flying buttress were all features of Gothic architecture.

The enormous windows were adorned with stained glass that portrayed biblical narratives and stone tracery.

Several sanctuaries occupied the site before the Notre Dame Cathedral namely:

1. a temple dedicated to Jupiter,
2. a large basilica from the 4th century,
3. and a Carolingian cathedral in the 9th century

In 1160, under the reign of King Louis VII, Paris bishop Maurice de Sully (1105/1120?-1196) decided on the construction of a much larger sanctuary to accommodate Paris population growth.



Notre Dame Cathedral

Year: 1550

Major features as seen on Fig 5:

1. Entrance
2. Nave
3. North Rose window
4. Crossing of the transept
5. South Rose window
6. Choir
7. Sacristy
8. Ambulatory chapels
9. Great organ

Fig 3.5: Notre Dame Cathedral, 1163-1345, Sketch Floor Plan (Author 2021).

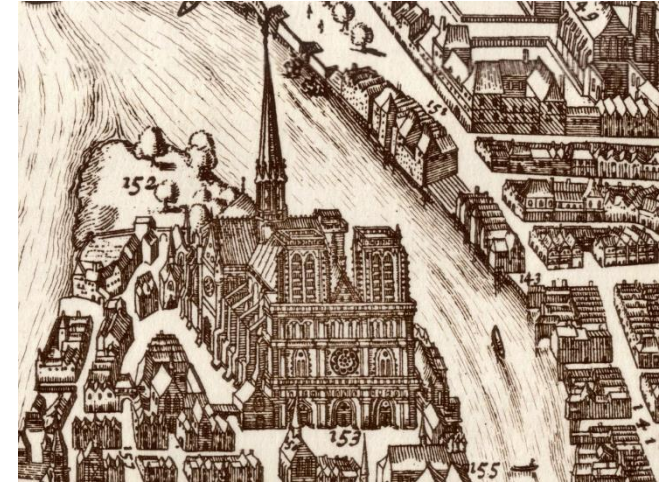


Fig 3.6. Notre-Dame and its neighbourhood in 1550
<https://frenchmoments.eu/notre-dame-de-paris/>



Fig 3.6. Notre Dame, The west front in 1776
<https://frenchmoments.eu/notre-dame-de-paris/>

3.6 RENAISSANCE 1350-1550

In the 15th century, artists began to revisit the Roman structural architectural techniques. They refined its forms and decorations to follow certain rules of proportions and placement.

It originated from Italy taking its inspirations from Roman ruins which were present in Italy with its goal being to revive and innovates the techniques of ancient Romans and Greeks.

Renaissance preference for centralized form promoted an architecture of merit, but its primary concern was not much on the liturgical function.

St. Peter's Basilica in Vatican City is one of the best example of Renaissance architecture as shown in figure.

St Peters basilica, Italy, Rome

Year: Begun by Pope Julius II in 1506 and completed in 1615 under Paul V.

Major features as seen on Fig 3.3:

1. Entrance/gatehouse
2. Nave
3. Aisle/double
4. Crossing of the transept
5. Apse
6. Narthex
7. Atrium

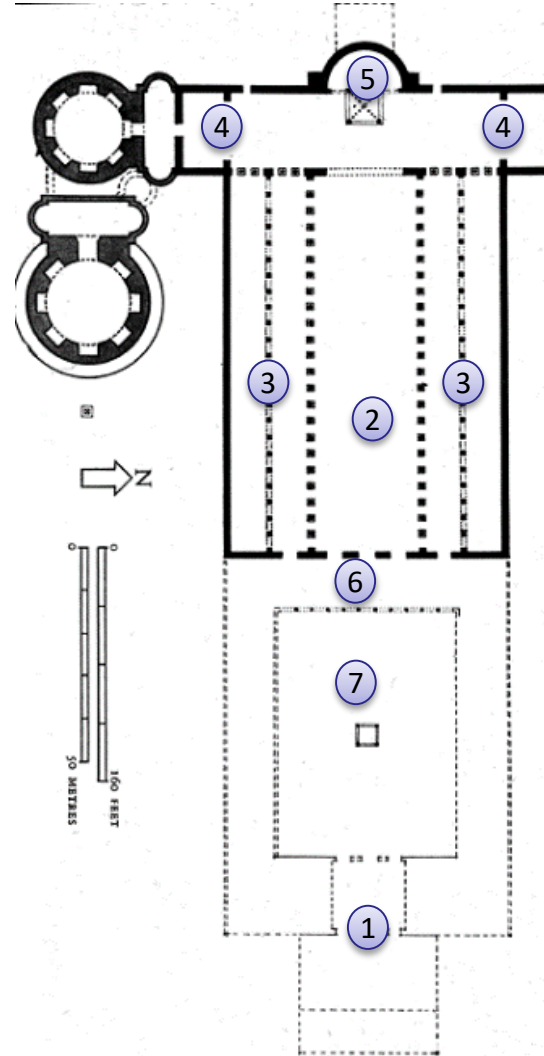


Fig 3.7. Old St. Peter's, Italy, Rome, plan, drawing looking east by G. Grimaldi (EC1.21): http://projects.mcah.columbia.edu/medieval-architecture/htm/kd/ma_kd_discuss_osp_descript.htm

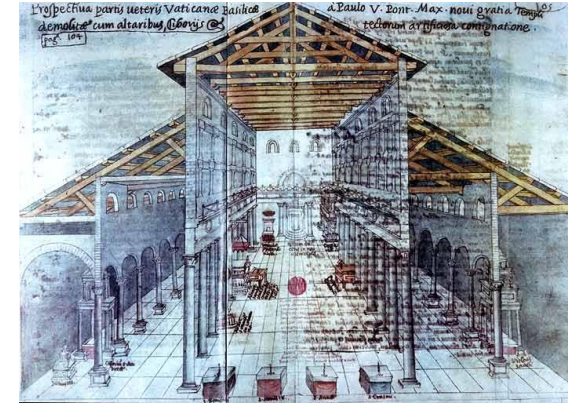


Fig 3.8. St. Peter's Basilica: <https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a651-evolution-of-cathedral-architecture/>

3.7 BAROQUE /ROCOCO 1550-1700.

Those in power wanted to use architecture and art as a way to exhibit strength, wealth, and prominence. Nowhere is this more prominent than in the Catholic Church's response to the Protestant Reformation. After the Pope and other Catholic rulers began building, the style quickly spread throughout Europe and into South America due to colonization.

Baroque is a dynamic style featuring high altars, façades, and chapels exemplified by St Paul's Cathedral in London. It has exaggerated ornamentation with features such as: Central towers, Cruciform, latin cross plan with nave and transept, Domes, Portico, Colonnades, Well decorated interior, Attention-grabbing features

St Paul's Cathedral , Italy, Rome

Year: 1675-1711

Major features as seen on Fig 3.3:

1. Entrance/gatehouse
2. Nave
3. Aisle/double
4. Crossing of the transept
5. Apse
6. Narthex
7. Dome

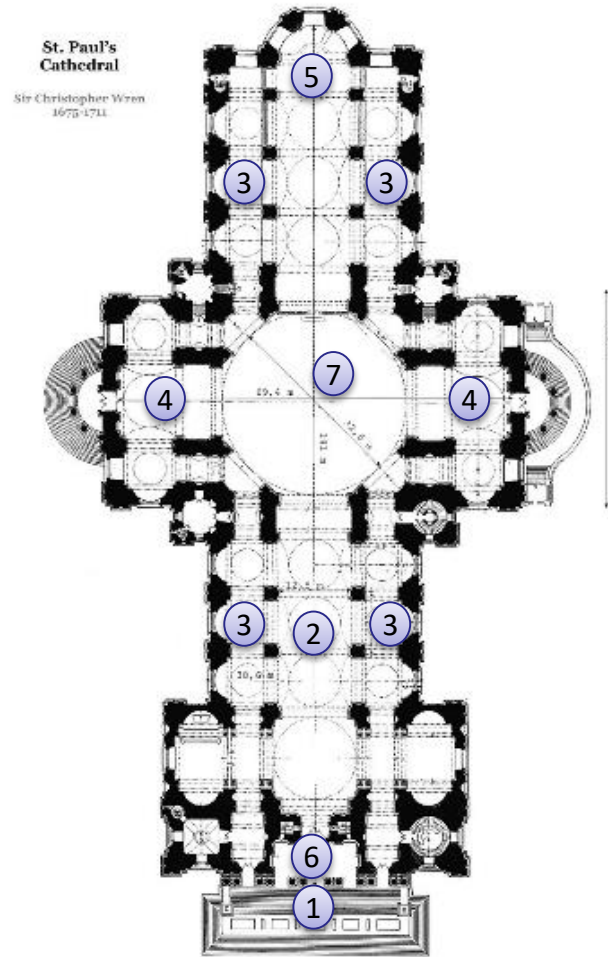


Fig 3.9. St. Paul's Cathedral, floor plan:

[https://en.wikipedia.org/wiki/St_Paul%27s_Cathedral#/media/File:Greek_and_Latin_cross_-_Temple_of_Saint_Sava_and_St_Paul's_Cathedral_\(St_Paul's\).jpg/](https://en.wikipedia.org/wiki/St_Paul%27s_Cathedral#/media/File:Greek_and_Latin_cross_-_Temple_of_Saint_Sava_and_St_Paul's_Cathedral_(St_Paul's).jpg/)



Fig 3.10. St. Paul's Cathedral:
<https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a651-evolution-of-cathedral-architecture/>



3.8 Revivals

The style of Revival architecture, also called "Neo-Gothic," developed during the **late 18th century** in England. Gothic Revival buildings were made to appear in the Gothic style but had less demanding structural needs with modern advancements in building technology.

The major design elements were

- Refined lines,
- Three-cornered pediments,
- Precise appearance,
- Free-standing columns,
- Balconies with balustrades,
- Distinct cornices,
- And lofty-scale building prominent this exceptional style of construction.

St Patrick's Cathedral, Australia

Year:1851 – 1858 – 1888-1939

Architect: William Wilkinson Wardell

Major features as seen on Fig 5:

1. Main Entrance
2. Nave
3. North transept
4. Crossing of the transept/Sanctuary
5. South transept
6. Apse
7. Sacristy
8. Chapels
9. Great organ

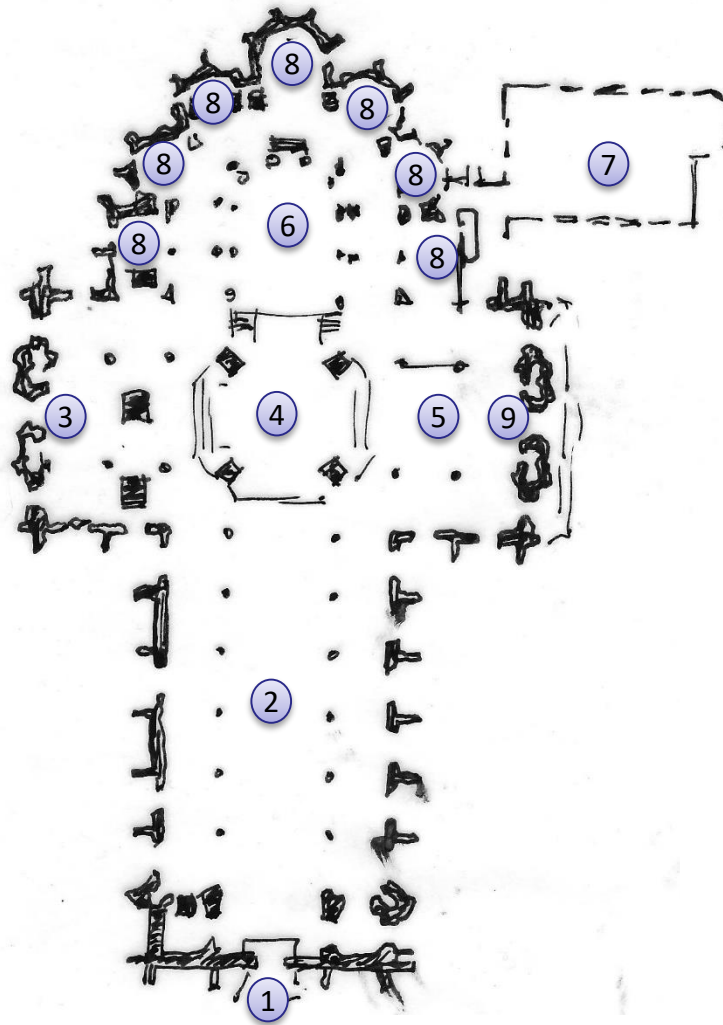


Fig 3.11. St. Patrick's Cathedral floor plan, Australia, Sketch Floor Plan (Author 2021).

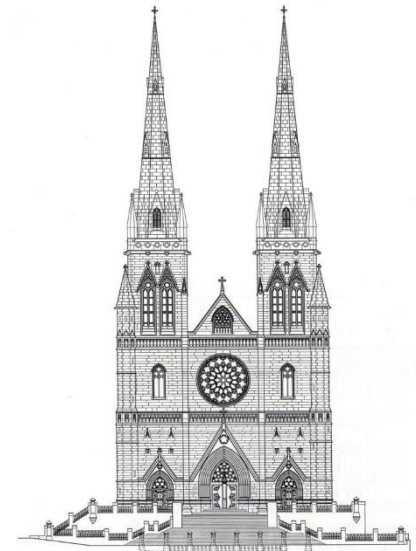


Fig 3.12. St. Patrick's Cathedral, elevation:
<https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a651-evolution-of-cathedral-architecture/>

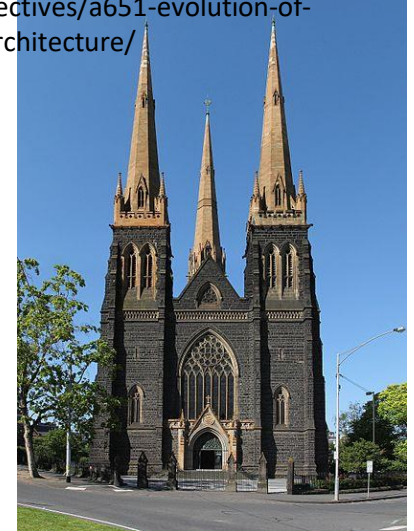


Fig 3.12. St. Patrick's Cathedral, Australia:
<https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a651-evolution-of-cathedral-architecture/>

3.9 Modernism and Post modernism

Modernism minimized ornamentation and favored simple, practical forms, usually constructed out of bricks.

The postmodern trend in architecture revived the symbolic significance of architectural decoration and combined it with other styles as per to modernist ideals.

“After experiencing their grandeur, trying to reach the sky, and their ineffably mystical spaces, I began to imagine new spaces, and I wanted to create them using modern technology”. (Tange, 1964).

St Mary's Cathedral, Tokyo, Japan.

Year: 1964

Architect: Kenzo Tange

Major features as seen on Fig 3.13:

0. Processional entrance
1. Entrance/gatehouse
2. Nave
3. Aisle/double
4. Crossing of the transept
5. Apse/side entrance
6. Narthex/Waiting rooms
7. Atrium
8. Chapel
9. Baptistry
10. Sacristy

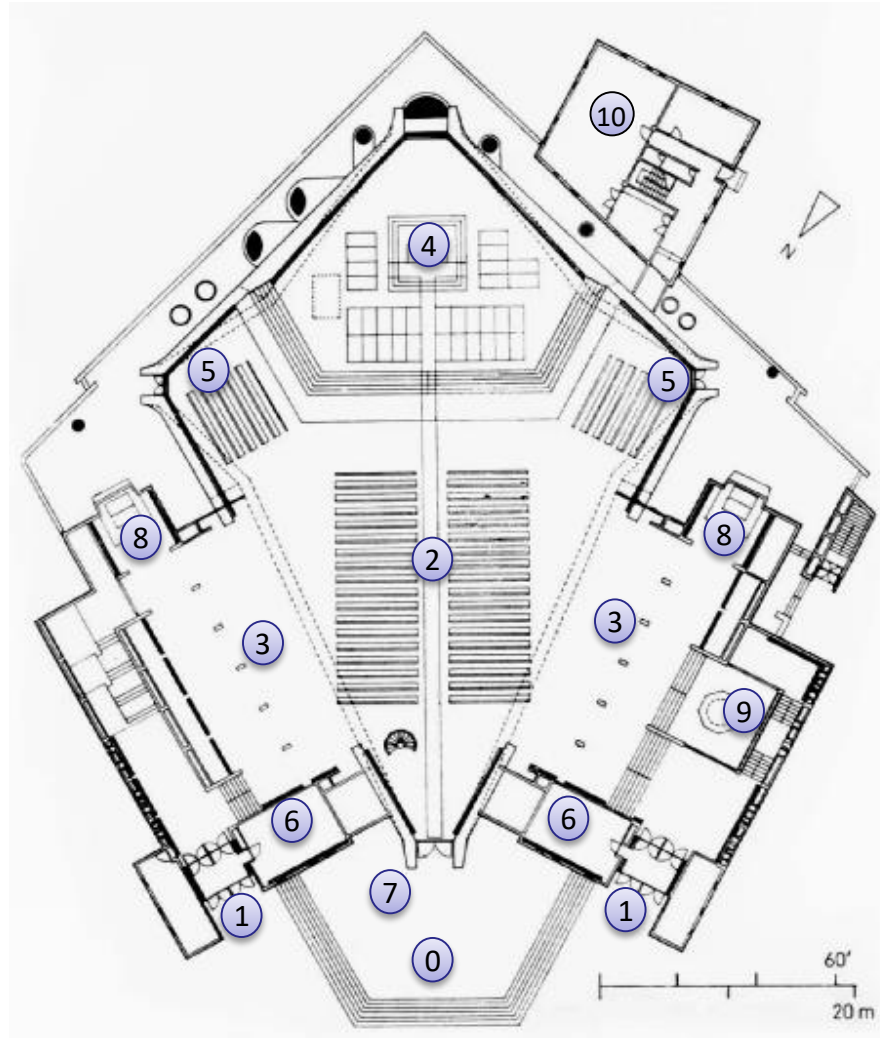


Fig 3.13. Tokyo Cathedral floor plan :
<https://archeyes.com/st-marys-cathedral-in-tokyo-kenzo-tange/>

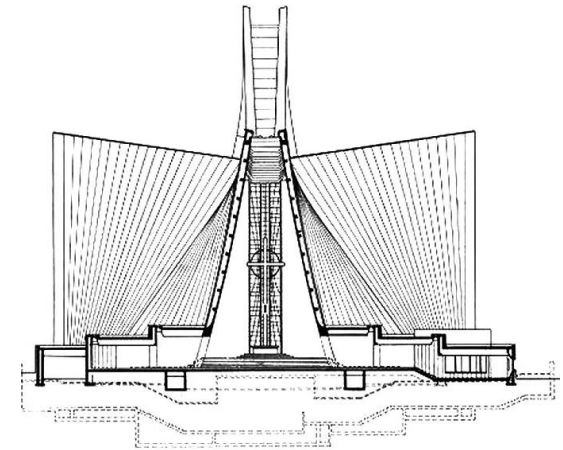


Fig 3.14. Tokyo Cathedral section
<https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a651-evolution-of-cathedral-architecture/>



Fig 3.14. Tokyo Cathedral image
<https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a651-evolution-of-cathedral-architecture/>

3.10 Conclusion

In conclusion, it can be noted that as much as there had been all notable changes in typologies of church architecture, it has maintained its core function. It is critical for an adequate analysis of function accompanied by a genuine insight into sacred purpose to aid in the production of a significant church architecture.

This however should be in consideration of the immediate and all users in respect with their liturgical space considerations. This also has to incorporate all considerations of unforeseen future changes in economic, environmental, social or health conditions such as disease outbreaks.

HISTORY OF CHURCH ARCHITECTURE

3.11 STUDY OF THE DEVELOPMENT OF CHURCH DENOMINATIONS

The Christian Church developed from the day of Pentecost as established by our Lord Jesus Christ in A.D. 33.

As is visible in the history, the church evolved as various movements developed over the periods with Anglicans, Lutheran, Presbyterian and Methodist emerging between 1500 and 1900.

From the 1900 to date we have seen the emerging of the Baptist, Evangelical, Pentecostal and Charismatic Churches.

Several church movements happened in the 20th and 21st century alone including among others, Evangelicalism, ecumenism, fundamentalism, the House Church movement, the Community Church Movement, the Megachurch Movement, the Emergent Movement etc.

The path in these movements is difficult to determine, yet we can see that the majority of these denominations were established on the basis of new men's ideas and the followers. This thus informs us that even the liturgical space arrangements varies with each movement and therefore their church architecture in general.

