

A PLACE IN THE SHADE OF TREES

MTHUNZINI COMMUNITY HOSPICE FOR MAMELODI

“Inquiry is the creation of knowledge or understanding; it is the reaching out of a human being beyond himself to a perception of what he may be or could be, or what the world could or should be.” (CHURCHMAN. 1971: 3)

SUBMITTED AS PART REQUIREMENT FOR MArch(Prof)

FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

THE UNIVERSITY OF PRETORIA
SOUTH AFRICA

HAYLEY THEA ROBERTS - 29065357

STUDY LEADER: MARGA VILJOEN



ACKNOWLEDGEMENTS

THIS THESIS IS DEDICATED TO MY FATHER

CHARLES WARREN ROBERTS

WHO PUSHED ME TO FINISH

I WOULD ALSO LIKE TO THANK

MY LOVING FIANCÉE, PHILIP GEORGE ITTMANN, FOR BEING MY SUPPORT

MY MOM, INGRID ROBERTS, WHO WAS ALWAYS THERE WHEN I NEEDED HER

RODNEY HARBER FOR BEING MY MENTOR, GUIDE AND INSPIRATION THROUGHOUT THE LAST 6 YEARS

NICOLAS FROM LIFE HOSPITALS FOR ALL HIS INVALUABLE ASSISTANCE AND SACRIFICING HIS TIME TO SHOW ME AROUND

AND LAST BUT NOT LEAST MARGA VILJOEN FOR HELPING ME STAY POSITIVE

ABSTRACT

Our society is one in which death has become a predominant influencing factor of our social context, with the dramatic rise in AIDS related deaths. Yet the institutions that accommodate the terminally ill or the dying, have become stale, clinical and mechanical in both their architecture and their processes. This thesis proposes to re-address the physical environment of hospital and clinical architecture that facilitate the process of dying. The design of this Hospice and Educational Facility aims to reintroduce life within the architecture through the embodiment of movement, visual interest, meaning, memory, choice and integration.

The project is located within the Mamelodi community along the Eastern edge of the Pienaar River, bordering a green space. The Mamelodi community is vibrant and rich, filled with self-expression and opportunities, and despite its impoverished services and urban fabric it provides the perfect platform for such a facility. Especially when combined with the indomitable spirit of the people who live there. The Project integrates with and serves the immediate context of Mamelodi. Through the facilities provision of functions - including hospice and outpatient functions, education, interaction, architectural language, as well as the community-accessible permaculture garden and redeveloped green space.

OPSOMMING

Met die drastiese stygings in vigsverwante sterftes het die dood 'n wesenlike invloed op ons sosiale verwysingsraamwerk geword. Ten spyte hiervan word die argitektuur en funksionering van instellings waar die sterwingsproses begelei word, as klinies, onpersoonlik en meganisties beskou en ervaar. Hierdie verhandeling beoog om die meganistiese en kliniese ervaring van sterwensbegeleiding in 'n hospitaalomgewing te verander deur die ontwerp van 'n hospice en opvoedkundige instelling. Die doel hiervan is om 'n argitektoniese taal te skep wat beweging, visuele verbeelding, doelgerigtheid, keuse en integrasie verpersoonlik.

Die gekose terrein vir hierdie projek is geleë in die 'ou' Mamelodi-gemeenskap, langs 'n sytak van die Pienaarsrivier en aangrensend aan 'n gesoneerde 'groen' sone. Die Mamelodi-gemeenskap is kleurryk en opwindend, wat die ideale platvorm vir ontwikkeling bied: die huidige lae vlakke van dienslewering en infrastruktuur, gekombineer met die ontembare gees van die inwoners bied 'n gulde geleentheid hiervoor. Aan die een kant sal die projek met die omliggende en wyer gemeenskap van Mamelodi integreer en aan die ander kant sal dit die gemeenskap met nuwe fasiliteite voorsien, naamlik 'n hospice, buite-pasiëntdienste, geleenthede vir opleiding en interaksie, 'n herontwikkelde 'groen'-ruimte, asook 'n toeganklike tuin (wat ekologies selfonderhoudend is) vir die gemeenskap se gebruik.



TABLE OF CONTENTS

LIST OF FIGURES	ix
CHAPTER 1 - INTRODUCTION	1
CHAPTER 2 - PROJECT BRIEF	5
2.1 Problem Statement	7
2.2 Hypothesis	7
2.3 Aims & objectives	7
2.4 Delimitations	7
2.5 Definitions	7
2.6 Client Profile	8
2.7 User Profile	8
2.8 The Site	8
2.9 Accommodation	8
2.10 Arial Photo of the Site	9
2.11 Accommodation Schedule	10
CHAPTER 3 - THEORETICAL DISCOURSE	13
3.1 Introduction	15
3.2 Memory	15
3.3 Recognition	16
3.4 The Hospice Movement	16
3.5 The Acquisition of significance	17
3.6 Choice	18
3.7 Sharing With Others	18
3.8 In Summary	19
3.9 Becoming Architectural	19
3.10 Theoretical Precedent Study	21
3.11 Theoretical Precedent Summary	29
CHAPTER 4 - CONTEXTUAL ANALYSIS	31
4.1 The History of Mamelodi	33
4.2 The Building of Mamelodi	35
4.3 Mamelodi Today	36
CHAPTER 5 - MAMELODI FRAMEWORK	39
CHAPTER 6 - SITE ANALYSIS	45
6.1 The Site	47
6.2 The Heritage of the Site	47
6.3 The Community	49
6.4 Site Analysis	50
6.5 S.W.O.T. Analysis	51
CHAPTER 7 - PRECEDENT STUDY	53
7.1 Soweto Hospice	55
7.2 Ingwavuma Orphan Care	56
7.3 Wheatsheaf House	58
7.4 Avenell House	58
7.5 Commercial Building 3555	59
7.6 State Emergency Headquarters	59
7.7 Sheep Stable	60
7.8 Precedent Study Summary	61



CHAPTER 8 - CONCEPTUAL DEVELOPMENT

63

8.1 Methodology	65
8.2 Design Informants	65
8.3 The Heart of the Community	65
8.4 The Process of Dying	66
8.5 Desire Lines & Social Spaces	66
8.6 Conceptual thinking derived from Theoretical Discourse	67
8.7 Mthunzini - The Context and Heritage of the Site	67
8.8 Technical and Design Concept	67

CHAPTER 9 - DESIGN DEVELOPMENT

69

9.1 Bridging the Concept	71
9.2 The Functions and Flow of Movement	71
9.3 The Process	73
9.4 Creating a Juxtaposition	78
9.5 The Design	82

CHAPTER 10 - TECHNICAL INVESTIGATION

95

10.1 Bridging the Concept - Technological Aesthetic	97
10.2 Materiality	97
10.3 Sustainability	98
10.4 Structural Systems	102
10.5 Creating Connections	104
10.6 Services	108

CHAPTER 11 - CONCLUSION

113

REFERENCES - BIBLIOGRAPHY

117

LIST OF FIGURES

CHAPTER 2 - PROJECT BRIEF

Fig. 1 Aerial Photo of the Site (GOOGLE EARTH 2010)

CHAPTER 3 - THEORETICAL DISCOURSE

- Fig. 2 A sketch depicting a prisoner of in a Panopticon (BNET No Date)
- Fig. 3 Stethoscope (LAST.FM No Date)
- Fig. 4 Mamelodi Stories - Outreach (CLENDENIN 2010)
- Fig. 5 Mamelodi Stories - Prayer for the sick and elderly (CLENDENIN 2010)
- Fig. 6 Hard mineral matter, hard lines, hard corners, repetitive unambiguous form. (LINN0100. No Date)
- Fig. 7 Mamelodi Stories - Hope (CLENDENIN 2010)
- Fig. 8 Mamelodi Stories - Crying Out (CLENDENIN 2010)
- Fig. 9 Mamelodi Stories - Memory (CLENDENIN 2010)
- Fig. 10 Mamelodi Stories - Family (CLENDENIN 2010)
- Fig. 11 Palmach Museum of History - detail of concrete and limestone walls (PHAIDON 2008: 61)
- Fig. 12 Palmach Museum of History - Open Air Auditorium Detail (PHAIDON 2008: 61)
- Fig. 13 Palmach Museum of History - Open Air Auditorium (PHAIDON 2008: 61)
- Fig. 14 Palmach Museum of History - Southern Facade (PHAIDON 2008: 61)
- Fig. 15 Palmach Museum of History - Southern Facade (PHAIDON 2008: 61)
- Fig. 16 Tesquisquiapan Ranch - Main Entrance to Cantilevered (PHAIDON 2008: 694)
- Fig. 17 Tesquisquiapan Ranch - View Across Roof Deck (PHAIDON 2008: 694)
- Fig. 18 Tesquisquiapan Ranch - Section and Site Plan (PHAIDON 2008: 694)
- Fig. 19 Tesquisquiapan Ranch - View of Ranch from South West (PHAIDON 2008: 694)
- Fig. 20 BOH Visitors Centre - Metalwork & Timber Screen (PHAIDON 2008: 212)
- Fig. 21 BOH Visitors Centre - View along East Facade (PHAIDON 2008: 212)
- Fig. 22 UF Soft R&D Centre - Office Interior (PHAIDON 2008: 101)
- Fig. 23 UF Soft R&D Centre - Main Entrance & Second Courtyard (PHAIDON 2008: 101)
- Fig. 24 Clarence Family Day Care Offices - North Facade (PHAIDON 2008: 48)
- Fig. 25 Clarence Family Day Care Offices - Detail of Fibre Cement Sheeting (PHAIDON 2008: 48)
- Fig. 26 Musac Museum - View Towards Lobby from Courtyard (PHAIDON 2008: 371)
- Fig. 27 Musac Museum - Rhythm & Pattern (PHAIDON 2008: 371)
- Fig. 28 Prayer & Meditation Pavilion - View from North (PHAIDON 2008: 590)
- Fig. 29 Prayer & Meditation Pavilion - Pavilion Surrounded by Square Water Pool (PHAIDON 2008: 590)
- Fig. 30 Prayer & Meditation Pavilion - Section & Plan (PHAIDON 2008: 590)
- Fig. 31 Prayer & Meditation Pavilion - Interior View Showing Bamboo Ceiling (PHAIDON 2008: 590)
- Fig. 32 Prayer & Meditation Pavilion - View of Interior (PHAIDON 2008: 590)
- Fig. 33 Chapel of Light - Entrance Courtyard (PHAIDON 2008: 603)
- Fig. 34 Chapel of Light - Main Tower (PHAIDON 2008: 603)
- Fig. 35 Chapel of Light - Chapel Interior (PHAIDON 2008: 603)
- Fig. 36 Chapel of Light - Entrance Courtyard (PHAIDON 2008: 603)
- Fig. 37 Chapel of Light - View from South West (PHAIDON 2008: 603)
- Fig. 38 Tama Art University Library - Internal Staircase (PHAIDON 2008: 173)
- Fig. 39 Tama Art University Library - Library Interior (PHAIDON 2008: 173)
- Fig. 40 Tama Art University Library - Entrance Foyer (PHAIDON 2008: 173)
- Fig. 41 Nelson Mandela Interpretation Centre - Elevations (DECKLER, GRAUPNER, RASMUSS 2006:49)
- Fig. 42 Nelson Mandela Interpretation Centre - External View (DECKLER, GRAUPNER, RASMUSS 2006:49)
- Fig. 43 Nelson Mandela Interpretation Centre - Internal View (DECKLER, GRAUPNER, RASMUSS 2006:49)

CHAPTER 4 - CONTEXTUAL ANALYSIS

- Fig. 44 Mamelodi Stories - Informal settlement (CLENDENIN 2010)
- Fig. 45 Mamelodi Stories - Informal Settlement with the Magaliesberg Foothills in the Background (CLENDENIN 2010)
- Fig. 46 1870 Area Map of Vlaktefontein Farm (WALKER, J. & VAN DER WAAL, G. 1991: 3)
- Fig. 47 Mamelodi East Street Scene (BY AUTHOR)
- Fig. 48 1961 Plans for Mamelodi (WALKER, J. & VAN DER WAAL, G. 1991: 8)
- Fig. 49 Modified Aerial Photo of Mamelodi Showing Main Infrastructure (BY AUTHOR)
- Fig. 50 Mamelodi Stories - Portrait with Patterned Brickwork in Background (CLENDENIN 2010)
- Fig. 51 Mamelodi West Street Scene (CLENDENIN 16/07/2010)
- Fig. 52 Mamelodi Stories - Children Playing with a Shopping Trolley (CLENDENIN 2010)
- Fig. 53 Mamelodi Stories - Child's Portrait (CLENDENIN 2010)
- Fig. 54 Mamelodi West Informal Trading (BY AUTHOR)
- Fig. 55 Modified Mamelodi Ward Maps Highlighting Existing Services (BY AUTHOR)

CHAPTER 5 - MAMELODI FRAMEWORK

- Fig. 56 Modified Ward Map Depicting Nodes for Proposed Linear Nodal Development Framework (BY AUTHOR)
- Fig. 57 Framework - Node 1 (BY AUTHOR)
- Fig. 58 Framework - Node 1 Sketches (BY AUTHOR)
- Fig. 59 Framework - Node 2 (BY AUTHOR)
- Fig. 60 Framework - Node 2 Sketches (BY AUTHOR)
- Fig. 61 Framework - Node 3 (BY AUTHOR)
- Fig. 62 Framework - Node 3 Sketches (BY AUTHOR)
- Fig. 63 Framework - Node 4 (BY AUTHOR)
- Fig. 64 Framework - Node 4 Sketches (BY AUTHOR)
- Fig. 65 Framework - Node 5 Sketches (BY AUTHOR)
- Fig. 66 Framework - Node 5 (BY AUTHOR)
- Fig. 67 Framework - Node 6 Sketches (BY AUTHOR)
- Fig. 68 Framework - Node 6 (BY AUTHOR)
- Fig. 69 Framework - Node 7 Sketches (BY AUTHOR)
- Fig. 70 Framework - Node 7 (BY AUTHOR)
- Fig. 71 Linear Nodal Development Framework for Mamelodi - Abstract Plan (BY AUTHOR)

CHAPTER 6 - SITE ANALYSIS

- Fig. 72 The Site - Tribal Offices on North Street Edge (BY AUTHOR)
- Fig. 73 The Site - Seating Area on North Street Edge (BY AUTHOR)
- Fig. 74 Photo of Park on the Western Edge of the Site Down to River (BY AUTHOR)
- Fig. 75 Relational Location Maps from National to Nodal Scale (BY AUTHOR)
- Fig. 76 Map of Community Functions & Greenspaces in & Around the Site (BY AUTHOR)
- Fig. 77 Street View of SOS Childrens Village (BY AUTHOR)
- Fig. 78 Photo of Parking for the uBuntu Complex (BY AUTHOR)
- Fig. 79 Street Photo of Mamelodi Islamic Centre (BY AUTHOR)
- Fig. 80 Street Photo of Building Yard Across from Site (BY AUTHOR)
- Fig. 81 Series of Photos from Southern Edge of Site (BY AUTHOR)
- Fig. 82 Series of Photos of the Northern Edge of the Site Showing Tribal Offices, Garage Shops & Existing 'Shopping Centre' & Tavern (BY AUTHOR)
- Fig. 83 Map of the Site (BY AUTHOR)

- Fig. 84 Map Depicting Existing Walls and Fences (BY AUTHOR)
- Fig. 85 Map Depicting Existing Permanent Buildings (BY AUTHOR)
- Fig. 86 Map Depicting Existing Community Functions (BY AUTHOR)
- Fig. 87 Map Depicting Existing Temporary Buildings (BY AUTHOR)
- Fig. 88 Map Depicting Existing Desire Lines or Pedestrian Routes (BY AUTHOR)
- Fig. 89 Panaorama taken from the South of the Site Looking North (BY AUTHOR)
- Fig. 90 Map Depicting Existing Greenspace (BY AUTHOR)
- Fig. 91 Photo from South of Site looking North (BY AUTHOR)
- Fig. 92 Map Depicting Existing River & Trees (BY AUTHOR)
- Fig. 93 Photo from South of Site Looking North (BY AUTHOR)
- Fig. 94 Map Depicting Existing 1m Contours (BY AUTHOR)
- Fig. 95 Photo from South of Site Looking Towards Bordering Road (BY AUTHOR)
- Fig. 96 Series of Photos from South of the Site Looking Northwards (BY AUTHOR)

CHAPTER 7 - PRECEDENT ANALYSIS

- Fig. 97 Soweto Hospice - View of Hospice from Parking (F.C.B.S. 2008: 17)
- Fig. 98 Soweto Hospice - Interior of Adult Ward (F.C.B.S. 2008: 19)
- Fig. 99 Soweto Hospice - Interior of Paediatric Ward (F.C.B.S. 2008: 18)
- Fig. 100 Soweto Hospice - Plan (F.C.B.S. 2008: 17)
- Fig. 101 Ingwavuma Hospice - Design Model. (F.C.B.S. 2008: 49)
- Fig. 102 Ingwavuma Hospice - Design Model (F.C.B.S. 2008: 49)
- Fig. 103 Ingwavuma Hospice - Design Model (F.C.B.S. 2008: 49)
- Fig. 104 Ingwavuma Hospice - Design Model (F.C.B.S. 2008: 50)
- Fig. 105 Ingwavuma Hospice - Design Model (F.C.B.S. 2008: 49)
- Fig. 106 Ingwavuma Hospice - Design Model (F.C.B.S. 2008: 50)
- Fig. 107 Ingwavuma Hospice - Design Model (F.C.B.S. 2008: 50)
- Fig. 108 Ingwavuma Hospice - Plan (F.C.B.S. 2008: 46)
- Fig. 109 Ingwavuma Hospice - Design Model (F.C.B.S. 2008: 49)
- Fig. 110 Wheatsheaf House Showing Context (PHAIDON 2008: 22)
- Fig. 111 Wheatsheaf House Interior View (PHAIDON 2008: 22)
- Fig. 112 Avenell House - Side Elevation (PHAIDON 2008: 22)
- Fig. 113 Avenell House - Screens within the Buidling Context (PHAIDON 2008: 22)
- Fig. 114 Commercial Building 3555 - Interior Ceiling (PHAIDON 2008: 635)
- Fig. 115 Commercial Building 3555 - Glass Detail (PHAIDON 2008: 635)
- Fig. 116 State Emergency Services Headquarters - Fractured Facade (PHAIDON 2008: 29)
- Fig. 117 State Emergency Services Headquarters - View from Street (PHAIDON 2008: 29)
- Fig. 118 State Emergency Services Headquarters - Fracturing, Colour Use (PHAIDON 2008: 29)
- Fig. 119 Sheep Stable - Internal Linear View (WORLD BUILDING DIRECTORY 2009)
- Fig. 120 Sheep Stable - Lighting Detail (WORLD BUILDING DIRECTORY 2009)
- Fig. 121 Sheep Stable - External View (WORLD BUILDING DIRECTORY 2009)
- Fig. 122 Sheep Stable - Internal View & Clerestory Window Detail (WORLD BUILDING DIRECTORY 2009)
- Fig. 123 Sheep Stable - External Cladding Detail (WORLD BUILDING DIRECTORY 2009)

CHAPTER 8 - CONCEPT DEVELOPMENT

- Fig. 124 Figure depicting the relocation of ex. Functions (BY AUTHOR)
- Fig. 125 Spider diagram / sketch of the heart of the community (BY AUTHOR)
- Fig. 126 Spider diagram and sketches of design informants and their influence on concept (BY AUTHOR)
- Fig. 127 Sketch of the process of death design informant (BY AUTHOR)
- Fig. 128 Map depicting Desire lines (BY AUTHOR)
- Fig. 129 Map depicting Social Space (BY AUTHOR)
- Fig. 130 Design Concept Sketch (BY AUTHOR)
- Fig. 131 Sketch of Mthunzini 'in the shade of trees' (BY AUTHOR)

CHAPTER 9 - DESIGN DEVELOPMENT

- Fig. 132 Design Concept Sketch (BY AUTHOR)
- Fig. 133 A caregiver bathes a patient receiving home based care (NACHWEY, J. 2010: 96)
- Fig. 134 Functional Relationship Diagram (BY AUTHOR)
- Fig. 135 Original Proposal - June - Sacred Space diagram (BY AUTHOR)
- Fig. 136 Original Proposal - June - Axis diagram (BY AUTHOR)
- Fig. 137 Original Proposal - June - proposed new buildings diagram (BY AUTHOR)
- Fig. 138 Original Proposal - June - Model of Facility in Context (BY AUTHOR)
- Fig. 139 Diagram of Buildings being retained (BY AUTHOR)
- Fig. 140 Diagram of proposed new buildings (BY AUTHOR)
- Fig. 141 Diagram of sacred space (BY AUTHOR)
- Fig. 142 Diagram of courtyard spaces (BY AUTHOR)
- Fig. 143 Diagram of axes (BY AUTHOR)
- Fig. 144 Diagram of community activity (BY AUTHOR)
- Fig. 145 Structural model through the hospice wing - external of ward (BY AUTHOR)
- Fig. 146 Structural model through the hospice wing - Internal of ward (BY AUTHOR)
- Fig. 147 Structural model through the hospice wing - external (BY AUTHOR)
- Fig. 148 Study of courtyards and sacred spaces 1 (BY AUTHOR)
- Fig. 149 Study of courtyards and sacred spaces 2 (BY AUTHOR)
- Fig. 150 Sketch plan showing zoning of functions (BY AUTHOR)
- Fig. 151 Structural bay model photo 1 (BY AUTHOR)
- Fig. 152 Rough sketch plan (BY AUTHOR)
- Fig. 153 Structural bay model photo 2 (BY AUTHOR)
- Fig. 154 Sketch plan with external circulation (BY AUTHOR)
- Fig. 155 Sketch plan (BY AUTHOR)
- Fig. 156 Structural bay model photo 3 (BY AUTHOR)
- Fig. 157 Sketch plan (BY AUTHOR)
- Fig. 158 Final sketch plan (BY AUTHOR)
- Fig. 159 Concept sketch - clerestory lighting (BY AUTHOR)
- Fig. 160 Concept sketch - spacial flow (BY AUTHOR)
- Fig. 161 Concept sketch - form (BY AUTHOR)
- Fig. 162 Concept sketches - development of form (BY AUTHOR)
- Fig. 163 Concept Sketch (BY AUTHOR)
- Fig. 164 structural model through the hospice wing - side on (BY AUTHOR)
- Fig. 165 Concept Sketch of differing conditions through the building (BY AUTHOR)
- Fig. 166 structural model through the hospice wing - curved I beams (BY AUTHOR)



- Fig. 167 Precedent - Wheatsheaf House (PHAIDON 2008: 22)
- Fig. 168 Precedent - Avenell House (PHAIDON 2008: 22)
- Fig. 169 3D rendering of Hospice Wing (BY AUTHOR)
- Fig. 170 Functions plan - ground floor (BY AUTHOR)
- Fig. 171 Functions plan - first and sub floor plan (BY AUTHOR)
- Fig. 172 3d render of site - South West (BY AUTHOR)
- Fig. 173 3d render of site - South South West (BY AUTHOR)
- Fig. 174 3d render of site without trees - North East (BY AUTHOR)
- Fig. 175 3d render of site - North west (BY AUTHOR)
- Fig. 176 3d render - hospice building (BY AUTHOR)
- Fig. 177 Ground floor plan - hospice (BY AUTHOR)
- Fig. 178 3d render - paediatric courtyard (BY AUTHOR)
- Fig. 179 Ground floor plan - paediatric building (BY AUTHOR)
- Fig. 180 3d render - reception - hall junction (BY AUTHOR)
- Fig. 181 Ground floor plan - reception and outpatients (BY AUTHOR)
- Fig. 182 3d render - courtyard view (BY AUTHOR)
- Fig. 183 Ground floor plan - services and staff courtyard (BY AUTHOR)
- Fig. 184 3d render - office and reception (BY AUTHOR)
- Fig. 185 First floor plan - offices (BY AUTHOR)
- Fig. 186 3d render - hospice courtyard (BY AUTHOR)
- Fig. 187 First floor plan - offices and staff room (BY AUTHOR)
- Fig. 188 3d render - educational courtyard (BY AUTHOR)
- Fig. 189 Ground floor plan - Hall set up for sport (BY AUTHOR)
- Fig. 190 Ground floor plan - Hall set up for an exhibition (BY AUTHOR)
- Fig. 191 Ground floor plan - Hall set up for an event (BY AUTHOR)
- Fig. 192 3d Render - Hall entrance and threshold (BY AUTHOR)
- Fig. 193 Ground floor plan - Hall set up for conventional seating (BY AUTHOR)
- Fig. 194 3d render - Outdoor education and seating area (BY AUTHOR)
- Fig. 195 Ground floor plan - Classrooms (BY AUTHOR)
- Fig. 196 3d render - educational courtyard (BY AUTHOR)
- Fig. 197 Ground floor plan - conference centre & educational courtyard (BY AUTHOR)



CHAPTER 10 - TECHNICAL INVESTIGATION

- Fig. 198 Hydraform blocks (HYDRAFORM 2010)
- Fig. 199 Form Decking (SANTEFE FARMERS MARKET No Date)
- Fig. 200 Wooden siding (WORLD BUILDING DIRECTORY 2009)
- Fig. 201 Internal Weaving (WORLD BUILDING DIRECTORY 2009)
- Fig. 202 Winblock window frame (WINBLOCK No Date)
- Fig. 203 Curved corrugated sheeting (HADLEY GROUP No Date)
- Fig. 204 Solar and ventilation study (BY AUTHOR)
- Fig. 205 Ground floor plan hospice buildings (BY AUTHOR)
- Fig. 206 Permaculture Garden (CSUSTAN no date)
- Fig. 207 Children learning the joys of agriculture (SASIX no date)
- Fig. 208 Plan of the permaculture gardens and education facilities (BY AUTHOR)
- Fig. 209 Structural model - Internal view (BY AUTHOR)
- Fig. 210 Primary structural drawing (BY AUTHOR)
- Fig. 211 Structural model - side view (BY AUTHOR)
- Fig. 212 Structural model - external view (BY AUTHOR)
- Fig. 213 Section A-A (BY AUTHOR)
- Fig. 214 Detail A (BY AUTHOR)
- Fig. 215 Detail B (BY AUTHOR)
- Fig. 216 Section B-B (BY AUTHOR)
- Fig. 217 Detail C (BY AUTHOR)
- Fig. 218 Section C-C (BY AUTHOR)
- Fig. 219 Section D-D (BY AUTHOR)
- Fig. 220 Detail D (BY AUTHOR)
- Fig. 221 First floor - fire plan (BY AUTHOR)
- Fig. 222 Ground floor - fire plan (BY AUTHOR)
- Fig. 223 Ground floor - catering plan (BY AUTHOR)
- Fig. 224 Ground floor - waste plan (BY AUTHOR)
- Fig. 225 Ground floor - drainage plan (BY AUTHOR)



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

INTRODUCTION

CHAPTER 01



INTRODUCTION

CHAPTER 01

“People even in this day and age are still frightened about death. They won’t talk about it and it’s such a shame cause its part of life.” (KENNEDY, J. 2003)

Jonny Kennedy, a terminally ill skin-cancer sufferer, created a documentary cataloguing the last days of his life. In this documentary he cut to the heart of the problem that this dissertation hopes to address; society is afraid to talk about death and the process of dying. In a country where the HIV and AIDS pandemic is reaching maturity, more and more deaths within communities ill-prepared for this influx are occurring (STATSSA 2009: 18).

Facilities such as Hospitals and Hospices that previously endeavored to provide support during the process of dying are overwhelmed. These existing Institutions have become stale, clinical and mechanical in the way in which they operate and therefore are unable to provide large portions of the population with a death in an environment that embodies “dignity and soul” (MARKUS & CAMERON 2002: 53).

The process of dying is indeed an important part of life. In fact, one should view death not as an empty ending but as it is. It allows for reconnections to happen, for families and communities to draw nearer to one another through mutual grief and suffering and to find new beginnings. Death is by far more than just empty and it should be treated as such, becoming part of our daily lives again rather than the medicalized affair it is now.

“Globally, HIV/AIDS epidemics are already having a disastrous domino effect. Millions of children are orphaned, communities are destroyed, health services are overwhelmed, entire countries face hunger and economic ruin.” (COCHRANE & TALBOT 2008: 147)

Death has become a large component of our social outlook. We have become a necromantic society; a society within which death has become a predominant influencing factor of our social context, whether one openly acknowledges it or not.

With many having the certainty that their death will happen in the immediate future, as a result of cancer or an AIDS related disease, one should be able to provide an architecture that facilitates and incorporates this enormous social need. Providing an architecture that facilitates death is an attempt to embody and exemplify the process of life. This dissertation therefore is not dealing with the architecture of Death, but of Life!

“Throughout the 20th century, modern medicine has transformed the experience of dying from a part of daily life to a highly technological event... In this atmosphere of denial, many caregivers were dissatisfied. There had to be a better way to treat the dying.” (CONOR 1998: 4)

Thus far caregivers believe the answer to the medicalization of death lies in the form of a Hospice. This dissertation proposes to help alleviate the problem by providing a Hospice facility in the Mamelodi community, a community rich in religious and cultural meaning. Pretoria’s Thola-Ulwazi Hospice is inundated. It provides free services to 700 people with AIDS and tuberculosis in the area. The director of the hospice stated;

“there is no other place in our area were they could receive help.” (NACHWEY 2010: 97)

The facility aims to provide a space which architecturally addresses the need for a more humanistic and less overtly technical environment in which to spend one’s last days. Most importantly to provide and facilitate choice, in an attempt to bring dignity and recognition back into the process of death.

In order for this facility to achieve all that it aims and aspires to be, it needs an environment and community that are ready and able to collaborate and build relationships with a new intervention. Mamelodi provides not only the perfect social platform for such an architecture but also a beautiful site shaded and sheltered from harsh elements by graceful, well-established trees.

“It is important to note that as much as the built environment has a large role to play in the success of community building; it is the community that needs to build relationships... architecture is only the potential environment and it is up to the individuals to collaborate to make it a reality regardless of their culture differences.” (NICE 2008: 28)

The following questions are examples of ones that will be asked throughout the design process: How can a building that houses and supports the process of dying be integrated into a community, through its architecture? How can one create a space which embodies not only life, but also to be a place in which the individual can regain a sense of meaning? And how can the choice of the individual be supported and incorporated into the built form of a Hospice? The dissertation will by means of the project brief and through theoretical discourse, provide grounds for the merits and feasibility of a life-filled architecture, delving into the realm of choice and its effect architecturally. ■



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

PROJECT BRIEF

CHAPTER 02



PROJECT BRIEF

CHAPTER 02

2.1 PROBLEM STATEMENT

The process of death has become more of a technical event rather than a physical, emotional and spiritual one. As medical technology has advanced, so too has the mechanisation of the death process and thus the spaces optimised solely for efficiency. Through the overcrowding and rapidly increasing death rate (STATSSA 2009: 18) within the country the problem has further been compounded - creating institutions and architectural environments that have become dispassionate, cold and emotionless. (MARKUS & CAMERON 2002: 53) That have lost touch with people and even the reality of the process of dying.