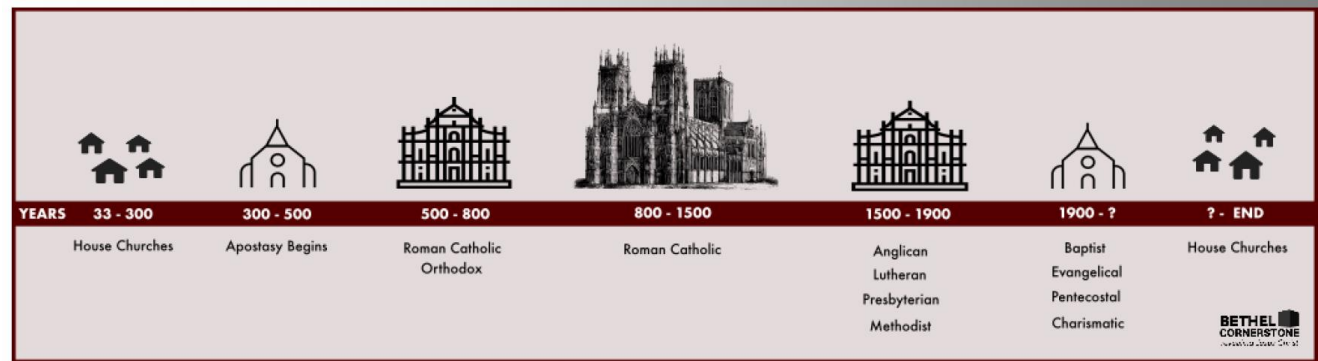


Fig 3.15. Timeline of development of church denominations

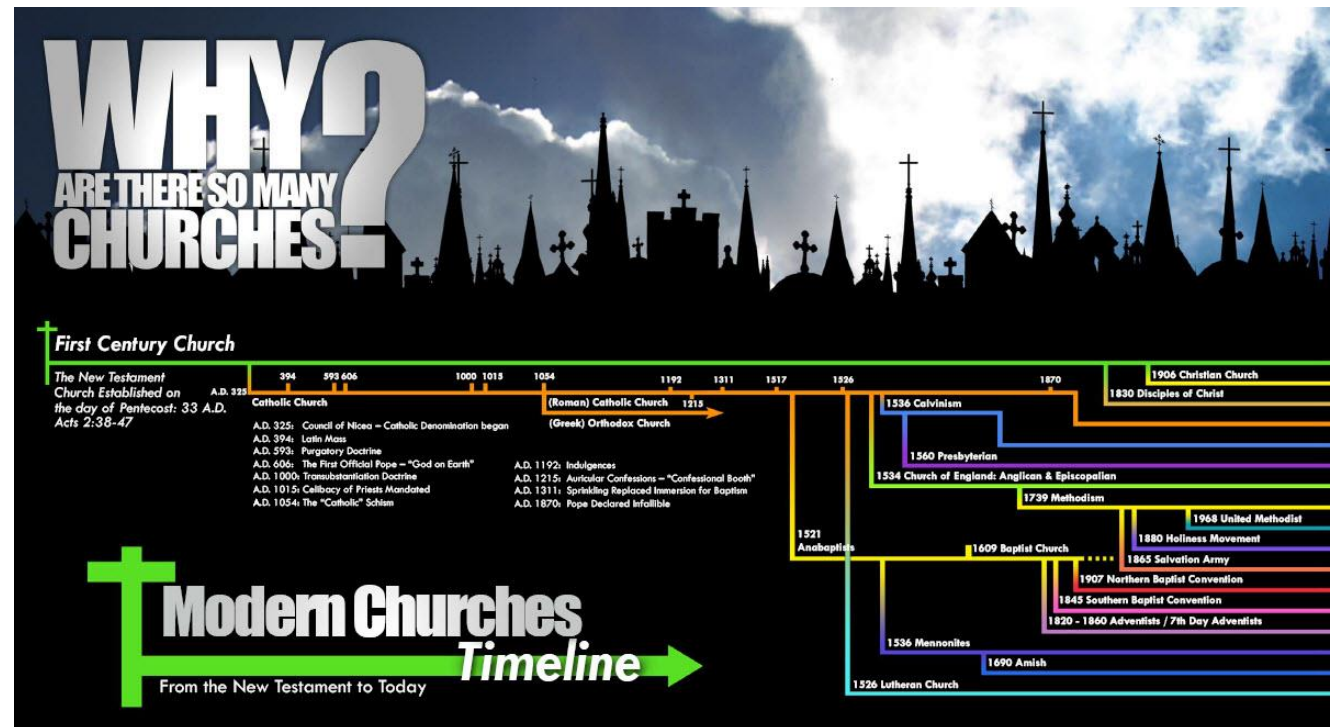


Fig 3.16. Timeline of development of church denomination :
<https://store.wvbs.org/product/modern-churches-timeline/>

4

CASE STUDIES OF CHURCHES IN WINDHOEK

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CASE STUDY OF CHURCHES IN WINDHOEK

4.1 ROMAN CATHOLIC WINDHOEK: BRIEF HISTORY OF GROWTH

OWNERSHIP: ROMAN CATHOLIC

OPENED: 1908

TYPE OF ARCHITECTURE:

Romanesque Revival Architecture

1. Church
2. Hospital
3. Community hall
4. School
5. Kindergarten
6. Coffee shop
7. Bookshop
8. Parking
9. Rental spaces: Doctor's consulting rooms

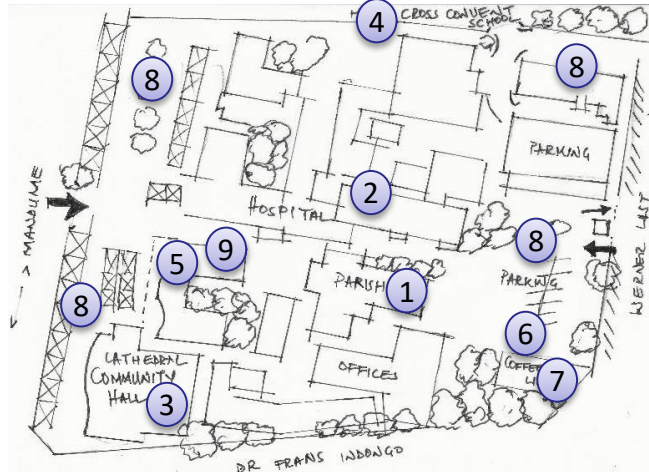


Fig 4.1: Roman Catholic Church CBD sketch site layout (Author 2021).



Fig 4.2: Roman Catholic CBD Romanesque Revival Architecture church building (Author 2021).

STUDIES AND LESSONS LEARNT:

Plan Analysis: Fragmental growth

Spatial use: Closing up open spaces

Form: Changes in building typologies with modern additions

Construction systems: Rigid structures



Fig 4.3: Roman Catholic Church CBD photo showing the recently extended hospital from the western side (Author 2021).



Fig 4.4: Roman Catholic Church CBD photo showing the recently built cathedral hall on the western end (Author 2021).

CASE STUDY OF CHURCHES IN WINDHOEK

4.2 SEVENTH DAY ADVENTIST CHURCH (JOHN MEINERT): BRIEF HISTORY OF GROWTH

OWNERSHIP: SEVENTH DAY
ADVENTIST

TYPE OF ARCHITECTURE:

Modern Architecture

1. Church
2. School
3. Hall
4. Play area
5. Kindergarten
6. Rental spaces: Doctor's consulting rooms
7. Parking

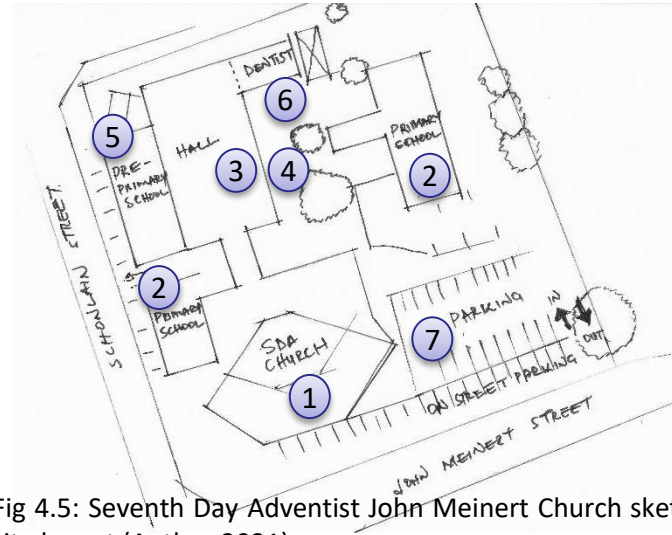


Fig 4.5: Seventh Day Adventist John Meinert Church sketch site layout (Author 2021).

STUDIES AND LESSONS LEARNT:

Plan analysis: Fragmental growth

Spatial use: Closing up open spaces

Form: Changes in building typologies with modern additions

Construction systems: Rigid structures.



Fig 4.7: Seventh Day Adventist John Meinert Church photo showing the recently prefabricated classrooms (Author 2021).



Fig 4.6: Seventh Day Adventist John Meinert Church photo (Author 2021).



Fig 4.8: Seventh Day Adventist John Meinert Church photo showing the recently built Eden academy kindergarten on the western end (Author 2021).

CASE STUDY OF CHURCHES IN WINDHOEK

4.3 DUTCH REFORMED CHURCH CENTRE, WANAHEA: BRIEF HISTORY OF GROWTH

OWNERSHIP: DUTCH REFORMED CHURCH

TYPE OF ARCHITECTURE:
Modern Architecture

1. Rooms used by churches on Saturday and Sunday
2. Rooms used by Kindergarten from Monday to Friday
3. Hall used by the church
4. Rental spaces: Residential rooms
5. Parking
6. Courtyard and kids play area suitable for tent pitching in the event of bigger gatherings

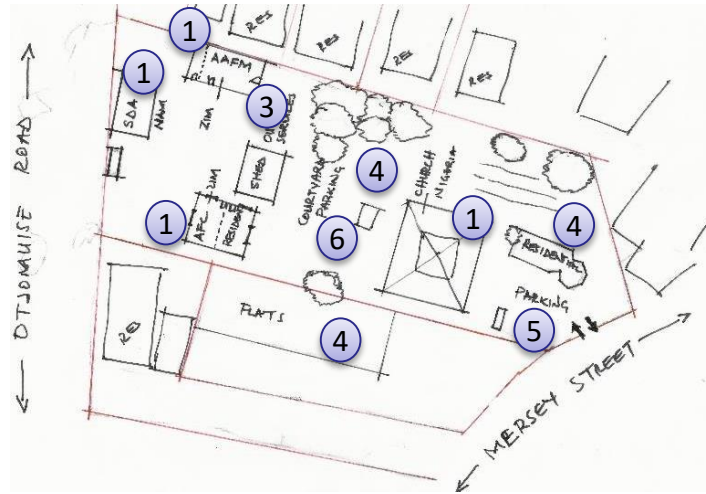


Fig 4.9: Dutch Reformed Church center sketch site layout plan (Author 2021)

STUDIES AND LESSONS LEARNT:

Partial fragmental growth: Closing up open spaces; public and parking spaces in front

Placing of additions on erf edges creating a courtyard that is flexible for the pitching of a tent

Changes in building typologies simpler and flexible prefabricated structures

Classrooms and main hall used during the week and church halls on Saturday.



Fig 4.11 Dutch Reformed Church centre photo showing the prefabricated classrooms, children play area and shed (Author 2021).



Fig 4.10: Dutch Reformed Church center photo showing main building and front parking space (Author 2021).



Fig 4.12: Dutch Reformed Church centre photo showing tent pitched in the courtyard to accommodate a bigger gathering; Apostolic faith church 2014 conference (Author 2014).

CASE STUDY OF CHURCHES IN WINDHOEK

4.4 CAPTURING DIFFERENT CHURCH TYPOLOGIES AROUND WINDHOEK

Churches in Windhoek can be grouped into various classifications ranging from those:

- renting premises ranging from:
 - warehouse buildings
 - community centres
 - school halls
 - spaces in business complexes
- with permanent church buildings
- temporary worship structures which can be in the form of:
 - zinc structures
 - tent structures
 - garage churches
 - backyard churches

In conclusion, one can say that the mushrooming of churches has made it difficult for the city to provide enough plots for all churches such that any space that can be found and is adaptable for use is grabbed.

At the same time, considering the financial situations of many churches, temporary structures are found to be the best to use.



Fig 4.13: Pentecostal Protestant Church, Hocklandpark (Author 2021).



Fig 4.14: Deeper Life Church, Greenwell, Katutura (Author 2021).



Fig 4.15: Zinc Church in Okuryngava (Author 2021).



Fig 4.16: Tent Church at Single Quarters, Katutura, Windhoek (Author 2021).

CASE STUDY OF CHURCHES IN WINDHOEK: LESSONS LEARNT

4.5.1 A SPACE FOR EVERYONE (INCLUSIVITY)

What should a church therefore be if it relates to a building or space? The church space is reflected by activities targeting specific audiences. Designers see more interest in transforming the common area into an everyday gathering place. “Cafes with various seating options are becoming meeting places for small groups and attracting entrepreneurs looking for a cool hangout space with WiFi connection,” argues Garrison. “Seating options vary from soft comfortable sofas and chairs to café tables with stools. Children’s play areas can be important for women’s small group meetings and making the commons more active on Sunday.”

CASE STUDY OF CHURCHES IN WINDHOEK: LESSONS LEARNT

4.5.2 FOCUS ON FAMILIES

A church is considered to be the body of Christ, and as such, it brings individuals and families together with a unity of purpose to serve the Lord. Spaces dedicated to children’s areas have increased dramatically for both new and remodelled churches, thus sending the message that their church is family-driven, offering a safe and secure environment for kids to play. So unless a church is intentional about ministries and programmes throughout the week, this means that people might be found hanging out at venues other than the church.



Fig 4.17: Southland Christian Church in Lexington, Kentucky, lighting and screen projecting to allow everyone view of the preaching Pastor.
<https://www.arch2o.com/southland-christian-church-eop-architects/#!>

CASE STUDY OF CHURCHES IN WINDHOEK: LESSONS LEARNT

4.5.3 CHURCH AND COMMUNITY COHESION

Mathew 25: 35-36; For I was hungry and you gave me something to eat, I was thirsty and you gave me something to drink, I was a stranger and you invited me in, I needed clothes and you clothed me, I was sick and you looked after me, I was in prison and you came to visit me.

Role of the church in a contemporary society: Believers are convinced that acting morally is a part of their responsibility. This entails assisting those around them; therefore, the church may play an important role in aiding Christians in their efforts to help others by providing:

- Food banks/food programmes, e.g. soup kitchens
- Help for the homeless and the needy even in times of pandemics, wars and economic recessions

Non-religious activities:

- Crèche/kindergarten/school
- Youth groups
- Adult education programmes
- Community meeting facilities e.g. fitness classes
- Charity events

Based on the above functions, one can thus conclude that in order to come up with a fully functional church design proposal, one has to consider the community around the facility, the various age groups and the non-religious activities they are engaged in.



Fig 4.18 Image on church and community cohesion.
<https://www.theosthinktank.co.uk/research/2020/11/26/the-church-and-social-cohesion-connecting-communities->

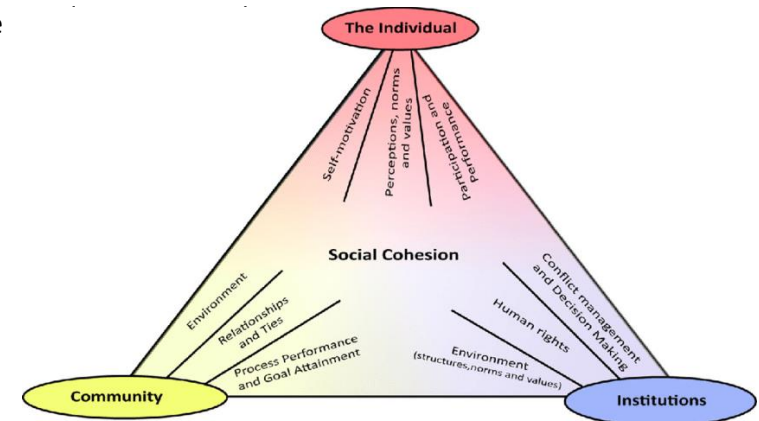


Fig 4.19 Social cohesion framework.
https://www.researchgate.net/figure/Framework-to-characterize-social-cohesion_fig3_326431856

CASE STUDY OF CHURCHES IN WINDHOEK: LESSONS LEARNT

4.5.4 TECHNOLOGY AND TRADITION

While worship is certainly the focus of contemporary and traditional churches, the common spaces establish the culture of the church. This approach is supported with more technology in all forms, including video walls, LED walls, LED lighting, WiFi, and more. Multi-functional spaces have created the need for churches to operate seven days a week, with social media being an important part of the mix.

If there is a substantial number of non-English speakers as in many Windhoek communities, there is need to offer services in other languages and technology can be utilised.

Worship and fellowship can now be done in physical or virtual attendance, therefore, the utilisation of technological interventions should be encouraged.

A question would be posed then; Is the sanctuary/pulpit still as sacred as it used to be? One would say, in situations conducive for such use, the pulpit is used but in many cases it's now in mobile form and not as fixed as it used to be.



Fig 4.20: Southland Christian Church in Lexington, Kentucky, lighting and screen projecting to allow everyone view of the preaching Pastor.
<https://www.arch2o.com/southland-christian-church-eop-architects/#!>

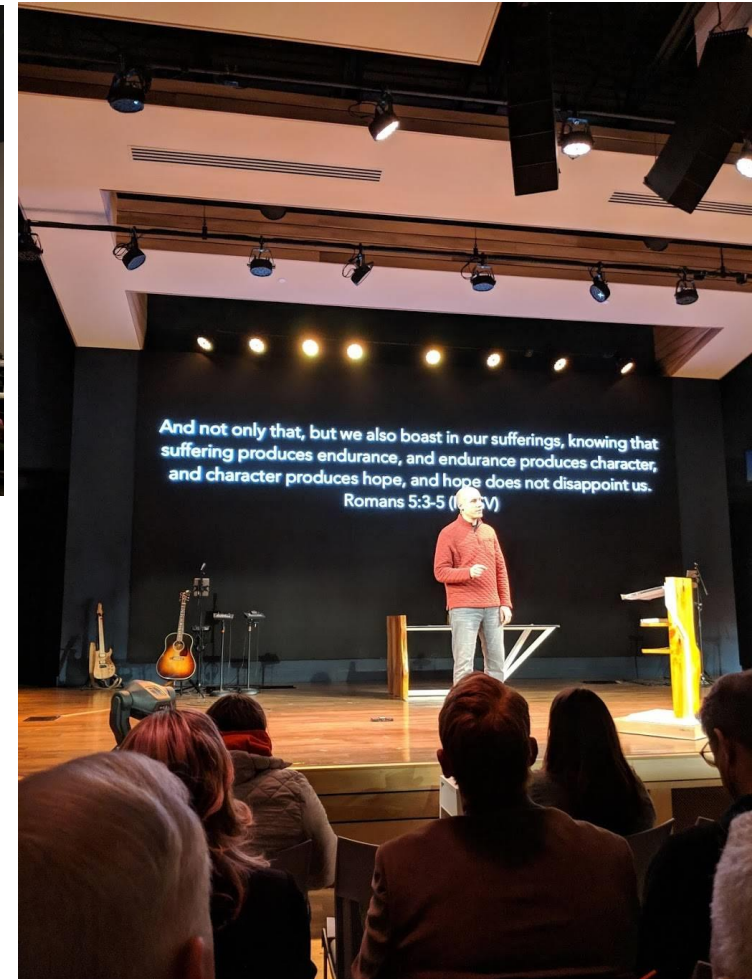


Fig 4.21: The Gathering Christian church projecting panel, where one can read projected scriptures.
https://www.businessyab.com/explore/united_states/missouri/st_louis/ellendale/mccausland_avenue/2360/the-gathering-mccausland-314-646-7172.html

4.5.5 FUNDAMENTAL PRINCIPLES

Examining Architectural Typologies of Religious Architecture in Windhoek: A response to Covid-19:

Materiality: Flexible/rigid construction systems, greener systems, time and cost effective: To allow for flexibility, durability, easy construction methods, cheap local labour, availability of materials and possibility of phased construction.

Light and ventilation: Responsive to health and environmental challenges and future viral and or similar pandemic outbreaks.

Procession/movement/access: The building should be accessible to anyone at anytime of the day. Special orientation should lead the users to a place of worship and access to the facility should invite the community and its surroundings. The northern edge of the facility should connect and tie the community through the community support initiative.

Adaptability: Adaptability of spaces, addressing fragmental growth, and general church growth constraints.

Verticality: Is this still important in designs: Is church identity still much anchored on building design? Many churches are trending into mixed use facilities with the ability to lease their properties to help defray expenses and pay the rent/mortgage.

Reinventing church identity. How about branding?

5

PROGRAMME SPECIFICATIONS

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PROGRAMME SPECIFICATIONS

5.1 PROGRAMME SPECIFICATIONS

This thesis looked into the design of a church with considerations of the historical design patterns through incorporating forward and innovative thinking in response to the increase/decrease in needs by the church as well as the challenges brought in by Covid-19.

Ideologies of the Christian faith were considered in providing pragmatic solutions to church functions such as outreach, educational, health and social amenities. The design focussed on both the inward and outward aspects, considering that it would be in an urban context, therefore, the desire to address the needs of the immediate users and at the same time integrating this into the urban fabric.

Ultimately, the primary goal was to design a typological intervention that can address the challenges of expansion and contraction in response to the health and safety of such religious facilities.

The emphasis on this programme being on flexibility and multi-use and shared spaces.

5.2 PRIMARY PROGRAMME

Place of worship
Fellowship areas
Outreach space
Educational spaces

5.3 BUILDING TYPE

Christian church / Pentecostal

5.4 PROGRAMMING SPACE LIST

Entrance hall
Worship hall
Pulpit
Choir / music area
Recording room
Meditation space
Kitchen / soup kitchen
Meeting rooms
Class rooms
Administration offices
Ablution facilities
Parking
Business areas
Storage
Mechanical
Circulation

5.5 ORGANISATIONAL SPACE DIAGRAM

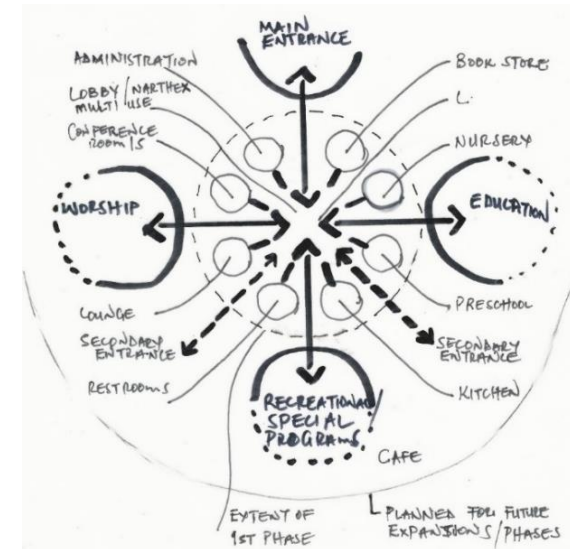


Fig 5.1: Organisation space diagram (Author 2021).

5.6 CLIENT: Apostolic Faith Church Namibia.

The client is a Pentecostal Church aiming to build a facility which is more than a church but a religious facility which can accommodate sharing spaces with other Pentecostal and charismatic churches as well as serving the community around regardless of religious beliefs.

6

CONTEXTUAL ANALYSIS

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6.0 SITE OVERVIEW

For the selection of the site for this thesis exploration, several considerations were made, among them centrality for easy proximity of pedestrians and vehicular transport. The site has much more potential to connect with its context and surroundings by serving the needs of the community and creating an inclusive hub.

6.1.2 SITE LOCATION

Windhoek/Katutura/Okuryangava/Ombili/corner Etetewe and Omuvapu Street.

The site is strategic in the sense that various forms of transport hubs are around it inclusive of taxi ranks as well as the long distance northern bound Sunny auto garage. Various formal and informal businesses ranging from *kapana* stalls, fruits and vegetable stalls, hair salons, cell phone repair stalls flanked by formal supermarkets, residential neighbourhoods and civic centres which make it an activity hub.

Considering the site is on a passageway of industrial workers to and from the Northern Industrial area as well as vendors from the Stop and Shop area, a wholesale and fruits and vegetable hub on the way to Hakahana, Havana and Greenwell settlements, circulation is crucial in this project.

In order for the architectural typology to blend into the existing context, scale, materiality and integration through an innovative, inclusive and evocative design of a sacred place.



Fig. 6.1. Namibia, Africa (Author 2021).

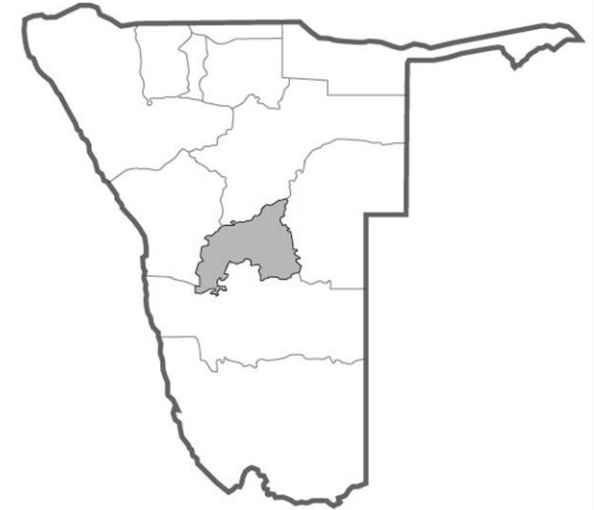


Fig. 6.2. Windhoek, Namibia (Author 2021).

6.1.3 SITE OVERVIEW: KEY FACTORS

- Central in high density area
- Connecting formal and informal settlements
- Neighbourhood quality
- Isolated and fragmented blocks
- Disconnected spatial relationships

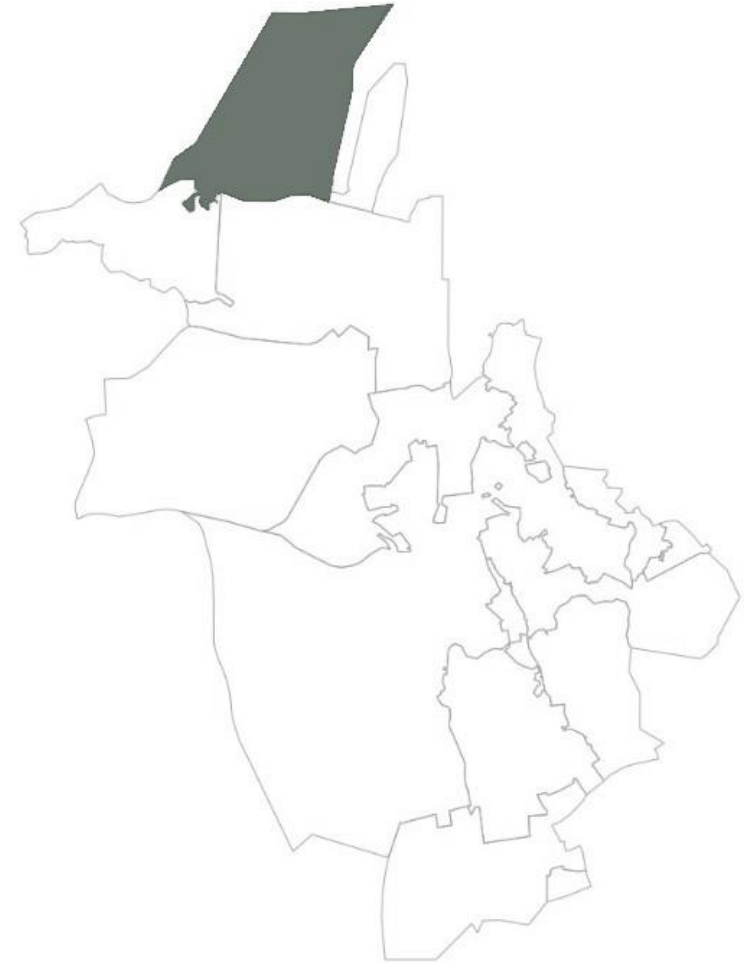


Fig. 6.3. Okuryangava, Windhoek. (Author 2021).

6.1.4 SITE OVERVIEW: MAJOR ROADS



Fig. 6.4. Locality map (NTS). Site located within Okuryangava, Ombili suburb on the intersection of Omuwapu and Etelewe Street. (Author 2021).

Monte Christo road
(link to CBD)



Fig. 6.5. Locality map (NTS). Site located within Okuryangava, Ombili suburb on the intersection of Omuwapu and Etetewe Street. (Author 2021).

CONTEXTUAL ANALYSIS

6.1.7 MAPPING: RELIGIOUS GATHERINGS, TRANSPORT AND MOVEMENT NODES



Fig. 6.7. Author 2021. Site mapping: Transport and movement facilities around site of choice. (Author 2021).

CONTEXTUAL ANALYSIS

6.1.8 MAPPING: ACTIVITY NODES



Fig. 6.8. Site mapping: Activity nodes around site of choice (Author 2021).



Fig. 6.9. Site of Interest (NTS). Site located within Okuryangava, Ombili suburb on the intersection of Omuvapu and Etetewe Street (Author, 2021).

6.2.1 SITE ANALYSIS: NODES AT MACRO SCALE

1. Vamboland bound bus pick up drop off point
2. Informal “Kapana” spot
3. Ombili shopping centre
4. Service Station
5. Shabeens along the street edge
6. City of Windhoek markets
7. Stop ‘n shop business centre
8. Street market (Clothes and firewood.
9. Taxi Rank



Fig. 6.10. Existing Nodes at macro scale (Author 2021).

6.2.2 SITE ANALYSIS: NODES AT MICRO SCALE

1. Kindergarten
2. Residential block
3. Commercial
4. Shell Service Station
5. City of Windhoek offices
6. Police Station
7. Kapana informal stalls
8. Nothern region bound bus pick up and drop off point
9. Taxi Rank



Fig. 6.11. Existing various activities in and around the site. (NTS). (Author 2021).



Fig. 6.12. Axis: A walkable route that stretches from Xammi to Etetewe street (Author 2021).



Fig. 6.13. The axis informs of a division of the site into distinct areas (Author, 2021)



Fig. 6.14. Section OO. The natural topography of the site as a good design informant towards amphitheater'. (Author 2021).

7

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PRECEDENT STUDIES

7.1 ST BONIFACE: PIONEERSPARK

Location: Pioneer spark
Architect: Hugo Scheepers
Project year: 2016
Project engineers: Artee

Construction of a Roman Catholic church: St Boniface



Fig 7.1: St Boniface Roman Catholic church photo (Author 2021).

Light: All open to the outside

Materiality: Flexible construction systems

Flexibility: Indoor and outdoor spaces

Verticality: In a modern form

Modern exterior, appealing to all generations

Flexible/unfixed sitting allowing multi-use of space

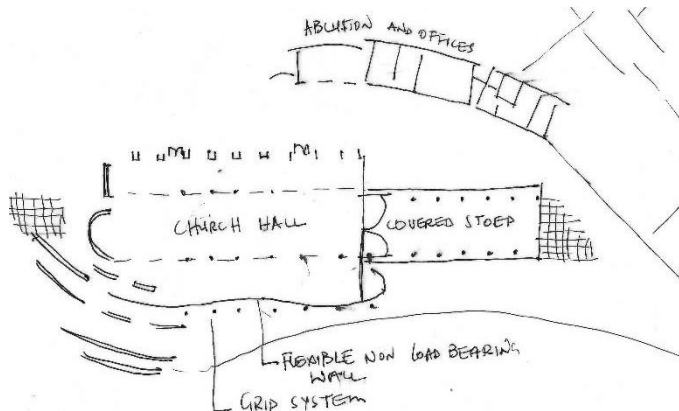


Fig 7.3: St Boniface Roman Catholic church sketch (Author 2021).

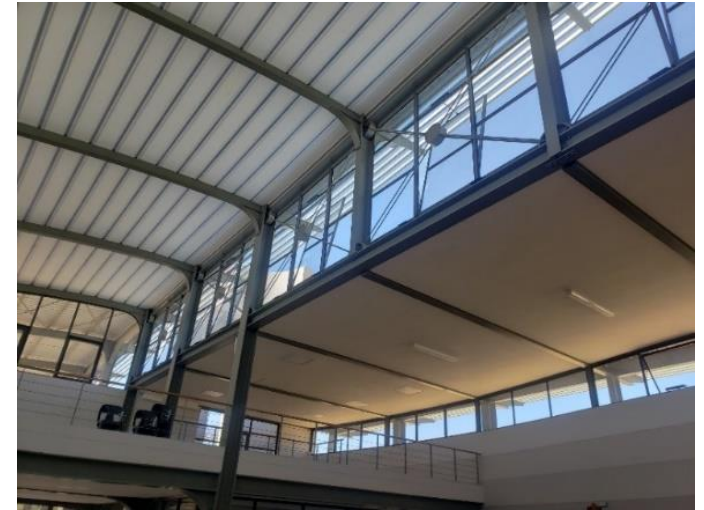


Fig 7.2: St Boniface Roman Catholic church photo (Author 2021).



Fig 7.4: St Boniface Roman Catholic church photo (Author 2021).

PRECEDENT STUDIES

7.2 EVERY NATION: DORADO

Location: Dorado Park

Architect: Hugo Scheepers

Project engineers: Lithon

Project year: Currently ongoing

Construction of a Christian church

Light: All open to the outside

Materiality: Flexible construction systems

Flexibility: Indoor and outdoor spaces

Verticality: In a modern form

Modern exterior, appealing to all generations

Parking could be used for outdoor/drive-in/through services



Fig 7.5: Every Nation Dorado Park church photo (Author 2021).



Fig 7.6: Every Nation Dorado Park church photo (Author 2021).



Fig 7.7: Every Nation Dorado Park Church sketch (Author 2021).



Fig 7.8: Every Nation Dorado Park church photo (Author 2021).

PRECEDENT STUDIES

7.3 TAPACHULA STATION

Location: MEXICO - TAPACHULA

Architect: Colectivo C733

Project year: 2021

Restoration project of old station after a destruction by Hurricane "Stan"

The train tracks evoke the nature of repetition, which is resolved by a single section capable of allocating small-format spaces on its sides for sports, cultural, and community use in the form of covered courts, community dining tables and recreational spaces

Use: Multipurpose

Light: All open to the outside

Materiality: Flexible construction systems

Flexibility: Indoor and outdoor spaces

Verticality: In a simple but modern form



Fig 7.9: https://divisare.com/projects/456663-colectivo-c733-rafael-gamo-tapachula-station?utm_campaign=journal&utm_content=image-project-id-456663&utm_medium=email&utm_source=journal-id-795

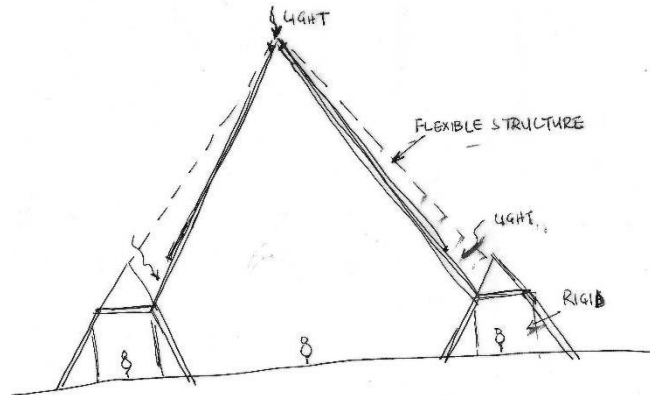


Fig 7.11: Tapachula station sketch (Author 2021).



Fig 7.10: https://divisare.com/projects/456663-colectivo-c733-rafael-gamo-tapachula-station?utm_campaign=journal&utm_content=image-project-id-456663&utm_medium=email&utm_source=journal-id-795



Fig 7.12: https://divisare.com/projects/456663-colectivo-c733-rafael-gamo-tapachula-station?utm_campaign=journal&utm_content=image-project-id-456663&utm_medium=email&utm_source=journal-id-795

PRECEDENT STUDIES

7.4 OTJOMUISE CHURCH

Location: Otjomuise

Designer: Unknown

Project year: 2021

Construction of Christian church

Two freestanding shed structures that are under construction and have been standing for more than a year and the owners have been renting elsewhere for their worship services. They decided in 2021 to compact a temporary platform within the shed structure and allowing them to hold their worship services and programmes in the shed.

One of the sheds is going to be the church hall and the second will be offices, ablution and space for youth programmes

Use: Multipurpose

Light: All open to the outside

Materiality: Flexible construction systems

Flexibility: Indoor and outdoor spaces

Verticality: In a simple but modern form



Fig 7.13: Otjomuise Church photo showing members compacting to temporarily start using the space(Author 2021).



Fig 7.14: Otjomuise Church church photo (Author 2021).

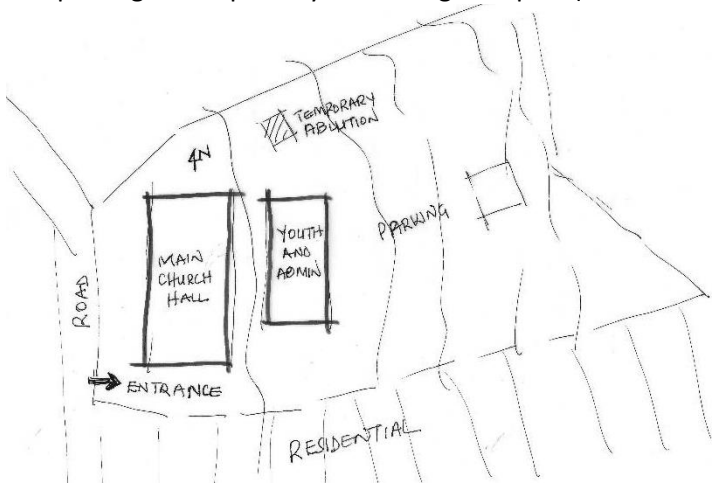


Fig 7.15: Otjomuise Church sketch (Author 2021).



Fig 7.16: Otjomuise Church photo (Author 2021).

7.5 Lessons Learnt

Use: Multipurpose: Generally most if not all the facilities are designed for multipurpose use.

Light: All open to the outside and in the case of St Boniface, Tapachula and All Nations Dorado valley, a clearstory level allows for vertical circulation of unwanted hot air.

Materiality: Steel and masonry with clean finishes dominates all the projects

Flexibility: Flexible steel and reinforced concrete construction systems dominate all precedent projects. Generally walls are independent from the structure.

Verticality: In a varying simple but modern forms.

08

DESIGN PROCESS AND CONCEPT

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8.1 CONCEPTUAL THINKING: TOUCH STONE

Religious groups and faith-based worship services serve as pillars of strength in the community, facilitating positive and safe social interactions and unity.

In the touchstone, I thought of using fabric of different material colours, quality, torn apart and some joined in different patterns representing the society, the church, and the community. Fig 7.2 of the touchstone implies a possibility of the zip capable of joining all strands together in a uniform and harmonious unit as seen in fig 7.3.



Fig. 8.1. Touchstone fragmented and torn out. (Author 2021).



Fig. 8.2. Stitched and zipped together. (Author 2021).

8.2 CONCEPTUAL THINKING: DESIGN STRATEGIES: ADAPTABLE AND FLEXIBLE SYSTEMS

The axis informs a division of the site into distinct areas. These could create in-between courtyard spaces encouraging outdoor space use as one of the environmental and health response incase of airborne pandemics like the case of Covid-19.

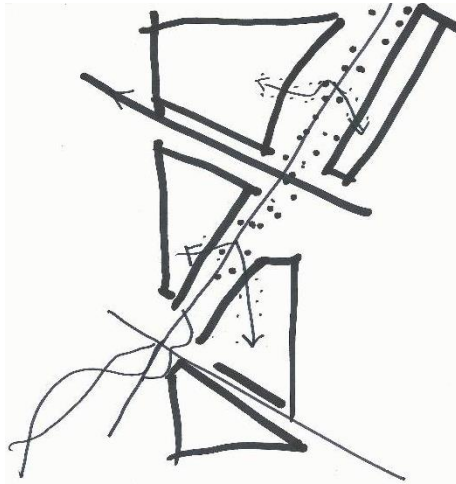


Fig. 8.4. The axis divides the site into distinct areas subsequently creating courtyards in-between (Author 2021).

Flexible construction systems allows for easier alterations of spaces in the event buildings need to expand or contract in response to growth or reduction of gathering sizes. Local churches generally have serious financial challenges such that construction of their facilities is usually done in phases over an extended period or time. This is done to allow them raise more funds and members usually volunteer to participate themselves. Construction systems to be considered need to take note of such.

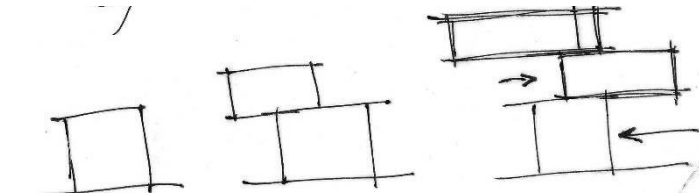


Fig. 8.6. Modular systems (Author, 2021).

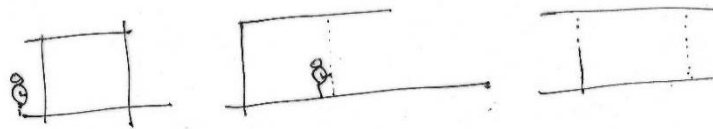


Fig. 8.8. Systems which allows members to participate (Author 2021).

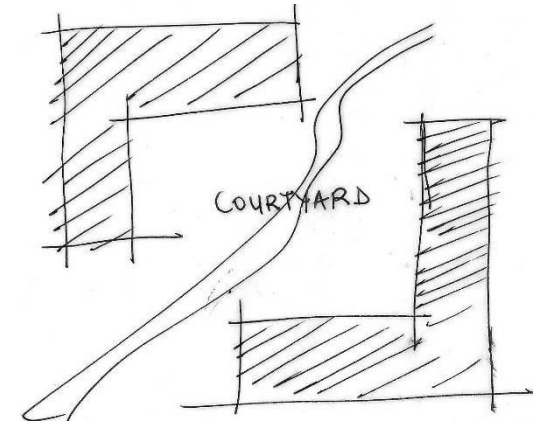


Fig. 8.5. The axis divides the site into distinct areas subsequently creating courtyards in-between (Author 2021).

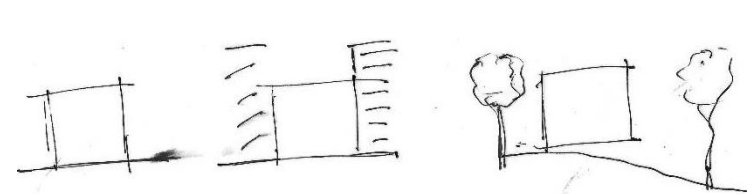


Fig. 8.7. Adaptable systems (Author 2021).

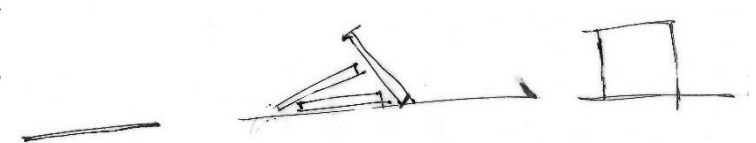


Fig. 8.9. Demountable systems (Author 2021).

8.3 SCHEMATIC DIAGRAMS: PROCESSIONAL/MOVEMENT/CIRCULATION

The proposed site movement follows through the axis running from the direction of Xammi street to Etetewe street. This creates pockets of spaces which in conceptualisation are found as the best and ideal for the following functions:

1. Pocket ideal for complementing the adjacent school which could be a multipurpose hall facilitating school graduations, parents' meetings, sports, etc.
2. Space which suits the main church building the best
3. The space will be designed for parking which will serve as a market place during the week. At the same time the parking lot will serve as a drive-in church service area.
4. The core node of the block is meant to tie all functions together.
5. Street edges, considering the economic hardships around the area, one cannot ignore the current informal retail activities taking place.
6. Taking into consideration the storm water movement along the edge, landscaping would be the best, together with shaded trees and shrubs.