2.2 HYPOTHESIS

Through architectural design a space which is more than just an institution can be created: a space that embodies meaning and life, a space that facilitates choice. A Hospital or Hospice environment does not need to be mechanical and soulless; in fact it should be more of a dynamic interaction between its' function and the human spirit.

"The two great professions of healthcare and architecture each have their own histories of achievement, scientific and technical advances, and a desire to improve the human experience. The interface between the two professions, occurring in the design and use of buildings that accommodate and facilitate the delivery of care, can generate a dynamic fusion in the pursuance of professional excellence." (SCHWARTZ & BRENT 1999: 281)

2.3 AIMS & OBJECTIVES

"Our buildings, I have come to believe, must be able to receive a great deal of that energy and store it, and even repay it with interest. Only then will their inhabitants feel at home, connected in space and time to the planet and the past, 'centered' as dancers say, not only with imaginations, but with their whole bodies." (MOORE 1980: 115)

This dissertation hopes to provide:

- A design for a facility that cares for not only the dying but their family and community members as well;
- an architectural environment which embodies the principles of choice, life and meaning;
- integration into the surrounding community, through facility provision, education, interaction, architectural language and the community accessible permaculture garden and redeveloped green space.

2.4 DELIMITATIONS

This dissertation will not be dealing with medical ethics such as issues of euthanasia or assisted suicide. Although the project aims to provide choice and assist in the patient regaining control in the process of death, it hopes to help the individual through the process rather than out of it - as it forms an important part of life.

It will also not be dealing with patients who are not in the end stages of a terminal illness.

2.5 DEFINITIONS

Demedicalization

Medicalization is the process whereby previously non-medical aspects of life come to be seen and treated in medical terms. For instance, normal life events such as birth and death. Medicalization has implications in terms of social control, power, knowledge, authority and personal liberty (BLACKWELL 2007). Therefore Demedicalization is the reclamation of the natural back into an everyday realm and the normal process of life.

Hospice

The word 'Hospice' has been derived from the Latin word Hospes, which means "to host a guest or stranger". How it became the 'Hospice' we know today begins in medieval times, during the crusades. Hurt or ill travelers would seek refuge in monasteries or nunneries. They would invariably be cared for by the monks and nuns.

But the name 'Hospice' was only first applied to the care of the dying by Mme Jeanne Garnier in France, during the World War II. Later it became the 'Hospice' we know today through Dame Saunders' new facility established in 1967, St. Christopher's Hospice. (AHS 2010)

St. Christopher's Hospice, which focused on excellence in the treatment of the dying, was first envisioned in the 1960's by Dame Saunders. She trained as a nurse, then as a social worker before finally qualifying a physician. The Hospice was opened in 1967 just outside of London. The centre included teaching and training facilities and was one of the first examples of modern palliative care (see below). This Hospice became the foundation for the world wide Hospice movement and the basis for most modern hospices today. (CONOR 1998: 5)



The current National Hospice Organization defines itself as:

“A coordinated program providing palliative care to terminally ill patients and supportive services to patients, their families, and significant others 24 hours a day, seven days a week. Comprehensive/case-managed services based on physical, social, spiritual and emotional needs are provided during the last stages of illness, during the dying process, and during bereavement by a medically directed interdisciplinary team consisting of patients/families, healthcare professionals and volunteers. Professional management and continuity of care is maintained across multiple settings including homes, hospitals, long term care and residential settings.” (NHO 1993)

Palliative Care

Rather than a cure-based treatment, the objective of palliative care is to relieve the symptoms of the illness and improve the patients' quality of life (KYLE 2010). It also involves support and guidance being offered to the patient and their family members. Palliative care does not attempt to alter the course of the disease (ABTA 2010). The main focus of palliative care is to meet a person's social, emotional and spiritual needs (MOGA 2010).

Terminal Illness

An active, incurable and progressive disease which cannot be cured. Which makes curative treatments and methods inappropriate. The best option of treatment for the patient in this stage of illness becomes that of palliative care. (MOGA. 2010)

Terminal Care

The care of a person in the last days or weeks of their life, during the final stages of the process of dying. Terminal care places emphasis on making the person comfortable and as free of pain for as long as possible until the moment that they finally pass away. (MOGA. 2010)

2.6 CLIENT PROFILE

The Client will be a public-private partnership between the Hospice Organization and the National Health Department working together in order to address the present need, and relieve the pressure that is currently being placed on the existing institutions, such as the Mamelodi Hospital, to cope with the increasing death rates.

2.7 USER PROFILE

The centre will provide support, care, counseling, training and education for not only the terminally ill patients, but also for their loved ones, families and community members. Although the patient is going through a process of loss and bereavement, so are their families. In order to deal with the process of dying in its entirety, all the parties' needs should be recognized and dealt with in a manner that helps smooth the process and transition.

“It's closer to home now and all you want to do is to have somebody with you to take your hand and say everything is going to be all right.” (KENNEDY 2003)

The people using the centre would be those that require a great deal of support. As Jonny said sometimes you just need someone to take your hand and be there for you.

2.8 THE SITE

The site is located in the Eastern area of 'old' Mamelodi. It borders a tributary of the Pienaars river, which divides Mamelodi into its eastern and western parts. The green space dividing Mamelodi has been scheduled for urban agriculture, the strengthening and densification of the urban edges and the redevelopment of green spaces in the linear nodal development framework proposed for this area. The site has immense potential but at the moment it is a relatively dangerous place.

It has amazing views of the local koppies and beautiful well-established trees throughout the region. Bordering the site is a self named 'shopping centre' which through an ever-growing collection of buildings, provides facilities such as a bar and restaurant, hair dressers and an ATM amongst others. However the problem with this however is that the building and auto shop businesses that have set themselves up behind this centre, have turned their back on the green space, therefore creating an environment rife with crime.

2.9 PROPOSED ACCOMODATION

The accommodation schedule is broken up into three sections.

1. An educational facility
The purpose of which is to achieve community integration, education and provide training to local community members and increase awareness of issues such as nutrition and how to care for loved ones;
2. an end-term care facility
This will house those with terminal conditions in their last days; and
3. supporting functions
Which will provide the backbone to the centre and facilitate the running of the other functions. ■



2.11 ACCOMMODATION SCHEDULE

EDUCATIONAL FACILITY FOR PATIENTS, FAMILIES & COMMUNITY	
a community hall to function as an exhibition space, a space that can be used for fundraisers and for funerals	448 m ²
a conference facility to host fundraising functions and flexible educational classes	128 m ²
2 multipurpose classrooms for educating community members on how to care for those who are terminally ill at home, including the importance of nutrition etc	96 m ² each
shaded outdoor education for education pertaining to the permaculture gardens and urban agriculture	96 m ²
Toilets - disabled, male and female	64 m ²
a permaculture garden	.

END TERM CARE	
adult day room , multipurpose dining area, that can be used for crafts, visitations and multimedia screening	96 m ²
4 single adult wards	13.5 m ² each
4 adult wards	40.2 m ² each
8 wet rooms, complete with disabled toilets and showers	5 m ² each
Balconies (minimum size)	18 m ² each
visitation areas and break off spaces	.
nurses stations	8 m ² each
treatment room	10 m ²
2 sluice rooms, 2 linen and pharmaceutical stores	5 m ² each
paediatric day room multipurpose dining area, that can be used for play, crafts, visitations and multimedia screening	64 m ²
2 paediatric wards	40.2 m ² each
2 bathrooms, complete with disabled toilets, baths and changing tables	5 m ² each
2 family rooms sleeping 2 people each with ensuite bathroom. For accommodating family members who have needed to travel a long distance to be with their loved ones, parents or grandparents of children in the wards needing to stay overnight, and when empty for staff who need down time.	16 m ² each

OUTPATIENT FACILITY	
sub-reception to book doctor's appointments, counselling sessions and manage basic inquiries regarding the outpatient services and facility	14 m ²
waiting for the doctor's office, dispensary and outpatient office	40 m ²
outpatient office to organise home based hospice care for those who choose to be cared for at home or for whom there may not be space within the facility	19.2 m ²
dispensary to full prescriptions and medical needs of those in outpatient care	24 m ²
doctor's room for consultation and medical management	16 m ²
large counselling room for family and community members to consult with therapists, social workers and religious leaders	19.2 m ²
2 small counselling rooms for family and community members to consult with therapists, social workers and religious leaders	12.8 m ²
toilets, disabled, male and female	12.8 m ²



SUPPORTING FUNCTIONS	
Reception	80 m²
Offices	
meeting room	46 m²
open plan office	96 m²
management, fundraising and financial offices	19.2 m² each
filing and storage room	12.8 m² each
strong room	6.4 m²
staff room	80 m²
kitchen	18 m²
toilets, male and female	19.2 m²
A Hospice shop and commercial space for the sale of donated furniture, clothing and goods as well as excess food produced by the permaculture garden	80 m²
Cafe serving the communal outdoor space	32 m²
Services	
main kitchen	80 m²
waste management centre	40 m²
laundry including subdivisions between sluicing, dirty and clean areas	56 m²
Staff change room	80 m²
electrical and backup generator room	48 m²
2 equipment stores	32 m² each
mortuary	32 m²
general store	24 m²



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

THEORETICAL DISCOURSE

CHAPTER 03

THEORETICAL DISCOURSE

CHAPTER 03

“Recognition, memory, choice, sharing with others, the acquisition of significance: all these contribute to the processes of architecture.” (UNWIN 2009: 69)

3.1 INTRODUCTION

Simon Unwin believes that these factors are integral to what architecture should embody. Their impact on the built form should be understood in order to provide deeper, more meaningful architecture. How can one achieve an architecture of significance, meaning, life and soul? How can one embody recognition, memory and choice in the built form? How can such a facility be integrated into a community and recapture the dignity of the people it facilitates? These questions form the basis and guidelines for this theoretical investigation.

3.2 MEMORY

CONTEXTUALIZING THE PROBLEM

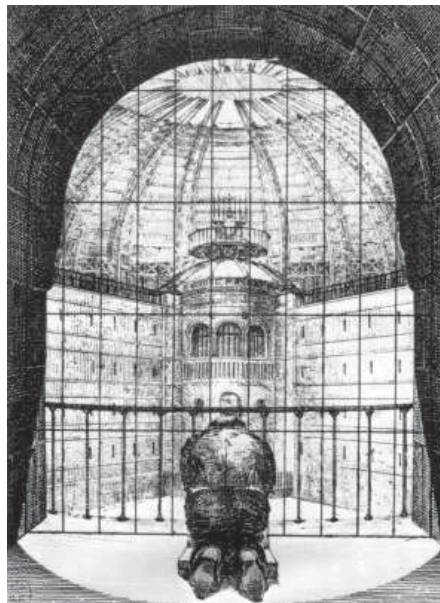
“Time for thought. It came crashing into drearily imposed hours between snatches of bed-tossed sleep and what, on reflection, seems like enforced wakefulness. No relief here from the disorientating afterglow of anesthesia. One found oneself preoccupied with the sourness of supposedly soothing medical interior design: the glare of ineptly placed overhead light-fittings, the washed-out colours – cosy pastel hues of sundry, dirty-mauve shades – the slapdash building details, tatty furniture, the sloppy fabrics...

How in the face of these and similar, also tumbling impressions, to order the mish-mash, the mess, the unyielding chaos? Well, cling to what seems least confused, confusing.” (LIPMAN 2010: 63)

Medical environments have become lifeless. These environments lack soul. Which is sacrificed instead for efficiency and a control of movement, infection, disease and ultimately the patients

themselves. The hospital begins to resemble other institution typologies such as prisons and asylums where people are alternatively accommodated, treated or confined. (MARKUS & CAMERON 2002: 53)

“The prisoner in Panopticon and the patient at the end of the stethoscope, both remain silent as the techniques of surveillance sweep over them. They know they are monitored but they remain unaware of what has been seen or what has been heard.” (ARMSTRONG 1987: 70)



2. A sketch depicting a prisoner in a Panopticon

These architectural environments are functional in the extreme, based on the Foucauldian notion of control of those who move through them. They are an exercise in domination and power. Individuals begin to feel as if they were only a statistic, a number on a board to be pushed around by those who hold dominion over the space. How can this be an appropriate environment in which to find emotional, physical and spiritual support?

“In good health, I have taken my son to hospital clinics but, after sitting for hours in rectangular grid-patterned, vinyl-smelling, fluorescent-lit, overheated corridors, felt only half alive. The brutal vandalism of buildings unfeelingly imposed can have the same effect. In some buildings we feel a trapped statistic, not a valued member of society” (DAY 2008: 4)

THE HISTORY OF MEDICALIZATION & THE MECHANICAL IN HEALTHCARE

In 1914 the book *The Architecture of Humanism* was first published. It addressed the issue of Cartesian mechanical thinking that it deemed as flawed. Having experienced the Industrial Revolution and seeing how thought processes had drastically changed, what was being lost or violently forced into mechanical terms was becoming evident. (SCOTT 1961: 94)

Medically related environments and other institutions closely related to scientific or mechanical fields became an exercise in calculation and efficiency. Rationalism became the fetish of choice at the turn of the 20th century. Buildings became places of control and organization, as well as of consumption on a massive level and rationalized development. Science became that which was exemplified. (BOLTON 1989: 44)

This calculation, efficiency and rationality has led to not only the thorough functionality of the medical environment, but also to the medicalization of natural processes such as death. Medicalization has come under much scrutiny and critique. The strong backlash against medicalization started in Marxist writings and Liberal Humanism. These created the foundation for modern critique on the problem, which has remained a

prominent aspect in medical sociology to this day (LUPTON 1997: 94-95).

The fight against disease is not identical to the fight against death. There is a tipping point at which it stops being a fight against disease and transforms itself into the latter. Yet this point is exceptionally difficult to pinpoint. When does one give up the hope of survival? How can one cross that mental barrier? Many people will accept that they are dying without truly being convinced that it is inevitable. The process though is natural as well as necessary and therefore we should rather focus on the redeeming and creative features of death. (MARCUSE 1959: 71-72)



3. Stethoscope

DEMEDICALIZATION

Death is a natural a part of life and has been shunted into the medical environment to try and hide its existence. Society has come to strongly fear death and the process of dying, and as such refuses to deal with the realities, architecturally or socially.

The process of dying should become a part of our daily frame of reference. As a society we can no longer ignore something which has become such an influencing factor on our collective conscious. These clinical and mechanical 'institutions' are where one invariably ends up when one is dying from a disease that requires dedicated medical support.

3.3 RECOGNITION

THE RECOGNITION OF THE INDIVIDUAL

Many of the individuals who find themselves institutionalised during the final stages of their lives become nothing more than numbers in the eyes of the system. They become part of a statistic, but more over they become ostracized by a society which is uncomfortable with death.

A facility is required, that not only incorporates a depth and meaning architecturally and that surpasses the average medical environment, but also allows people an option to regain dignity. Achieving recognition within society, such a facility must improve the quality of their remaining life.

"improving life through the choices we make in a given situation – for architecture, through the design of buildings and landscape – is one aspect that people agree is part of the ethical quest for the 'good'" (WASSERMAN 2000: 4)

The time has come for the individual to not only be recognised but also made to feel at home. Coop Himmelblau demanded:

"a radical change in architecture so that people could become at home in it. This new architecture was meant to fit the body; had to pulsate, had to smell, had to sound and radiate color." (HIMMELBLAU 1984: 6)

Hospice represents an Ideology and built form that begins to recognise the individual, to improve their lives and to provide an environment that becomes a home away from home.

3.4 THE HOSPICE MOVEMENT

"The hospice project represents the triumph of ideas over the closed spheres of thought within the regulatory framework of health and long term cure design." (SCHWARTZ, B. BRENT, R. 1999: 297)

The move towards hospice like environments to facilitate both families and the dying in the end stages of a terminal illness represents a turning point in the thought processes of society. Hospice provides a function that helps reclaim the process of dying back from the over medicalized environment that is most people's only form of support at the end of their lives. The central philosophy that hospice ascribes to is that of palliative care.



4. Mamelodi Stories - Outreach



5. Mamelodi Stories - Prayer for the sick and elderly

The objective of palliative care, as discussed earlier, is to relieve the symptoms of the illness and improve the patients' quality of life (KYLE, A. 2010). It also involves the offering of support and guidance to the patient and their family members. It does not attempt to alter the course of the disease (ABTA. 2010). The most important section that pertains to the architectural space is the last one - the main focus is to meet a person's social, emotional and spiritual needs.

Palliative care has become more accepted and mainstream because it reacts against fear, and the 'cure at any cost' syndrome. It is one of the most sensitive and caring options

for terminally ill patients, especially within a society that often isolates patients from families in times of crisis. (VERDERBER, S. & REFUERZO, B. 2006: 59) As can be seen through the firsthand accounts, space itself can either oppress or support. In order for the architecture to meet these needs it must have an underlying understanding of the concepts of life, soul and meaning. It needs to acquire significance.

3.5 THE ACQUISITION OF SIGNIFICANCE

"When a patient needs surgery, intensive care, or special treatment architecture needs to be highly functional. During the much longer recuperative period, or for patients with long-term illnesses or disabilities, the situation is different." (RATTENBURG, J. 2000: 183)

PLACES OF INTRINSIC SOUL & LIFE

"This issue of life-full or life-less is at the heart of architecture." (DAY, C. 2008: 65)

In his book, *Places of the Soul – Architecture and Environmental Design as a Healing Art*, Christopher Day discusses the responsibilities inherent

in architectural design to produce spaces that affect one's environment in a positive manner. Places that have depth or soul, not those that have been unthinkingly imposed on their surroundings. For Day it is more how the building is experienced that matters rather than how it looks aesthetically.

"Hard mineral matter, hard lines, hard corners, repetitive unambiguous form. We can't live in such places without something else to sustain us. This abstraction and artificiality feeds alienation. Add other 'shut-off' factors and it becomes easy to walk with open eyes blank past an accident, past a cry for help." (DAY 2008: 88)



6. Hard mineral matter, hard lines, hard corners, repetitive unambiguous form.

Christopher Day's viewpoint is not unique and is in fact, to some degree, shared by Christopher Alexander, who in his series of books *The Nature of Order: an Essay on the Art of Building and the Nature of the Universe*, talks about how life can be found in everything to varying degrees. Alexander states that in order to create buildings which embody life and to escape the 'mechanistic trap' by perceiving the life and order of the building as an entity unto itself. That a life filled architecture can only come from the view of the building in its wholeness, not as parts or fragments. (ALEXANDER 2002(1): 22)

Christopher Alexander goes as far as to come up with a hypothesis that redefines the term life to have broader meaning than that found in biology.



MAMELODISTORIES.ORG

7. Mamelodi Stories - Hope

He also proposes that this new wider definition of life can be measured and felt objectively. His hypothesis states:

“What we call life is a general condition which exists to some degree or other, in every part of space: brick, stone, grass, river, painting, building, daffodil, human being, forest, city. And further: The key to this idea is that every part of space – every connected region of space, small or large – has some degree of life, and that this degree of life is well defined, objectively existing, and measurable.” (ALEXANDER 2002(1): 77)

Life in a building ultimately means a feeling of resonance and kindredness. Seeing an aspect of one’s self in one’s surroundings, thus being in harmony with the built form. Harmonious surroundings allow the built form to provide outer social and inner personal support and harmony. This can be achieved by following a set of rules, but this approach would lack life. Instead it should be achieved through a listening conversation with the surroundings, the natural and the community it serves. (DAY 1990:70)

The entire object of incorporating Life into the design of a hospice facility would be to help the individual who

is using the space to not only achieve social and inner personal harmony, but for them to recapture their dignity. An intrinsic component necessary within a living system to support an individual’s dignity is that of choice.

3.6 CHOICE

Alienating environments and a negative societal view of death, means that the a great majority of people are not able to die in the way in which they choose. In too many cases the environment in which people die neglects their needs and wishes. Meaning that the only dignity that can be found in the process of dying is that which was achieved in the life that came before it. (SCHWARTZ & BRENT 1999: 62)

Choice and its facilitation becomes exceedingly important when reclaiming the dignity and freedom that should be experienced during the process of dying. Choice not only in the treatments provided , and spaces used but also those of movement, interaction, privacy levels, involvement and education.

“Choice: loss of control and lack of autonomy characterize a hospital visit. Providing choice increases patients’ and visitors’ sense of control.” (GUENTHER & VITTORI 2008: 93)



8. Mamelodi Stories - Crying Out

The individuals who enter the facility with a terminal disease should be allowed to make one of several choices including the option of dying at home while still receiving support. Each decision covers multiple angles such as the space itself and how it facilitates and supports the existing movement across the site, to the involvement of both the community and the patient with each other until the end. Death is not empty. As stated earlier it often becomes an event whereby families and communities come together to reconnect, mourn and console. Therefore we cannot think of choice without acknowledging the choices that lead up to and include the mourning process.

3.7 SHARING WITH OTHERS

“Both birth and death need recognition throughout society, where people are, as a part of local communities and neighborhoods.” (ALEXANDER 1977: 328)

Sharing with others or community integration should be a core ideal for this kind of facility. The process of death, although frightening, is an essential support and element in the society within which we live. If the facility



9. Mamelodi Stories - Memory

supports and encourages community involvement, it can only help and support those who need it the most.

The mechanics of interaction and meeting other people can vastly effect the quality of the ensuing relationships. (DAY 2008: 108) These mechanics can be controlled through the spaces and the functions provided by the buildings and between the buildings. Improving the quality of the experience for both those receiving treatment within the facility and those in the surrounding community.

“What is needed is a framework which is just enough defined so that people naturally tend to stop there, and invites them to stay. Then once community groups begin to gravitate toward this framework, there is a good chance that they themselves, if they are permitted, create an environment which is appropriate to their activities.” (ALEXANDER 1977: 350)

3.8 IN SUMMARY

“Where our environment can offer intriguing interest and activity, timeless durability and a sense of roots, connection with the natural world and its renewing rhythms, sociable and relaxing places, and harmony, tranquility and quiet soothing spaciousness, it can provide soul support.” (DAY,C. 2008: 32)

What is required in a facility that cares for the dying is ‘soul support’, support of not only the physical, but the emotional and spiritual as well. Medical environments as a place within which to die have become increasingly inappropriate - driven by ideologies which conflict with those elements required while in the final stages of life, those of: choice, freedom, dignity, life, soul and meaning.

The surrounding environment plays a large role in the provision of these needs, and therefore an architecture which embodies these basic necessities

needs to be created, to support not only the patient but their family and community.

In essence such a supportive environment would need to be created through an architecture that was more than just architecture, that was alive. In order to achieve this it must be noted that life is a consequence of meaning, memory, choice and integration.

3.9 BECOMING ARCHITECTURAL

“The task of architecture may be simply stated. We seek to make a living architecture: that means an architecture in which every part, every building, every street, every garden, is alive.” (ALEXANDER 2002: 2)

Christopher Alexander and Christopher Day both look to the natural, and various architectural elements, such as light and texture, when trying to embody meaning and life into architecture. Yet these can become too limiting in terms of the architecture that they can produce when used as a recipe. What is common to both architectural and to artistic theory is that two overriding elements should be present to create the perception of life: movement and visual interest. These can be achieved

in a multitude of ways such as diagonal line, which immediately sets up the perception of movement, and texture as is used in the Palmach Museum Of History, or other elements such as colour, light, balance, rhythm etc.

The plain rectangular, as despised by Day, reinforces visual stability and offers very few focal points and thus lacks visual interest and movement, which has come to be perceived subjectively as life. Day believes that without constant stimulus and inadequate interest life becomes boring, joyless and uninspiring, withering our senses. (DAY 2008: 83)

In order to understand these concepts and ideas fully one needs to explore them through Precedent. In the following few pages an attempt will be made to clarify these elements through the exploration of real buildings and projects. ■



10. Mamelodi Stories - Family

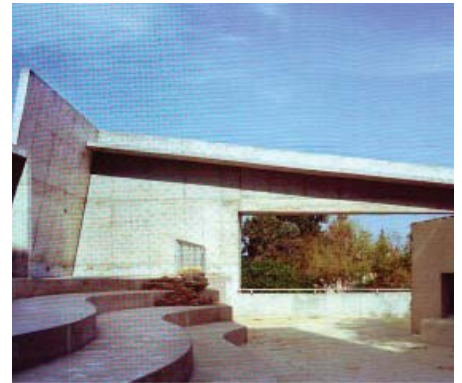


THEORETICAL PRECEDENT STUDY

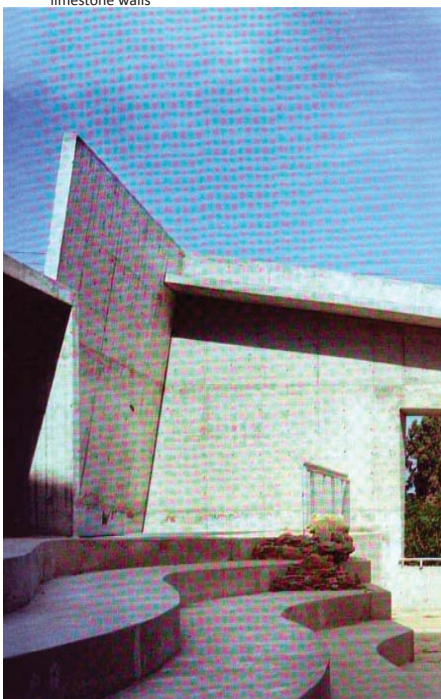


11. Palmach Museum of History - detail of concrete and limestone walls

“Most of us don’t go around deliberately touching buildings, yet without thinking about it we touch them all the time. The textures we walk on or feel with our hands (or eyes) make all the difference between places which are approachable and which aren’t.” (DAY 2008 :74)



12. Palmach Museum of History - Open Air Auditorium Detail



13. Palmach Museum of History - Open Air Auditorium

The Palmach Museum of History was commissioned by an association representing the veterans of the Palmach. The museum is made up of three blocks containing a museum, an auditorium, administrative functions and a memorial room to commemorate the fallen Palmach members. The reinforced concrete walls follow a grid composed of horizontal elements parallel to the road and the contours. The retaining walls surround a central courtyard within which the natural landscape was preserved, in order to symbolise the Palmach’s attachment to home soil. (PHAIDON 2008: 61)

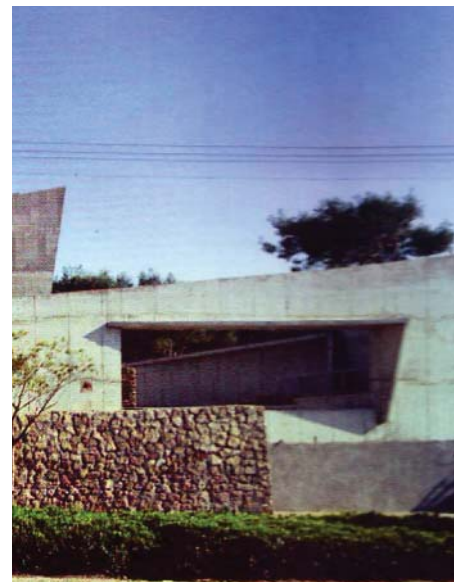
cladding made from fragments of locally excavated Kurkar limestone, further linking the building to the landscape (PHAIDON 2008: 61)

The buildings alternating diagonals with differing textures not only create movement but they imply the movement of both the individual and the slope. while cut-outs punch through the forms to provide interest and in the process framing elements in the background. The building becomes intrinsic to its surroundings. ■

Both the exterior and courtyard facing walls are characterised by diagonal lines and juxtapose exposed concrete with a



14. Palmach Museum of History - Southern Facade



15. Palmach Museum of History - Southern Facade



16. Tesquisquiapan Ranch - Main Entrance to Cantilevered

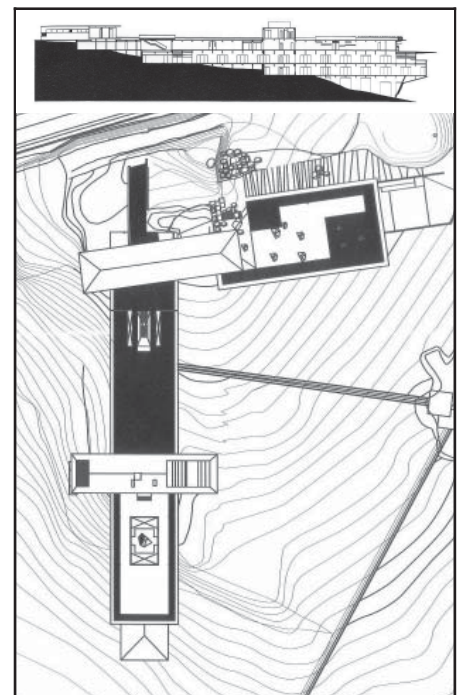
The Tesquisquiapan Ranch is an educational building housing a veterinary school and is located in a rural Northern district of Mexico. The building incorporates living accommodation for 120 students and 32 researchers, laboratories, classrooms and a library. The building's location and form is executed in such a way as to optimize its relationship to the

landscape. It is placed on the highest portion of the site in order to maximise the views and give increase the visual impact of the design of its form. The partially embedded monolithic, stone and concrete volume punches out of the ground. Two secondary, relatively light weight structures float across the top of this heavier structure. They are oriented perpendicularly to the main building and differentiated by their bright orange colour. (PHAIDON 2008: 694)

The facility although utterly different and contrasting to its surroundings, achieves an unshakeable connection through this juxtaposition and even reverence with the landscape. Through its interaction with slope, texture and colour it not only distinguishes itself, but also brings out and enhances the natural beauty of the site. ■



17. Tesquisquiapan Ranch - View Across Roof Deck



18. Tesquisquiapan Ranch - Section and Site Plan

“Whether you like this or not, this is not architecture. It is a photograph of a building. A semantic distinction? On the contrary. One is a static view, chosen by someone else, freezing a transient moment of light, season, weather, approach, life, etc. The other is, influences, or is an interrelating part of, our total physical surroundings: like the photograph, its effects extend beyond the physical to touch our feelings. Photographs focus our attention but let us ignore context. Architecture, however, is the frame in which we live.” (DAY,C. 2008: 1)



19. Tesquisquiapan Ranch - View of Ranch from South West

2005

UF SOFT R&D CENTRE

2006

Atelier Fei Chang Jian Zhu



20. BOH Visitors Centre - Metalwork & Timber Screen

The BOH visitors centre is set amongst the terraced slopes of a tea plantation. The building creates a connection to the tea processing factory and houses a shop, teahouse and exhibition area. Along the main walkway, a screen filled with circular sections of timber from trees that had fallen on site, casts a play of shadow and light that animates the space, as well as giving shifting views of the landscape. (PHAIDON 2008: 212)

“Social Architecture implies, the tectonics we choose to use, is not derived but in fact chooses us. It is derived from the everyday, it is shaped by the dialogues of sensory worlds. It is potential environment that allows for individual reactions, sources from built form experiences.” (NICE 2008: 26)

The screen acknowledges the memory of the trees on site, as well as giving



21. BOH Visitors Centre - View along East Facade

the space an animated sensory experience. The everyday reinvented to create something more than what it was. The building also floats above the ground having as little impact on its surroundings as possible. It creates a dialog with the natural environment rather than overpowering it. ■



22. UF Soft R&D Centre - Office Interior

The UF Soft R&D Centre is a new research and development campus for the major Chinese software company UF Soft. The entire UF Soft complex, with its extensive and regulated window grids, is inspired by the functions and technological production taking place inside the building. The square windows indicate smaller work spaces,

accommodating up to six or seven people, while communal spaces have larger expanses of glass. (PHAIDON 2008: 101)

“Light is the life-giving element. Both in quality and quantity it’s absolutely central to our well-being.” (DAY 2008: 180)

Light and view are imperative in a healthy architectural environment. Therefore the design of the window and what views it frames are exceedingly important within a hospice environment. The fact that they can also be used to define functions and create a clarity in the process of reading the buildings language just adds to their potential.