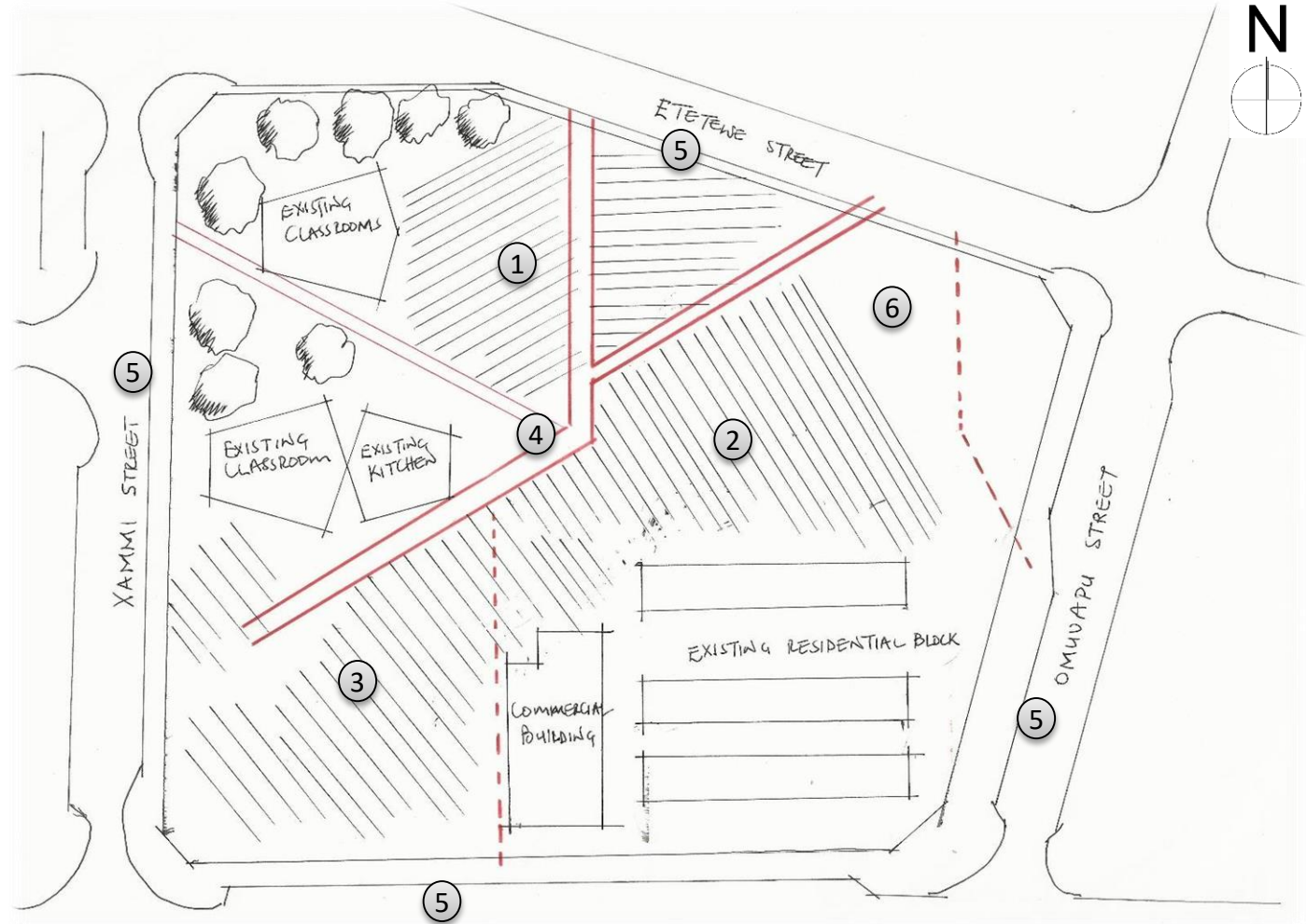


Fig. 8.10. Movement axis through the site creating pockets of usable spaces (Author 2021). Drawing not to scale.

DESIGN PROCESS AND SOLUTION

8.4 SCHEMATIC DIAGRAMS: RIGID AND FLEXIBLE SPACE GROUPINGS

Flexible spaces: These spaces are planned to take the spaces with more opportunities for expansion and enlargement.

Entrance hall
Worship hall
Pulpit
Choir / music area
Meditation space
Parking
Circulation

(A)

Semi-Rigid spaces:

Business areas

(C)

Rigid spaces: These are therefore positioned at ends and edges with expansion limitation and barriers already.

Classrooms
Administration offices
Ablution facilities
Kitchen / soup kitchen
Recording room
Meeting rooms
Mechanical
Storage

(B)

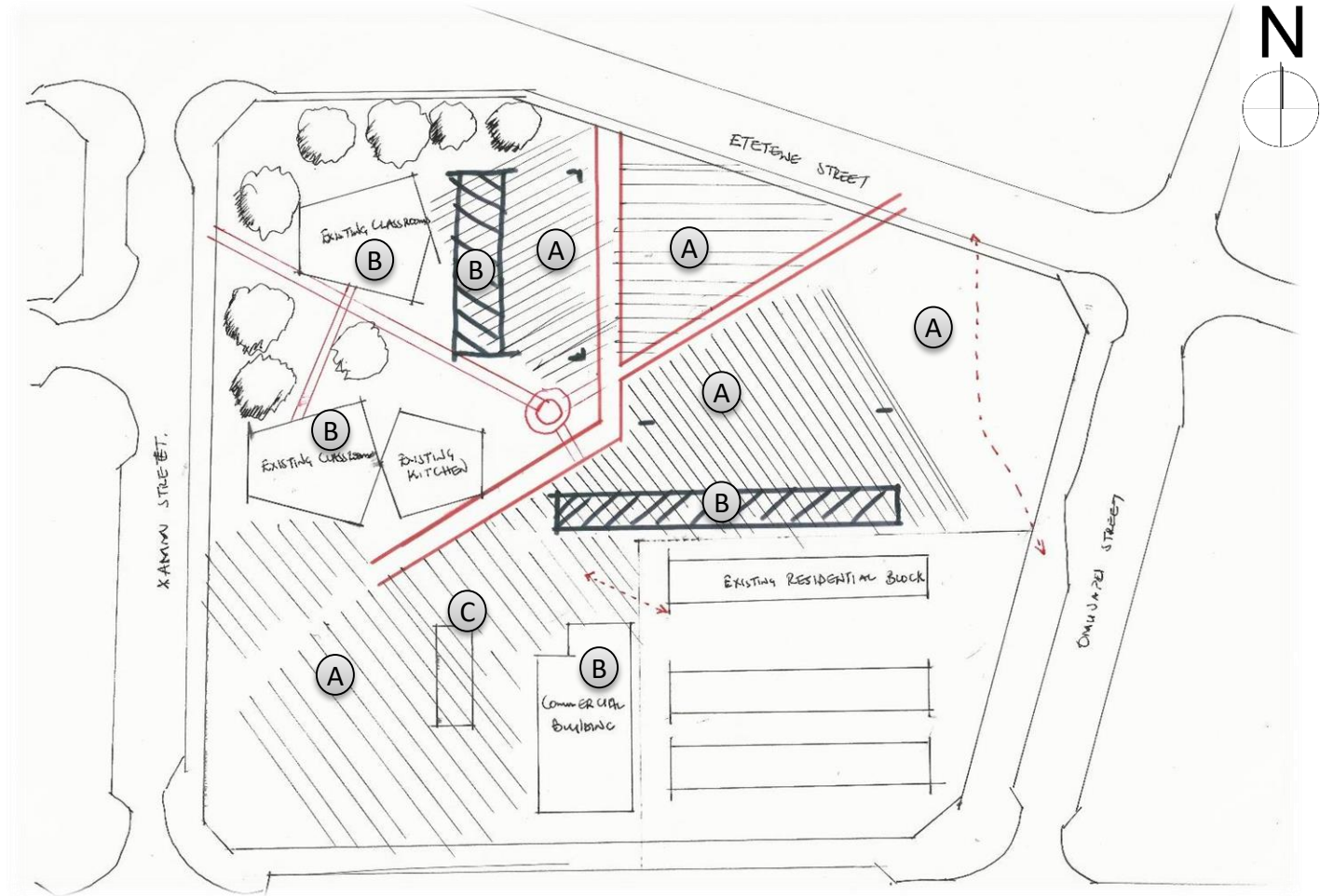


Fig. 8.11. Hierarchy: Planning of rigid and flexible facilities. (Author 2021).
Drawing not to scale.

8.5 SCHEMATIC DIAGRAMS : OPENABLE AND CLOSED SPACES

Openable spaces

Entrance hall
Worship hall
Pulpit
Choir / music area
Meditation space
Parking
Circulation

(A)

Semi openable spaces:

Business areas

(C)

Closed spaces:

Classrooms
Administration offices
Ablution facilities
Kitchen / soup kitchen
Recording room
Meeting rooms
Mechanical
Storage

(B)

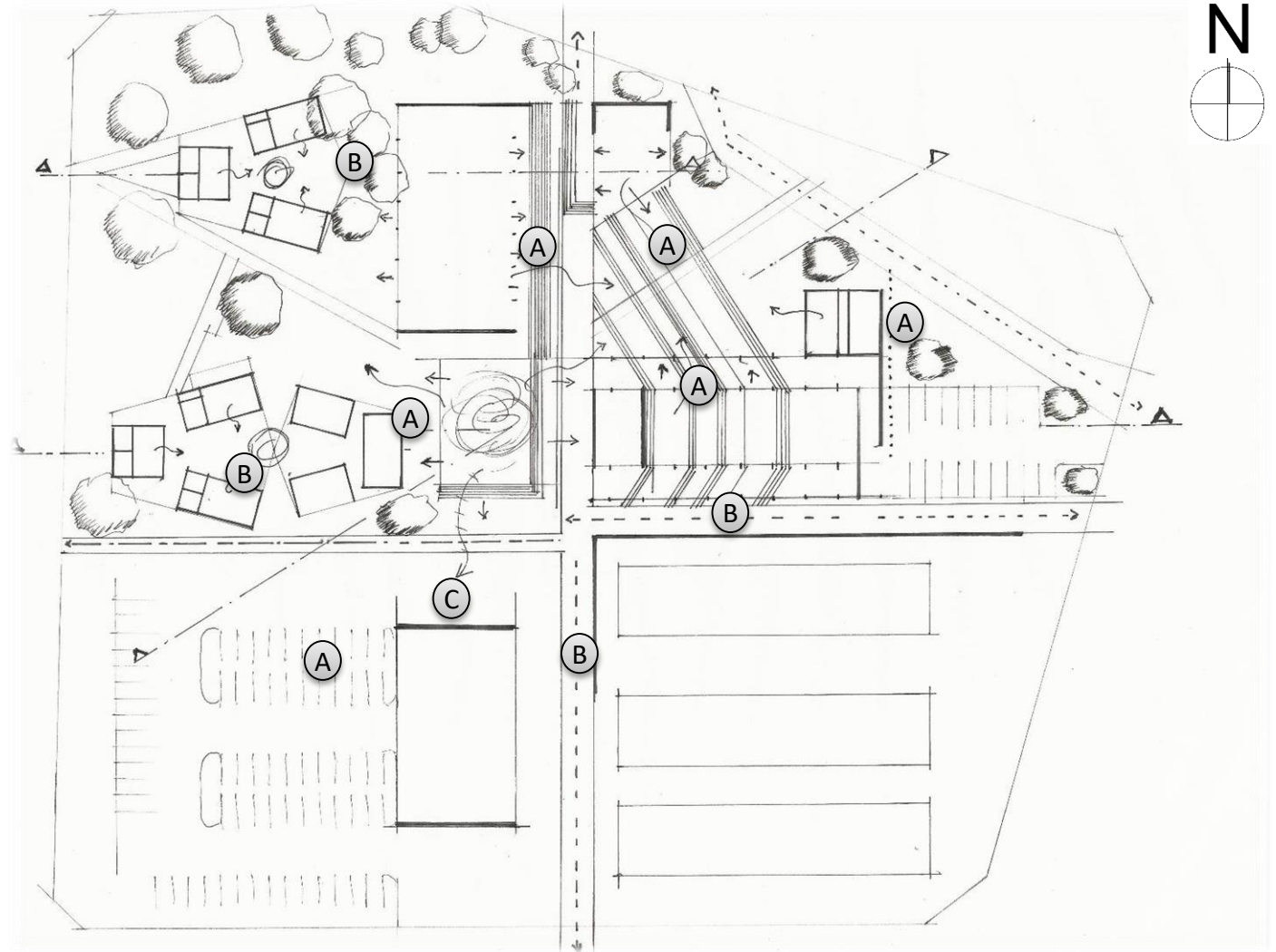


Fig. 8.12. Hierarchy: Planning of open and closed facilities.(NTS) (Author 2021).
Drawing not to scale.

8.6 EARLY CONCEPT MODELS

SCHEMATIC DESIGN

- The fundamental principles as noted earlier would be considered in this design exploration to start with.
- As per the site analysis, vehicular and pedestrian access and movement are taken into consideration, avoiding the western edge congested zone.
- Simple distinction between sacred, public and processional areas is shown in early massing models.
- Circulatory patterns through and around buildings as a form of weaving which metaphorically represents the stitching together of the several amenities of the facility as is with the touchstone.
- At the same time, the zipping metaphorically represents the joining together of the community and the religious institution (Fig 7.3).
- Building orientation in relation to the east west sun is of utmost importance for consideration.



Fig. 8.13. Early conceptual model (Author 2020).



Fig. 8.14. Early conceptual model (Author 2020).

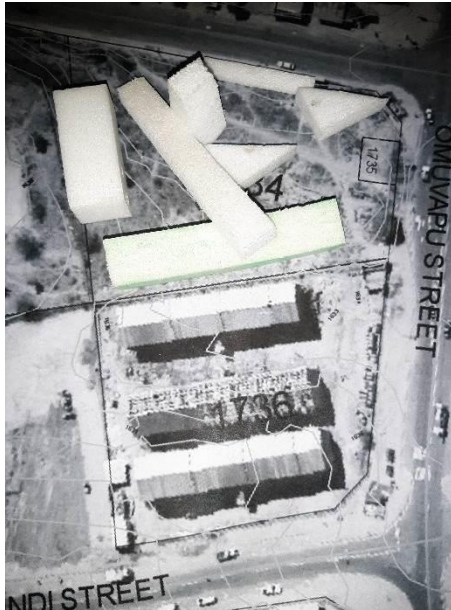


Fig. 8.15. Early conceptual model (Author 2020).

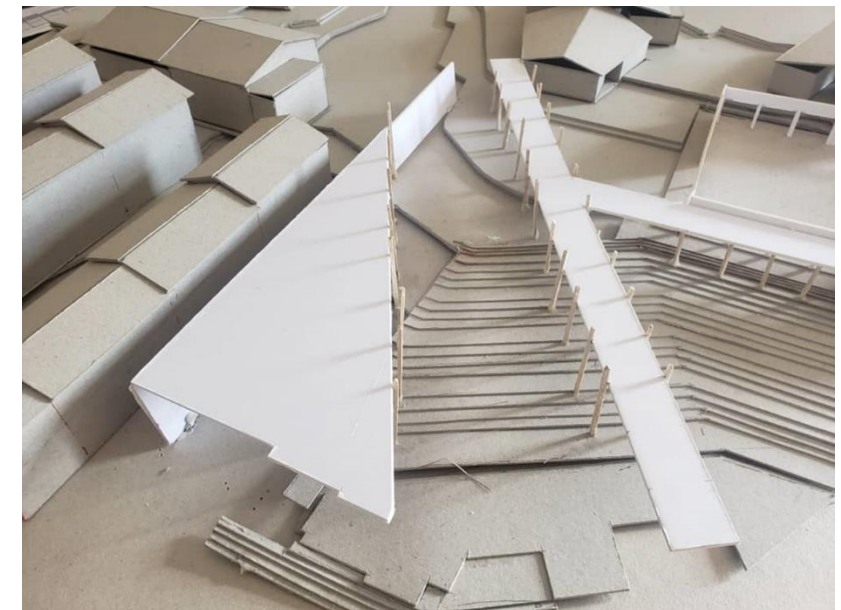


Fig. 8.16. Early conceptual model (Author 2020).

9

DESIGN SYTHESIS

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Note:

- All drawings in this chapter are by the author unless stated otherwise
- Drawings are not to scale

DESIGN SYNTHESIS

9.1 MASTER LAYOUT LOWER LEVEL

1. Main church building
2. Street edges, considering the economic hardships around the area, one cannot ignore the current informal activities happening
3. Taking into consideration the storm water movement along the edge, landscaping would be the best, with shaded trees and shrubs
4. Drive through one way
5. Prayer garden

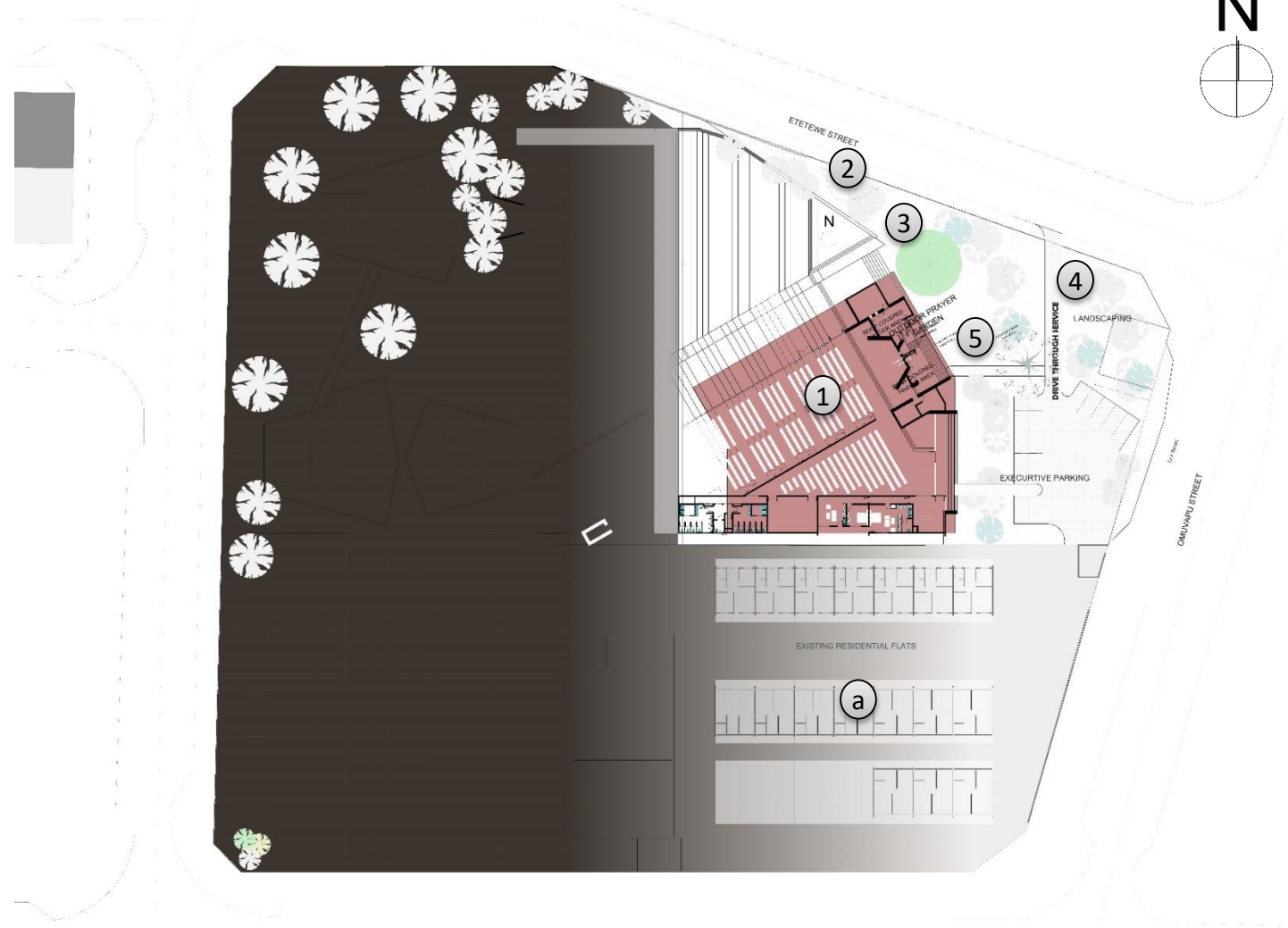


Fig. 9.1. Lower level master layout plan. (Author 2021).
Drawing not to scale.

9.2 MASTER LAYOUT UPPER LEVEL

1. Main Church building.
2. Multipurpose hall which can be used for school graduations, parents' meetings, sports, etc.
3. The space will be designed for parking which will serve as a market place during the week, at the same time the parking lot will serve as a drive-in church service.
4. The core node of the block is meant to tie all functions together.
5. Spaces allowed for informal trade.
6. Development of multi-functional parking space, doubling as prayer garden, dice-through.
7. Drive through one way.

- a. Existing classroom blocks
- b. Existing kitchen/dining block
- c. Existing residential block
- d. Existing commercial building

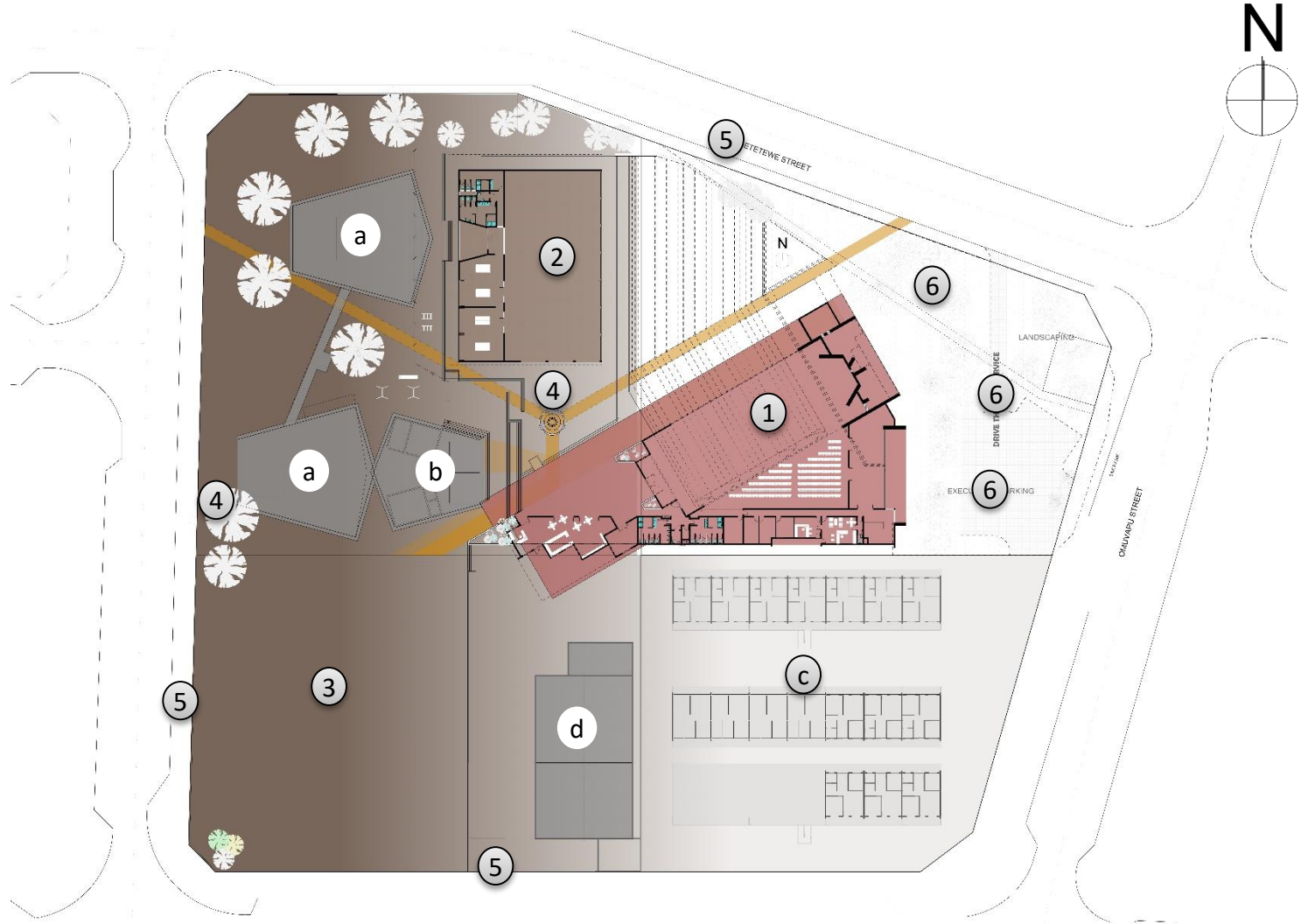


Fig. 9.2. Upper level master layout plan. (Author 2021).
Drawing not to scale.

DESIGN SYNTHESIS

9.3 FLOOR PLAN: LOWER LEVEL

Indoor facilities

1. Main sanctuary
2. Upper level seating area for nursing mothers and the youth.
3. Ablution block
4. Recording studio (Enhancing the sending of the gospel out of the church and strengthening virtual services)
5. Residential units for visitors
6. Circulation
7. Changing rooms
8. Pulpit
9. Prayer

Outdoor facilities

- a) Waterway garden on street edge
- b) Prayer garden
- c) Prayer roof covered area
- d) Baptism pond
- e) Parking for leaders
- f) Drive through service - one way
- g) Covered stoep
- h) Amphitheatre

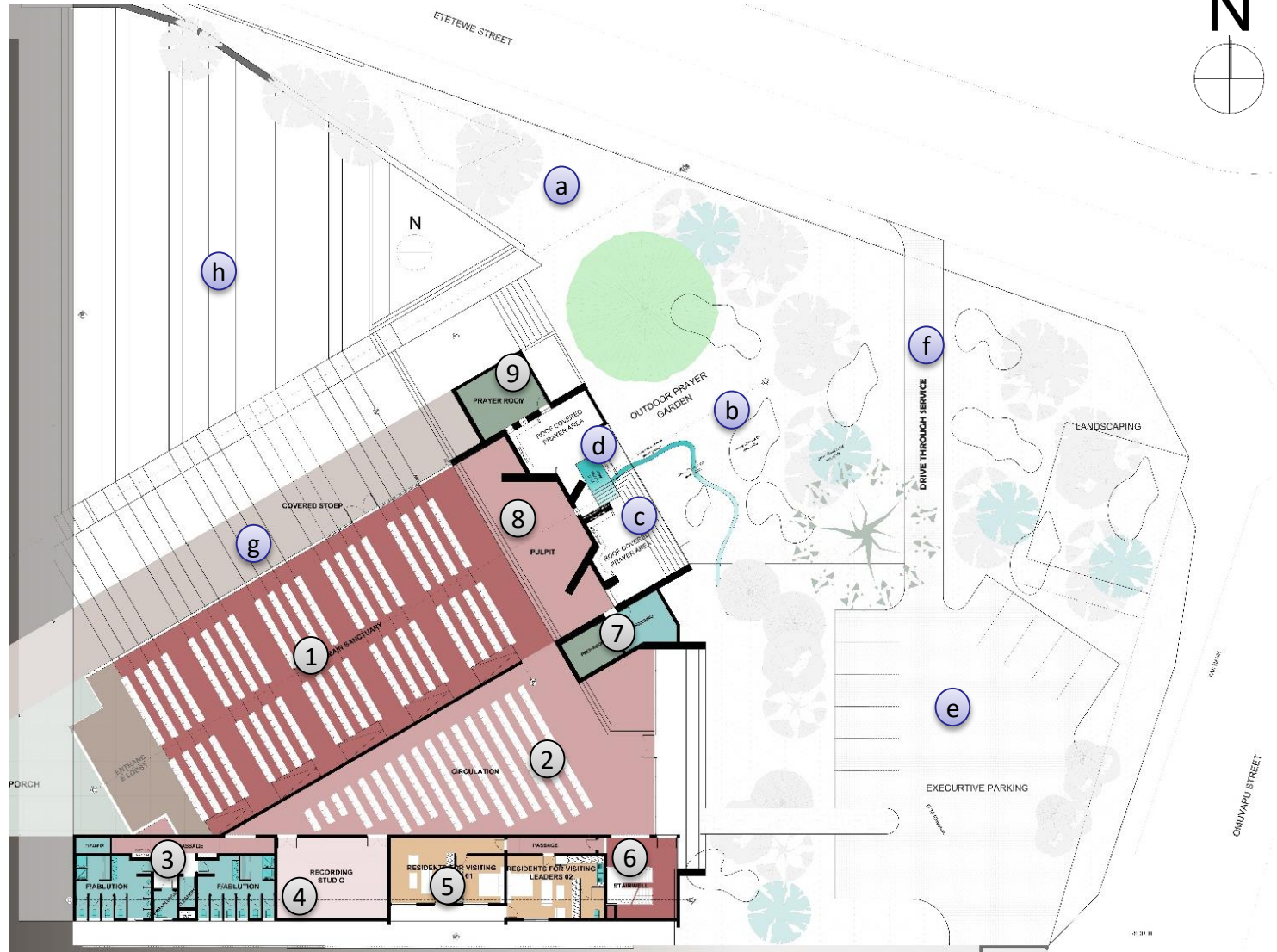


Fig. 9.3. Lower level floor layout plan. (Author 2021).
Drawing not to scale.

9.4 FLOOR PLAN: UPPER LEVEL FLOOR

Indoor facilities

1. Main sanctuary
2. Mezzanine - Nursing mothers and youth seating area
3. Ablution block
4. Nursing mothers
5. Offices
6. Circulation
7. Boardroom
8. Administration Office
9. Library
10. Coffee shop
11. Reception
12. Multi-purpose hall
13. Small games room

Outdoor facilities

- a) Waterway garden on street edge
- b) Prayer garden
- c) Prayer roof covered area
- d) Baptism pond
- e) Parking for leaders
- f) Drive through service one way
- g) Covered stoep
- h) Amphitheatre

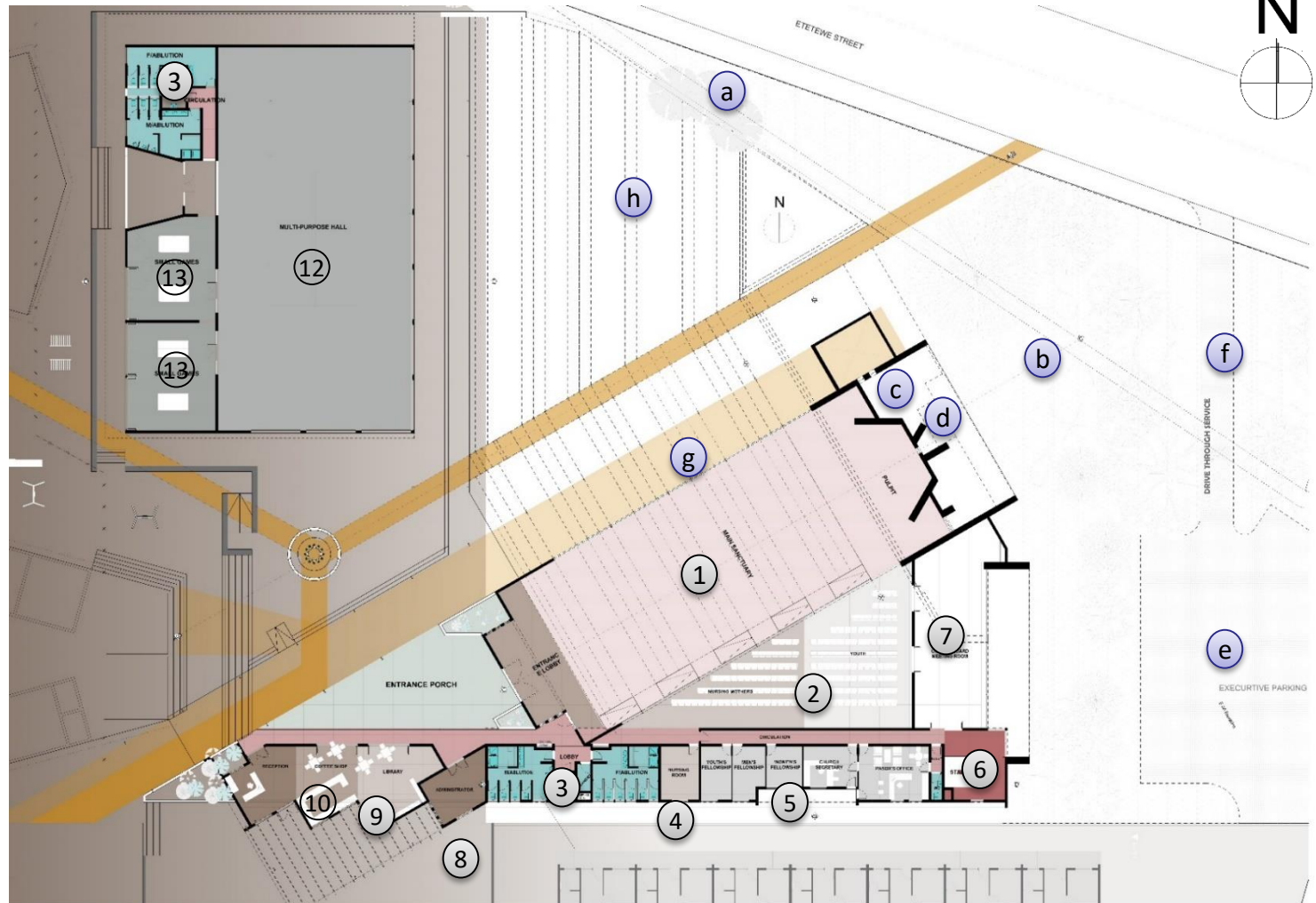
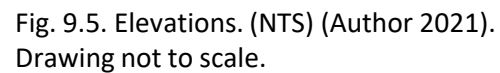


Fig. 9.4. Upper level floor layout plan. (Author 2021).
Drawing not to scale.



9.6 SECTIONS

Not only is the height of the building a verticality element in church architecture, but indirectly it also addresses the issue of air circulation and cooling of the space. With the Covid-19 pandemic, it was unfortunate that all buildings were treated the same through the indiscriminate closing of all facilities.

In this project, I emphasised the heights of the building with bigger carrying capacity as well as having high level openings to allow for air movement through capillary action.

Indoor planters are proposed for oxygen generation from the plants.

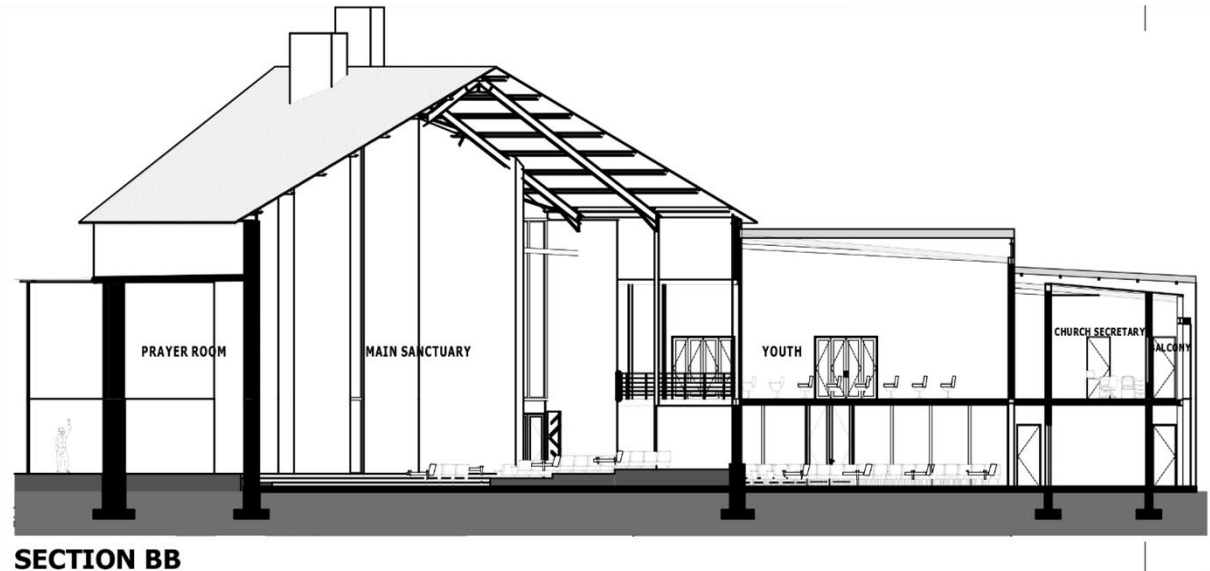
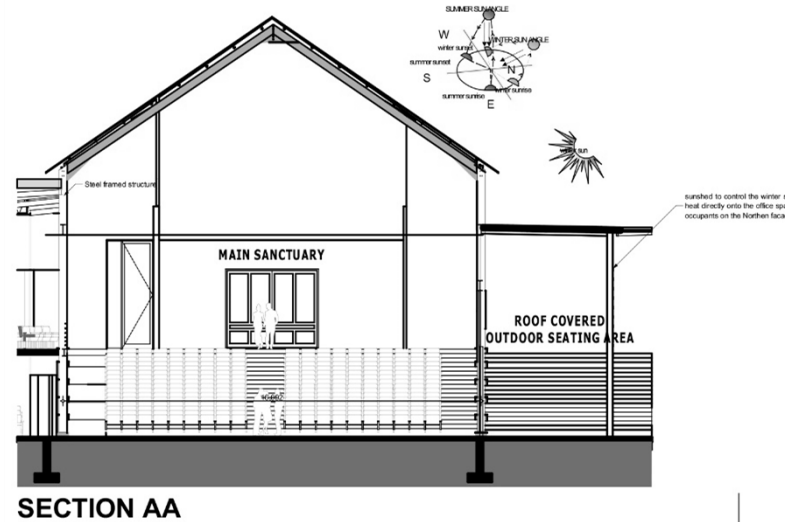


Fig. 9.6. Section AA & BB (NTS) (Author 2021).
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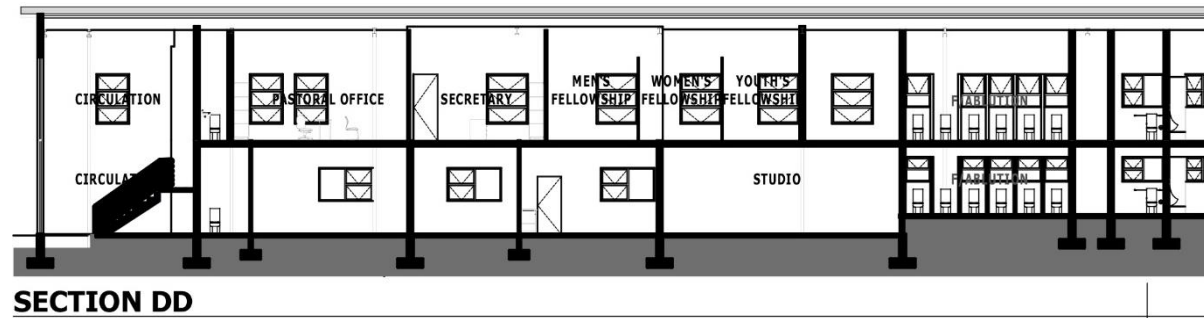
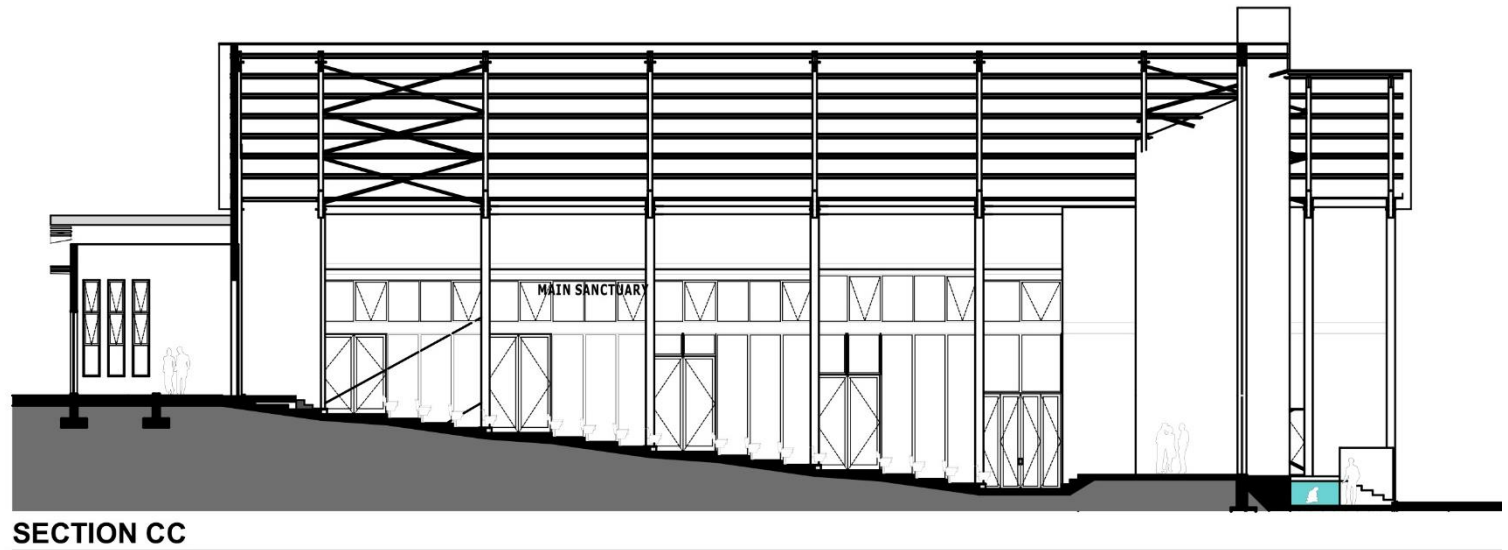
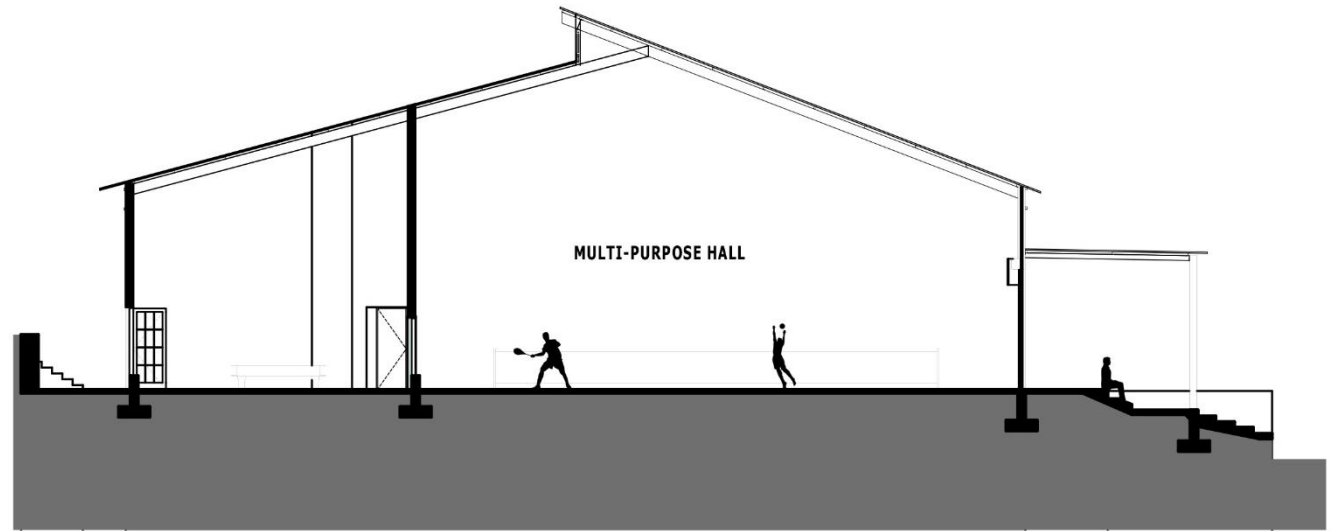


Fig. 9.7. Section CC & DD (NTS) (Author 2021).
Drawing not to scale.