“windows connect the artificially controlled indoor world to the life of activity, weather and season outside - the lifeless, unvarying with the life renewing, ever-changing.” (DAY 2008: 75) ■



23. UF Soft R&D Centre - Main Entrance & Second Courtyard



24. Clarence Family Day Care Offices - North Facade



25. Clarence Family Day Care Offices - Detail of Fibre Cement Sheeting

the function of the building. Interior and exterior spaces also become defined by the colour choices, as the internal spaces begin to introduce differentiating reds. (PHAIDON 2008: 48)

The use of colour in this facade helps to give a positive and playful perception. In spaces dealing with death - fun, laughter and colour become exceedingly important not only in the children's wards. Colour can substantially change the perception of individuals in and around the space where they are used.

This building is an extension to an existing facility that provides training for home-based childcare workers, and houses the administration, seminar room and toy lending library. The diagonal facade creates a bold statement in its setting with alternating blocks of pinks and greys, inspired by children's building blocks and speaks directly of

Colour becomes another way of embodying life and visual interest into a space. the use of visual compositions of colour create a feast for the eye and movement within this relatively stable rectangular shape. Yet colour should be used more interactively and as more than just an application. ■

The MUSAC museum is a cultural centre for the historic Castilian city of Leon. This section houses the contemporary art museum. The facades are clad in panes of glass of 42 different colours. These glass panels were inspired by the vivid colours present in a thirteenth century stained glass window in Leon Cathedral. (PHAIDON 2008: 371) Christopher Day talks about how coloured light is the epitome of colour usage in a building. He states:

"Where colour works as a delicate breath, however, is in the light. Coloured light has a different effect from pigment - with light you feel raised up into a mood, but with pigment pressed down into it." (DAY 2008: 73)

Coloured light can be used in so many ways; as large intricate stained glass windows, as graphic statements such as this and also as a subtle accent to a room. The colours used in these windows not

only create an atmosphere and mood, but also serve to highlight and recede specific elements of the building making the form more easily identifiable and emphasised. They create a sense of rhythm and pattern. This in conjunction with the angular forms serve to give a very straight lined and angular building movement. ■



26. Musac Museum - View Towards Lobby from Courtyard



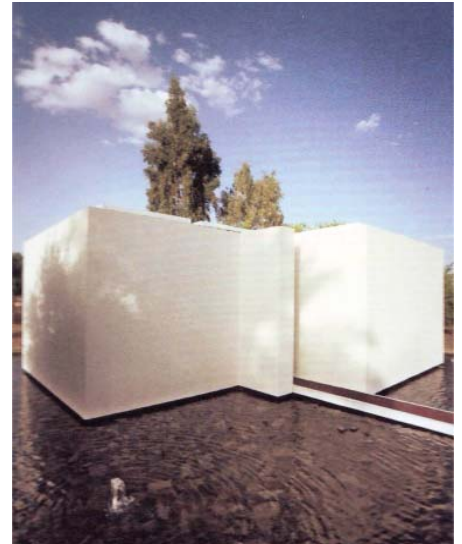
27. Musac Museum - Rhythm & Pattern



28. Prayer & Meditation Pavilion - View from North

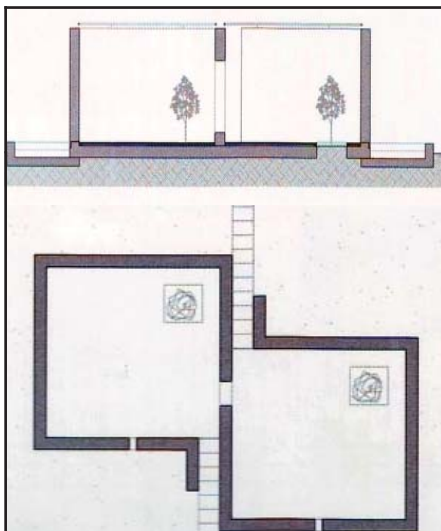
The Prayer and Meditation Pavilion, sited on the North East section of a newly built cardiac surgery centre in Khartoum. The centre is run by a non-governmental organisation that supplies free medical and surgical healthcare to victims of war, poverty and landmines.

The building provides a space for prayer and meditation for all faiths. Therefore the architecture cannot privilege any single faith and so is free of specific religious symbolism. The pavilion itself is formed by two identical cubes, that have been shifted along a central axis in relation to each other. Each cube is entered by a walkway that crosses a pool of water symbolising refuge in a desert environment. People can move between the two cubes by an opening in the shared wall. A slit runs up one of the walls of each cube and is pulled through the bamboo canopy. (PHAIDON 2008: 590)



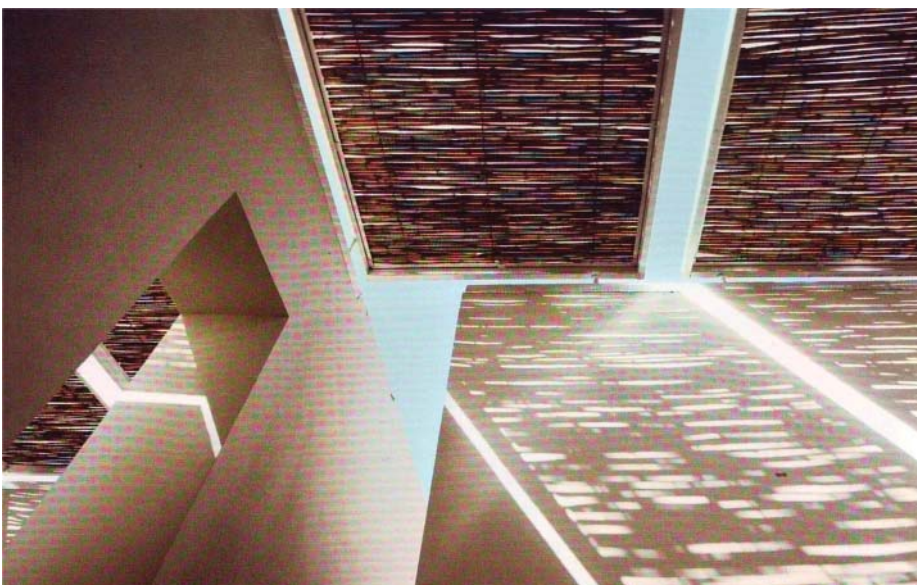
29. Prayer & Meditation Pavilion - Pavilion Surrounded by Square Water Pool

The spirituality of the space is achieved through a play of light and void. The stark emptiness of the space juxtaposed with the dappled sunlight that plays across the walls creates a sense of tranquillity and a space where one could find God. It is through the deprivation of natural influences and the emphasis of a single trait, that of light, that focuses the spirit of place within the structures walls. ■



30. Prayer & Meditation Pavilion - Section & Plan

“The spirit of a place can develop because of, not in spite of, the building. Hence, quite apart from its appearance, method of construction and form of contract have a bearing on the spirit of a building.” (DAY 2008: 14)



31. Prayer & Meditation Pavilion - Interior View Showing Bamboo Ceiling



32. Prayer & Meditation Pavilion - View of Interior



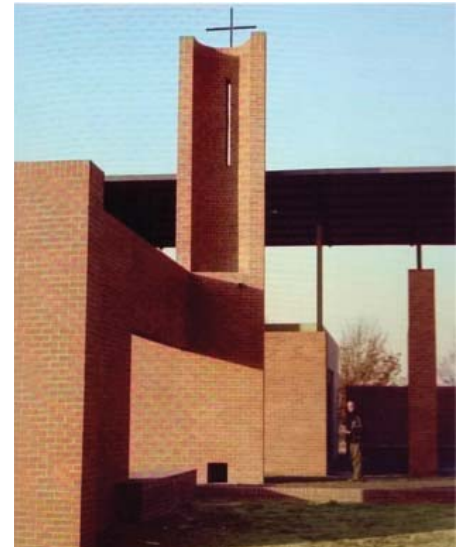
33. Chapel of Light - Entrance Courtyard

The chapel of the light is a multi-denominational chapel located in a remote area of the Vaal University Technology campus. The site itself is very isolated so the building itself creates its own context by defining external space with free standing walls. These walls are manipulated to either emphasise particular views, through punctures in their surfaces, or by hiding those less desirable vistas. The main tower or steeple guides worshipers to the entrance threshold. The entrance consists of a courtyard again defined by the chapels signature walls. Upon

entering the main chapel space a dramatic change from inside to outside unfolds. The internal walls are plastered and brightly illuminated by natural light, as opposed to the red brick exterior. This change creates a definite separation of space and emphasises the entrance into the inner sanctum. The religious qualities of the space are enhanced by natural light washing into the building through a clerestory window between the roof planes and narrow slots in the ceilings and walls. Traditional aisles are also incorporated by symbolically emphasising them with vertical light shafts between the piers. A light weight rectangular roof floats above all of this unifying and tying in all the different elements. (PHAIDON 2008: 603)

“Had I the heavens’ embroidered cloths,
Enwrought with golden and silverlight,
The blue and the dim and the dark
cloths
Of night and light and half-light,
I would spread the cloths under your
feet:” (YEATS 1994: 59)

Both of these precedents have achieved a spiritual and religious space through the use and manipulation of simple planes and light. ■



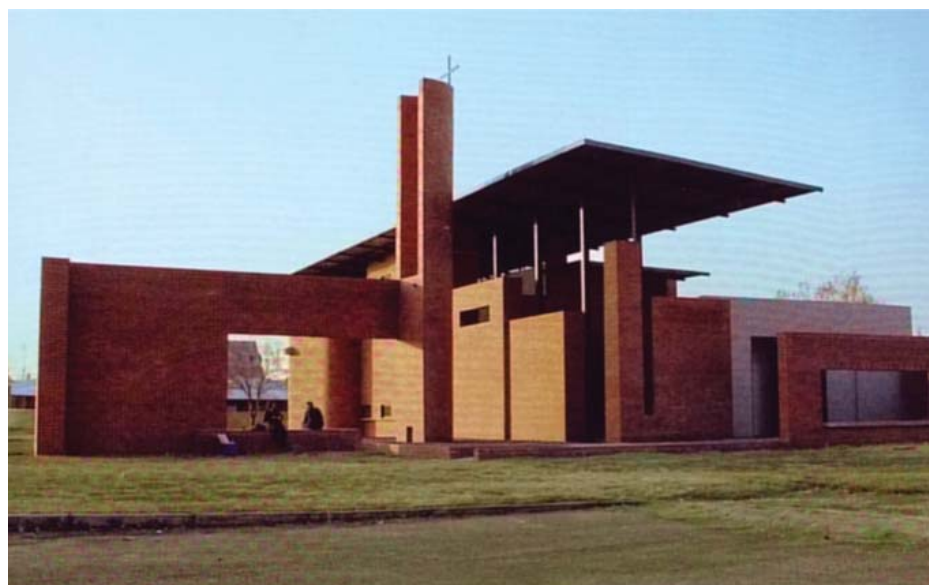
34. Chapel of Light - Main Tower



35. Chapel of Light - Chapel Interior



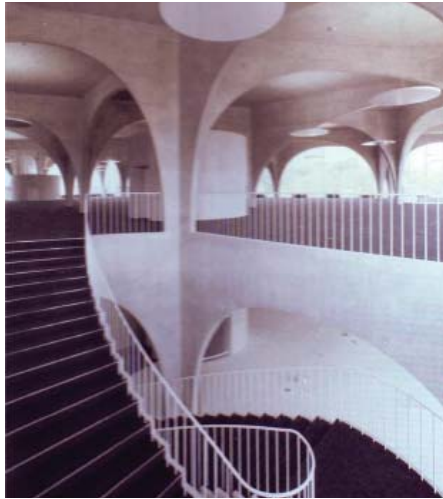
36. Chapel of Light - Entrance Courtyard



37. Chapel of Light - View from South West

2007
NELSON MANDELA INTERPRETATION
CENTRE 2005

Peter Rich Architects



38. Tama Art University Library - Internal Staircase



39. Tama Art University Library - Library Interior

"meanders aren't made up of bits of circles, but a live relationship between that which is accelerating into a curve and that which is decelerating into straightness and eventually curves the other way. Accelerating-decelerating are always therefore in tension between straightness and curve." (DAY 2008: 132)

It is this inbuilt tension and movement that gives the curve such power. It brings our environment to life. The tension between the accelerating and decelerating motion of the arch forms create something both beautiful and more alive than a dead rectangular space. The curve need not be applied in plan to achieve the goal of a life filled environment. The three dimensional application of the curve, once so predominant in architectural language seems to have slipped from our vocabulary, can be seen embodied in a contemporary way in this building. ■

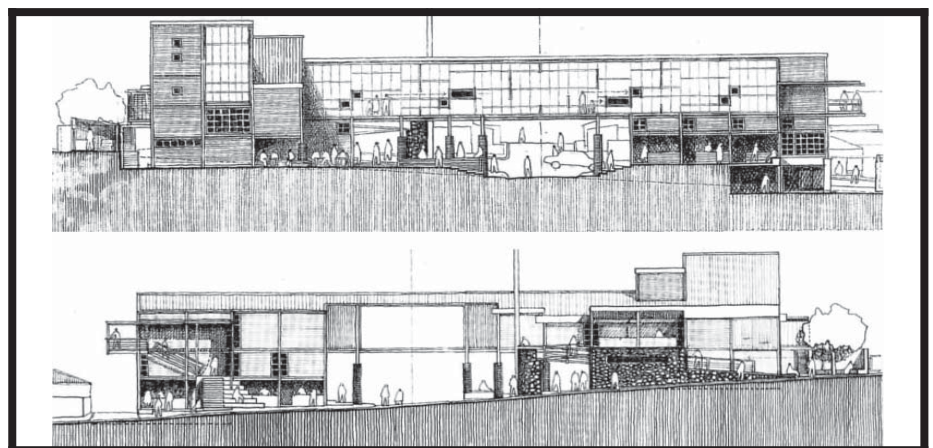


40. Tama Art University Library - Entrance Foyer

The Tama Art University Library building, although consisting of mostly a library, also provides additional amenities and supportive functions for the students. The space is dominated by the graceful steel arches and columns encased in concrete, with the functions fluidly organized around and through these portal spaces. (PHAIDON 2008: 173)

The Nelson Mandela Interpretation Centre builds a sense of community and provides poverty relief through various avenues. These include training the inhabitants in tourism and heritage, nurturing small enterprises and exhibiting the arts, culture and heritage of the area. (PETER RICH ARCHITECTS 2010)

"The Architecture is choreographed by the architectural team, yet written and performed by the inhabitants of Alexandra. These people naturally relate to it, they are part of its participants, and through it, their own modest architecture is given dignity." (PETER RICH ARCHITECTS 2010) ■



41. Nelson Mandela Interpretation Centre - Elevations




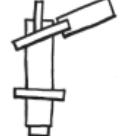




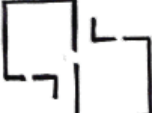
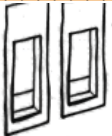


42. Nelson Mandela Interpretation Centre - External View



43. Nelson Mandela Interpretation Centre - Internal View



3.11 THEORETICAL PRECEDENT SUMMARY

PRECEDENT		SUMMARY
PALMACH MUSEUM OF HISTORY	Diagonal Line & Texture	
TESQUISQUIAPAN RANCH	Juxtaposition, Colour & Slope	
BOH VISITOR CENTRE	Dialogue, Shadow & Memory	
UF SOFT R&D CENTRE	Representation Of Function	
CLARENCE FAMILY DAY CARE OFFICES	Visual Composition Of Colour	
MUSAC MUSEUM	Rhythm & Pattern	
PRAYER AND MEDITATION PAVILION	Simplicity & Tranquility	
CHAPEL OF LIGHT	Simple Plane & Light	
TAMA ART UNIVERSITY LIBRARY	Tension Between Straight & Curved	
NELSON MANDELA INTERPRETATION CENTRE	Intergration	



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

CONTEXTUAL ANALYSIS

CHAPTER 04



CONTEXTUAL ANALYSIS

CHAPTER 04

“South Africa’s townships have often been referred to as the place where the heart of the nation beats. They inspire nostalgia in anyone who has ever lived or continues to live in such an area; a feeling of belonging; a sense of pride. Be it Alexandra, Soweto, Seshego, Mamelodi, Motherwell, Mdantsane, Umlazi, KwaMashu, Khayelitsha, or Gugulethu, the township for many South Africans will always be where the heart is.” (MTONGANA 2008.)

Mamelodi, situated on the north eastern outskirts of Pretoria, is a former black township with a population of about one million people. (MAMELODI TRUST. 2010.)

4.1 THE HISTORY OF MAMELODI

The present town of Mamelodi lies at the base and on the lower slopes of the Magaliesberg Mountains, on what was once a farm known as Vlakfontein. (WALKER & VAN DER WAAL 1991: 2) Mamelodi was founded on the 30th of October 1945 when the Pretoria City Council acquired the land for use as a black residential area. The name Mamelodi meaning “Place of Joy” in Tswana, (WALKER & VAN DER WAAL 1991: 3-4) was given to the area as a recognition of the permanence of the settlement, which was originally intended to be more for migratory labour. The township became the place into which people from the areas of

Lady Selbourne, Eastwood and Riverside were resettled during the forced removals of the Apartheid era.

Mamelodi was planned and laid out by the town planning section of the Pretoria City Council. It soon became apparent that Mamelodi needed a different layout to the other townships in the area, due to the terrain on which it lies. Principles involving contour layouts, the avoidance of sharp junctions and provisions for open recreational spaces were followed, with very limited success, and sites were set aside for churches, traders, educational purposes and other facilities. What is a notable feature of the Mamelodi landscape and planning is the extreme density of the housing, which influences the social life and environment of the residents. Over the years housing in the area has densified even further than was anticipated or planned. This due



44. Mamelodi Stories - Informal settlement

to the additions of informal extensions to existing homes, in order to alleviate housing shortages. (WALKER & VAN DER WAAL 1991: 8)

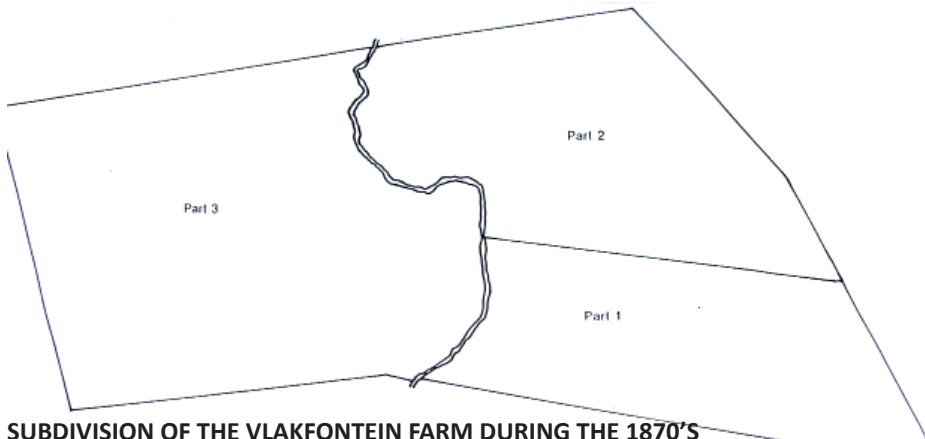
“It is not unusual for stands to house twenty or more, in formal and informal dwellings on one stand.” (WALKER & VAN DER WAAL 1991: 9)

The town spreads along the valley floor, with its main axis moving west to east. The northern and eastern edges of Mamelodi are bordered by the lower slopes of the Magaliesberg Mountains, while its southern and western borders are defined by the railway line that used to be known as the Delagoa Bay line and areas set aside for cemeteries, respectively. (WALKER & VAN DER WAAL 1991: 2) In effect this limited the access ways into and out of the area and allowed the government strategic advantage if riot or uprising occurred against the regime. Only two access routes into Mamelodi were provided for. The first by rail and the two train stations, Deneboom and Eerste Fabriek and the second through Mamelodi’s main road Tsamaya Ave, which follows the basic West-East axis.

The basic fabric of Mamelodi is further



45. Mamelodi Stories - Informal Settlement with the Magaliesberg Foothills in the Background

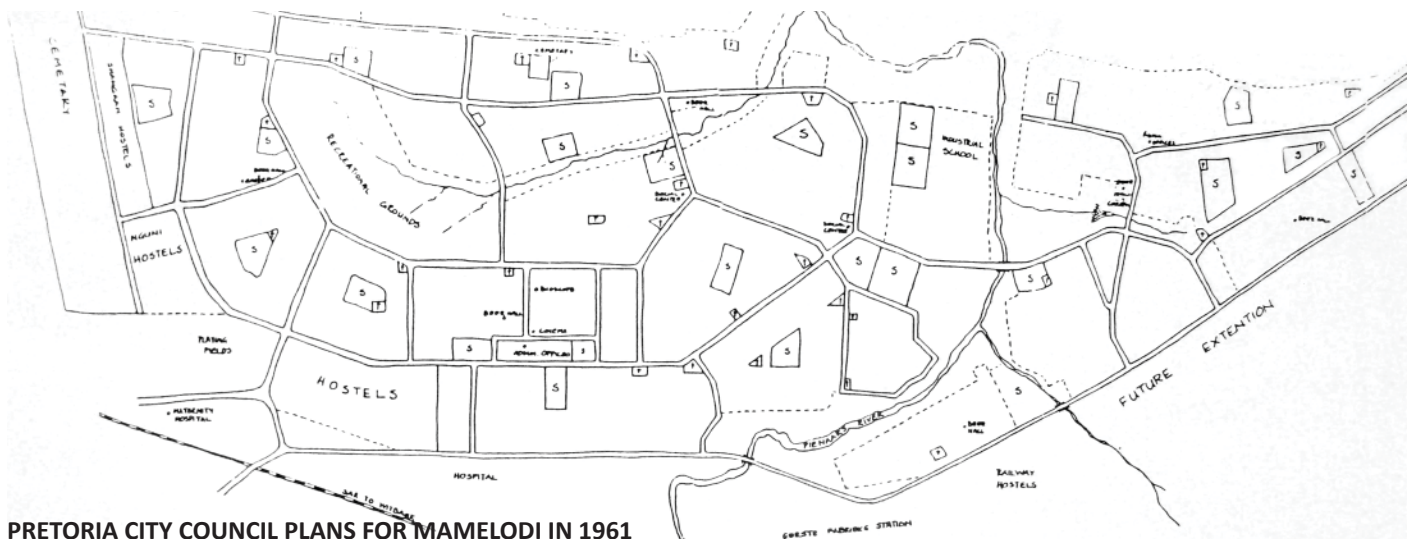


SUBDIVISION OF THE VLAKFONTEIN FARM DURING THE 1870'S

46. 1870 Area Map of Vlakfontein Farm

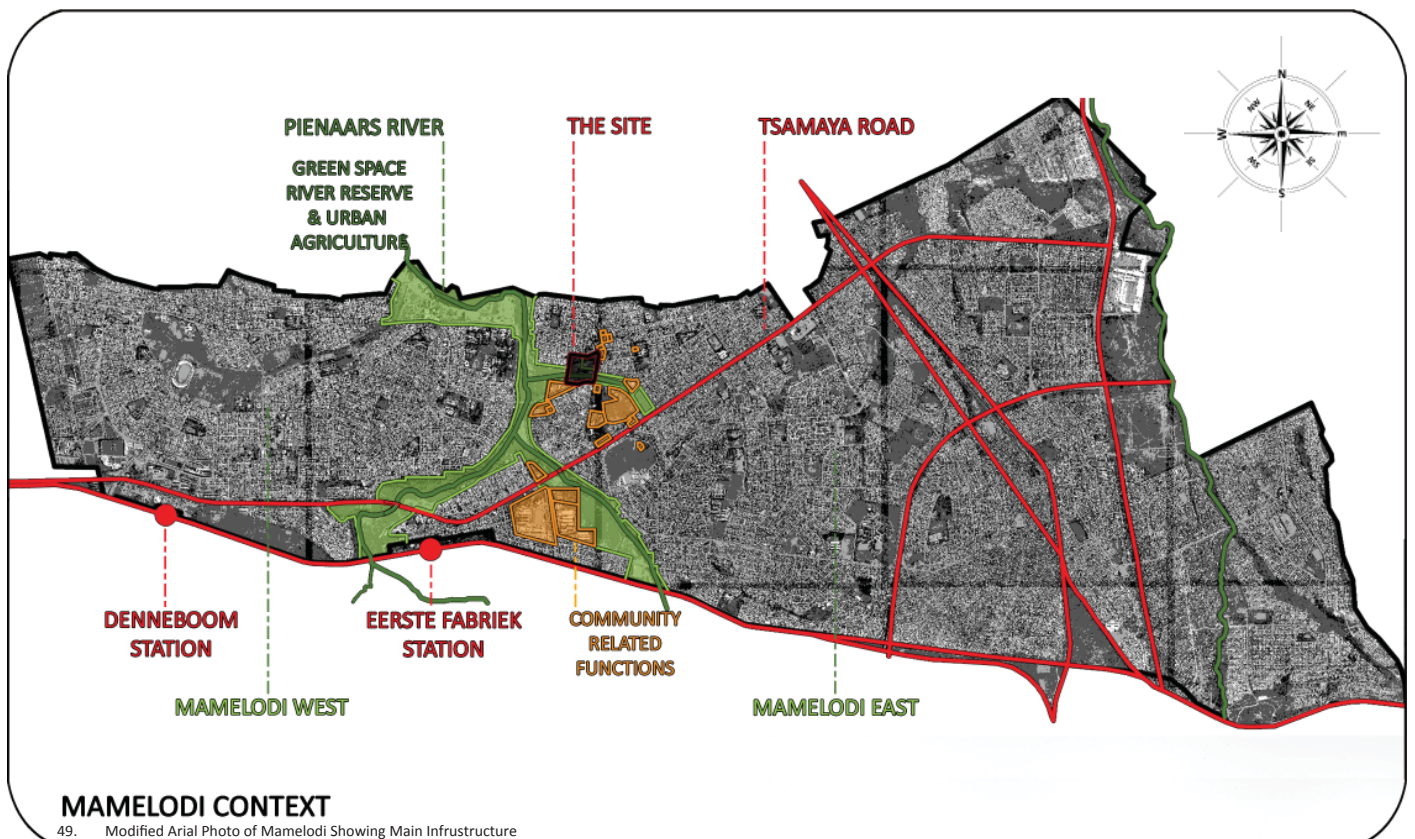


47. Mamelodi East Street Scene



PRETORIA CITY COUNCIL PLANS FOR MAMELODI IN 1961

48. 1961 Plans for Mamelodi



MAMELODI CONTEXT

49. Modified Arial Photo of Mamelodi Showing Main Infrastructure



50. Mamelodi Stories - Portrait with Patterned Brickwork in Background

divided into East and West by the Pienaar's River. Its flood plains and banks create a large central green space which divides Mamelodi into the older West and relatively newer East. The Apartheid government made no provision for fresh water or sanitation in the townships, (MAMELODI TRUST. 2010.) leading to the Pienaar's river becoming the main source of water in the area for many years. The river is seldom crossed, with Tsamaya Ave forming the main gateway between the two halves. Although the area has an abundance of open green spaces they are not used to their full potential, and have often become neglected and dangerous. (WALKER, J. & VAN DER WAAL, G. 1991: 18)

"What were open spaces and parks with amusement areas have long ago become overgrown and even dangerous to use owing to muggings." (WALKER & VAN DER WAAL 1991: 18)

4.2 THE BUILDING OF MAMELODI

Early low cost housing built by the Pretoria City Council were of brick and local training initiatives and employment was sought in order to save on the eventual cost of the building works. (WALKER & VAN DER WAAL 1991: 11)

"There are suggestions of training activities still discernable in the building methods used in erecting the houses. For instance it is possible to discern different building methods used in laying bricks and in some cases an attempt has been made to make a pattern, alternating blue and red bricks, long and short." (WALKER & VAN DER WAAL 1991: 11)

When one travels through Mamelodi today one can see multiple attempts at personalisation and inventiveness in the brick structures and their fences. Bricks turned on edge, patterning, alternating of materials and orientation of bricks are all used in various ways. The result is a diverse, complex and local brick tectonic for the area. Yet brick is not the only material sown into the Mamelodi fabric.

What began as the building of temporary shelters, which would eventually develop into permanent homes, became the booming Zozo or prefabricated shack business of today. (MAMELODI TRUST. 2010.) Informal settlements have grown as the housing capacity of Mamelodi struggled to keep up with the growth and influx of residents. As more people move from the rural areas to the cities, these informal settlements are growing month by month. (MAMELODI TRUST.



51. Mamelodi West Street Scene

2010.) The post 1994 Government's answer has been to build massive low cost housing projects in the Eastern most regions of Mamelodi, up onto the foot hills of the mountains.

All of this has led to a more permanent and affluent section in the western areas of Mamelodi, where newer building works and renovations transform township houses into 'Tuscan villas', slowly merging into older brick low cost housing, then informal settlement before finally reaching the eastern most regions and the new matchboxes littering the landscape. Mamelodi's



52. Mamelodi Stories - Children Playing with a Shopping Trolley



53. Mamelodi Stories - Child's Portrait

has very little dominance over the Mamelodi landscape, with most of the residents walking to where they need to be. Non-existent pavements meld into the roads themselves which are defined by the low residential fences. Small and often unplanted gardens make way to stoeps where people sit and relax, behind which front doors can be found. These areas are full of activity with children running ahead to warn of strange umlungus walking down their roads. Neighbourhoods feel alive. As Ndumiso Ngcobo author of *Some of My Best Friends are White*, says:

“Drive down any street and kids are running around, neighbours are having animated conversations over the fence, men are sitting outside and enjoying cold ones amid lots of chitchat and laughter. Its kaside fabulous, brother!” (MTONGANA 2008.)

Yet Mamelodi is also the place where recent running gun battles, violent service protests and a skyrocketing crime rate have rocked its community and put new fear of the area into outsiders. On the 9th of March this year the Sunday Times reported:

“Protesters fired live ammunition at firemen, pelted police with stones and barricaded roads in Mamelodi East, the city of Tshwane said today.” (SAPA. 2010)

Mamelodi has become a place of culture and community, yet also a place of fear and poor services. A Hospice Facility while helping to alleviate some of the service problems within the area, will also need to engage with Mamelodi’s amazing street culture and community bonds, while dealing with a context of fear and violence. ■



54. Mamelodi West Informal Trading

built fabric is both diverse and very area-specific within itself. Looking at the types of buildings that line the roads, it is possible to tell what region of Mamelodi you are in, and by that principle so is each individual areas identity and expression established.

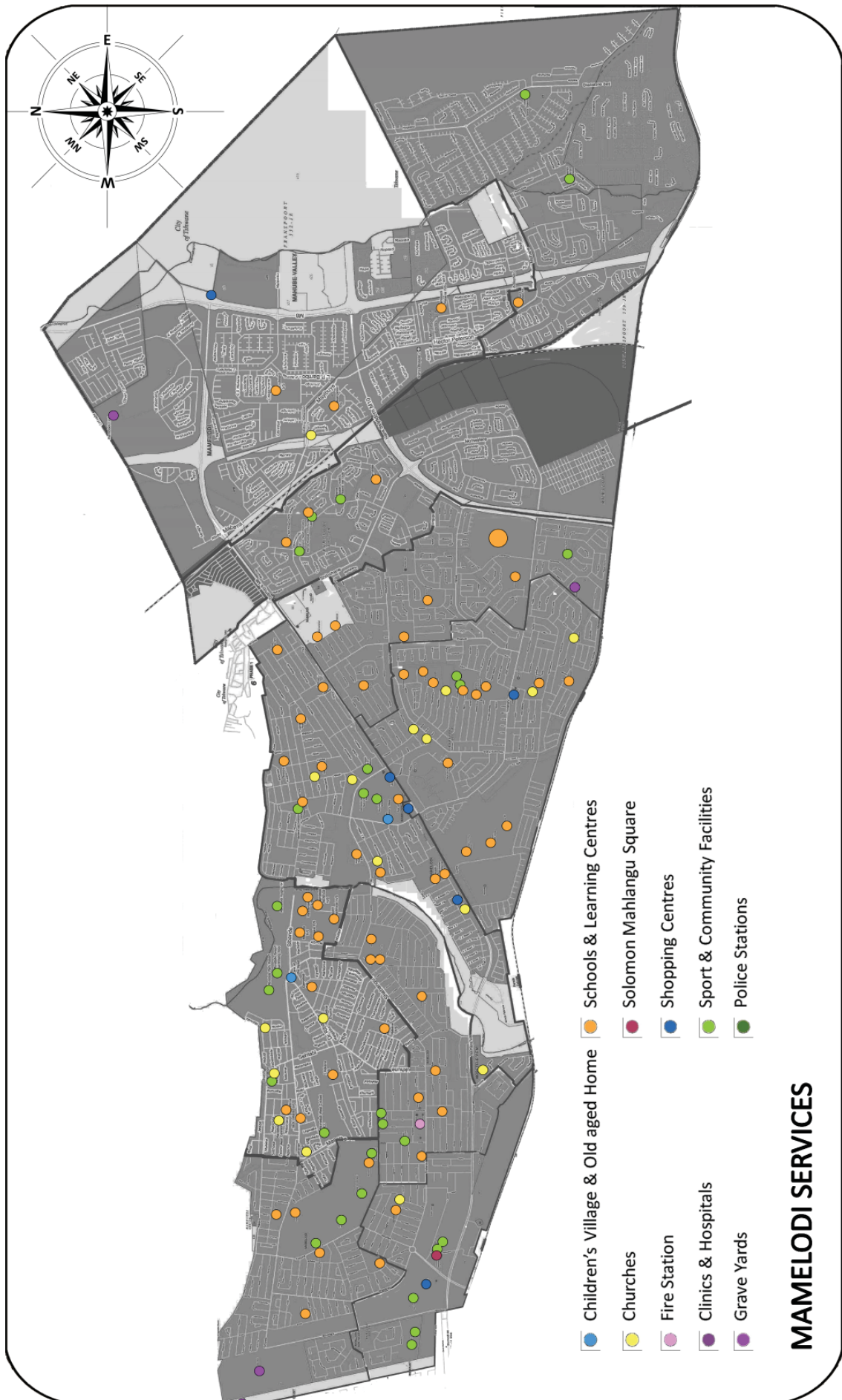
4.3 MAMELODI TODAY

Lauren Shapiro, a media and research consultant, while presenting her research findings at the FutureFact conference held in Johannesburg in July 2008, said

“While the suburbs may have the same advantages and may be more convenient, they lack the emotional connection, the conviviality, the sense of community and the vibe of the townships - this cannot be replaced,” (MTONGANA 2008.)

Mamelodi embodies a sense of vibrancy and depth often lost within other South African residential and suburban areas. It has such a depth and richness to its social context and built environment that can often be lost on the casual observer. Plunging into the unknown and walking down one of the side streets, although intimidating to an outsider, can also be very revealing. Houses, with strict hierarchies of private and public space, line dirt roads. The street is a play ground, as the car

55. Modified Mamelodi Ward Maps Highlighting Existing Services





UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

MAMELODI FRAMEWORK

CHAPTER 05

MAMELODI FRAMEWORK

CHAPTER 05

LINEAR NODAL DEVELOPMENT FRAMEWORK FOR MAMELODI

- Natural Growth
- Service Delivery
- Reclamation of Forgotten Spaces, Areas and People
- Reinvigoration of Existing Fabric

BY TAMRYN NEL & HAYLEY THEA ROBERTS

“The make-up of Tshwane should rather be understood within the context of a polycentric (multi-nodal) metropolitan region.” (THE CITY OF TSHWANE 2007: 10)

AIMS AND OBJECTIVES

Large Urban commercial frameworks have very rarely been achieved within a socio-political context, as they require an extensive amount of governmental effort, energy and finances in order for these schemes to be implemented successfully. This form of Urban planning or vision often takes little cognisance of the existing fabric and natural growth that could occur within the area, which would lead to a richer urban fabric and better appropriateness of place. Rather

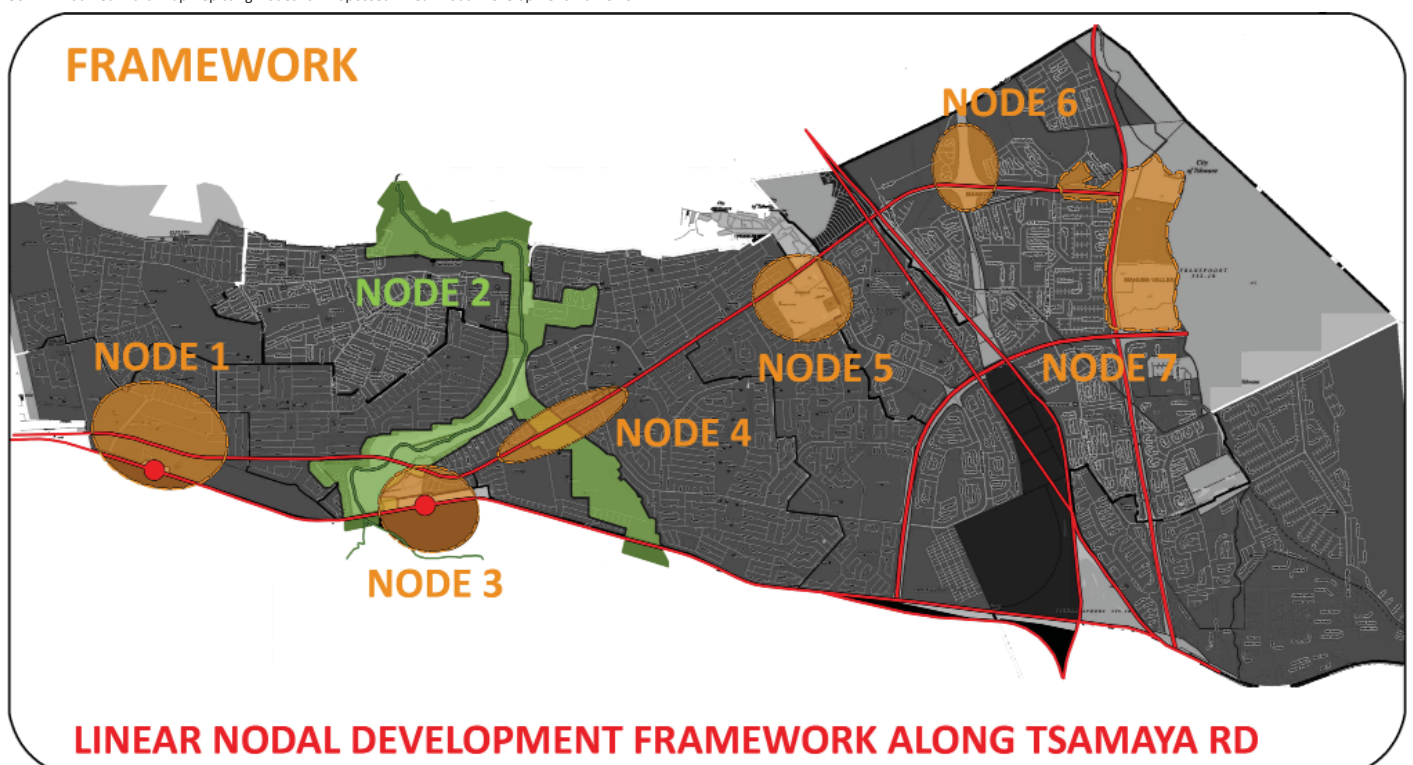
than the imposition of a single person’s or organisation’s vision and ideologies there should be a listening conversation between the community and the designer.

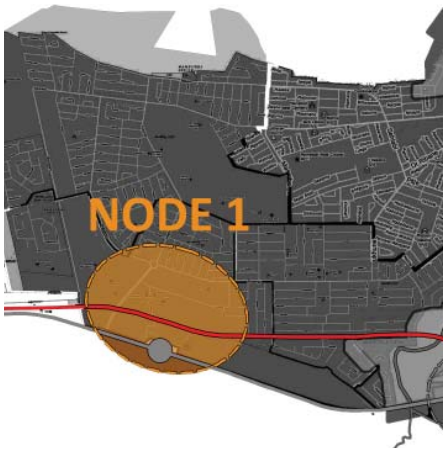
“Harmonious surroundings provide a support for outer social and inner personal harmony. Harmony can be achieved by rules – but it lacks life. Or it can arise as an inevitable but life-filled consequence of listening conversation” (DAY. 1990:70)

The frame work that we are proposing for Mamelodi is a Linear Nodal Development Framework. The definition of this framework is the upgrading and provision of services coupled with the implementation of individual catalytic interventions, such as community oriented or commercial facilities; in order to facilitate natural growth and cohesion to reclaim lost or forgotten spaces, areas and peoples within the existing fabric.

Mamelodi’s cultural and historical past as a township has caused large scale fragmentation and poor planning that has disrupted the built and social fabric. Forgotten spaces and cracks in the form of buffer zones, empty sites and disjointed or absent services have become almost institutional in the Mamelodi context. The reclamation of these isolated, forgotten spaces and their stitching together through the improvement of existing infrastructure and provision of services becomes the focus of the Linear Nodal Development Framework.

56. Modified Ward Map Depicting Nodes for Proposed Linear Nodal Development Framework





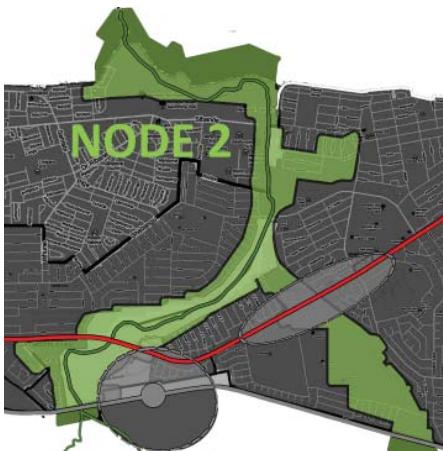
57. Framework - Node 1

NODE 1

- Inter-Modal Transport Junction
- High Density Housing
- Commercial and Office
- Mixed Use Development



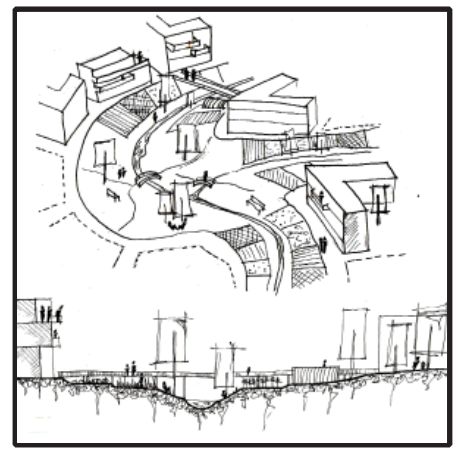
58. Framework - Node 1 Sketches



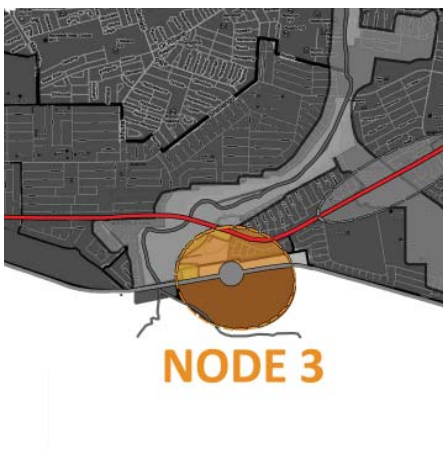
59. Framework - Node 2

NODE 2

- Rehabilitation of Pienaar River
- Urban Agriculture & Permaculture
- Community Green Spaces and Parks
- Pedestrian Access



60. Framework - Node 2 Sketches



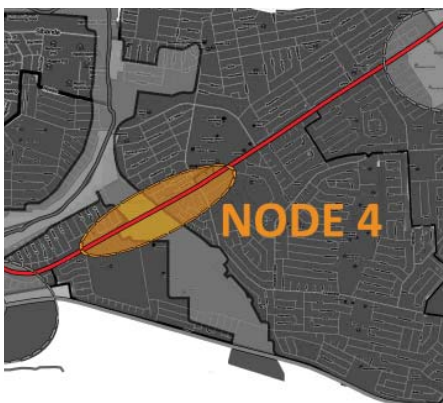
61. Framework - Node 3

NODE 3

- Inter-Modal Transport Junction
- High Density Housing
- Informal Trading
- Mixed Use Development



62. Framework - Node 3 Sketches



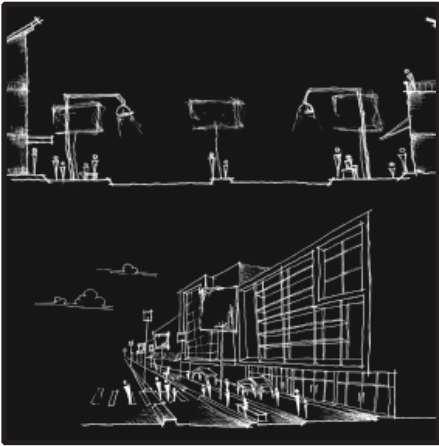
63. Framework - Node 4

NODE 4

- Mixed Use Development
- Community & Religious Functions
- Medium Density Housing



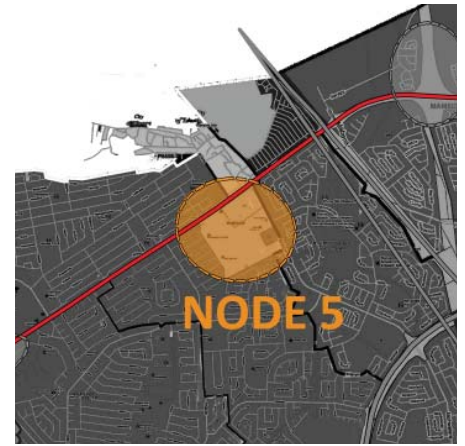
64. Framework - Node 4 Sketches



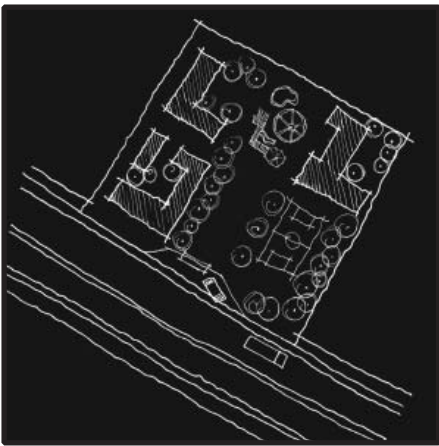
65. Framework - Node 5 Sketches

NODE 5

- Community Oriented Functions
- Service Delivery
- Public Transport – Bus & Taxi Stops



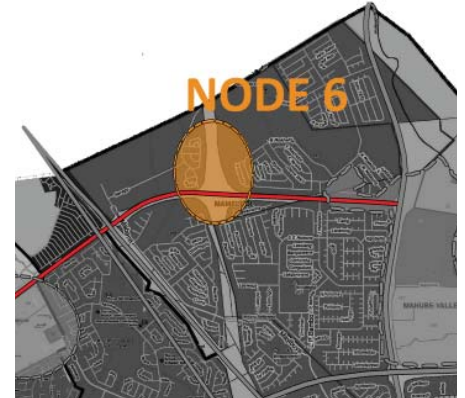
66. Framework - Node 5



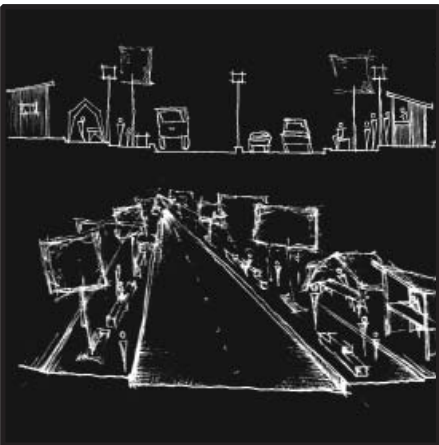
67. Framework - Node 6 Sketches

NODE 6

- Religious & Community Oriented Functions
- Service Delivery
- Public Transport – Bus & Taxi Stops



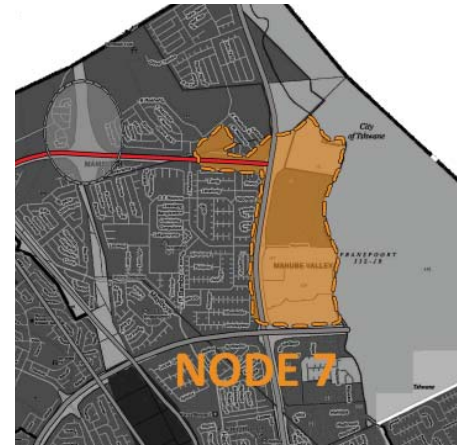
68. Framework - Node 6



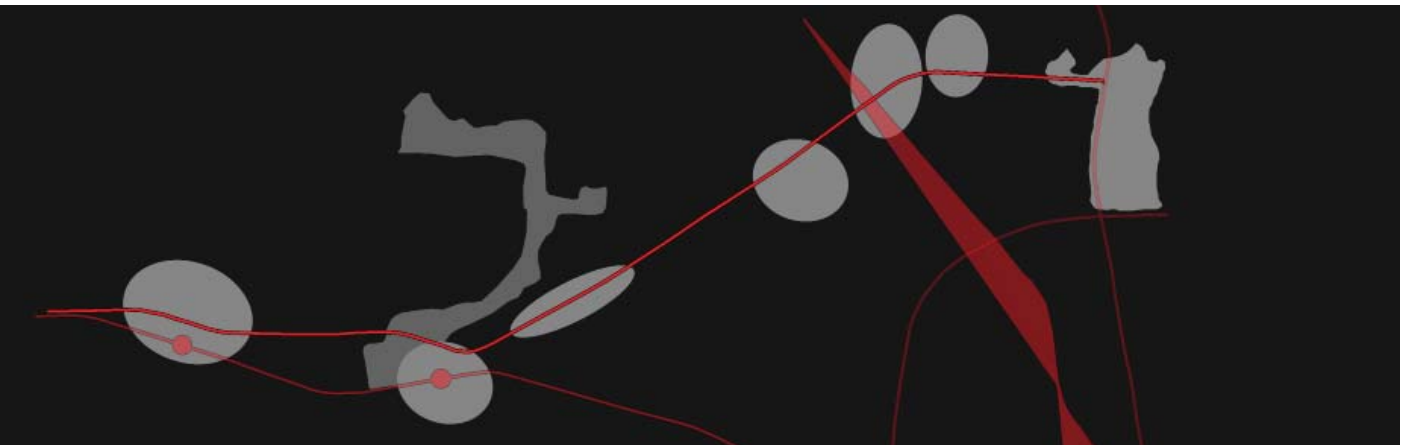
69. Framework - Node 7 Sketches

NODE 7

- High Density Commercial
- Mixed Use Development



70. Framework - Node 7



71. Linear Nodal Development Framework for Mamelodi - Abstract Plan



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

SITE ANALYSIS

CHAPTER 06

SITE ANALYSIS

CHAPTER 06

“You would know the secret of death. But how shall you find it unless you seek it in the heart of life? ... If you would indeed behold the spirit of death, open your heart wide unto the body of life. For life and death are one, even as the river and the sea are one.” (GIBRAN 1926: 93)

6.1 THE SITE

The site is located in the social and cultural heart of its surrounding community. Indeed it is placing the dying process in the middle of the living community. Not placing it in an obscure edge condition nor hiding the function. The site is located in the Eastern area of the older sections of Mamelodi. It borders a tributary of the Pienaars river, which divides Mamelodi into east and west. The tributary is canalised further upstream from the site, but spills out into a natural riparian course at the foot of the site. Bordering the site is the green space and river reserve scheduled for upgrade as Node 2 in the linear nodal development framework. The node proposes urban agriculture, the strengthening and densification of the urban edges and the redevelopment of green spaces. Sited at the foot of the Magaliesberg Mountains the area experiences spectacular views and being on the edge of a green space affords views of natural vegetation and recreational community activity.

“Nature nurtures. There is no longer any doubt about the therapeutic value of contact with the natural environment, whether it is through window views, gardening, walking through the woods, or watching the

sun set over the ocean.” (GUENTHER & VITTORI 2008: 85)

The site also boasts well-established, tall and stately pine trees believed to date from before the founding of Mamelodi and most likely they formed part of the original farm trees in the area. The site and its surrounding area, now known as Mthunzini park, was once known as the Plantation. (WALKER & VAN DER WAAL 1991: 17)

6.2 THE HERITAGE OF THE SITE

Mtunzini, a Zulu word, means a place in the shade of a milkwood tree. But as the site is shaded by pines the more appropriate name Mthunzini, meaning a place in the shade of trees, was given to the site. (ZULULAND ZIG-ZAG. 2010.) Many of the businesses and functions on and around the site bear this name, making it is an exceedingly important aspect to both the identity of the area and to the heritage of the site.

“Few records survive of the buildings in the area pre-1945. An early map (dating from 1886) show ‘Wilson’s Winkel’ (situated about where the present Mthunzini Park now is in the Plantation)” (WALKER & VAN DER WAAL 1991: 3)



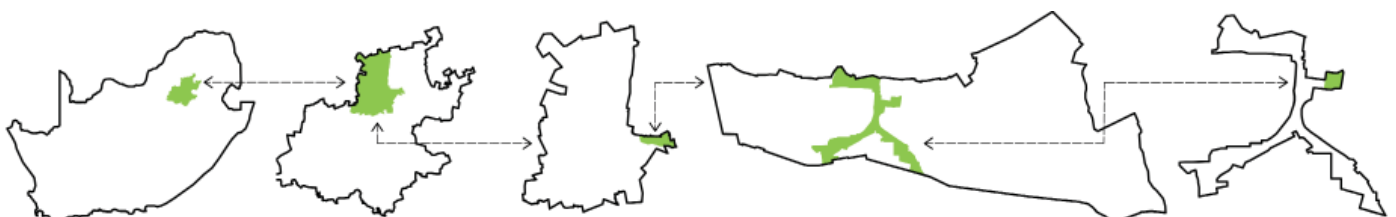
72. The Site - Tribal Offices on North Street Edge



73. The Site - Seating Area on North Street Edge



74. Photo of Park on the Western Edge of the Site Down to River



75. Relational Location Maps from National to Nodal Scale

SOUTH AFRICA

GAUTENG

THSWANE

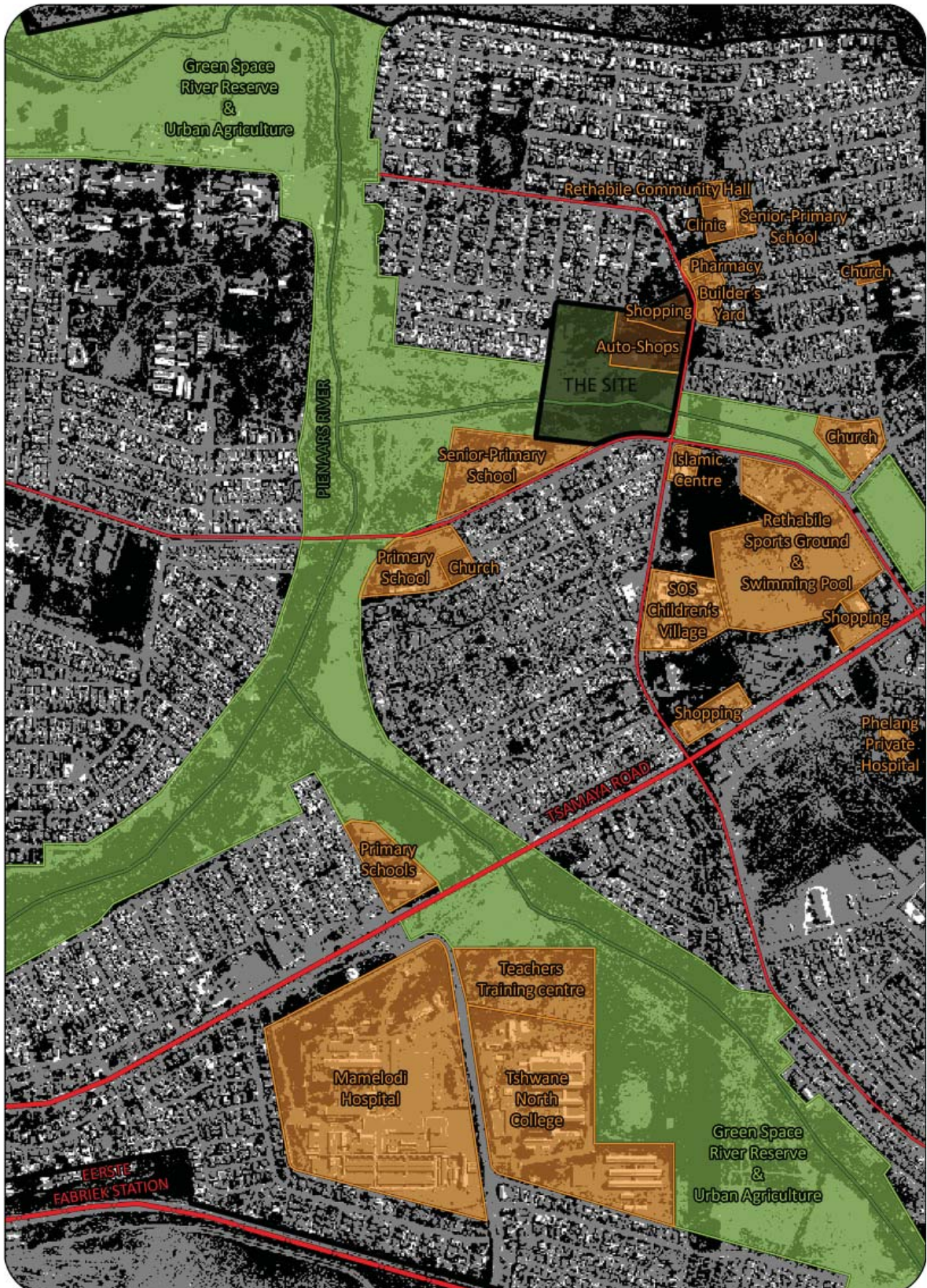
MAMELODI

NODE 2



COMMUNITY FUNCTIONS IN AND AROUND THE SITE

76. Map of Community Functions & Greenspaces in & Around the Site





77. Street View of SOS Childrens Village

Commercial activity has probably existed on the site since 1886, as shown by the quote above. At one point this area was used as a beer garden with tables littered under the trees, until the concept of beer halls fell out of favour. There were plans for a weaving industry, (WALKER & VAN DER WAAL 1991: 4) but today it is the site of many businesses including a self-named 'shopping centre' which through an ever-growing collection of buildings, provides facilities such as a bar and restaurant, hair dressers and an ATM. The back of the site facing onto the green space houses an Auto Shop and an Aluminum doors and windows supplier. These businesses have erected a 3 meter tall, solid brick wall, thereby completely turning

their back on the space and removing passive surveillance. This has created an environment rife with crime and although beautiful, dangerous as well. Other functions that happen on site include a butchery, an auto mechanic, several garage stalls and tucked away in a corner a Tribal office.

6.3 THE COMMUNITY

Not only is the site itself rich in community and commercially oriented functions but so to are its surroundings. The site is in one of the best serviced areas in Mamelodi, and is in close proximity to Hospitals, clinics, pharmacies, religious functions (including the only Islamic based worship site in Mamelodi) and the S.O.S. children's village.



78. Photo of Parking for the uBuntu Complex



79. Street Photo of Mamelodi Islamic Centre



80. Street Photo of Building Yard Across from Site



81. Series of Photos from Southern Edge of Site



82. Series of Photos of the Northern Edge of the Site Showing Tribal Offices, Garage Shops & Existing 'Shopping Centre' & Tavern



83. Map of the Site

THE SITE

The site that will be used to house the facility will cover only ex. disturbed ground but will interact with the whole area.

WALLS & FENCES

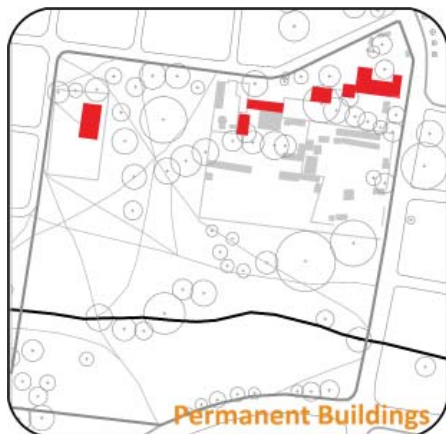
The existing walls & fences cut off the community from the site creating a dangerous environment.