SECTION EE

Fig. 9.8. Section EE (Author 2021).
Drawing not to scale.

9.7.1 RENDERINGS: EXTERIOR

“I HAVE FOUND A PLACE OF HEALING”.

These kinds of outdoor/semi-closed spaces provide sacred places of recovery, meditation, and a place to heal from calamities of this world. One can feel the presence of the Lord, seeing the pillar of life represented by the two praying hands (vertical columns) as well as the water of life depicted by the glass baptism pond.

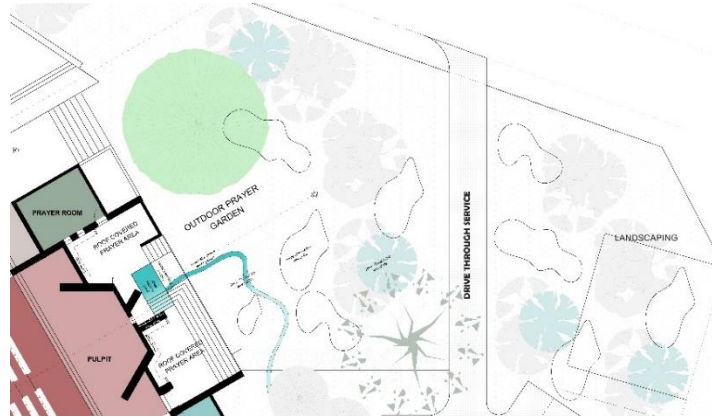


Fig. 9.9. Part floor plan, Lower level. (Author 2021).

Flanking the columns is the prayer garden, with trees and shrubs because Jesus is the tree of life. Olive trees will be planted, which during season will bear fruits to nourish the body as well as healing the broken down in spirit. These olive trees will remind the community of the times when Jesus used to retreat to the Mount of Olive to pray. A place where one can chose to sit quietly on the rocks as Jesus Christ is the rock of life or for simply finding someone with similar life challenges to share with and find encouragement.

When one would need a private closed space to cry unto the Lord, a prayer room with an outdoor entrance is available and its doors are open to the public at all times.



Fig. 9.10. 3D image showing outdoor prayer area (Author 2021).



Fig. 9.11. 3D image showing outdoor prayer garden (Author 2021).

9.7.2 RENDERINGS: EXTERIOR

“I HAVE FOUND A NEW FRIEND”.

The core node tying together the whole facility forms a unique space for outdoor fellowship, a place to chat and share snacks from the kitchen overlooking it. It is a breakaway place from indoor events, a space one can decide to walk from the neighbourhood around just to come and sit under a tree and relax. Friends can arrange to come and sit and even play their cards or games as they would normally do at a shebeen as seen in Fig 8.14 and Fig 8.15 below.

Overlooking this space is the Church library where one can pick some reading material to sit and read or pick a cup of coffee from the coffee shop (Fig 8.13).



Fig. 8.12. Part floor plan, courtyard (Author 2022)



Fig. 8.13. 3D image showing the courtyard (Author 2022)



Fig. 8.14. 3D image showing men playing the game of cards under a tree (Author 2021).



Fig. 8.15. 3D image showing men playing the game of cards (Author 2021).

9.7.3 RENDERINGS: AERIAL

“WE HAD A CUP OF COFFEE ON OUR WAY OUT OF CHURCH”.

Connecting the church to the commercial facility is the outdoor coffee area to serve both church members and the general public.

It as well serves the residential block of flats with just a gate to be opened for such proximity. Coming for coffee on a Sunday, one might as well find his/her way into the church having seen a friend walking by the main entrance isle of the Church.



Fig. 9.12. 3D image showing the entrance & outdoor coffee area (Author 2022).



Fig. 9.13. 3D image showing the entrance & outdoor coffee area (Author 2022).

DESIGN SYNTHESIS

9.7.4 RENDERINGS: AERIAL

“A CHURCH IS MORE THAN JUST A PLACE OF WORSHIP”

1. Multipurpose hall which can be used for school graduations, parents' meetings, sports, etc.
2. Main Church building
3. The space will be designed for parking which will serve as a market place during the week, at the same time the parking lot will serve as a drive-in church service when needed.
4. The central and public space is meant to tie all functions together.
5. informal activities currently happening, these are however formalised and moved into the parking lots during the no church gathering days.
6. landscaping area with shade, fruit trees and shrubs.
7. Drive through one way to be used in times when in-person services are not allowed.



Fig 9.14. Aerial render showing the whole site and its various facilities more than just a Church hall (Author 2022).



Fig 9.15. Aerial render showing the whole site and its various facilities more than just a Church hall (Author 2022).

DESIGN SYNTHESIS

9.7.5 RENDERINGS: AERIAL

“HOW ABOUT A DRIVE IN SERVICE OR IS IT A MARKET ON SATURDAY?”.

Parking spaces for church facilities are always these vast open spaces only to be used on Sundays. In this response the parking will be used as marketing/selling space for vendors.

During gathering restrictions, drive in services with a temporary stage could be mounted and therefore turning the parking into a place of worship. In addition a tent can be pitched when needed.

The same parking space could be utilised as a market place during non-worship days, therefore no kerbs are proposed but instead line markings.



Fig 9.16. Aerial render showing main parking area to be used as a market place during week day as well as drive in service are when need arises (Author 2022).



Fig 9.17. Aerial render showing main parking area to be used as a market place during week day as well as drive in service are when need arises (Author 2022).

DESIGN SYNTHESIS

9.7.6 RENDERINGS: AERIAL

“WHY NOT TRY OUR DRIVE THROUGH CHURCH SERVICE THIS SUNDAY”.

In times of in-service gatherings, one innovative means to have believers worship as they would need to remain encouraged could be through drive through services. With these, the members could drive through the Pastor receiving their blessing for which in Pentecostal/Charismatic churches varies from holy water, holy oil, wrist bands, scarfs, etc.

These could be through spray guns or receiving to take home with for further use.



Fig 9.18. Aerial render showing the one way drive through driveway (Author 2022).



Fig 9.19. Aerial render showing the one way drive through driveway (Author 2022).

9.7.7 RENDERINGS: AERIAL

“TODAY WE SHALL HAVE A CRUSADE OUTSIDE”.

Outdoor church service re-gained popularity during the Covid-19 period when indoor gatherings were restricted or the numbers allowable were reduced to as little as ten people in Namibia. During these gatherings restrictions, it was evident that when indoor participants would be reduced to ten, the outdoor spaces could still be 50 people or so and it is for this reason that outdoor worship activities gained preference.

In response to the site topography, one could see the potential of an amphitheater setting and this was done in a way that it can become an overflow space for the church at some points allowing for tent pitching when the need arises.

With the Church’s Northern facade being openable and the hall’s eastern side being openable as well, all three spaces, the church, hall and amphitheater become one big open space for larger functions when space utilisation gets affected as was the case with social distancing.

This amphitheater space will always be available for community meetings, therefore connecting the community with the religious facility.

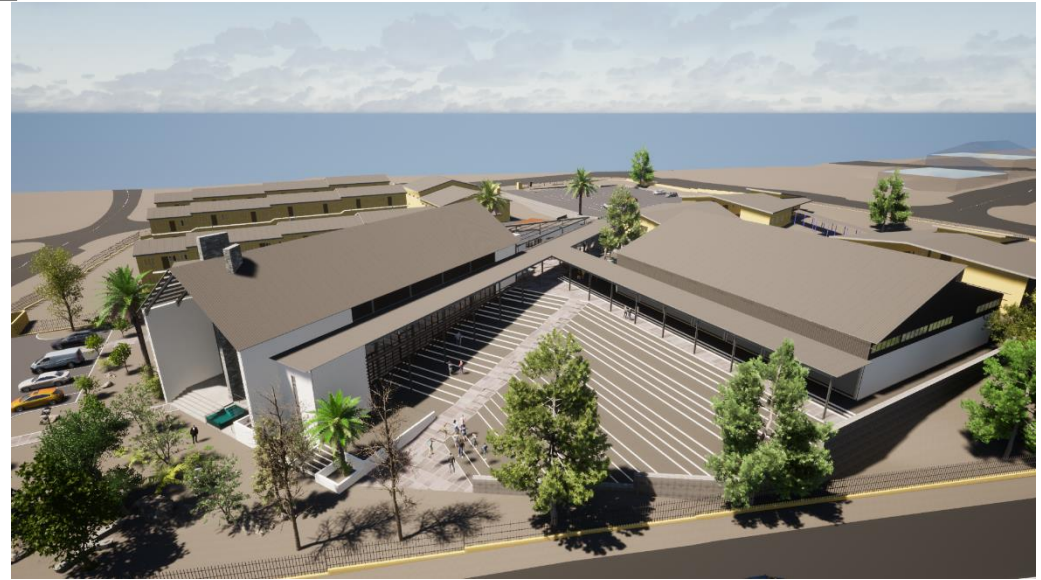


Fig. 9.20. 3D image showing the Northern aerial view (Author 2022).



Fig. 9.21. 3D image showing the amphitheater area (Author 2022).

“WE SHALL BE PICKING EMBE FRUITS AT THE CHURCH ALONG THE FENCE”.

Trees plays a vital role in landscape architecture through defining spaces, but with thorough planning they might do more. Namibia is rich of drought resistant trees that are ideal for providing shade as well as fruits. For example the Berchemia (embe) tree, an indigenous fruit tree much known in the Northern parts of Namibia, which one cannot miss in many homesteads in Katutura and the Khomasdal areas.

It is not the only indigenous tree which thrives without regular watering. The Marula tree is an edible fruit producing tree as well. The fruits can be used for traditional drinks or seeds can be eaten and made into oil. These and others will be considered on the edges of the facility, thereby allowing passersby to collect some fruits.



Fig 9.22. Woman making juice from amarula fruits.
<https://www.google.com/search?q=embe+fruit+tree+namibia&client=firefox-a>



Fig 9.24.
<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:331393-2>



Fig. 9.23. 3D image showing the Northern aerial view with emphasis to fruit tree boundary edging (Author 2022).



Fig 9.25.
<https://www.namibian.com.na/146439/archive-read/Meet-the-trees-of-Namibia--The-Bird-Plum>

DESIGN SYNTHESIS

9.7.9 RENDERINGS: INTERIOR

“Jesus Christ is the true light of the world” John 8:12

Panel walls flanking the pulpit could actually be used for projecting broadcasted material with the left corner suitable for seating or building a planter.

The narrow vertical window provides a slither of light into the space. Oriented towards the east, the tinted window provides a vertical element, while reminding the congregants of Jesus Christ as the light of the world.

Fig 8.26: 3D image pointing towards the main entrance. Flexible steel construction can be seen with timber internal cladding backed by galvanized sheets on the exterior for weather protection with insulation between panels.



Fig 9.26. Interior rendered picture showing pulpit (Author 2022).



Fig 9.27. Interior rendered picture showing the main entrance (Author 2022).

9.7.10 RENDERINGS: INTERIOR

"My wedding shall be held in the small events room at our Church"

Mezzanine level increases seating capacity whilst the space below is utilized for small and special events such as weddings and funeral proceedings .

Boardroom on first floor can be used for small group gatherings, with access to the offices. The small group events space below is utilized for other functions, even when the main Church is in session.



Fig 9.28. Interior rendered picture the mezzanine space (Author 2022).



Fig 9.29. Interior rendered picture showing the small events area on the lower part and boardroom above (Author 2022).

DESIGN SYTHESIS

9.7.11 MODEL PHOTOS

“Which courtyard, a, b, c or d shall you be using for your youth fellowship program, or should you use the multipurpose hall instead?”

Roof covered courtyard spaces serve as communal spaces especially during times of outbreaks of airborne pandemics, so that if they ever had to close down, they would gather socially distanced.

In the event of indoor gathering restrictions, these are some of the areas which would be utilized.

These as well save as over flow spaces for any of the gatherings.

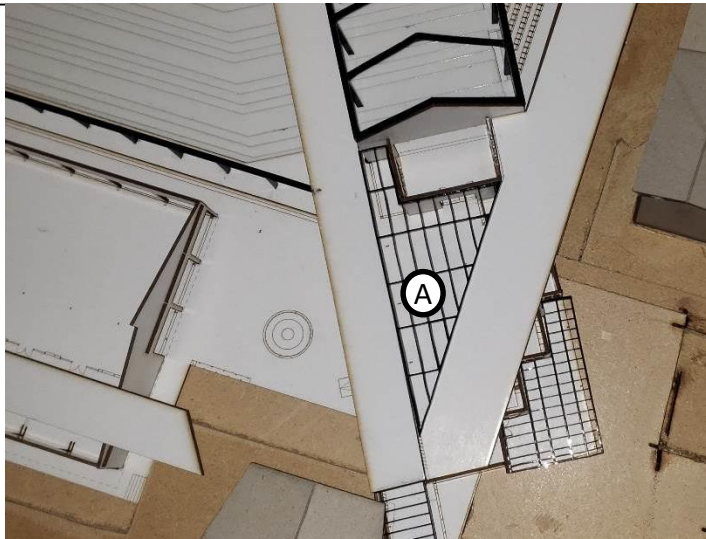


Fig 9.30. Outdoor gathering spaces (Author 2022).



Fig 9.31. Outdoor gathering spaces (Author 2022).

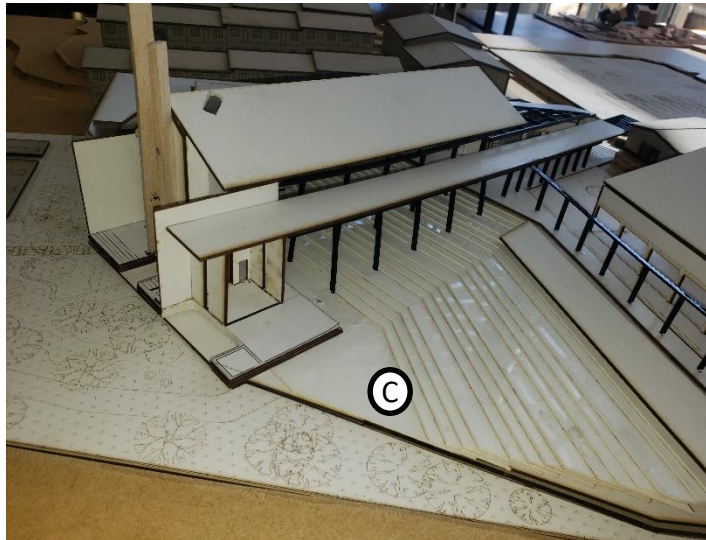


Fig 9.32. Outdoor gathering spaces (Author 2022).



Fig 9.33. Outdoor gathering spaces (Author 2022).

9.7.12 MODEL PHOTOS

“The construction of phase one has commenced, phase 2 will follow hopefully in 2 years from today”

Considering the financial cash flow of most local churches, including some international churches, they are forced to plan the construction of their buildings in phases.

The image on Fig 8.29 indicates the possible work stages in constructing the facility in phases.

If the church can manage to build the lower level considering it has ablutions and the small events space, the church would be able to function until they can add section B followed by C and lastly D. Before D is constructed, some events like school graduations could still be held in the Church hall.

The column system is a flexible system allowing for any alterations and additions or even reduction at any point of time.

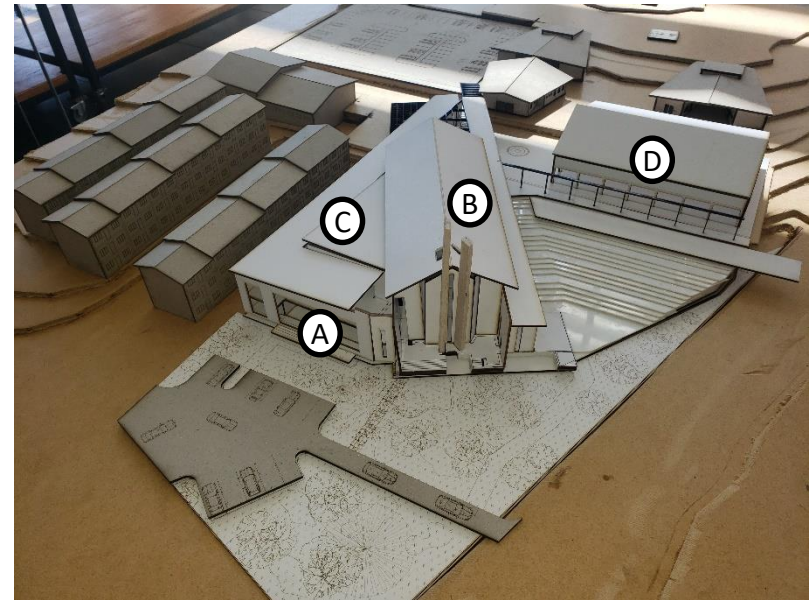


Fig 9.34. Model showing construction phases(Author 2022).

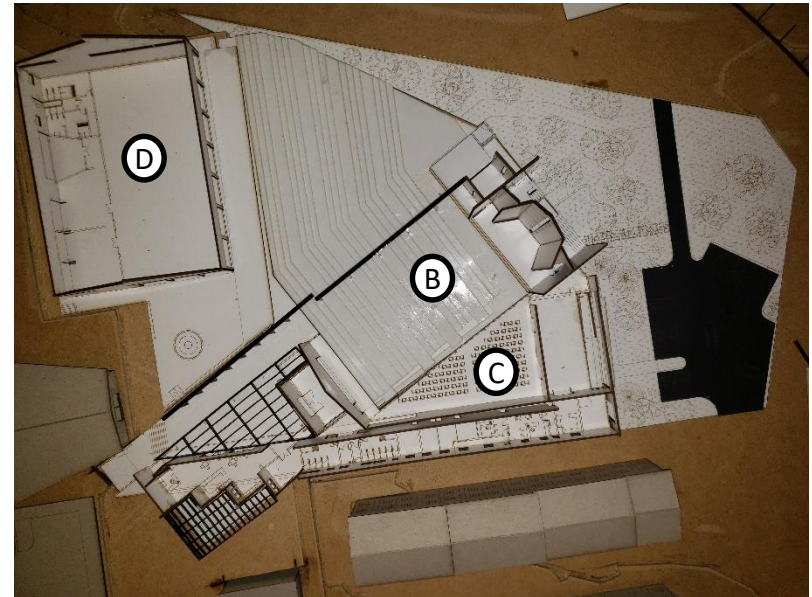


Fig 9.35. Model showing construction phases(Author 2022).

9.7.13 MODEL PHOTOS

“Multi-purpose shared spaces”

Church programmes and school programmes normally happen during different times, therefore most spaces are designed for multi-purpose use to allow for flexible and shared spaces.

The multi-purpose hall can be used by the school for several functions including graduations, sports, parents' meetings, etc.

The Church can also use it during times of restrictions combining the amphitheater and church hall, in the event of big functions.

The kitchen serves both school and church. Additionally the kindergarten benefits from the library. They can at times use the youth areas for their programmes. Classes related to religious education can be held in the church facilities as a motivation to the children.

The church can use courtyard spaces in-between classes and classrooms for meetings of small groups.

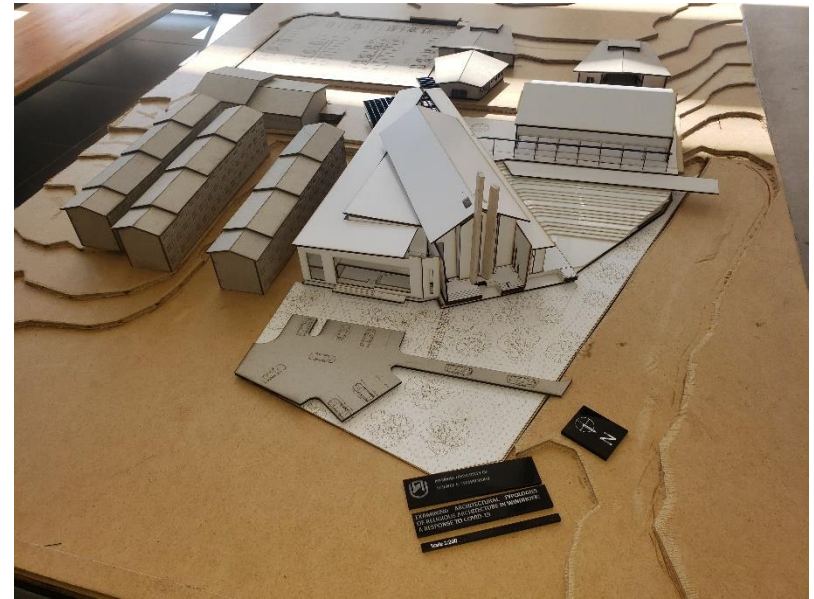


Fig 9.36. Multi-purpose spaces(Author 2022).