GREENSPACE

These areas are zoned as greenspace and river reserve.



84. Map Depicting Existing Walls and Fences



85. Map Depicting Existing Permanent Buildings

PERMANENT BUILDING

These include a church on the far west, and a collection of brick buildings and garages as well as the 2 story shop building.

COMMUNITY FUNCTIONS

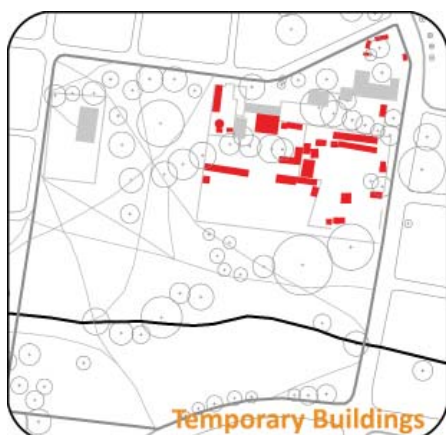
Schools, businesses and commercial functions.

RIVER AND TREES

The Pienaars river tributary runs through the south of the site. Some of the trees appear to be planted in rows.



86. Map Depicting Existing Community Functions



87. Map Depicting Existing Temporary Buildings

TEMPORARY BUILDINGS

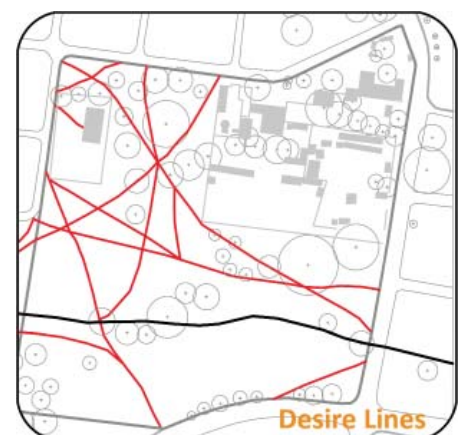
These consist of lean to roofs, shacks and a rondavel.

DESIRE LINES

The site has become a place where people walk through as the main roads are unfriendly to pedestrians. This has created worn desire lines.

1M CONTOURS

The slope is steep due to being located at the foot of the Magaliesberg Mountains. The slope falls from the east to the west.



88. Map Depicting Existing Desire Lines or Pedestrian Routes



89. Panaoorama taken from the South of the Site Looking North

6.5 S.W.O.T. ANALYSIS

STRENGTHS

- Natural surroundings including, well established trees, views of the Koppies and access to flowing water
- The concentration of community functions in the area
- The proximity to the hospital and medically related functions

WEAKNESSES

- Auto shops and building related functions that happen on site have turned their back on the green space creating a dangerous environment prone to crime
- The predominant low scale, high density residential housing in the area
- The lack of services and slope on the site

OPPORTUNITIES

- The area is already experiencing natural densification
- The slope of the land could be used to allow for broader access for those who are disabled without the use of stairs
- The large amount of pedestrian movement on and around the site

THREATS

- Pollution caused by dumping and litter in the riparian basin
- The crime in the area
- Fear and stigmatisation of the facility and its function ■



90. Map Depicting Existing Greenspace



92. Map Depicting Existing River & Trees



94. Map Depicting Existing 1m Contours



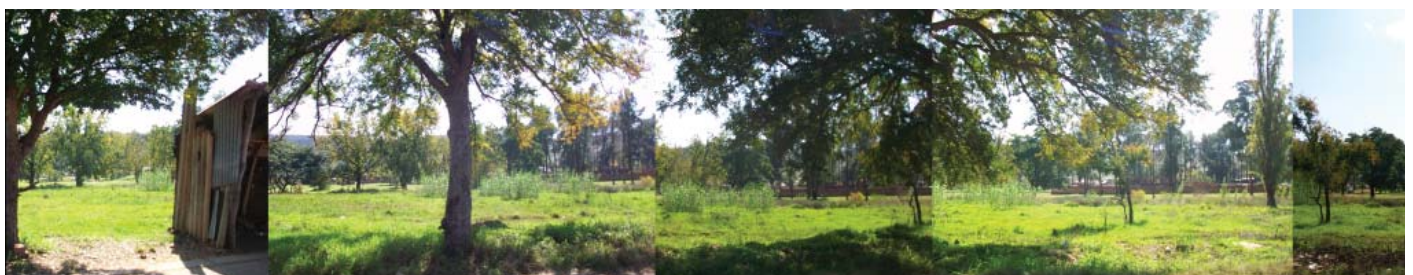
91. Photo from South of Site looking North



93. Photo from South of Site Looking North



95. Photo from South of Site Looking Towards Bordering Road



96. Series of Photos from South of the Site Looking Northwards



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

PRECEDENT STUDY

CHAPTER 07

PRECEDENT STUDY

CHAPTER 07

SOWETO HOSPICE

2006

JOHANNESBURG
SOUTH AFRICA

The Soweto Hospice is a newly built facility, taking over from the temporary make-shift container building that used to serve the area. A large portion of the patients have AIDS related diseases, but the hospice also deals with other terminal conditions. In addition to the intensive medical care they provide, the facility also acts as a central node for those living with a terminal disease in the community, providing outpatient care. Each ward has indirect access to the courtyards, but these spaces are void of life and unused. This is probably due to either the patients being too ill to visit the spaces, or more probably the fact that there is no planting, a south facing orientation, very limited seating and little to capture the interest of the patients. Another area of the hospice which does not work well is the play area, as it is poorly located far away from the children's ward, with no access to

an outdoor play space. An aspect of the design which works exceedingly well is the discreet way which bodies are dealt with. There is a fine balance between being open about death, creating an atmosphere of acceptance, and death becoming too dominant. However this does not take into account the viewing of the body by family members, which this dissertation will hope to deal with more directly. (FCBS 2008: 17) ■



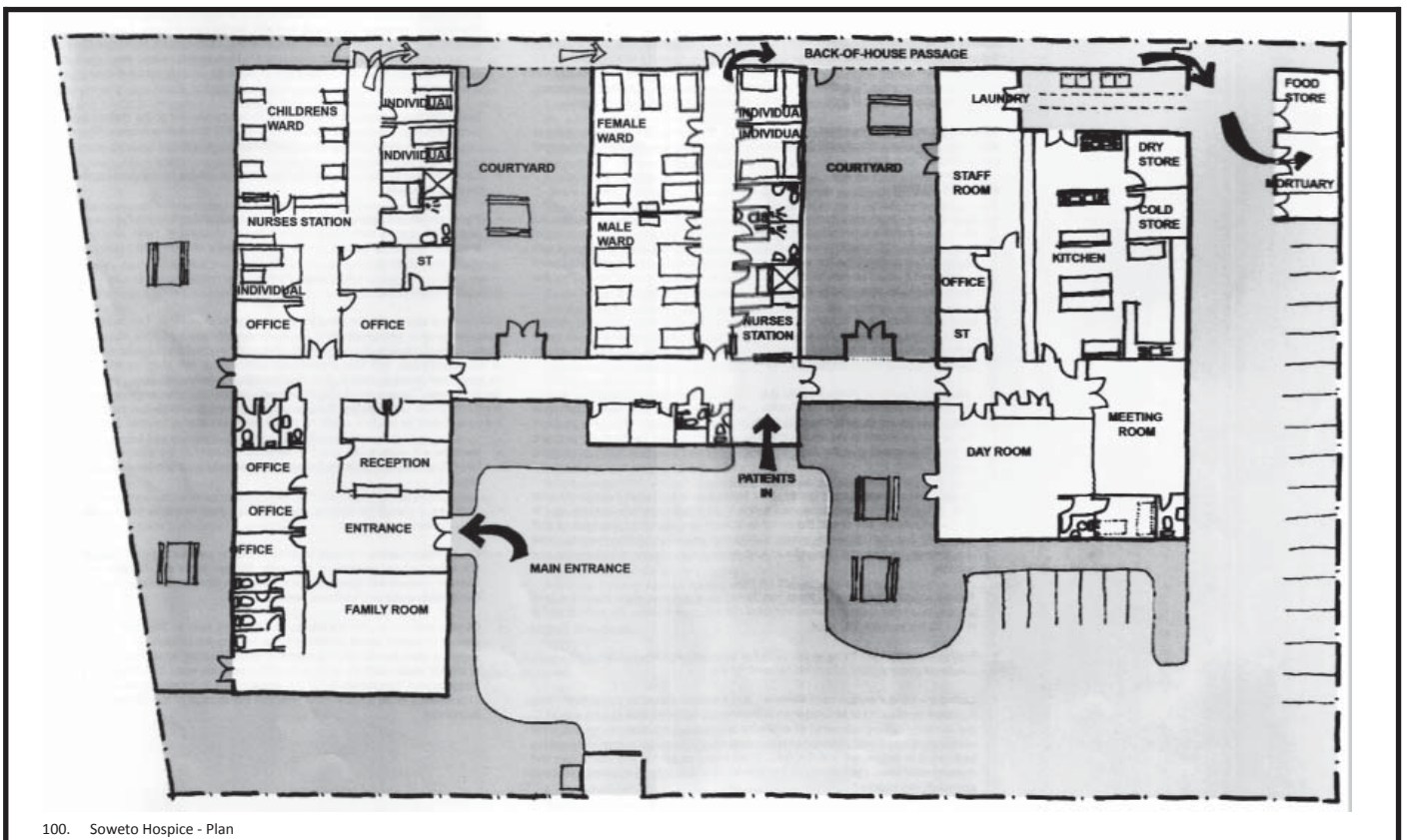
97. Soweto Hospice - View of Hospice from Parking



98. Soweto Hospice - Interior of Adult Ward



99. Soweto Hospice - Interior of Paediatric Ward



100. Soweto Hospice - Plan



102. Ingwavuma Hospice - Design Model

The step-down hospice unit, chapel and new offices will help serve the Ingwavuma Orphan Care organisation that has been working in the area for many years, and will cater for both adults and children, as well as any relatives who need to stay with the patients (e.g. parents or grandparents of the children). The majority of the patients will be suffering from AIDS related diseases but other conditions will be catered for as well.

“We believe the time has come to set up a step-down facility which will provide hospice care to clients who have no one to care for them or whose care givers need some respite support. With staff who specialize in palliative care, we can provide good quality end of life care in peaceful surroundings” (Dr. Ann Dean - FCBS 2008: 7)

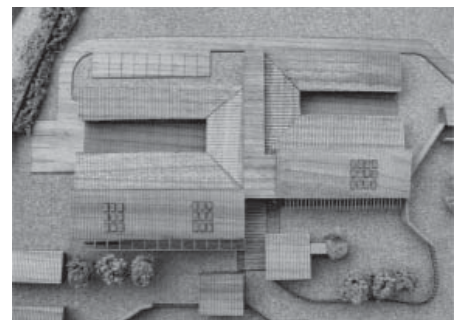


104. Ingwavuma Hospice - Design Model

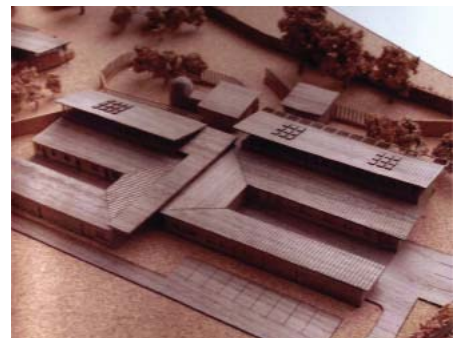
One of the concepts employed in the design is that of ‘the wall within the landscape’. A wall which runs through the design, linking the IOC offices and the hospice unit by surrounding a communal boma. The wall is use to order the site and bring coherency to



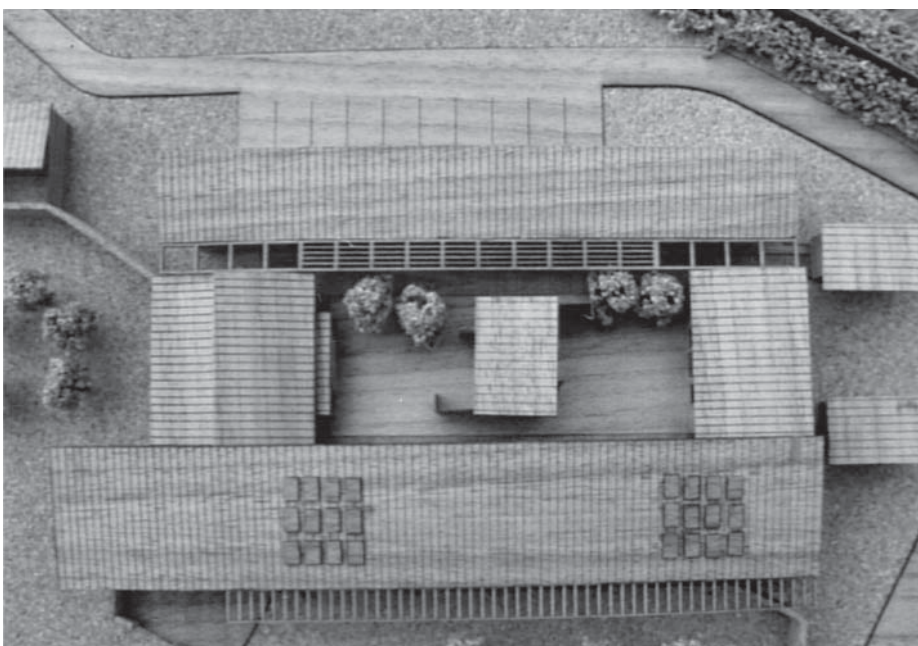
101. Ingwavuma Hospice - Design Model



103. Ingwavuma Hospice - Design Model



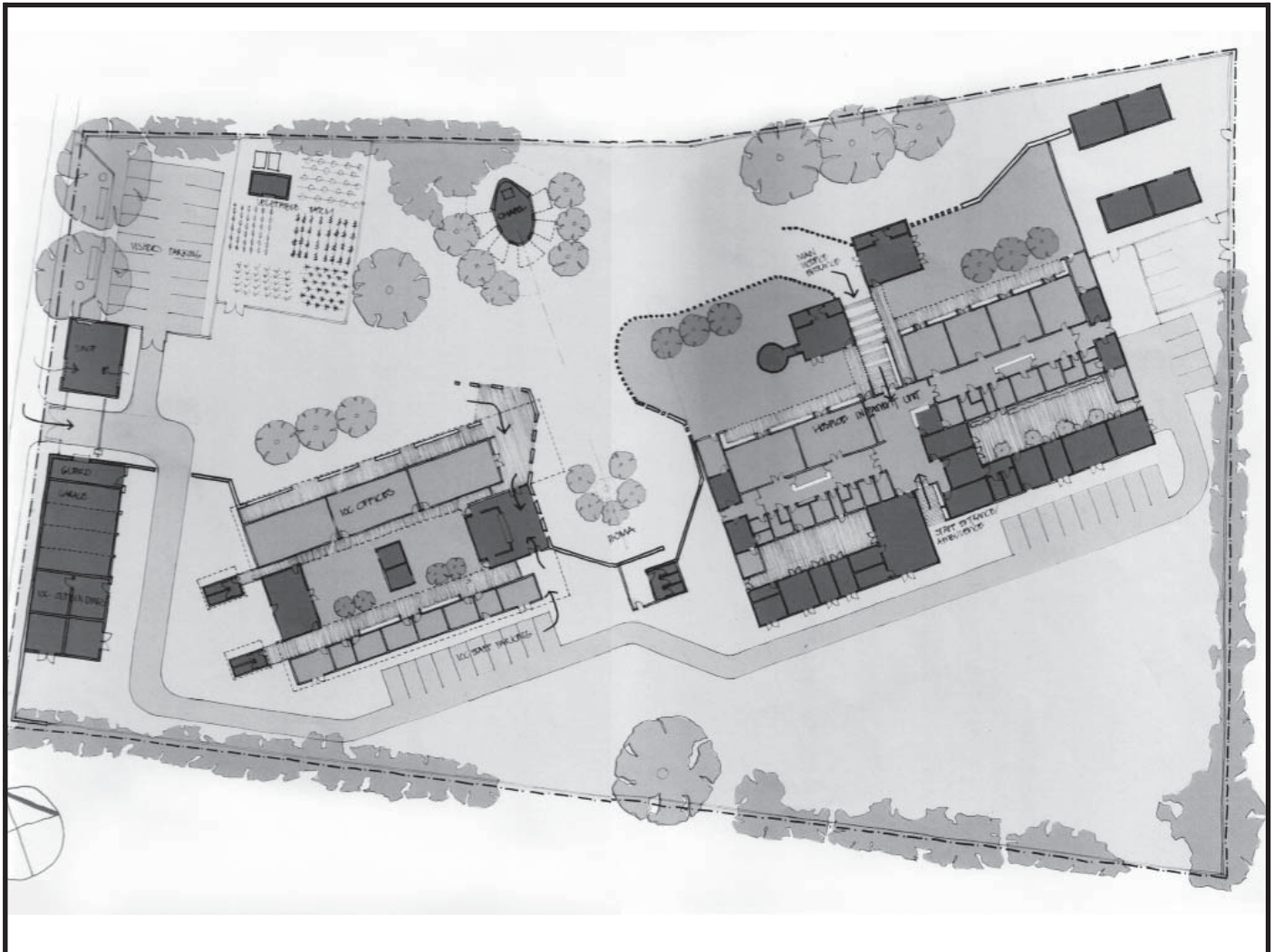
105. Ingwavuma Hospice - Design Model



106. Ingwavuma Hospice - Design Model



107. Ingwavuma Hospice - Design Model



108. Ingwavuma Hospice - Plan

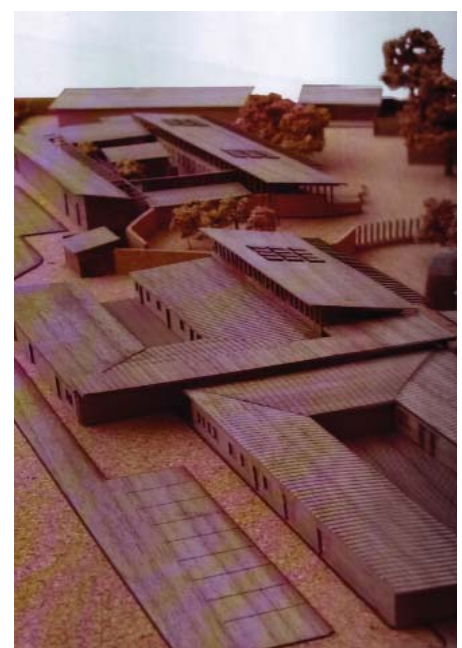
the various buildings. It is described as a living element, which can grow and evolve over time, with people either artistically altering it or demolishing it. (FCBS 2008: 36)

Vehicular and pedestrian traffic are separated as much as possible, to allow for safe places for those moving slowly in wheelchair, with children etc. It also allows for a back of house function and for bodies to be removed discreetly from the hospice unit. (FCBS 2008: 36)

In the hospice unit all of the services back onto a private staff courtyard. This also provides extra security as an individual would have to move through this courtyard to access medical stores and equipment stores. These spaces

also allow for the discreet removal of bodies to a mortuary that has access to the service road for collection. The paediatric and adult wards have been separated. With all wards having access to secure private gardens and day rooms. (FCBS 2008: 37)

Much effort has been placed on making the hospice as self-sufficient as possible. Natural ventilation and cooling has been made a priority as all electricity will have to be self-provided due to the remote location. Overall the design has very clear pedestrian movement and separation, such as main entrances and staff entrances etc. and a very clear relationship between the various functions. ■



109. Ingwavuma Hospice - Design Model



WHEATSHEAF HOUSE

2005

DAYLESFORD
AUSTRALIA

AVENELL HOUSE

2006

Paul Morgan Architects

AVENEL
AUSTRALIA



111. Wheatsheaf House Interior View

Wheatshaeaf house is situated in an existing clearing within an abandoned eucalypt plantation.

“the house is surrounded by tall trees with slim, straight limbed trunks and grey striated bark . . . Colour and material are used to set the building apart from its surroundings. Wrapping the structures is black corrugated iron lined internally with plywood stained a vibrant red-orange, accentuating the pattern of the wood.” (PHAIDON 2008: 22)

The house consists of two extruded volumes, c shaped in section, sitting side by side. The structure is *“a ribcage-like arrangement of steel frames.”* (PHAIDON 2008: 22) In order to respond to the remoteness and sensitivity of the site the design is prefabricated in nature.



110. Wheatsheaf House Showing Context

The house floats above a crushed gravel bed upon a plinth, allowing the house to appear to not touch its surroundings. The curve unifies ceiling, walls and floors creating an internal space that flows uninterrupted. ■



112. Avenell House - Side Elevation

This single storey house is embedded into the contours of a gently sloping granite hillside. The curvilinear form of the building is the result of reflecting prevailing solar and wind patterns giving the building an aerodynamic look. Curved timber sunscreens are used along exposed windows. (PHAIDON 2008: 22)

These sunscreens help accentuate and continue the curvilinear form without actually interrupting view, or resorting to solid forms. ■



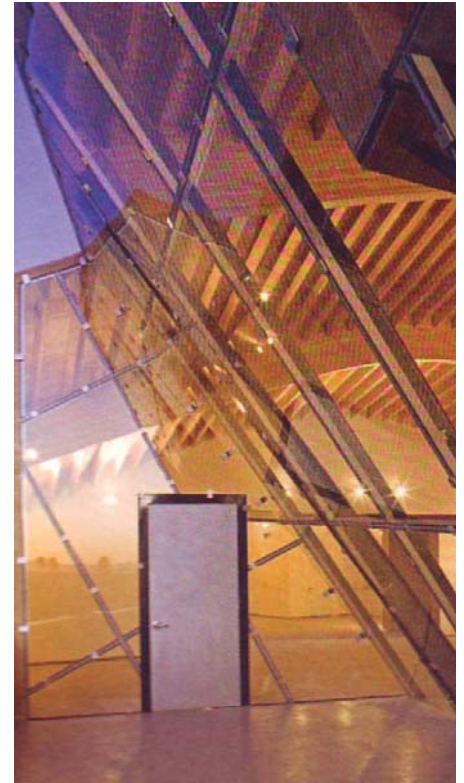
113. Avenell House - Screens within the Building Context



114. Commercial Building 3555 - Interior Ceiling

Eric Owen Moss Architects were commissioned to transform existing warehouses in the Hayden Tract of Culver City in West Los Angeles, in a successful attempt to revitalise the otherwise neglected 6 block area. The 15th building to be revitalised is 3555, a single storey brick building. (PHAIDON. 2008: 635)

The undulating roof profile was determined by averaging the maximum permissible height of 13m. The roof echo's the form and colour of the surrounding hills. The bays are separated by glass inserts which pull in natural light and provide access to roof terraces on either side. (PHAIDON 2008: 635) ■



115. Commercial Building 3555 - Glass Detail

"Prominently perched above a network of highways on the fringe of Melbourne's central business district. Acting as a billboard to communicate the role of SES to passing traffic." (PHAIDON 2008: 29)

The facility accommodates educational, operational and administration functions, with a strong emphasis on environmentally sustainable design. The facade is divided into 6 differently sized, curvilinear bays clad in corrugated steel. The fractured facade and use of colouring allows the building to be read at high-speed. Overlooking the view of speeding traffic on the highway the partially cantilevered southern facade is used as open plan work bays. A combination of passive and active environmental design principles and responses were employed to reduce energy consumption. (PHAIDON 2008: 29) ■



116. State Emergency Services Headquarters - Fractured Facade



117. State Emergency Services Headquarters - View from Street



118. Emergency Services Headquarters - Fracturing and Colour Use



119. Sheep Stable - Internal Linear View

The Sheep Stable was a category winner during the World Architecture Festival in 2008.

The city of Almere in order to control weed populations, such as ‘acanthus’ or ‘bears-breech’, implemented a natural strategy involving the use of 80 sheep. In order to house these warriors of the weeds a sheep stable needed to be built. The part of the building which houses the hay and human pathway is relatively high, while the volume slopes down into a lower section for the area dedicated to the sheep. This creates an a-symmetrical curvilinear cross section, which also encourages natural airflow within the building.



121. Sheep Stable - External View

The detailing of the building is exceptionally important when it comes to a full understanding of the design. Curved steel girders create a portal frame that supports the pine purlins and bent members, which in turn support the Western Red Cedar cladding.

The curved steel emphasises the overall shape while the timber cladding brings warmth and texture into an otherwise pure shape. Clerestory lighting where the internal volume lifts up off the



120. Sheep Stable - Lighting Detail

simple curvilinear shape accentuates and emphasises the shape and curve of the rest of the building while allowing natural light into the space.

The exterior of the building is simply clad and only punched through with windows and doors. Creating a purity of shape as well as confusing the eye as to where the facade ends and the roof begins.

The building embodies a sense of warmth, safety and security almost as if it was enveloping and holding you. ■










122. Sheep Stable - Internal View & Clerestory Window Detail



123. Sheep Stable - External Cladding Detail

PRECEDENT STUDY SUMMARY

PRECEDENT		SUMMARY
SOWETO HOSPICE	Flow Of Services	
INGWAVUMA ORPHAN CARE NEW OFFICES, HOSPICE & CHAPEL	A Wall Within The Landscape	
WHEATSHEAF HOUSE	Juxtaposition & Curved	
AVENELL HOUSE	Latticed Curve	
COMMERCIAL BUILDING 3555	Modulated Roof Scape & Timber	
STATE EMERGENCY SERVICES HEADQUARTERS	Corrugated Steel & Statement	
SHEEP STABLE	Simplicity, Curved & Woven Space	



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

CONCEPTUAL DEVELOPMENT

CHAPTER 08

CONCEPTUAL DEVELOPMENT

CHAPTER 08

8.1 METHODOLOGY

The concepts behind both the technical and design aspects of this dissertation were arrived at through a process of theoretical research, investigation into the design informants and the context and heritage of the site itself. A sub-concept for each of these elements was rationalised and then brought into a cohesive whole, in order to inform and guide the design process.

8.2 DESIGN INFORMANTS

The three main design informants for a hospice on this site are the heart, the process of dying and desire lines, each offer a different perspective of the project, and each their own constraints.

8.3 THE HEART OF THE COMMUNITY

The site as it exists provides a point of connection exchange and focus. It has become the social heart of the surrounding community. Rather than disrupt the existing community spaces, they should be added to and improved without removing the existing functions, but rather moving some of them into more appropriate settings. The facility needs to add, rather than subtract, becoming circular, supportive and sustaining.

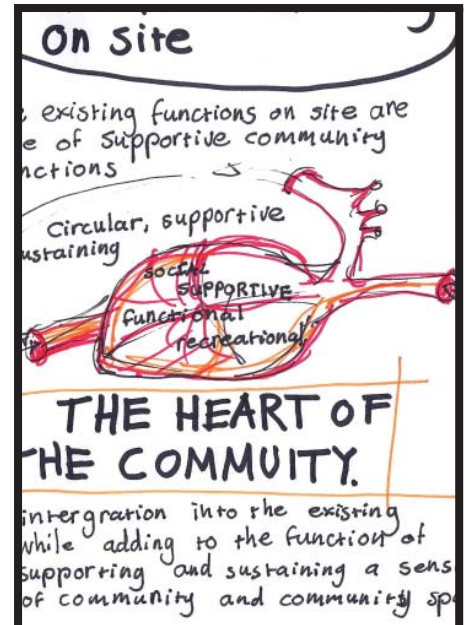
HOW THE DESIGN RESPONDS

The existing functions, such as the auto shops and building related manufacturers, on site that were harmful to the surroundings have been moved to a more appropriate space across the road, where they would help densify an urban edge rather than detract from a green space. This in turn would create a safer and less crime-ridden environment as the hospice creates passive surveillance of the green space.

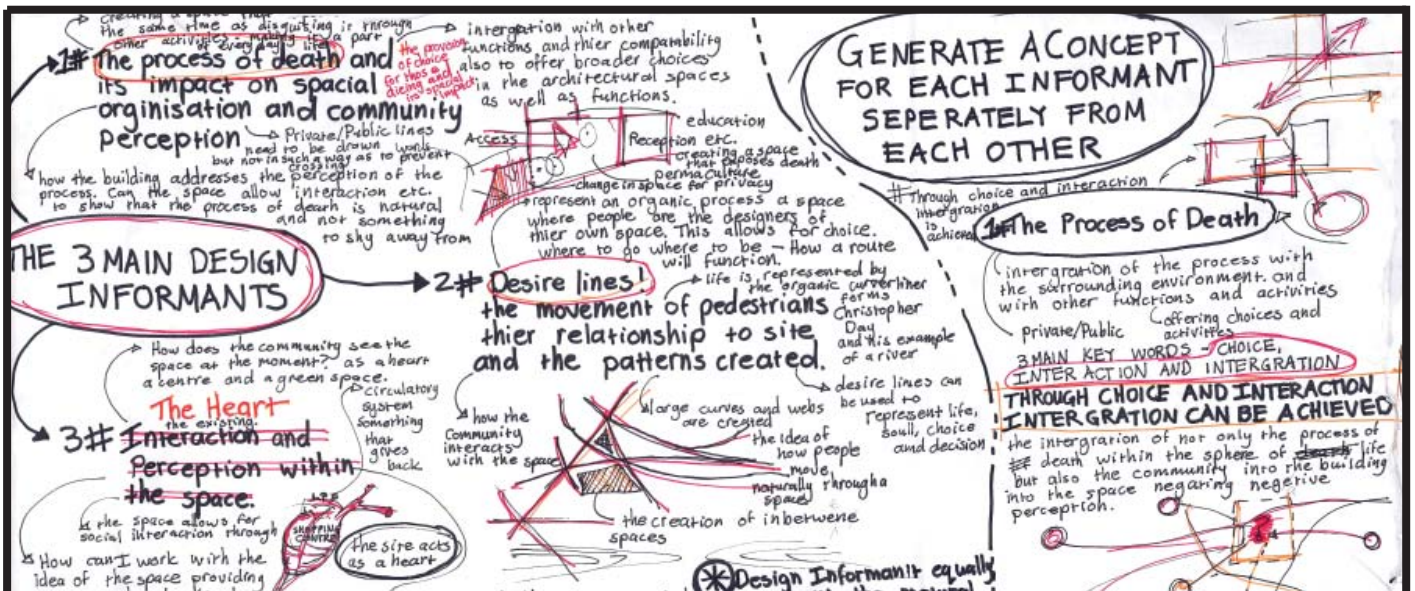


The Proposal relocates and densifies the existing functions depicted in red to the open tract of land indicated in orange

124. Figure depicting the relocation of ex. functions



125. Spider diagram / sketch of the heart of the community



126. Spider diagram and sketches of design informants and their influence on concept

8.4 THE PROCESS OF DYING

The process of dying and its impact on space, organisation and community is a difficult topic to approach, but for this hospice to be successful it must achieve in essence integration into the surrounding community. Basically how can the process of dying be brought into everyday experience? The integration with other compatible functions that cater to the community's needs would both encourage its members to interact with the building and the spaces it creates on a day to day basis, as well as create an acceptance of its core function within the community. On a separate level the provision of different functions would also provide choice to those under hospice treatment. It would allow them to interact with the surrounding community on the level that they are comfortable with.

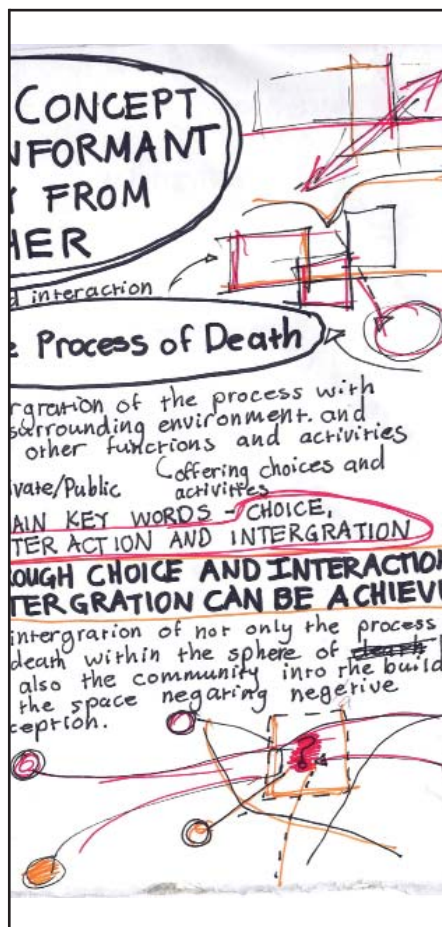
Through choice and interaction, integration can be achieved.

HOW THE DESIGN RESPONDS

The design responds to these ideas by providing not only spaces for the communities use, but several supporting functions as well. Which provide not only choice, but also an economic and social sustainability to the facility. These supporting functions include:

- Education and training for families, potential home caregivers and the community as a whole in care for loved ones at home, permaculture, the importance of nutrition and other related topics.
- A permaculture garden that not only produces food for the facility itself, but, provides jobs to the community and allows the manufacture and sale of related paraphernalia such as worm farms, seeds and starter kits for home gardens. The gardens would also provide education to the community about urban agricultural practices and the economic benefit they may provide.

- A function and exhibition hall that could be used for fundraising events, funerals, gatherings, sport etc.
- Commercial opportunities through the integration of the existing commercial atmosphere on site, proposed market spaces and the hospice shop.
- The outpatient centre and feeding program.



127. Sketch of the process of death design informant



128. Map depicting Desire Lines

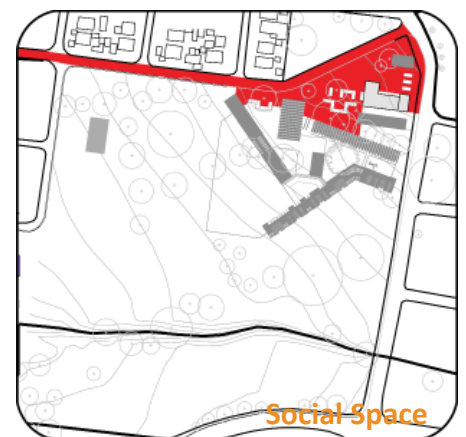
8.5 DESIRE LINES & SOCIAL SPACES

The movement and activities of pedestrians on and around site become important, especially when attempting to harness their potential, as well as siting functions that need varying levels of privacy. The adjoining green space is crisscrossed by the paths made by natural human movement. They create in-between spaces, an idea which is embodied strongly in the design.

HOW THE DESIGN RESPONDS

Social spaces and the majority of movement on and around the site itself occur on the Northern and Western Edges. The South Eastern corner, although not appearing to be the quietest area of the site at first glance, is in fact the area that offers the most privacy and therefore warrants the siting of the hospice. While along the Northern edge the huge concentration of social activity and movement is harnessed and manipulated through market spaces, as well as other commercial and community related functions.

The concept of in-between sacred spaces has been extensively used within the design of the facilities on and around courtyard spaces.



129. Map depicting Social Space

8.6 CONCEPTUAL THINKING DERIVED FROM THEORETICAL RESEARCH

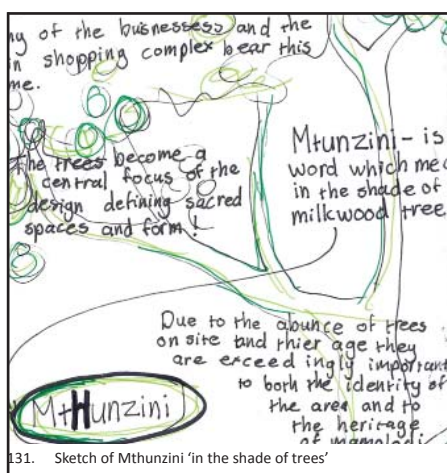
A space that houses and facilitates the process of the dying must embody meaning and life, through the use of juxtaposition, texture, colour, slope, memory, rhythm, pattern, light and the tension between straight and curved, as discussed and demonstrated in the previous theoretical discourse chapter.

8.7 MTHUNZINI - THE CONTEXT & HERITAGE OF THE SITE

Mthunzini means a place in the shade of trees. (ZULULAND ZIG-ZAG. 2010.) It is an exceptionally appropriate name for not only the area, but also the hospice, as the site is full of tall slender trees, which create a shaded, wooded environment year round. Many of the businesses and functions on and around the site bear this name, making it an exceedingly important aspect to both the identity of the area and to the heritage of the site. "In the shade of trees" implies both a protective and natural progression. The trees provide shelter and beauty.

HOW THE DESIGN RESPONDS

The trees become the focal point, dictating external sacred spaces, orientation and position of building. But the concept of the tree is taken further. The idea of shelter and protection is paramount in the design of the hospice wards



130. Design Concept Sketch

8.8 TECHNICAL AND DESIGN CONCEPT

During the research conducted within the body of this document it was discovered that in order to create a space which has intrinsic soul and life it must embody memory, meaning, integration and choice, as well as keeping within principles of juxtaposition, movement, tension, dialogue and texture.

The concept sketch shown in figure 130, describes both the design and technical concept. It shows the identification and demarcation of sacred spaces, embodying both meaning and memory. These sacred spaces are largely dictated by the heritage of the site created by the towering trees. The tree defines axis and the outdoor modulation of the plan. The design begins to revolve around the creation of outside-inside spaces - in other words large, irregular courtyard environments both in a reaction to security concerns as well as the need to relate to such a vast green space.

As stated before, the design integrates itself through the harnessing of social spaces and functions designed to draw

the community into the facility, but this is taken further by juxtaposition with the natural surroundings of the site. The design both opposes and reflects its natural elements.

Choice is exemplified through the harnessing of movement and the provision of varying spaces, heights, shading and texture. The idea of movement is taken further through the use of the tension between straight elements and curves, with the curves carrying the eye and their opposing elements anchoring the design.

However, when the detailed design is considered these overarching concepts soften and refine into the creation of spaces that shelter, protect and seem to grow. The roofs and walls of the buildings curve over their occupants protecting and sheltering them, softening in more natural and growing forms of weaving and strength, using natural materials. ■



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

DESIGN DEVELOPMENT

CHAPTER 09

DESIGN DEVELOPMENT

CHAPTER 09

9.1 BRIDGING THE CONCEPT

A space which has intrinsic soul and life must embody memory, meaning, integration and choice, as well as keeping within principles of juxtaposition, movement, tension, dialogue and texture. The design tries to stick to these basic ideologies through every aspect - from functions and their relations to its layout on site to the details and materials. It also intimately responds to, reinterprets and relates to its context. The buildings themselves act as frames and mirrors in such a way that they create contrast and excitement.

9.2 FUNCTIONS & FLOW OF MOVEMENT

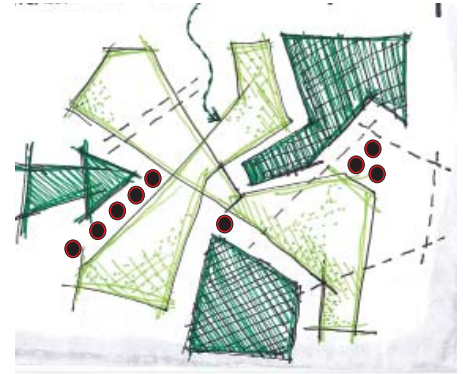
As stated in the concept chapter, the building aims to integrate itself with the surrounding community through its functions and the harnessing of social spaces. The facility aims not just to be a specialised end of term care, but rather a holistic all inclusive care package, providing choice for those with terminal conditions as well as their family members.

The Hospice aspect of the design will house 16 adult and 6 paediatric beds. This will provide in-house terminal care to an average of 277 adults and 104 children per year. Although one would think that a majority of a hospice's care happens in-house, an even larger portion of terminal patients are cared for at home. The Outpatient centre is therefore of great importance. Even patients who are eventually cared for at the facility are looked after on an outpatient basis beforehand.

The Outpatient facility includes a feeding program, counselling, home-based care office, as well as doctors' offices and a pharmacy. But the care of patients at home does not end there. The provision of an education facility will provide education to family and community member on how to care for their loved ones at home as well as the importance of nutrition, with the permaculture gardens providing further

opportunities in urban agriculture and growing one's own food. Home-based caregivers would also be provided with courses and training opportunities -allowing for expansion, training and job provision in the future. This would support not only the individual, but the families and community as well.

Management and Fundraising are also provided for in the offices, conference facilities and functions hall. The hall would provide space for exhibitions, meetings, sports and funerals etc. while creating a community asset in the heart of the area. The ability for the Hospice to accommodate community functions allows it to be further integrated, helping to dispel the taboo associated



132. Concept Diagram

with the dying process. Reintroducing such a natural process into the everyday. The building as a hospice needs not only to be a space filled with life, but on a practical level it still needs to function smoothly and have a good flow of process around site.

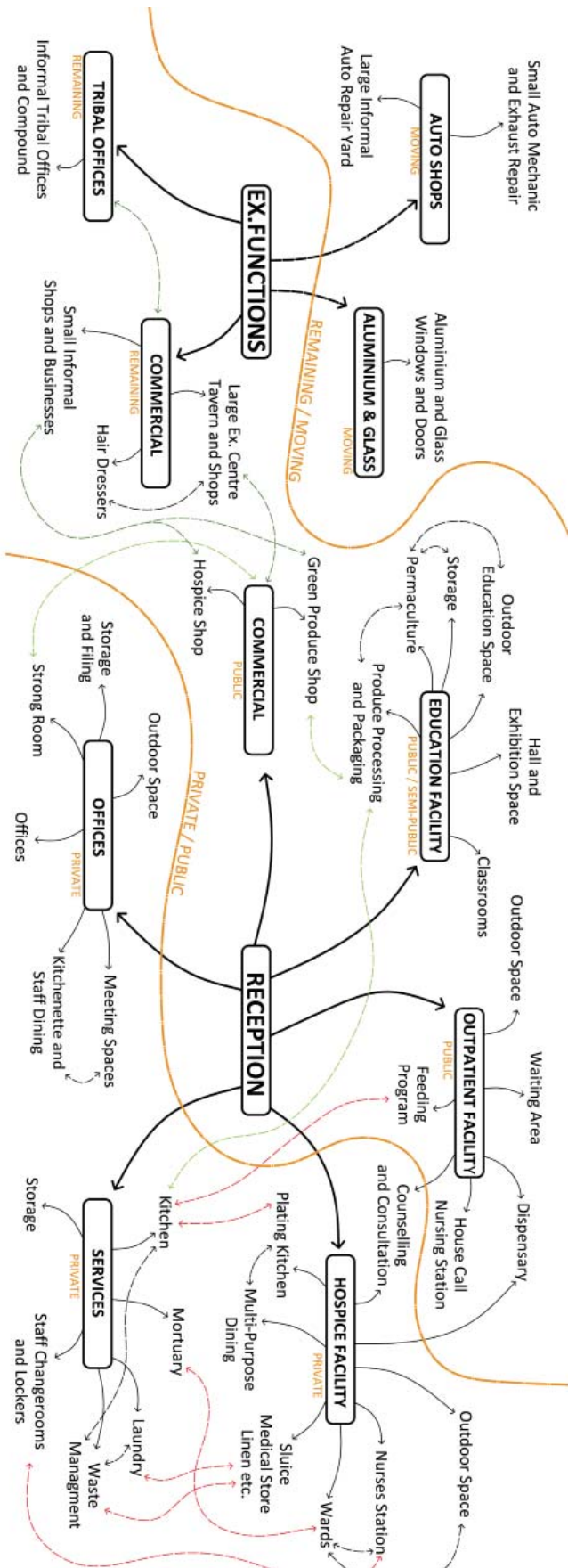
Hierarchy of spaces is also of great importance. So the definition of public, semi-public, private and semi-private also need to be taken into account when the functions are laid out. In order to help the understanding of the complicated functions and their relationship a functional relationship diagram has been arrived at.



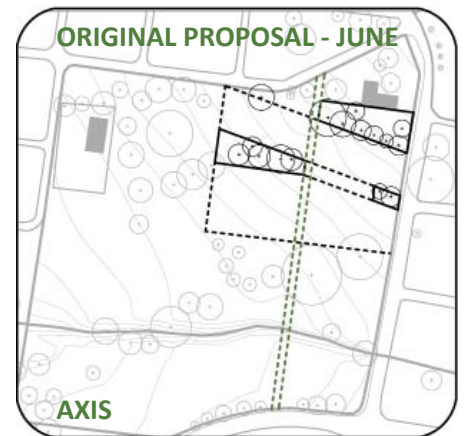
133. A caregiver bathes a patient receiving home based care



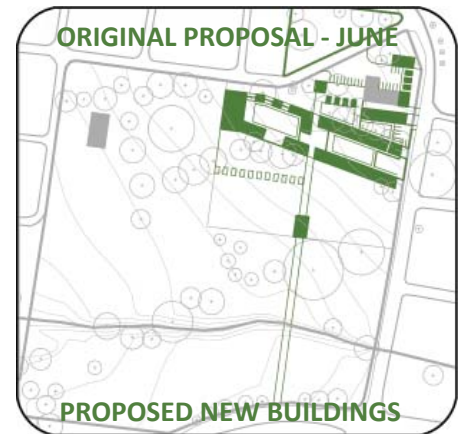
134. Functional Relationship Diagram



135. Original Proposal - June - Sacred Space diagram



136. Original Proposal - June - Axis diagram



137. Original Proposal - June - proposed new buildings diagram



138. Original Proposal - June - Model of Facility in Context

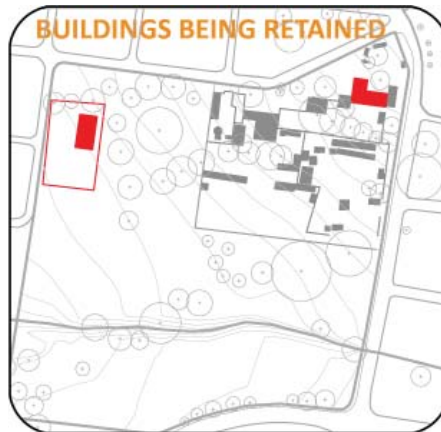
FUNCTIONAL RELATIONSHIP DIAGRAM

9.3 THE PROCESS

The Design began with the demarcation of sacred spaces defined by the trees, and the planning of the inside/outside spaces which are defined and edged by the buildings themselves. Each of the buildings becomes an axis. These axes have been defined by the natural surrounds, such as the trees, as well as the existing grid along which Mamelodi and the previous functions on site have been aligned. This works with and embodies the memory and heritage of the site, while still striking out with something new.

The internal/external spaces are designed to have various levels of privacy, but none are inaccessible from the others. Rather, passive design principles such as changes in level, walls, ramps and stair cases have been used to break them up and dissuade people from entering the more private spaces - unless they have a reason to be there. In essence they create the threshold of the spaces. Yet many of the spaces have visual links with each other in places to create and maintain connection.

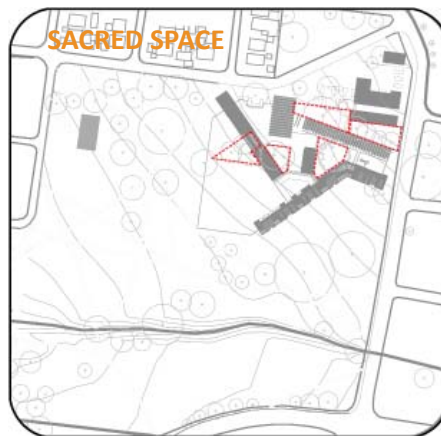
The buildings themselves, through form and hierarchy again, are defined by the opposing forces of the natural, as well as the existing. This leads to a juxtaposition of form, spaces and functions in and around site.



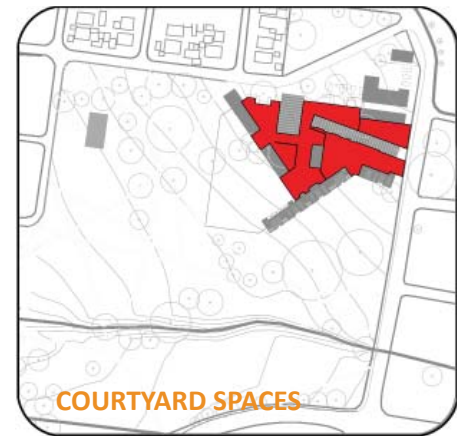
139. Diagram of Buildings being retained



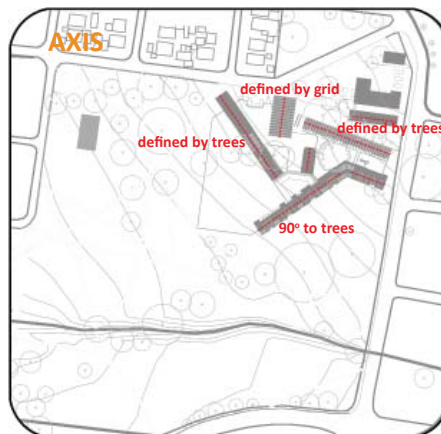
140. Diagram of proposed new buildings



141. diagram of sacred space



142. diagram of courtyard spaces



143. diagram of axes



144. diagram of community activity



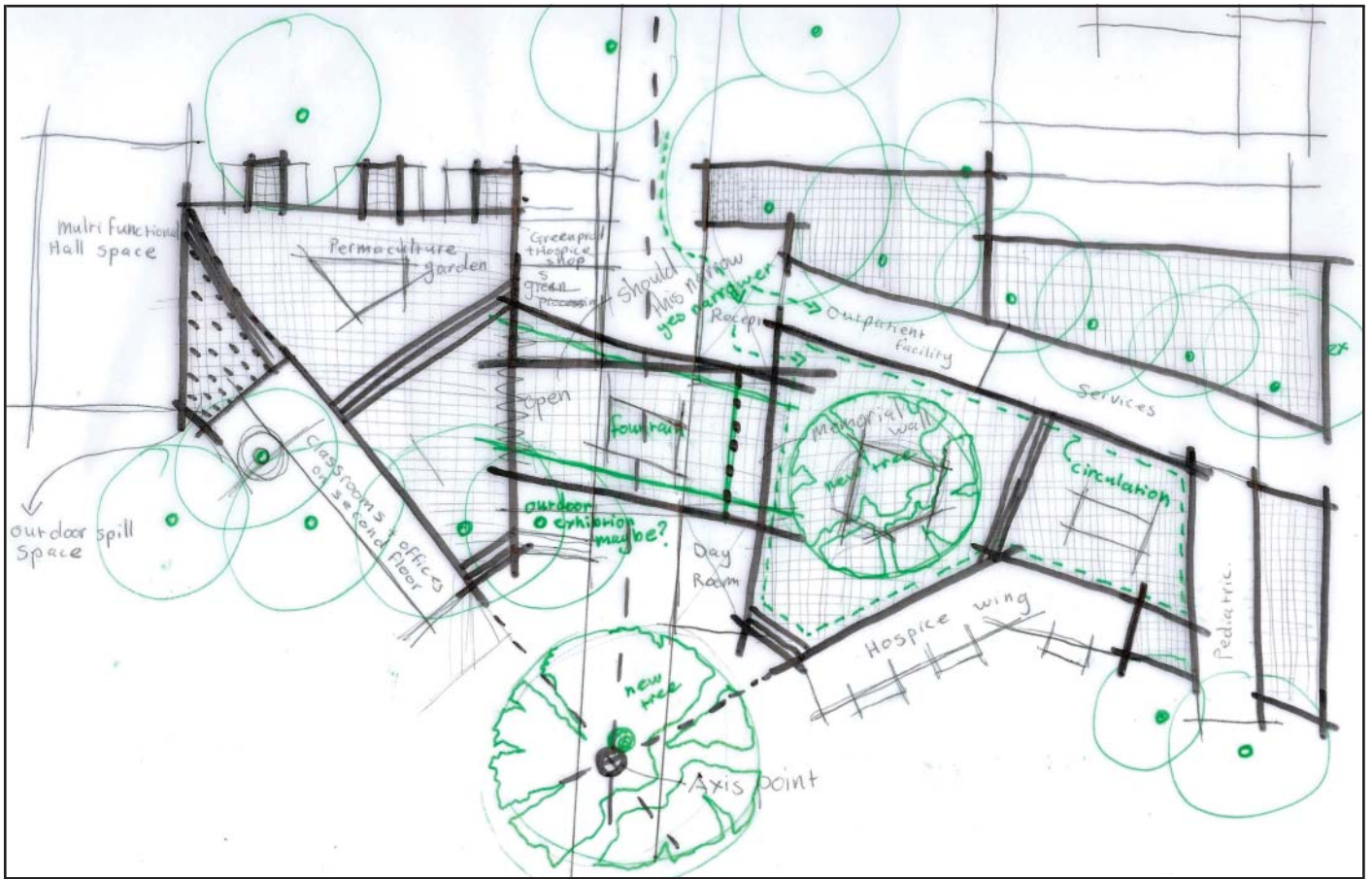
145. structural model through the hospice wing - external of ward



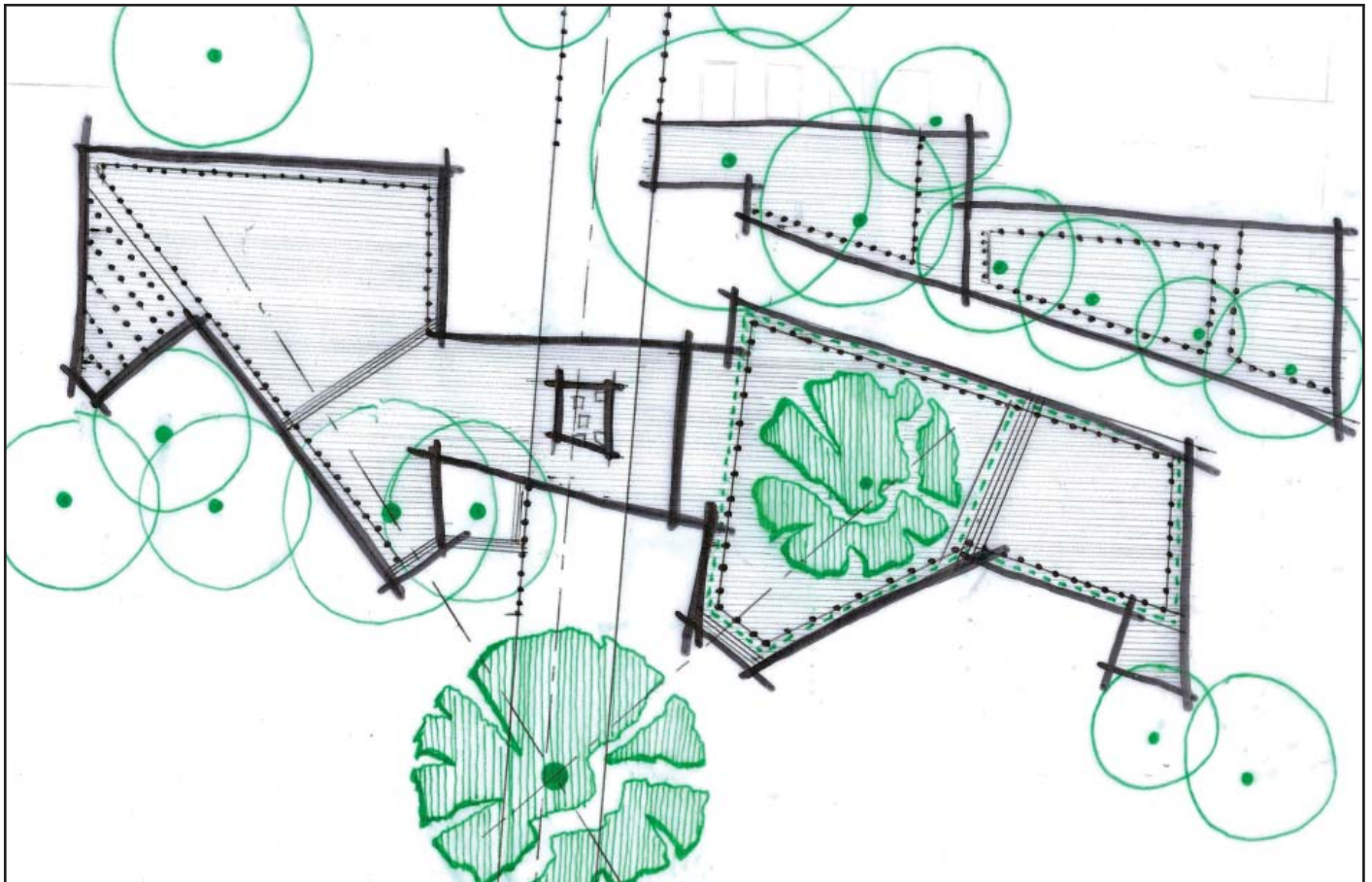
146. structural model through the hospice wing - Internal of ward



147. structural model through the hospice wing - external



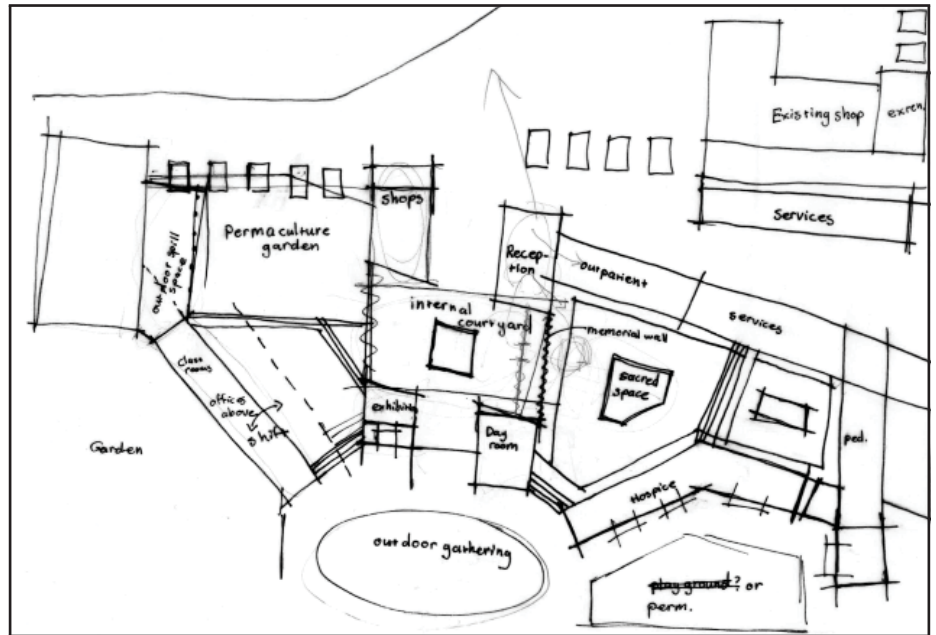
148. Study of courtyards and sacred spaces 1



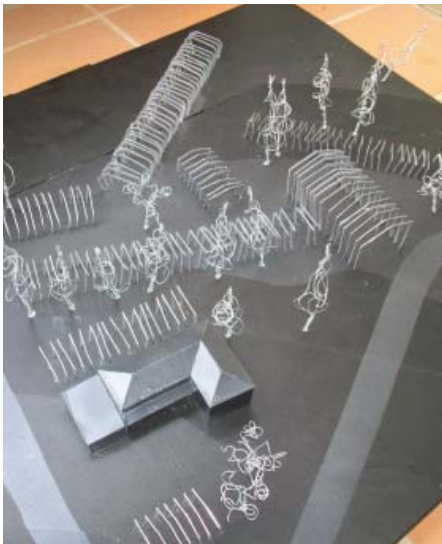
149. Study of courtyards and sacred spaces 2

The design evolved from a very rectilinear form, as can be seen in Fig. 137. But the spaces were too straight edged and institutional. The plan as well as the form began to open up to its surroundings creating instead dynamic interaction.

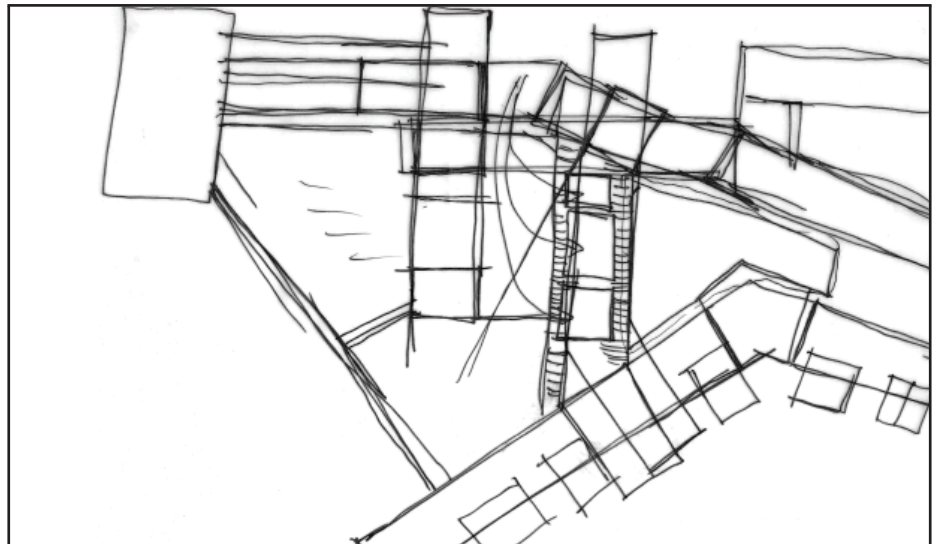
Studies of the voids or courtyard spaces began to influence the design by opening it up, and separating it off in alternating areas. Manipulating space to the point where the buildings themselves slowly separated to make statements of their own.