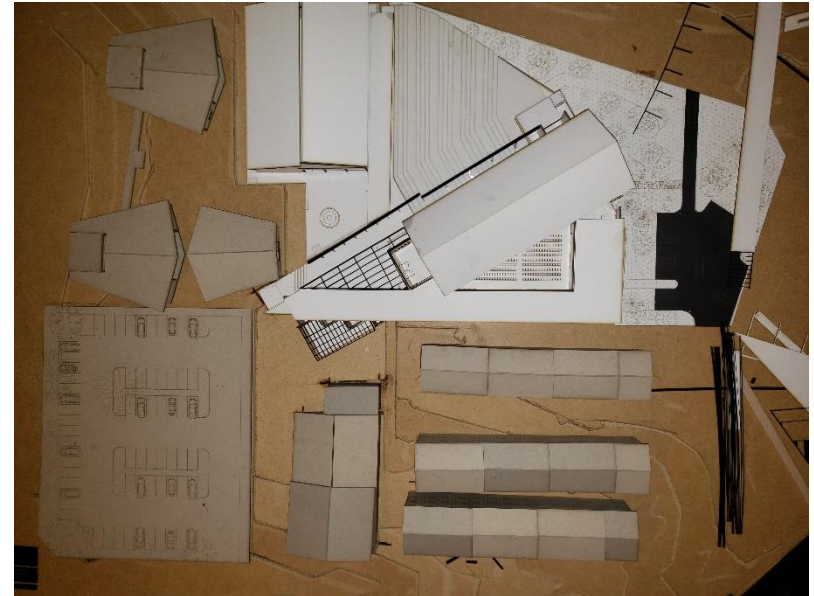


Fig 9.37. Multi-purpose spaces(Author 2022).

9.7.14 MODEL PHOTOS

“Now when Jesus saw the crowds, he went up on a mountainside and sat down” Mathew Chapter 5

In response to the site topography, the terraced seating layout is proposed to avoid the costly cutting and filling of the site.

The terracing runs from the Amphitheatre into the church hall, consolidating the space. This can be utilised during times of outbreaks when social distancing rules demands for larger spaces. The whole Northern façade’s folding doors are openable, linking the outside and inside of A, B, C, D and E as one flexible space.

The terracing design takes believers to the imagination of the sermon of Mathew chapter 5 when Jesus taught on the mountain-side.

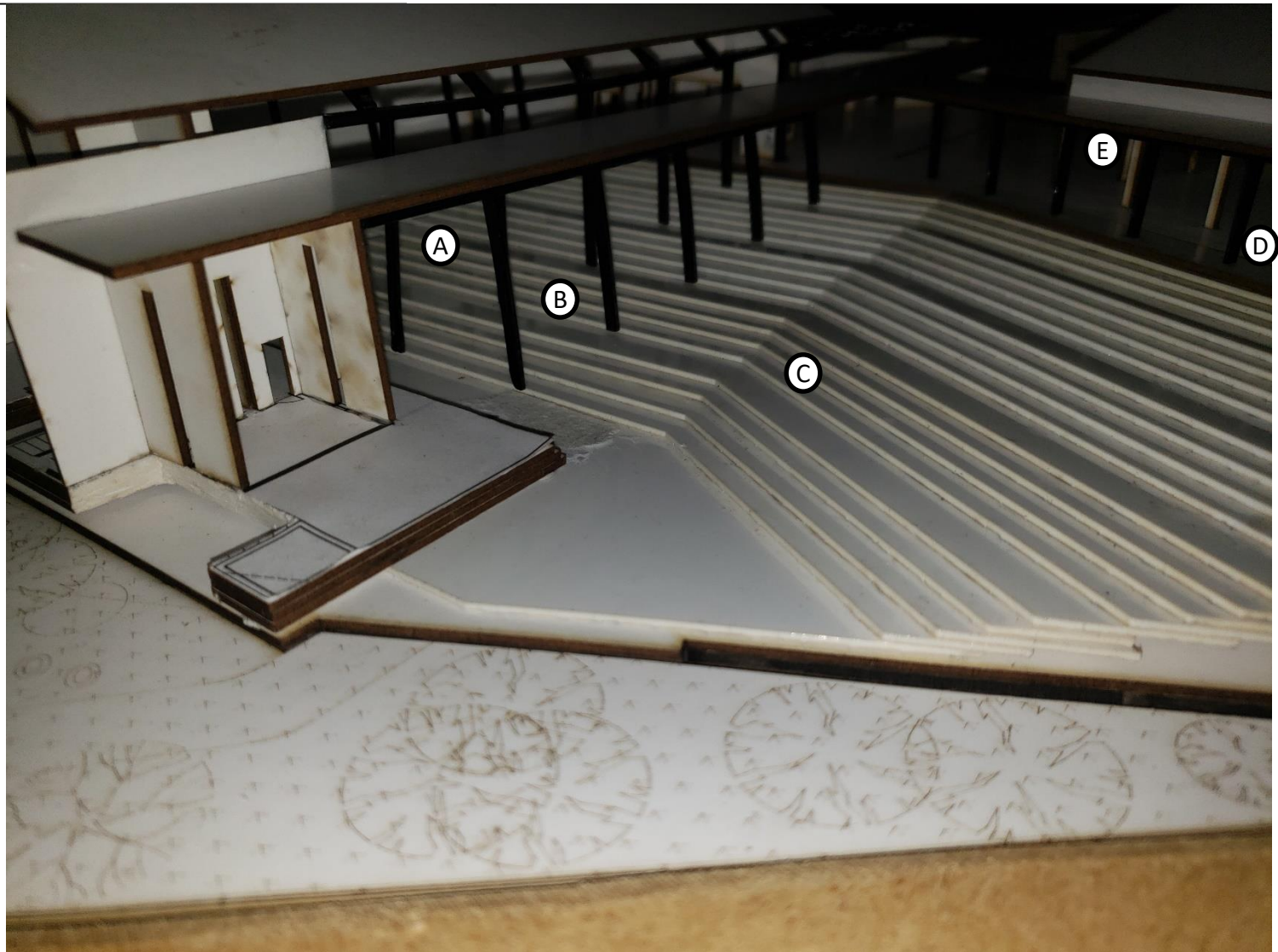


Fig 9.38. Model image showing amphitheater terracing in response to site topography (Author 2022).

9.7.15 “NON-LOAD BEARING INTERNAL DRY WALLS”

The internal non-load bearing internal walls are constructed out of dry walls which makes them flexible and allows for prefabrication of modular system and de-mountability.

The materials used are gypsum board, plywood, steel, all which are locally found and need semi-skilled local labour. These are durable, clean and fast fitting materials which are easy to maintain.

9.7.16 “OPEN PLAN SPACES”

To enhance adaptability and flexibility, where possible, the spaces are open plan spaces as is the reception, coffee shop and library as well as the women, men and youth fellowship office spaces.

Not only are the spaces flexible but has a number of advantages including:

- Reduction of cost on partition walls.
- Encouraging transparency in shared office environment as should be with a church information.
- In the case of the reception, coffee shop and library, one or two people can manage the facility, thereby reducing costs.

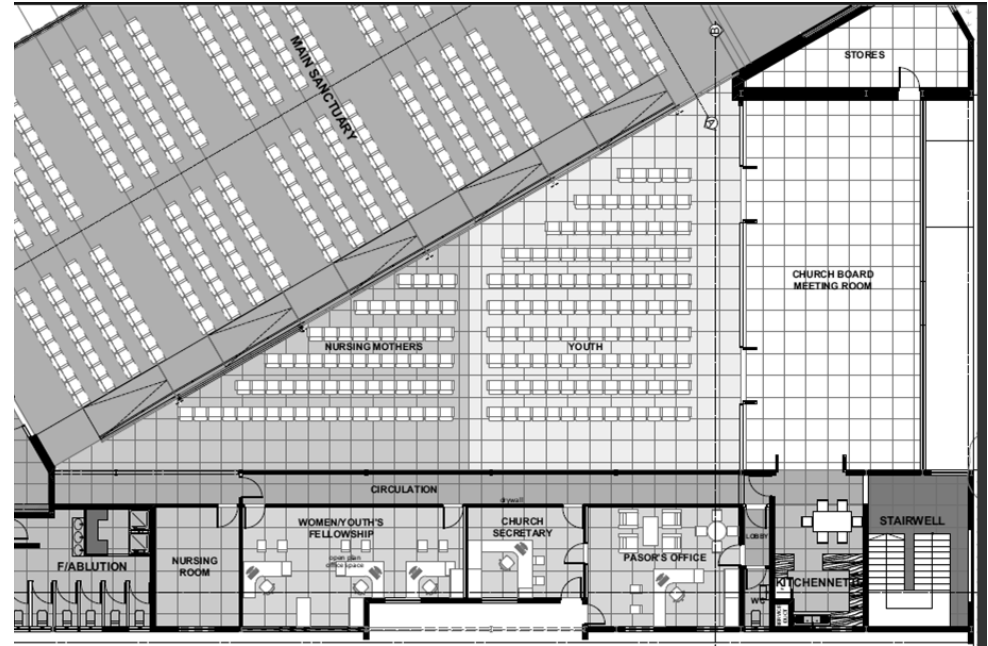


Fig 9.39. Internal dry walls as a flexible approach. (Author 2022).

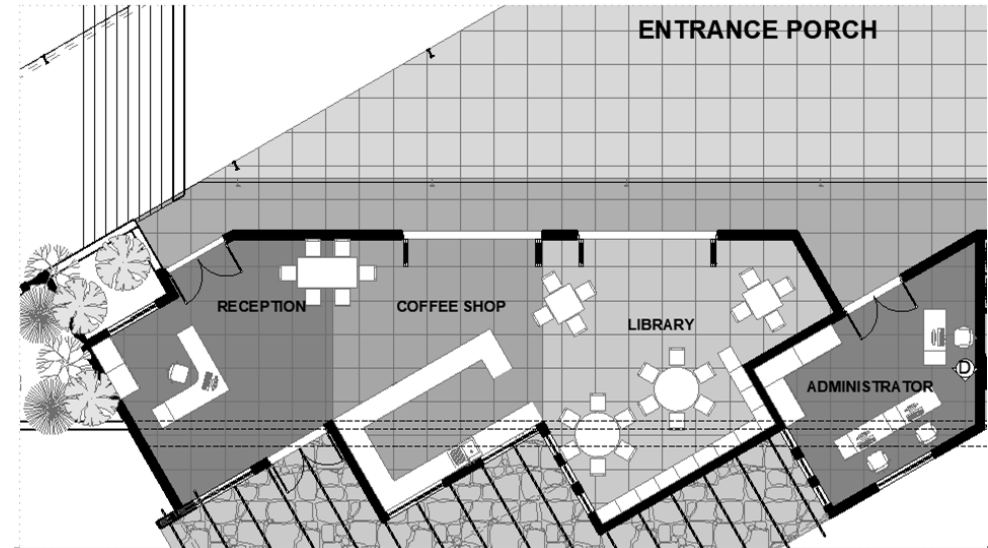


Fig 9.40. Open plan as a flexible layout of spaces (Author 2022).

9.7.17 “VIRTUAL SERVICES AND RECORDINGS”

Transitioning the church to online services is one thing which Covid 19 strengthened. With such rising need to record and share online, both audio and video, the need for a full service recording/production space in the facility increased as well.

In this intervention, a recording studio has been proposed to serve the facility. Additionally other external users, especially gospel musicians, can use the facilities as a form of support to the religion.

This will form part of the machine room providing a platform for connectivity from recording areas to the whole church facility.

Virtual services will surely take the word to all walks of life including workplaces. Jesus Christ himself had encounters with people at the workplaces as reflected in Mathew 4:21 when he met James the son of Zebedee and his brother John, in a boat with their father Zebedee, mending their nets. He called them and immediately they left the boat and their father and followed him.

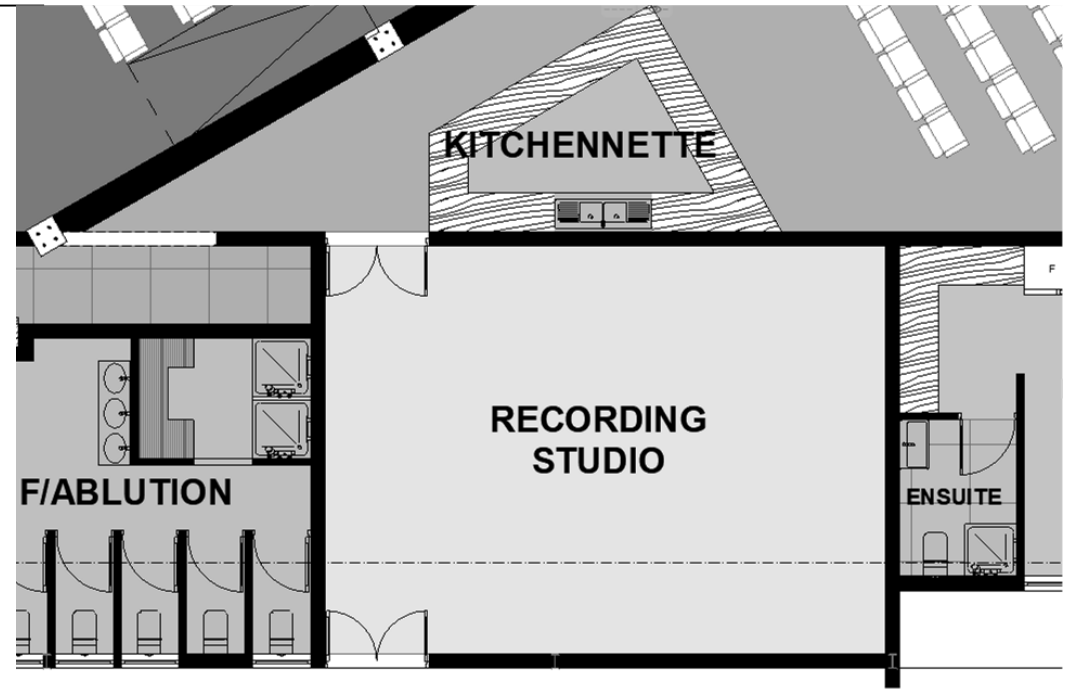


Fig 9.41. Model image of work in progress showing amphitheater terracing in response to site topography (Author 2022).

10

TECHNICAL REPORT

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10.1 TECHNICAL DETAIL: STEEL STRUCTURE AS AN AND FLEXIBLE CONSTRUCTION SYSTEM.

The biggest advantages of a steel structure is that of flexibility. Some of the benefits of a steel structure are:

- The use of steel structure systems with some pre-manufacturing cut outs make joining simple and easy even with semi skilled local personnel.
- The use of steel construction system allow for easy relocation or re-use. There is a lot of potential for recycling and reuse of steel construction components.
- This material/system allow for easy expansion or contraction to the building. The advantages of cost effectiveness, architectural flexibility as the building is relatively simple to upgrade and expand or reduce as the need arises.
- It takes less time to construct a structure with such a material/system.
- It is easy and cheap to maintain.

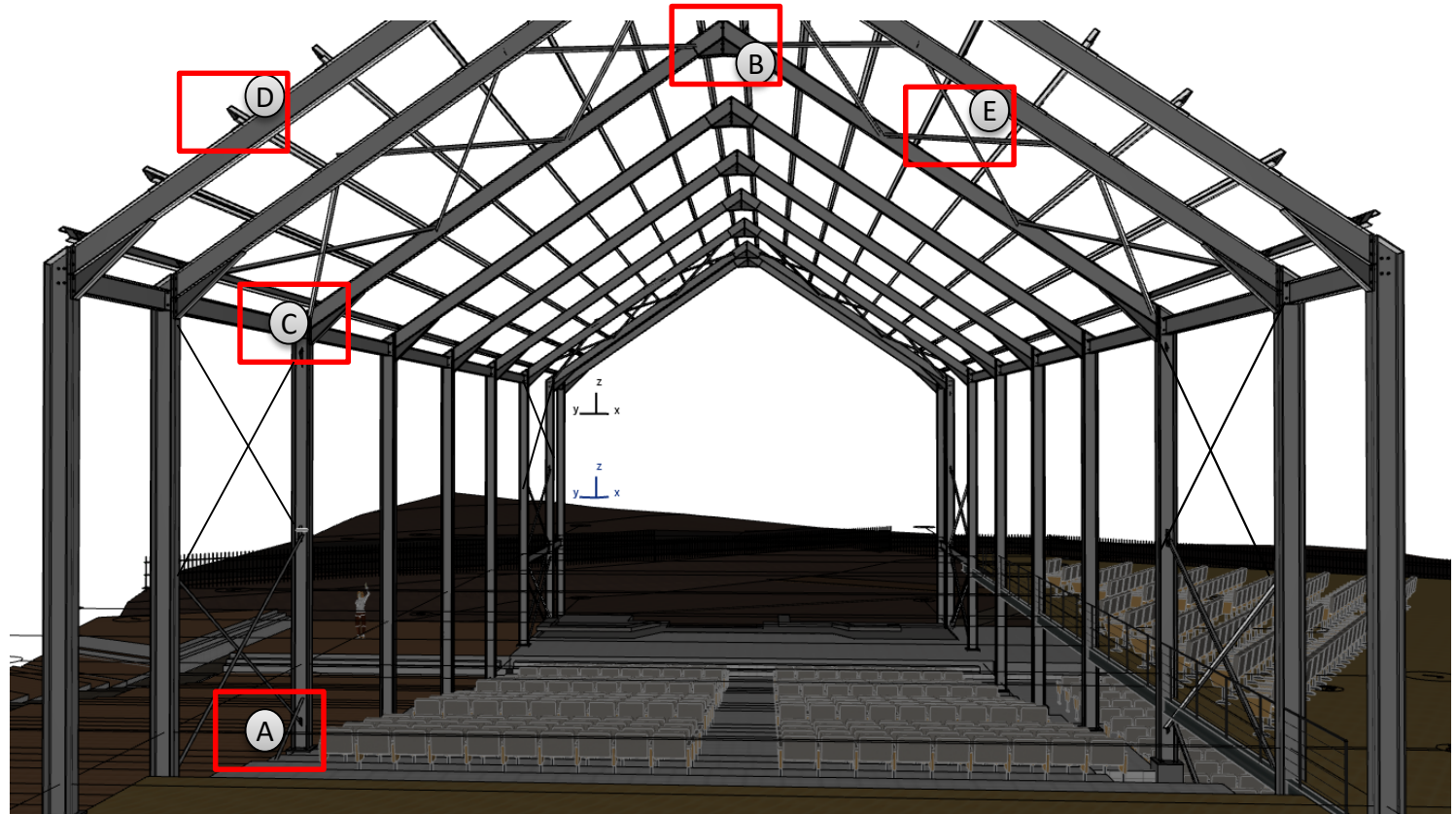


Fig 10.1. Steel structure, Main church building (Author 2022).

- (A) Stub column hold down to detail ref (p, 74)
- (B) Apex connection to detail ref (p, 75)
- (C) Eaves connection, to detail ref (p, 75)

- (D) Purlin connection
- (E) Bracing connection

10.1 TECHNICAL DETAIL A: STUB COLUMN HOLD DOWN DETAIL

It is a simple construction system, columns are supported by a straightforward square base plate. The column is held down using a bolt system which makes the structure flexible for re-use, expansion and relocation.

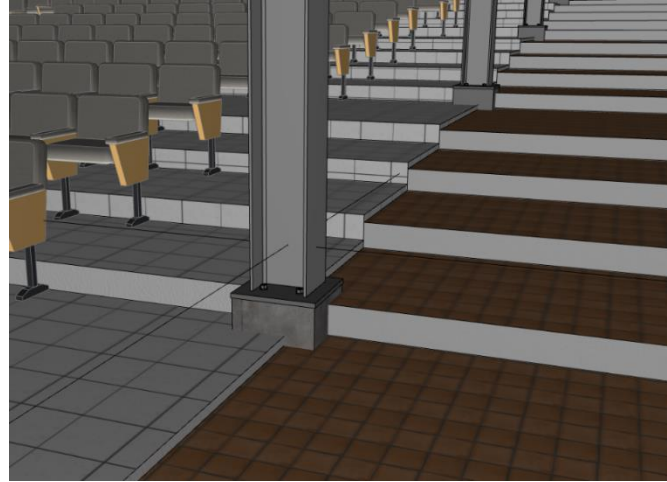


Fig 10.2. Stub column rendered image (Author, 2022)

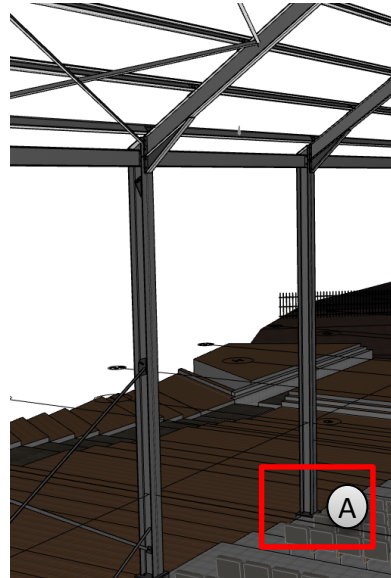


Fig 10.4. Stub column rendered image (Author, 2022)

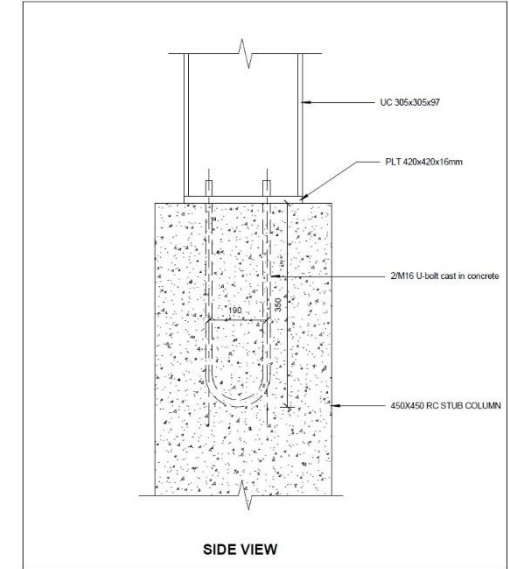
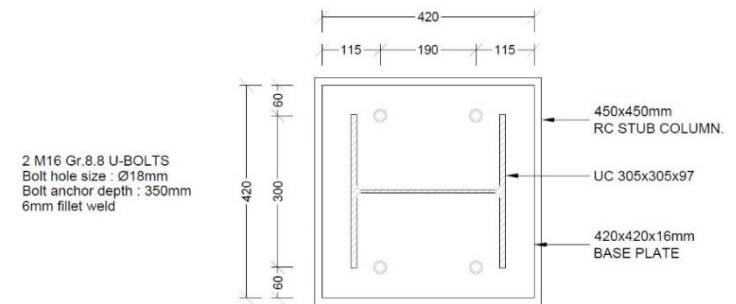


Fig 10.3. Stub column side elevation (Author 2022).