150. Sketch plan showing zoning of functions



151. Structural bay model photo 1



152. Rough sketch plan



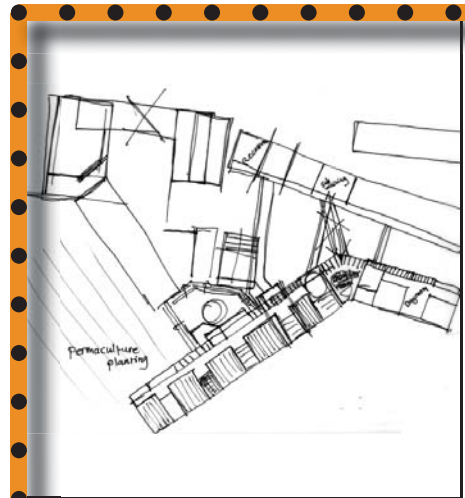
153. Structural bay model photo 2



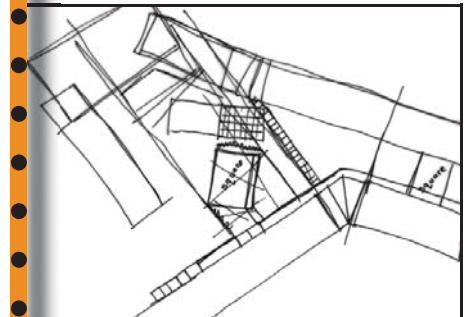
154. Sketch plan with external circulation



156. Structural bay model photo 3



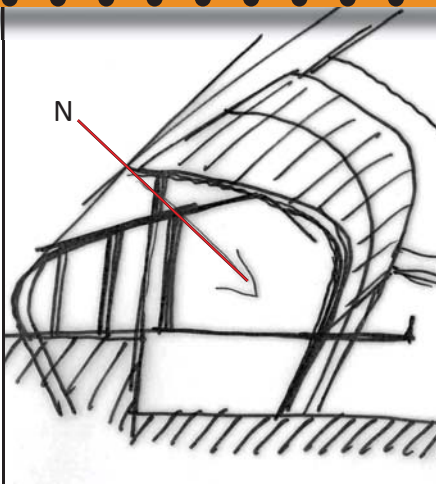
155. Sketch plan



157. Sketch plan



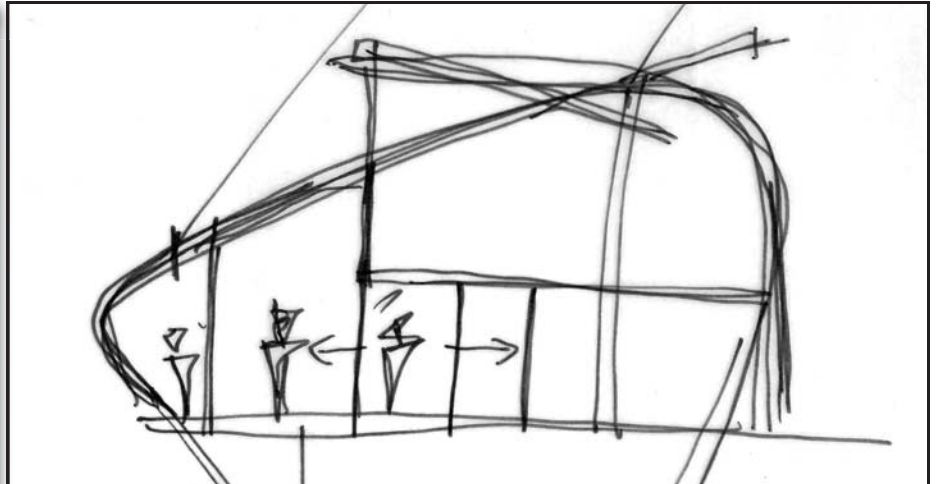
158. Final sketch plan



159. Concept sketch - clerestory lighting

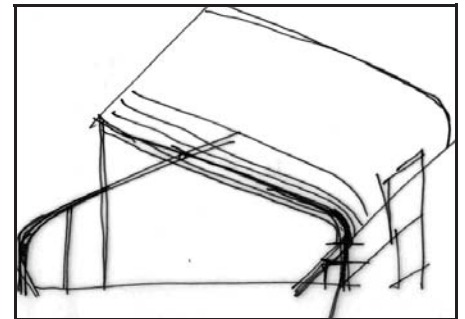
The design began to formalise around the juxtaposition of the existing and the natural. The curvilinear form crept into aspects of the building until finally it began to dominate the section.

The form broke up and modulated into voids, solid and permeable elements, incorporating flat planes that could

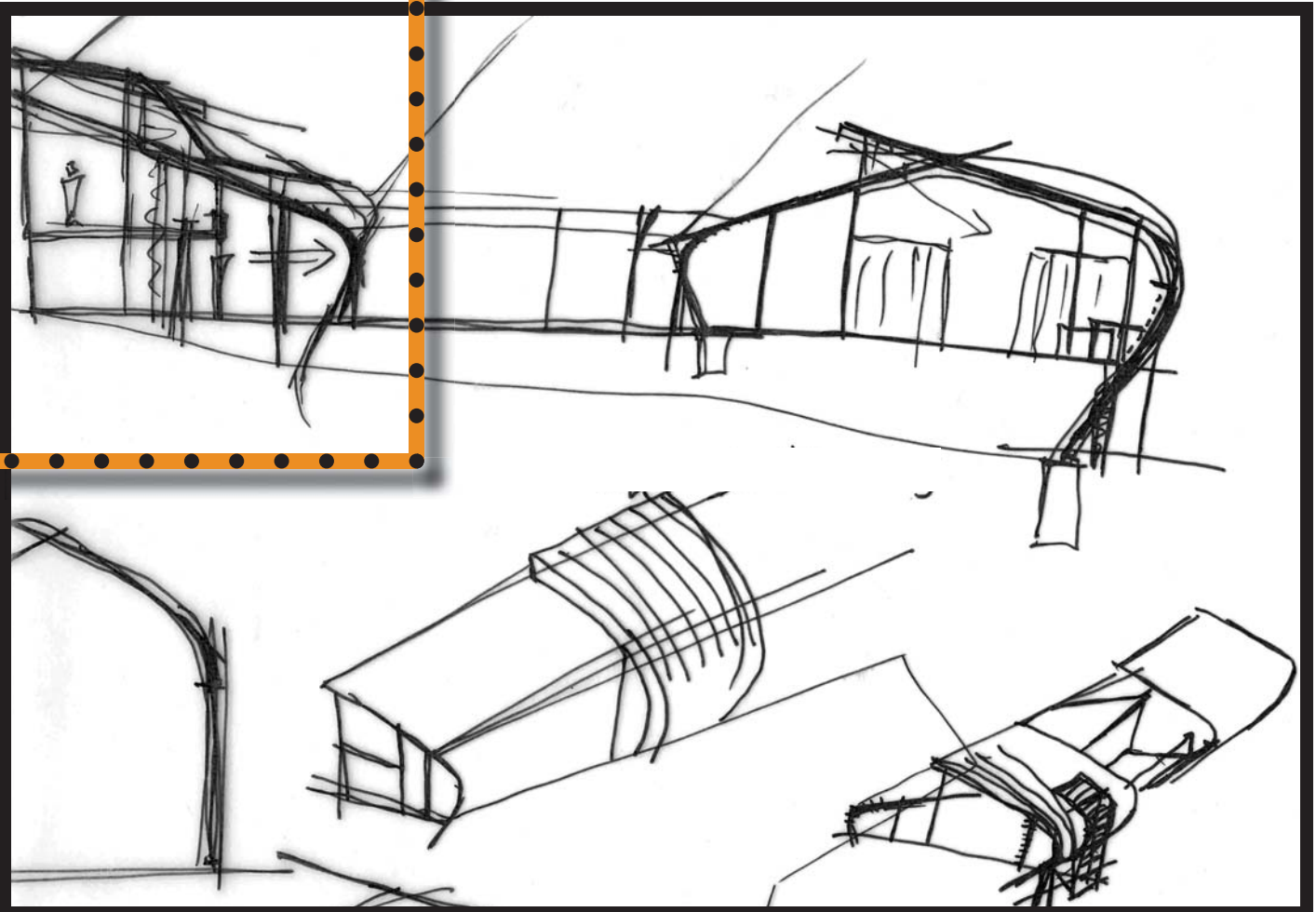


160. Concept sketch - spacial flow

adapt to use and functions, as well as its surroundings and situations. The exercise became one of the adaptation and expression of the form in varying ways that responded to the users needs such as to how it would relate to balcony spaces as opposed to wards and how would it differentiate between the two yet still both speak of the same essence.



161. Concept sketch - form



162. Concept sketches - development of form

9.4 CREATING JUXTAPOSITION

In order to create a life-filled architecture we can no longer create unambiguous rectangular spaces. Christopher Day says:

“Hard mineral matter, hard lines, hard corners, repetitive unambiguous form. We can’t live in such places without something else to sustain us. This abstraction and artificiality feeds alienation. Add other ‘shut-off’ factors and it becomes easy to walk with open eyes blank past an accident, past a cry for help.” (DAY, C. 2008: 88)

Well then we must create a design which stands out, thinks outside of a linear, rectangular box and embodies the natural, as well as at the same time juxtaposing it - creating the tension that is life.

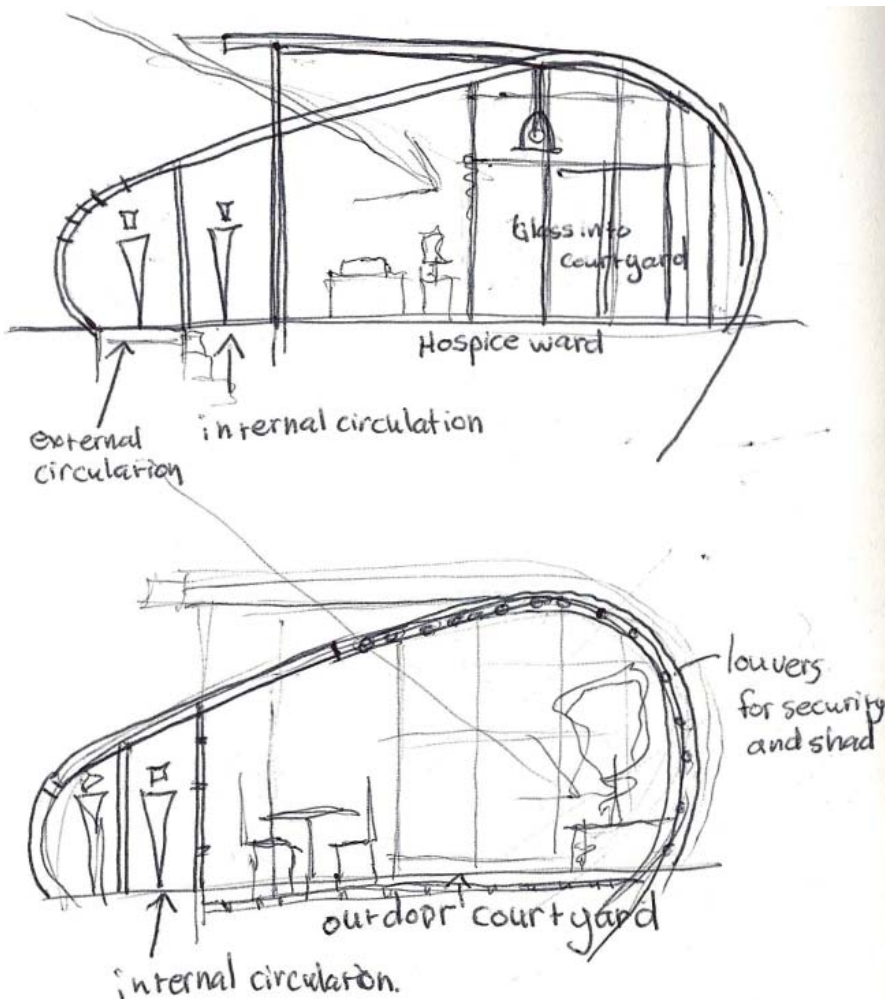


163. Concept Sketch

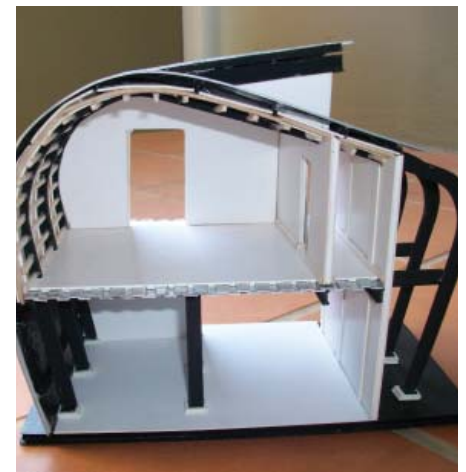
As stated previously in the theoretical discourse chapter, Alexander and Day both look to the natural, and various architectural elements, such as light and texture, when trying to embody meaning and life into architecture. Yet these can become too limiting in terms of the architecture that they can

produce - when used as a recipe. What is common to both architectural and to artistic theory is that two overriding elements should be present to create the perception of life: movement and visual interest.

The design takes the natural of the site



165. Concept Sketch of differing conditions through the building



164. structural model through the hospice wing - side on



166. structural model through the hospice wing - curved I beams



167. Precedent - Wheatsheaf House

and expresses it through its curving arching back. The curve creates movement. The human eye is naturally drawn to curves and diagonals - creating a sense of movement within the field of vision. The curve also implies a more innate sense of shelter which is reinforced through the use of natural

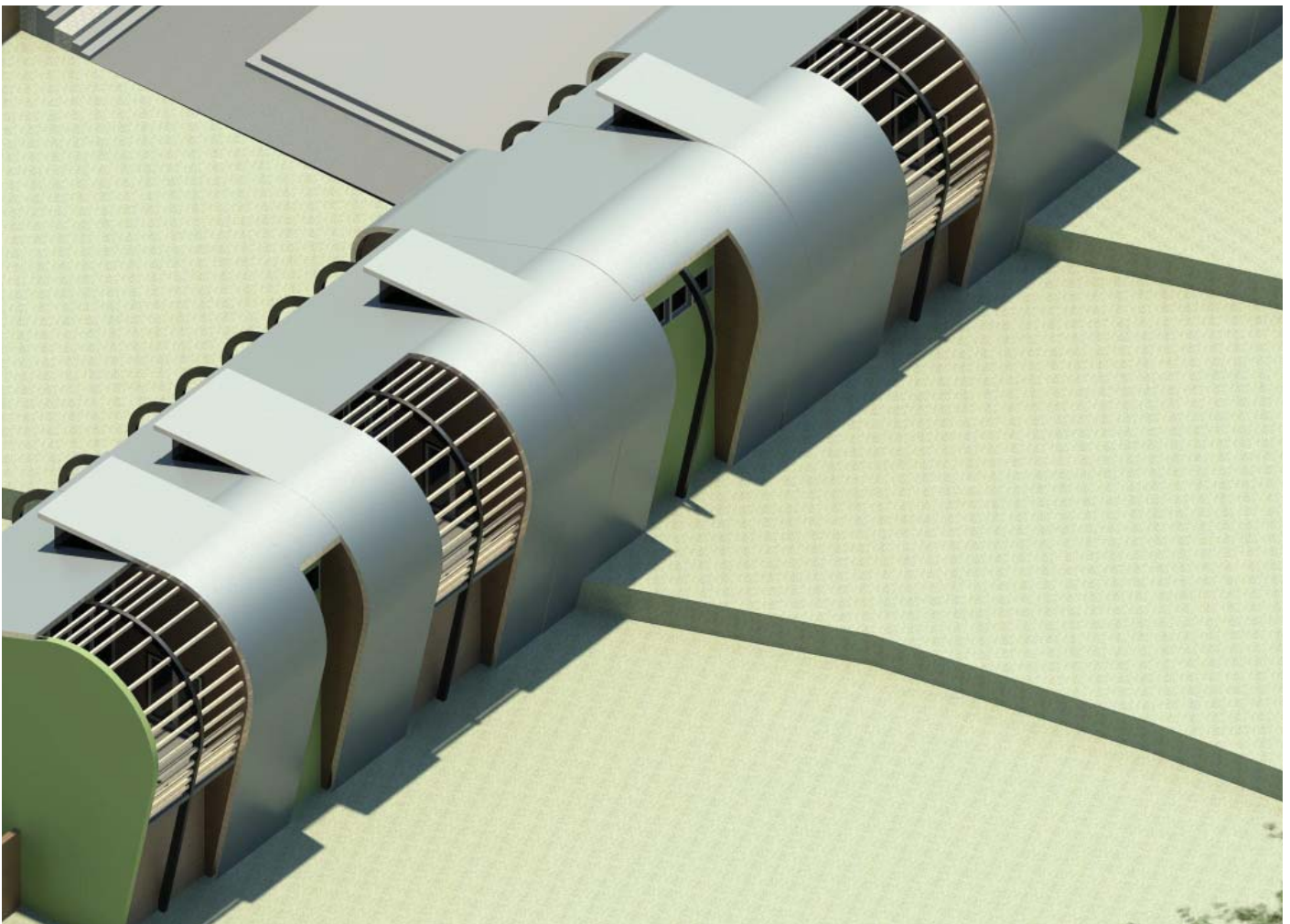


168. Precedent - Avenell House

material on the internal treatments.

But while the design takes something as elemental as the curve from nature, it also creates opposition - holding itself apart from what is natural. In the process it accentuates and frames both its surroundings and itself as can

be seen in the precedents above. The design achieves this through texture, in the wooden screens, industrial material usage and window treatments. Yet where the design does not only interact with the natural, it flattens out into planes that do not jar with the existing buildings.



169. 3D rendering of Hospice Wing

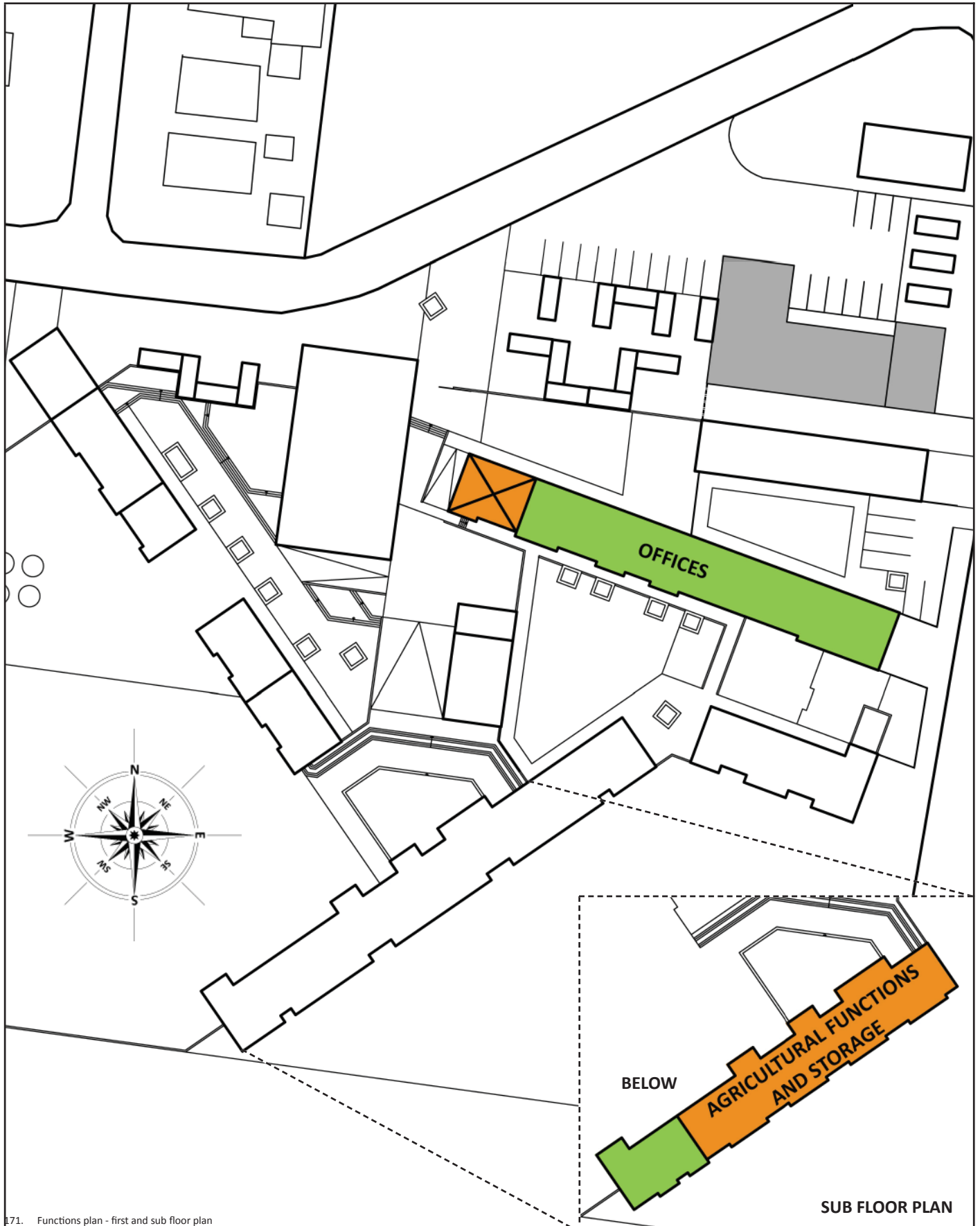


FACILITY FUNCTIONS - GROUND FLOOR PLAN



170. Functions plan - ground floor

FACILITY FUNCTIONS - FIRST & SUB FLOOR PLAN



171. Functions plan - first and sub floor plan

9.5 THE DESIGN

The buildings jut out into the landscape capturing views, enclosing spaces and responding to both the sacred and heritage of the site.

The building predominantly curves towards the natural spaces and around those that most need to embody shelter and protection. While the spaces relating to the existing or community functions respond to the existing by incorporating elements and forms from the surrounding context.

This shows the delicate balance between green space and the surrounding context, coming to an amalgamation and marriage of both, in a way that is still respectful and practical.



172. 3d render of site - South West



173. 3d render of site - South South West



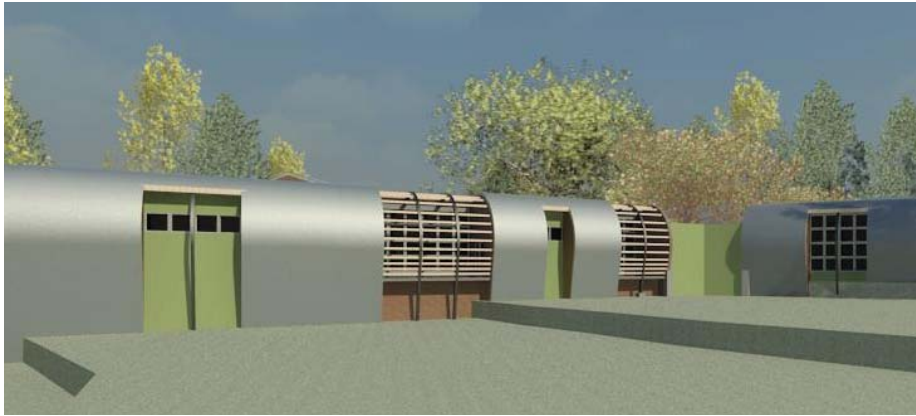
174. 3d render of site without trees - North East



175. 3d render of site - North west

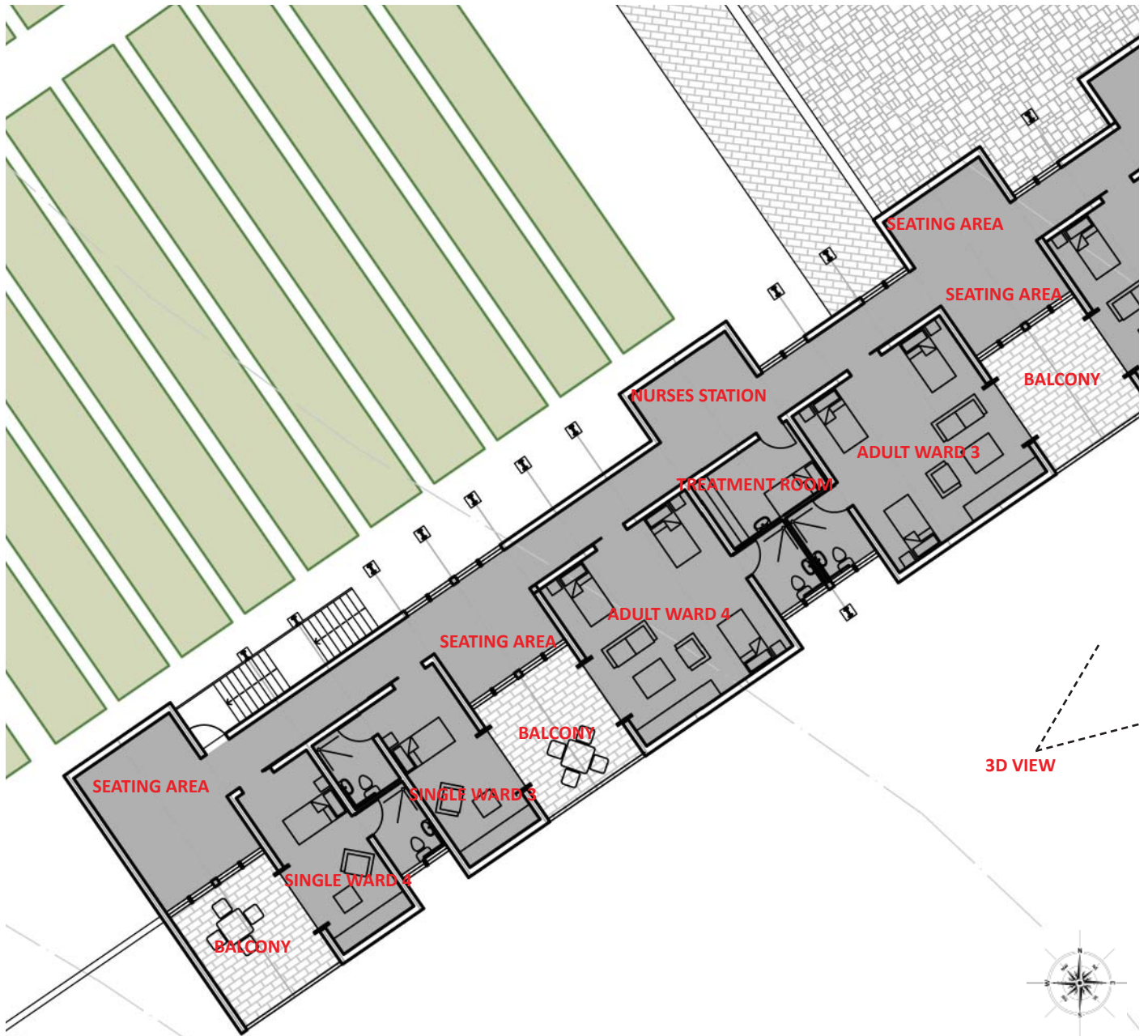


HOSPICE FACILITY - ADULT WARDS



The hospice facility responds to the function, the natural surroundings as well as the security issue presented by the surroundings. The slatted balconies not only break up the form creating more interest, but also provide a connection to the natural while being an aesthetically fitting security solution. Helping the patients to feel safe and secure - a must in a hospice environment.

176. 3d render - hospice building



177. Ground floor plan - hospice

HOSPICE FACILITY - PAEDIATRIC WARDS & COURTYARD

The paediatric building is separated from the main hospice building in order to provide a secure environment that caters to the needs of the children, which includes the internal play space and day room. The building form is picked up and reflected in the opposing building, so that the complex speaks to its various elements.



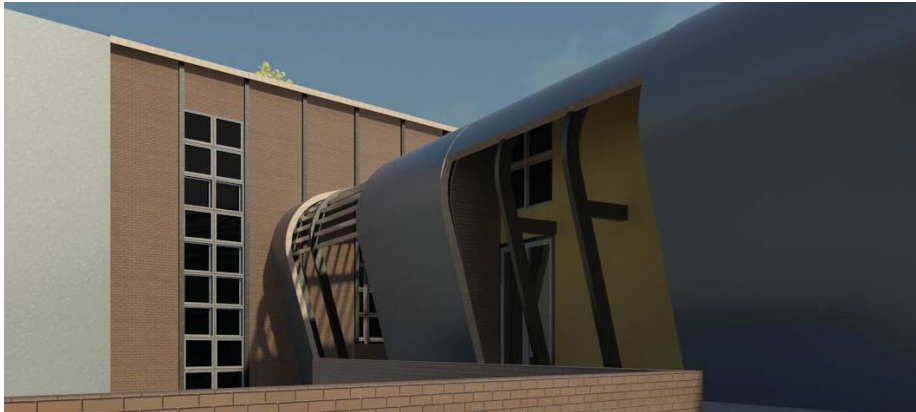
178. 3d render - paediatric courtyard



179. Ground floor plan - paediatric building



RECEPTION & OUTPATIENTS FACILITY



The reception and outpatient's facility are positioned in the most public area of the site just as you enter the facility's grounds. The building extends its form into that of the hall in order to create an entrance and threshold, not only to the hall but to the rest of the site. It frames views and encloses in such a way that it becomes a gateway.

180. 3d render - reception - hall junction

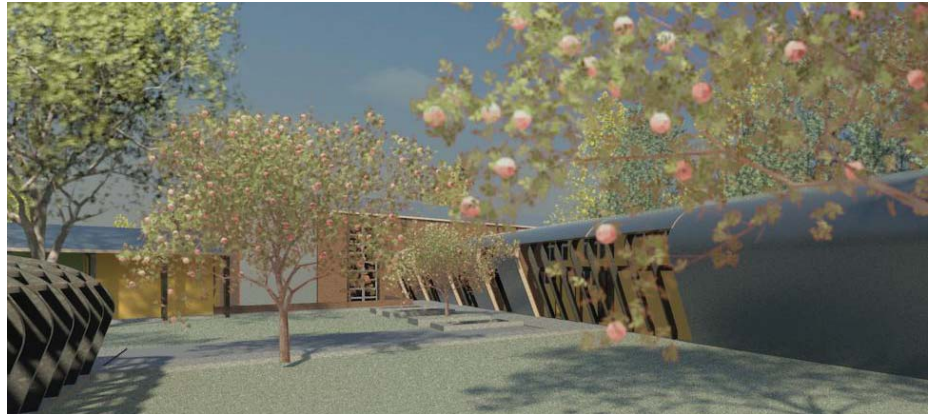


181. Ground floor plan - reception and outpatients

OUTPATIENT FACILITY & SERVICES

The services are tucked behind the existing building in order to both screen the Hospice from the existing, as well as to capitalise on the existing service area.