UC 305x305x97 HOLDING DOWN DETAIL

SCALE 1:10

Fig 10.5. Stub column floor plan (Author 2022).

10.2 TECHNICAL DETAIL B: APEX CONNECTION

The bolt connection system makes the structure easy to assemble and dismantle anytime for expansion, reduction or relocation.

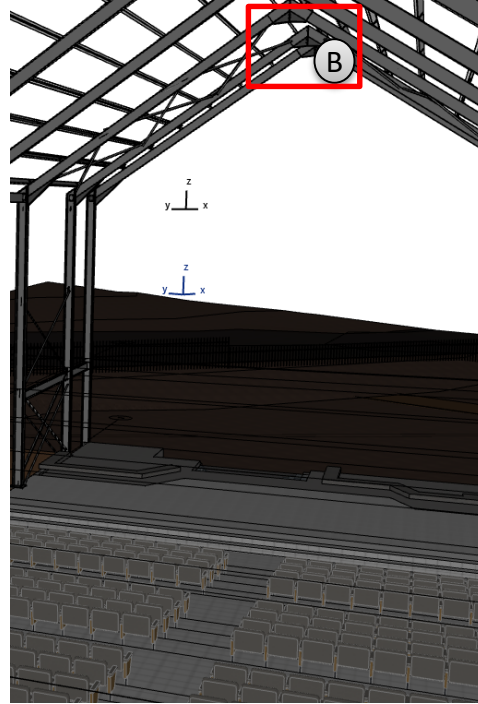


Fig 10.6. Apex connection image (Author 2022).

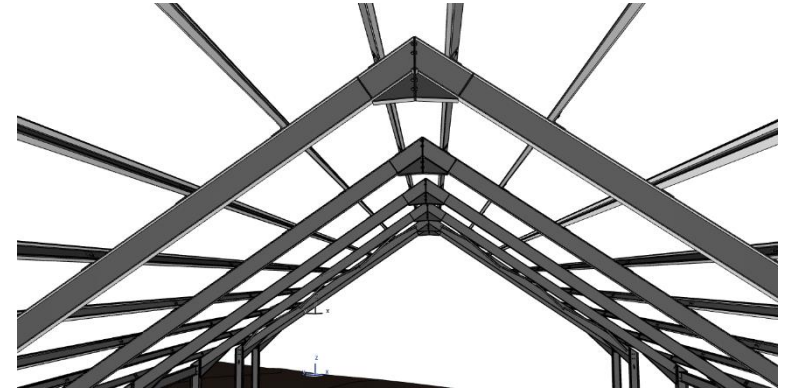


Fig 10.7. Apex connection rendered image. (Author, 2022)

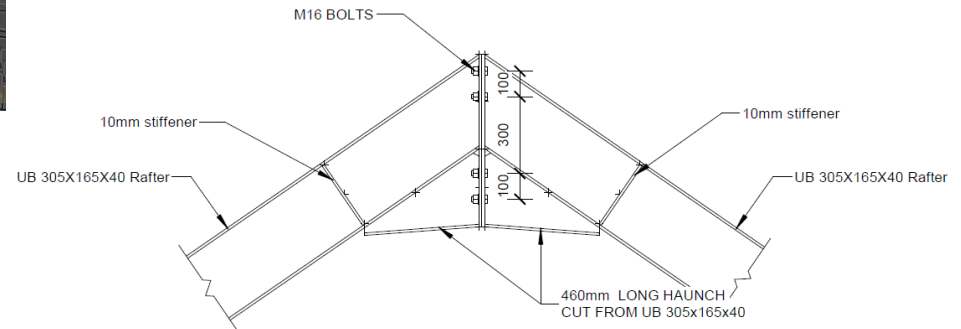


Fig 10.8. Apex connection side elevation (Author 2022).

10.3 TECHNICAL DETAILS: PURLIN FIXING DETAIL

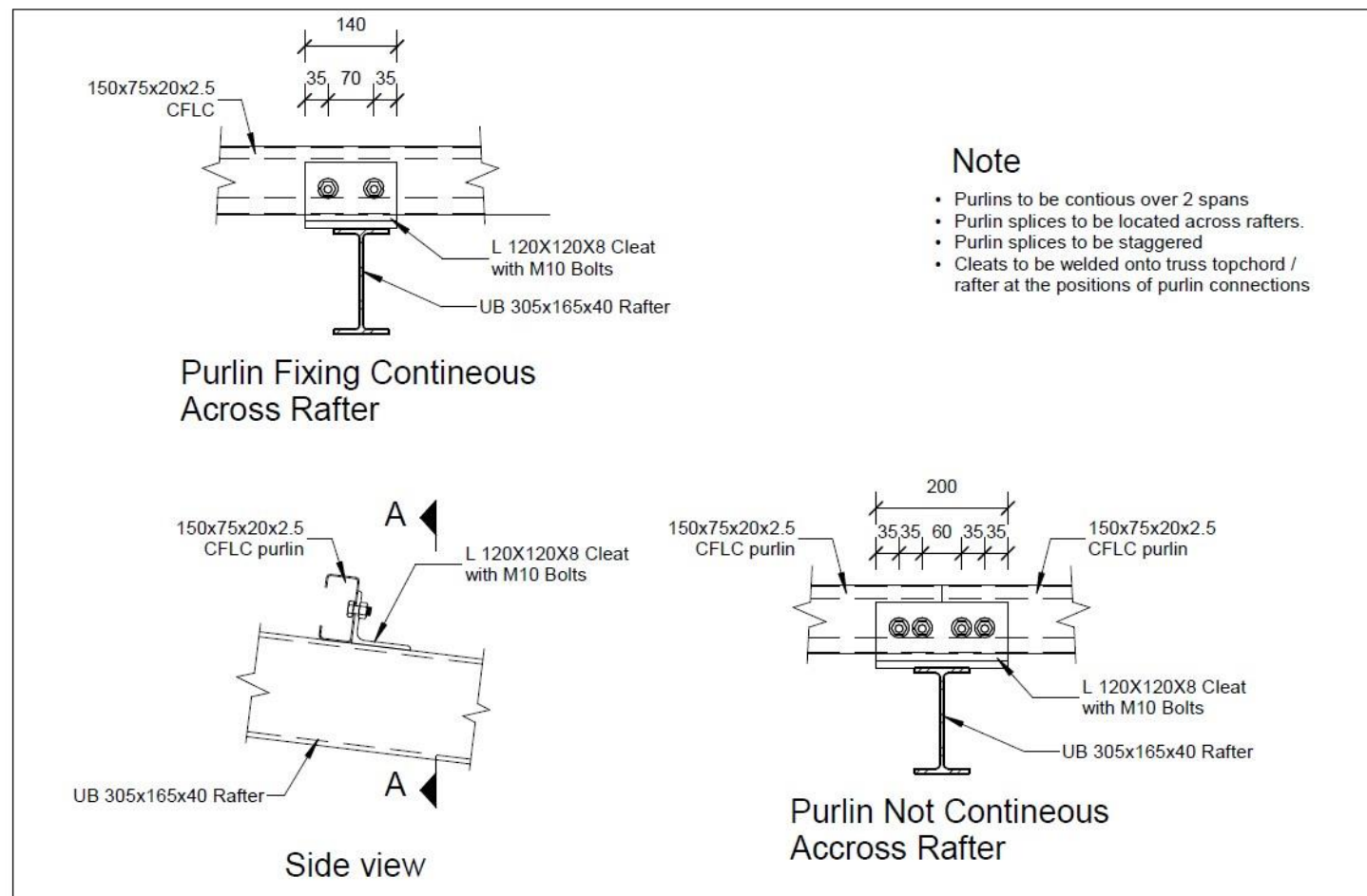


Fig 10.9. Purlin fixing details (Author 2022).

10.4 TECHNICAL DETAIL C: EAVES CONNECTION

As it is with all other connections, the eave connection uses a bolt connection system makes the structure easy to assemble and dis-assemble anytime for expansion, reduction or relocation.

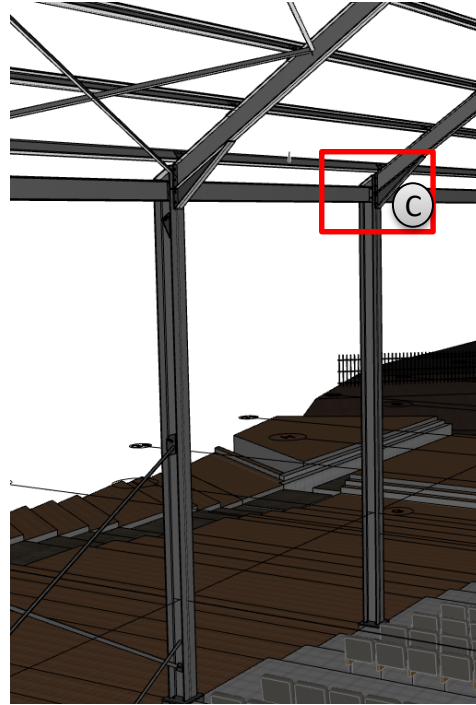


Fig 10.10. Eaves connection rendered image (Author 2022).

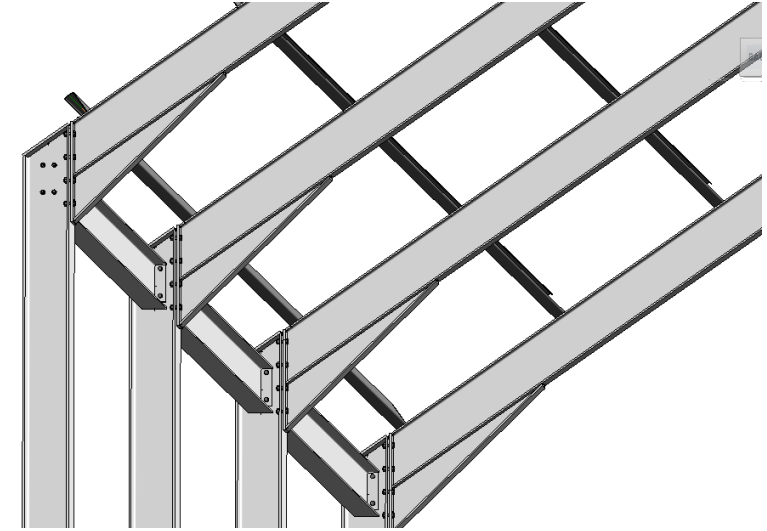


Fig 10.11. Eaves connection rendered image (Author 2022).

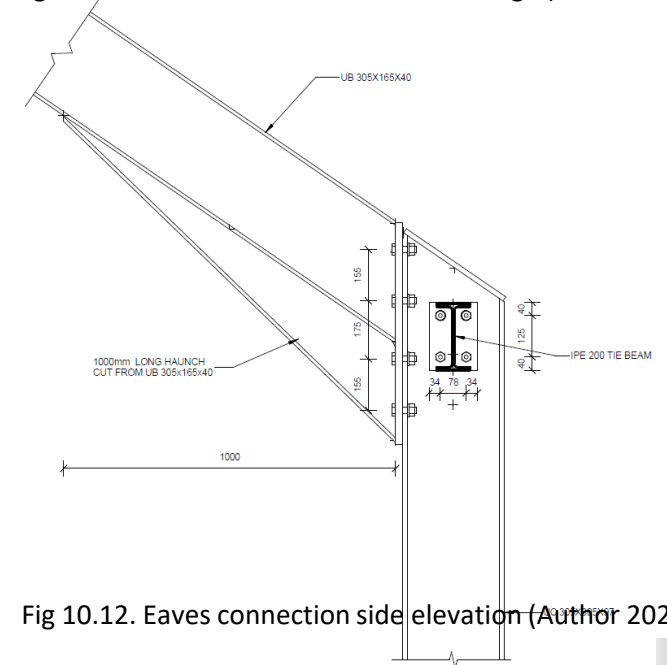


Fig 10.12. Eaves connection side elevation (Author 2022).

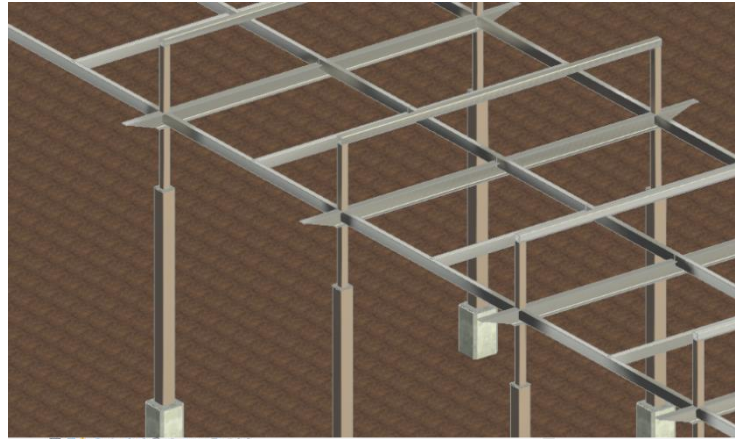


Fig 10.13. Pergola connection rendered image (Author, 2022)

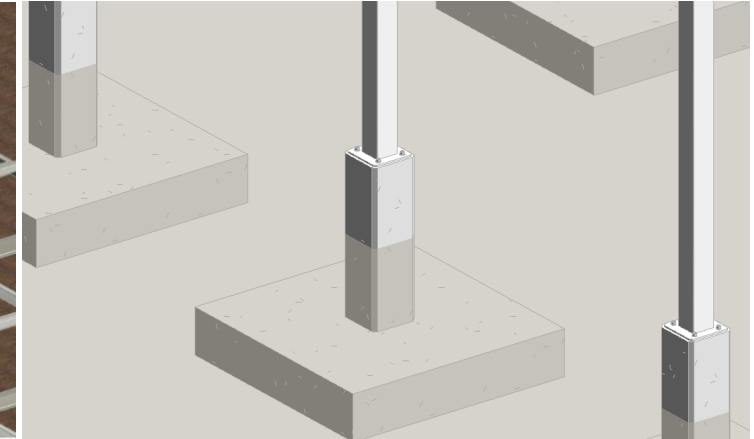


Fig 10.14. Pergola connection footing and stub column rendered image (Author, 2022)

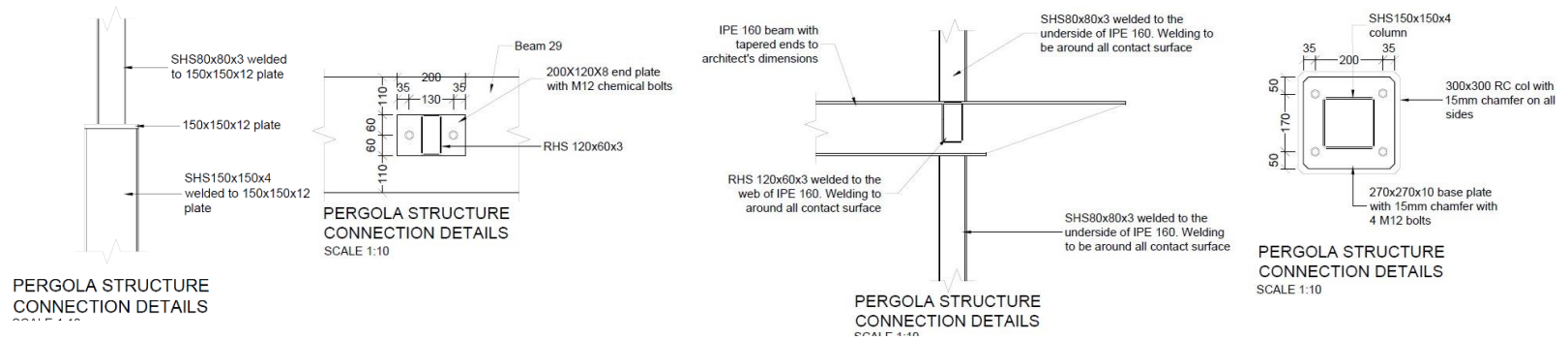
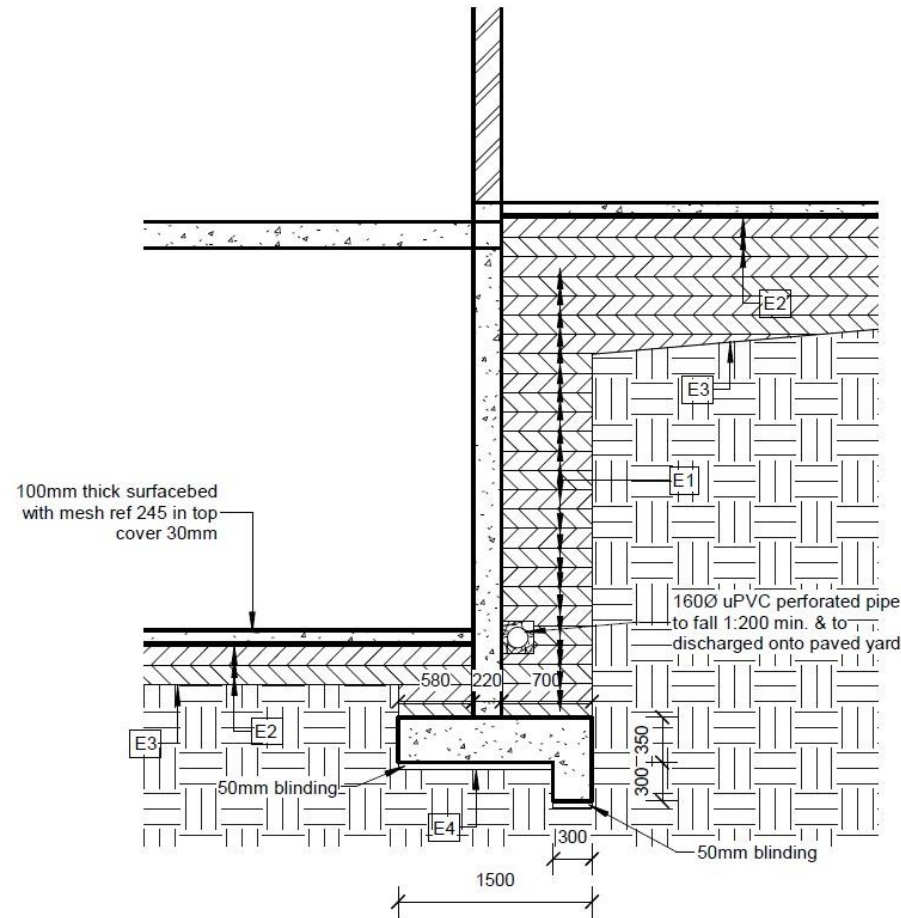


Fig 10.15. Pergola connection details (Author 2022).



EARTH WORKS LEGEND

- E1 - All backfill to trenches and selected fill to make up the levels to be G6 material or better compacted to 90% MOD AASHTO at OMC in 150mm layers (If insitu material from excavations meet G6 quality can be used only with the approval of the engineer).
- E2 - DPC on 20mm sand bedding on 2 x 150mm uppermost layers of G6 material or better compacted to 98% MOD AASHTO at OMC
- E3 - Rip off at least 150mm of top soil, scarify insitu material and compact in situ material to 90% MOD AASHTO at OMC .
- E4 - Scarify bottom of all excavations and compact in situ material to 90% MOD AASHTO at OMC .

Fig 10.16. Section through a retaining wall (Author 2022).

11

REFLECTIONS AND CONCLUSION

11.1 Project reflection and remarks

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10.1 PROJECT REFLECTION AND REMARKS

As my reflection, first and foremost is that the last two and a half years of my studies, with all the Covid-19 ups and downs, taught not only me but the whole world that the only available way out of such a crisis is to adapt and innovate in order to survive. This was the case with studio life, the church, as well as the world at large, with gatherings alternating from face-to-face to the virtual life and back again. The number of public gatherings reduced and increased interchangeably in order to curb the pandemic.

Being a Christian, and in Church leadership, the project not only opened my architectural eyes but my spiritual lenses, as I reflected on the scriptures to gatherings held during Jesus Christ's time on earth. During the times of church persecution, Christians could not gather in church buildings but resorted to door-to-door meetings in small groups. This research empowered me with vast and unfathomable knowledge, contributing to more knowledge on religious buildings and related matters.

Combining the knowledge acquired through the study of history of Church Architecture and that of lessons learnt from the precedent studies informed the design intervention. The design add to the knowledge on flexibility and adaptability of buildings in response to change. These changes could be environmental, growth or reduction.

A church is more than just a place of worship. It should be able to serve its community offering educational, recreational, health, cultural and social among other societal binding institutions of love of God and the neighbor as should be the Christian teachings. Thus, the architectural intervention was done in response to needs of the immediate and all users in its urban context.

I chose a site in Katutura, specifically, Okuryangava's Ombili suburb, a neighbourhood I once stayed in during 2007, and often drive past or walk past on most Sundays. In this area, I have always envisioned a neighbourhood transformation to bring people together through Christianity.

Historically, records of religious or spiritual architecture date back as far as Stonehenge, and more can still be learnt on this specific typology. Moreover, the Covid-19 phenomenon still has limited literature and some of the effects of the pandemic are still unfolding. It has been an informative journey worth all the appreciation in my learning processes and as it is said, learning will never come to end.

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