While the trees in the staff courtyard screen the main facility, defining its edge and creating beautiful shaded areas and views for the offices and outpatients.



182. 3d render - courtyard view



183. Ground floor plan - services and staff courtyard

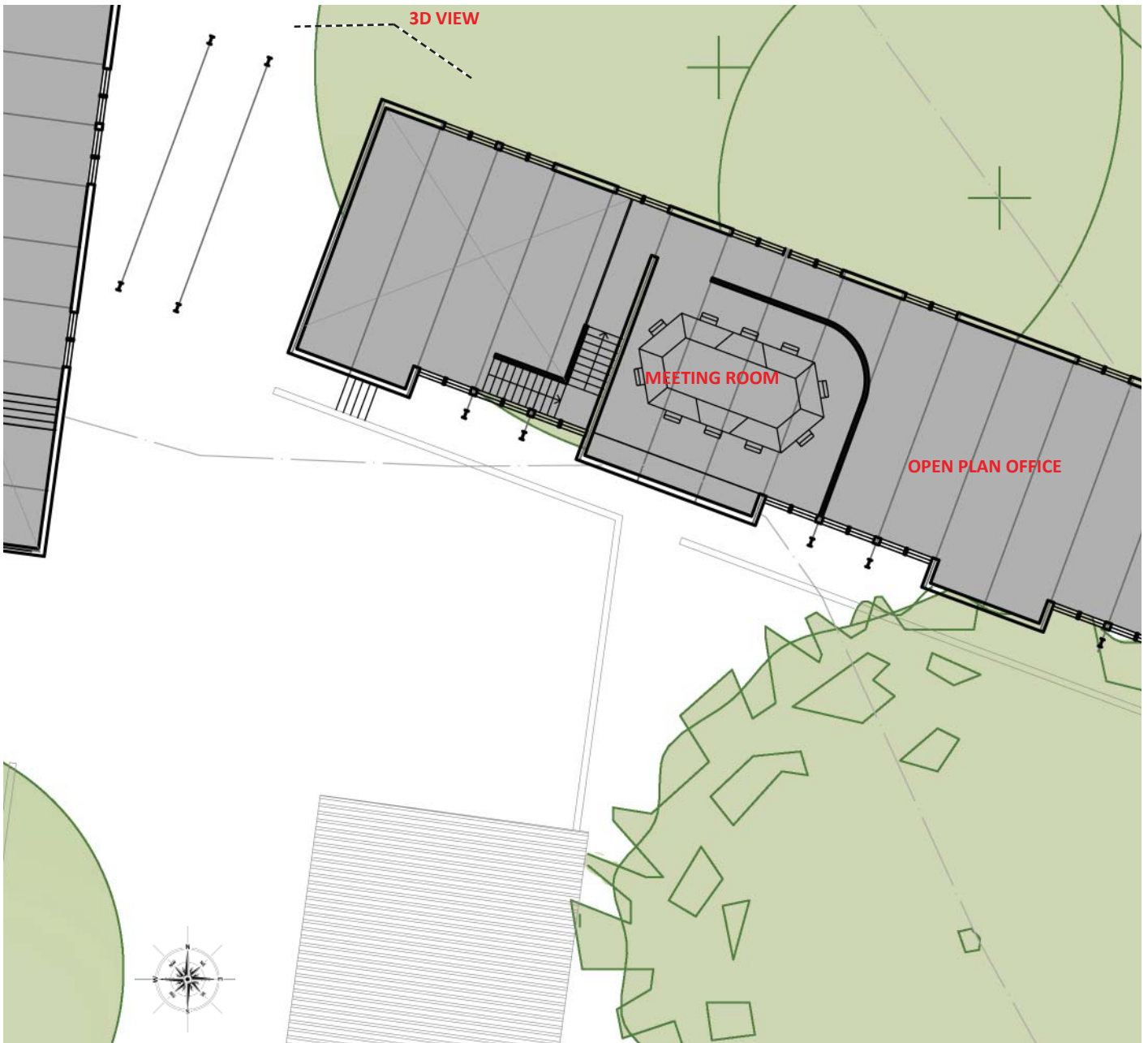
OFFICES - MEETING ROOM & OPEN PLAN OFFICE



184. 3d render - office and reception

The offices, conveniently positioned on the first floor of the outpatient facility, share the main reception.

The Northern side of the building flattens out and becomes more rectilinear to respond to the existing surroundings and buildings on and around the site. While the Southern edge curves towards the hospice and paediatric courtyard.



185. First floor plan - offices

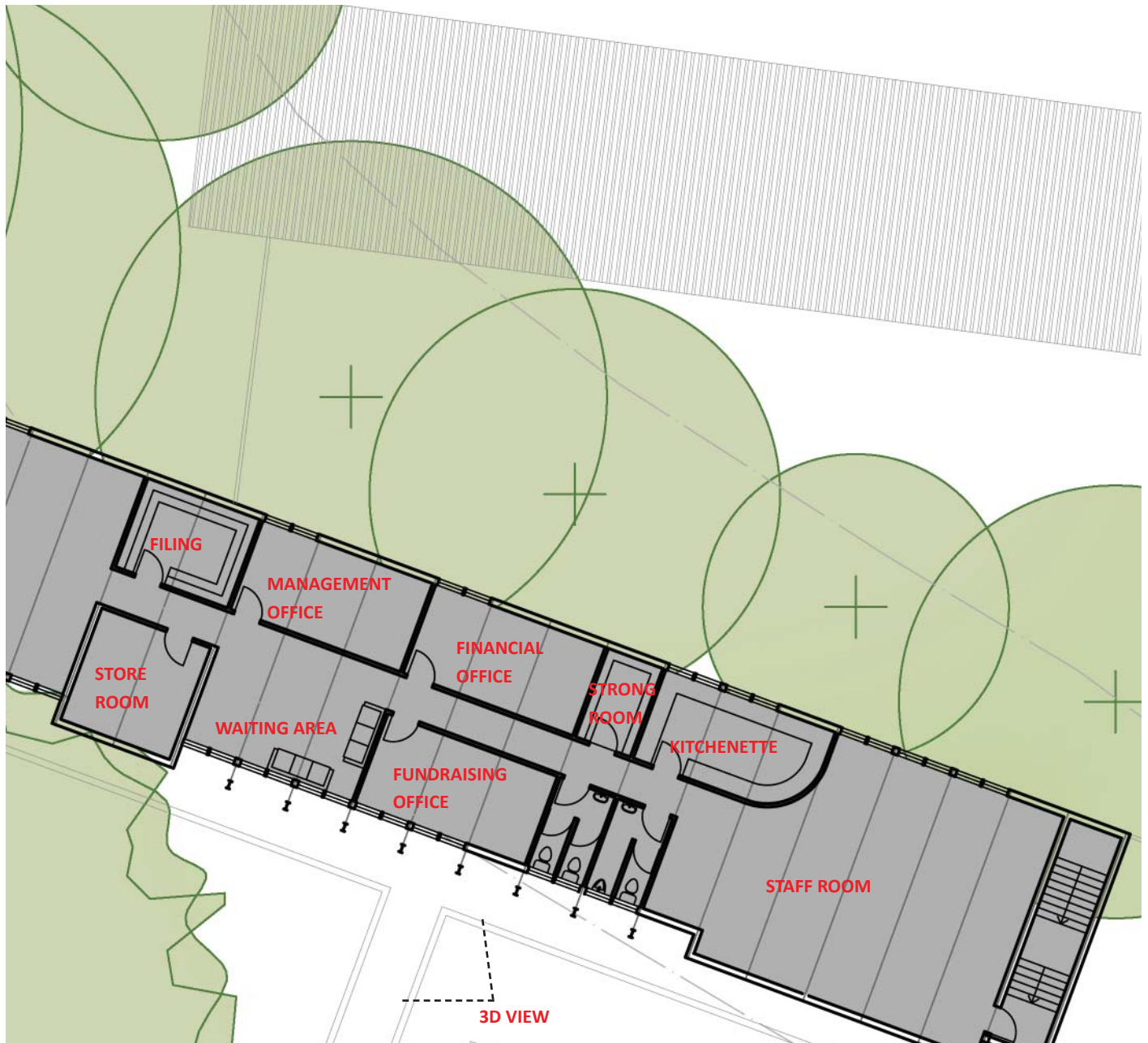
OFFICES & MAIN STAFF ROOM

A sub-waiting area is provided for the main offices. This space breaks up what would have been a long passage otherwise and provides more variety of spaces available for use.

The staff room has separate access into the staff courtyard and parking allowing for easier access for staff on a break or on their way to work.



186. 3d render - hospice courtyard



187. First floor plan - offices and staff room



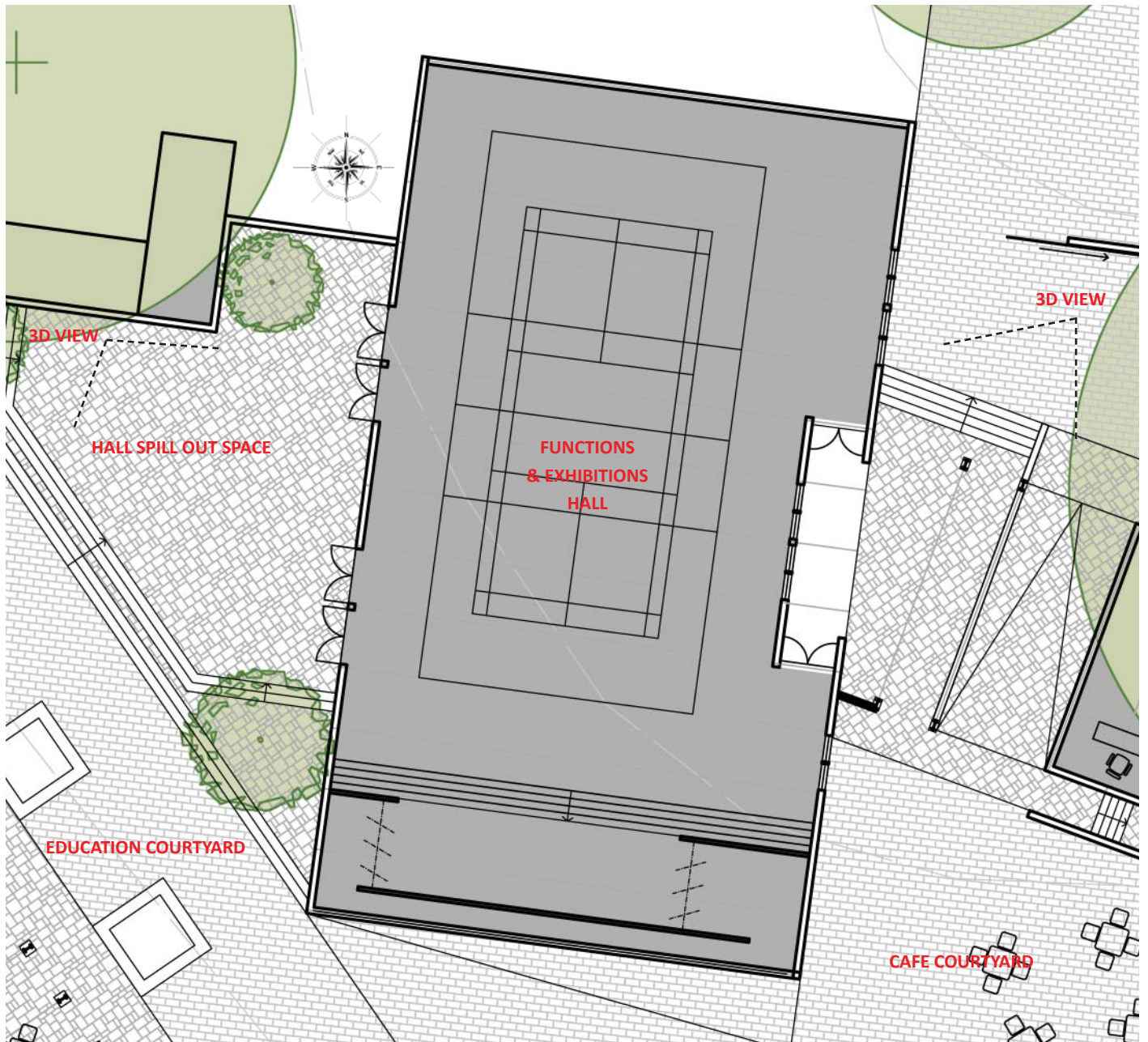
FUNCTIONS AND EXHIBITION HALL



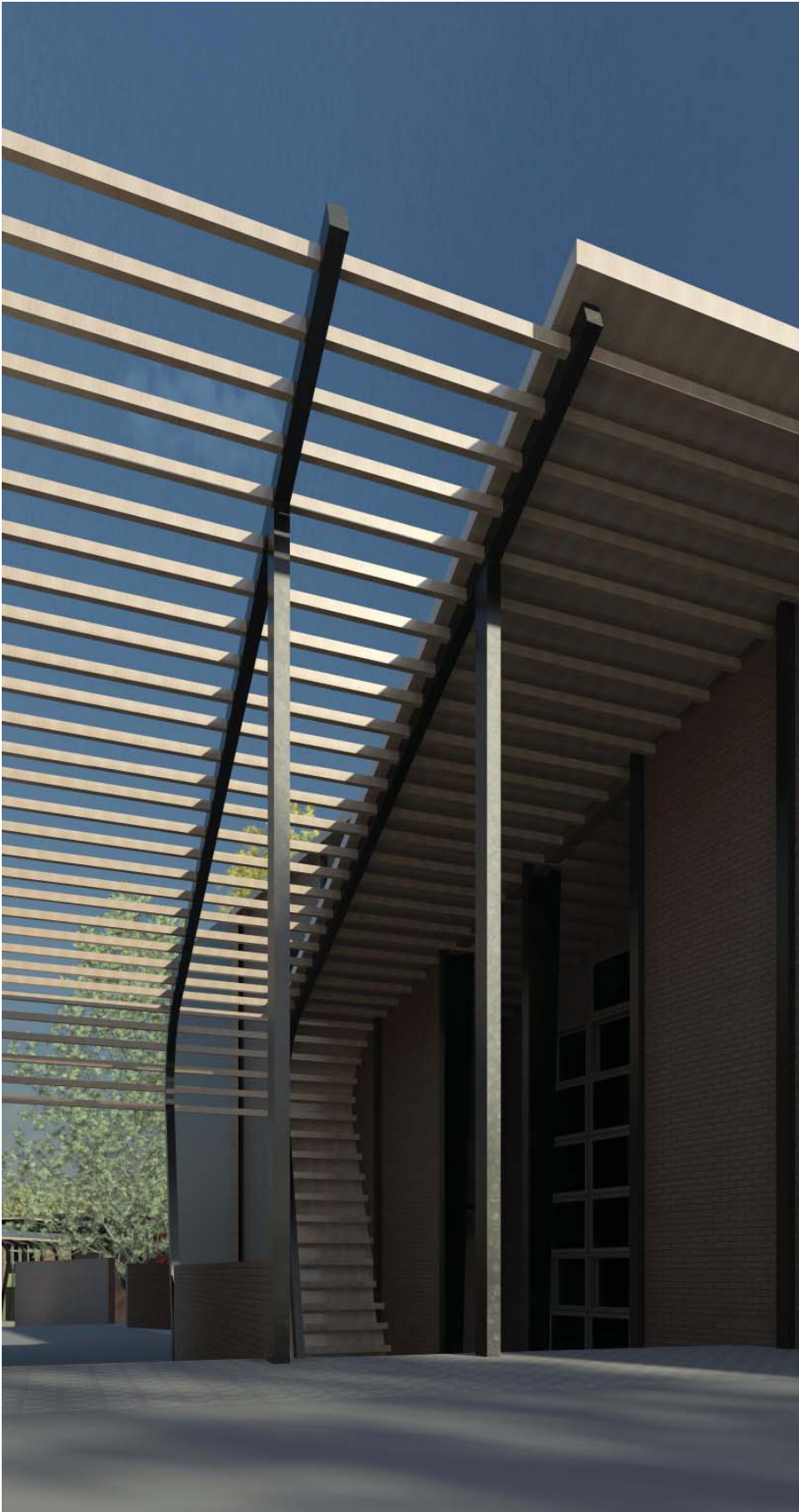
188. 3d render - educational courtyard

The hall provides for multiple functions from funerals, events, exhibitions to sports such as volleyball and badminton.

The hall is entered through the porticoed space on the Eastern side of the building. It also provides spill out space for larger functions into the Western educational courtyard. While a cafe in the central space could potentially cater for functions as well.



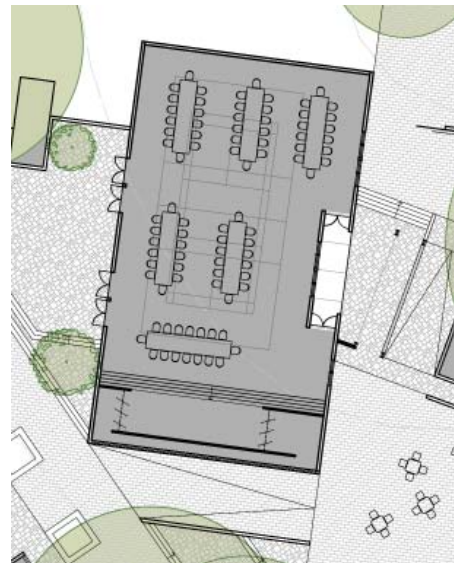
189. Ground floor plan - Hall set up for sport



192. 3d Render - Hall entrance and threshold



190. Ground floor plan - Hall set up for an exhibition



191. Ground floor plan - Hall set up for an event



193. Ground floor plan - Hall set up for conventional seating

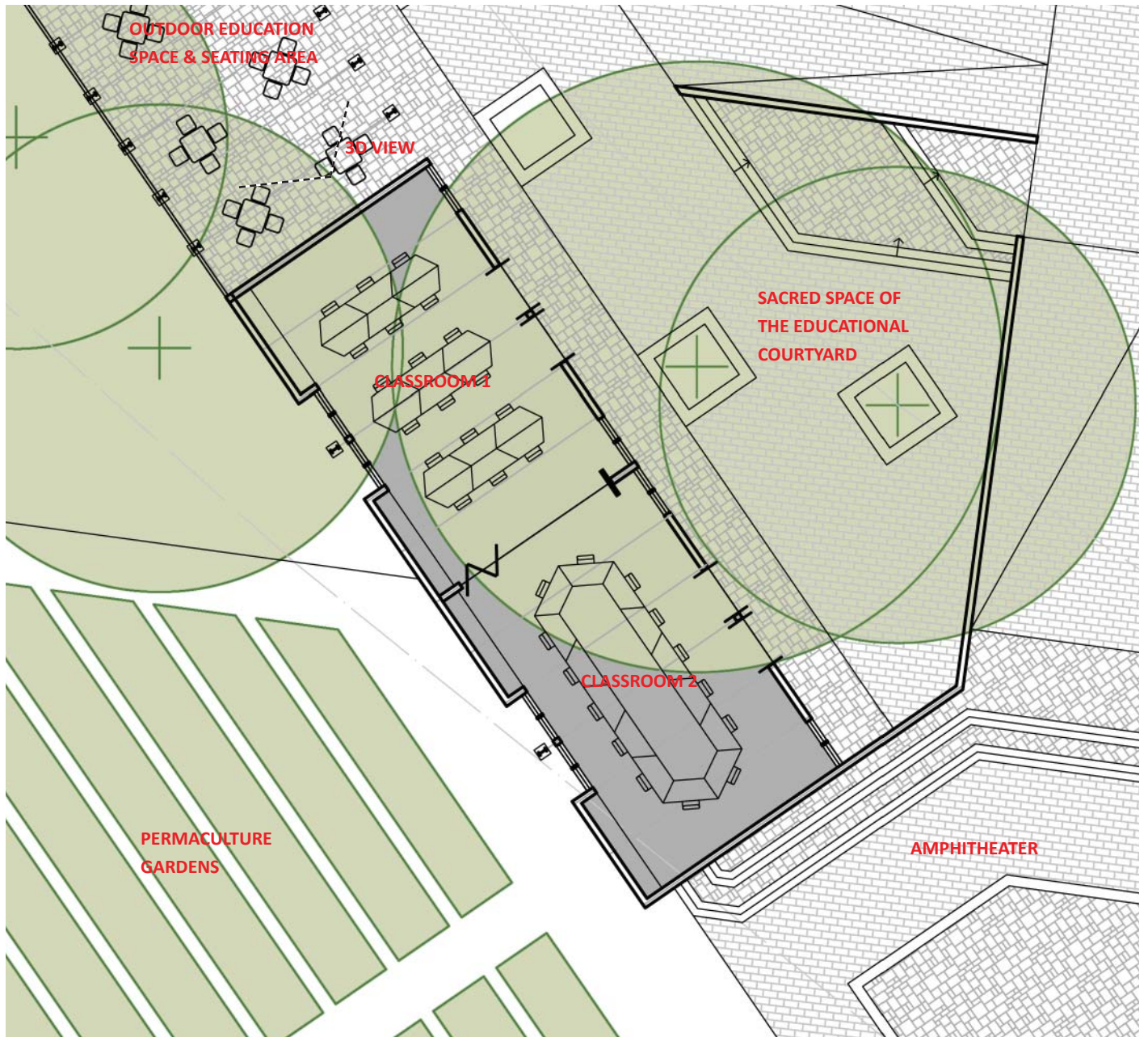


EDUCATION FACILITY - CLASSROOMS



The education celebrates a very tangible connection to the natural. With a curvilinear shaded seating area that looks out onto the permaculture gardens, as well as bordering the more formal educational courtyard and the sacred space created by the existing trees.

194. 3d render - Outdoor education and seating area



195. Ground floor plan - Classrooms

EDUCATION FACILITY - CONFERENCE CENTRE & HOSPICE SHOP

The formalised courtyard is broken into separate spaces through level changes and allows for impromptu seating along fountains and planters as well as shaded steps.

Subtle changes in paving also delineates between the covered walk way, steps and open areas.



196. 3d render - educational courtyard



197. Ground floor plan - conference centre & educational courtyard



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

TECHNICAL INVESTIGATION

CHAPTER 10



TECHNICAL INVESTIGATION

CHAPTER 10

10.1 BRIDGING THE CONCEPT - TECHNOLOGICAL AESTHETIC

Through the technical and detailed design of the building the vital ideas of shelter, protection and Mthunzini are expressed and in the process they create, rhythm, pattern, texture, colour and curve. The spaces are woven out of overlaying timber into a curved arch form. This brings both the curvilinear and natural into the room while insulating, protecting, warming and brightening the interior. Yet even though these form are complex the techniques behind building them are kept as simple and pure as possible, using limited material palettes in order to embody a more monastic an elemental feel to the design.

10.2 MATERIALITY

The material palette is kept simple using only four basic elements those of wood, steel, blocks and concrete, in various combinations and forms. This allows for simpler construction methods, increased speed in building and a lower cost of the complex as a whole. But the choice was made for different reasons. By decreasing the number of different elements, a simpler and more cohesive look is achieved - despite the differences between the building forms. Every building uses the same elements that the others are created out of. This allows for a continuity that otherwise might not be achieved within the contrast of curvilinear and rectangular form.

TIMBER

Timber or wood is used as an internal space making element, arching in



201. Internal Weaving

curves to form enclosing and woven wards or creating screening and shading elements that continue the internal arches externally.

STEEL

Steel takes the form of arching I-beams, solid portal frames or as a corrugated steel skin. The roofs pulls down over the sides of the building to merge into walls anchoring the scheme.

BLOCKS

Hydroform blocks made from the earth of the site itself bed the building into its natural surroundings, creating solid elements that intercede the curves.

CONCRETE

Concrete takes the form of self-supporting winblock windows, surface beds and floor slabs. Although the floor slabs see an amalgamation of steel in the guise of form decking. The windows create a repetitive, yet changing rhythm.



202. Winblok window frame



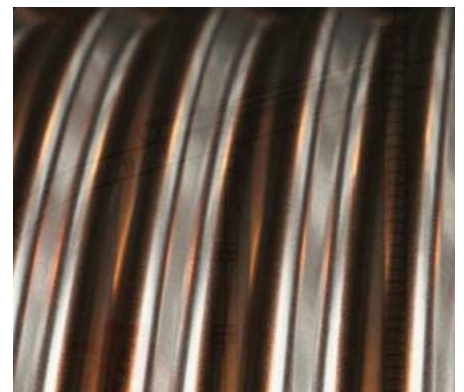
198. Hydroform blocks



199. Form Decking



200. Wooden siding



203. Curved corrugated sheeting

10.3 SUSTAINABILITY

The ideology of sustainability was approached not from the single angle of materials and construction, but from all three of its aspects - Social, Economic and Environmental. This allowed the design to be more completely sustainable than if it was just made from recycled or recyclable materials.

SOCIAL

One of the main design objectives was to create a facility that integrated itself with its' surroundings and community through the provision of functions, as well as the spaces allocated for general use. Although this made for a more complex public - private relationship it meant that the facility in fact supports the surrounding community, rather than shutting itself off from it.

This is achieved through the various programs and educational opportunities

provided through classes, functions, exhibitions, sports, permaculture gardens, education etc. They all combine around publicly accessible courtyards, amphitheatres and gardens, allowing for diverse social interactions and enriching the surrounding community. The outpatient facility also allows the hospice to reach out into the area, creating a network of those both supported and supporting the Hospice.

ECONOMIC

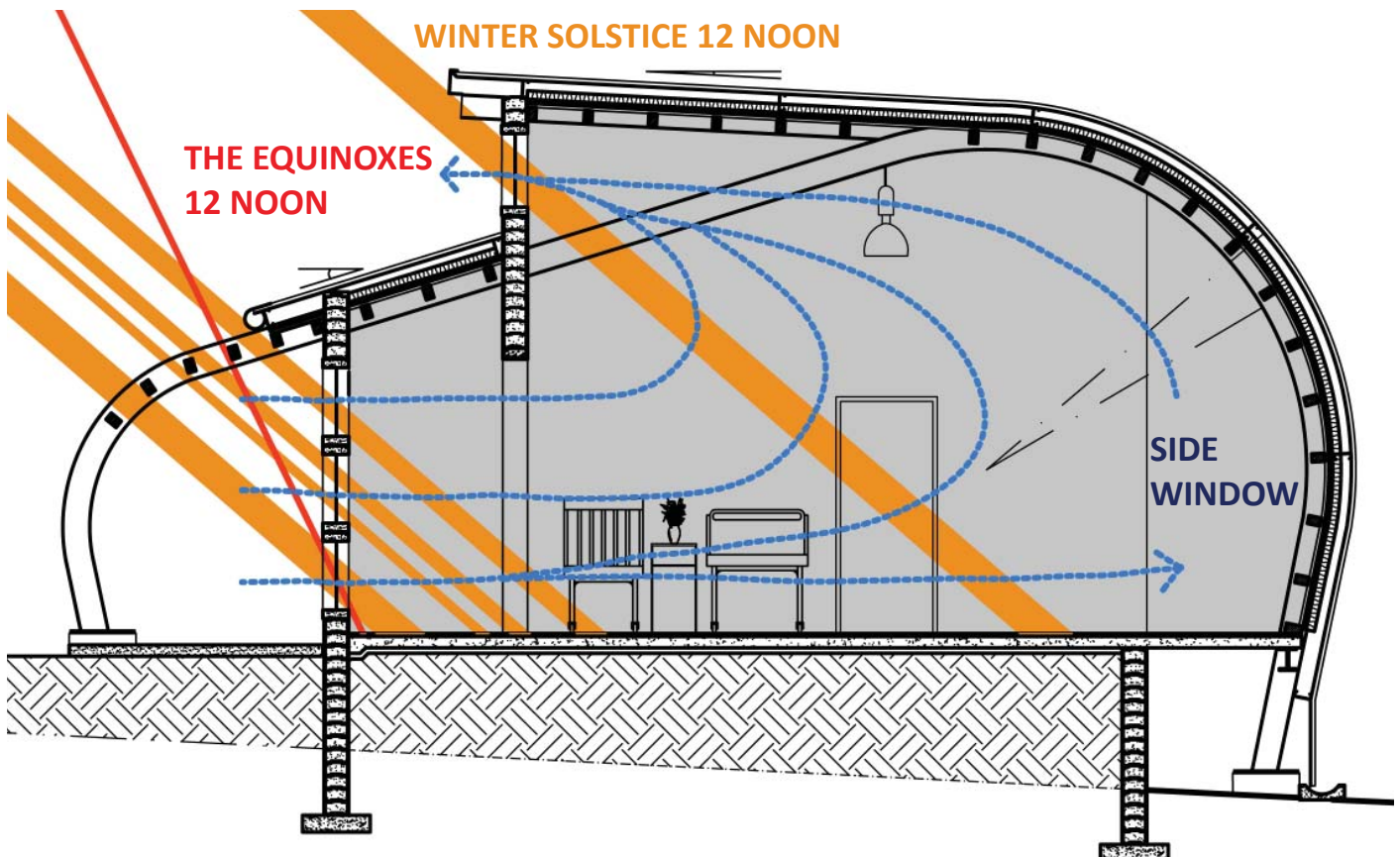
The facility does not rely solely on charity or governmental grants. The Hospice branches out into self sustainability through the provision of spaces and functions that draw in an income. Those of permaculture, green products and produce sales, sales of donated furniture and goods through the hospice shop, as well as the various functions, events conference and fundraising opportunities made possible through the inclusion of the educational

courtyard, classrooms, functions venues and the hall.

ENVIRONMENTAL

Passive design principles were employed. Most of the site is in constant year round shade from the numerous well established trees on site, that date back before the founding of Mamelodi. To maximise available light, the Hospice wards have northerly facing clerestory windows, shaded northern walkways and passages and shaded indirect Southern light through the glass balcony doors.

Figure 204 below depicts the solar infiltration at noon during the winter solstice and at noon on the equinoxes. As one can see, the solar gain decreases rapidly during the equinoxes and is not even present at noon on the summer solstice. It also depicts the natural ventilation of the building. Cross ventilation is drawn through the



204. Solar and ventilation study

northern windows along the passage and the side windows in the paediatric wards or the balcony doors in the adult wards. Ventilation is further enhanced by the provision of clerestory openable windows at the highest point of the building. Unfortunately, because of the high level of shading, solar water heaters and panels became inefficient and uneconomical.

A three layered insulation method was also opted for. Starting just under the external skin an industrial grade Sisolation is employed with a 75mm air gap, under which a 75mm reinforced Aerolite blanket is attached to the third layer of insulation - the wooden slats that create the internal finish.

Material usage was well-considered when implementing the design, technology and details. Environmental products such as hydroform blocks, which consist of soil reclaimed from the site mixed with a low percentile

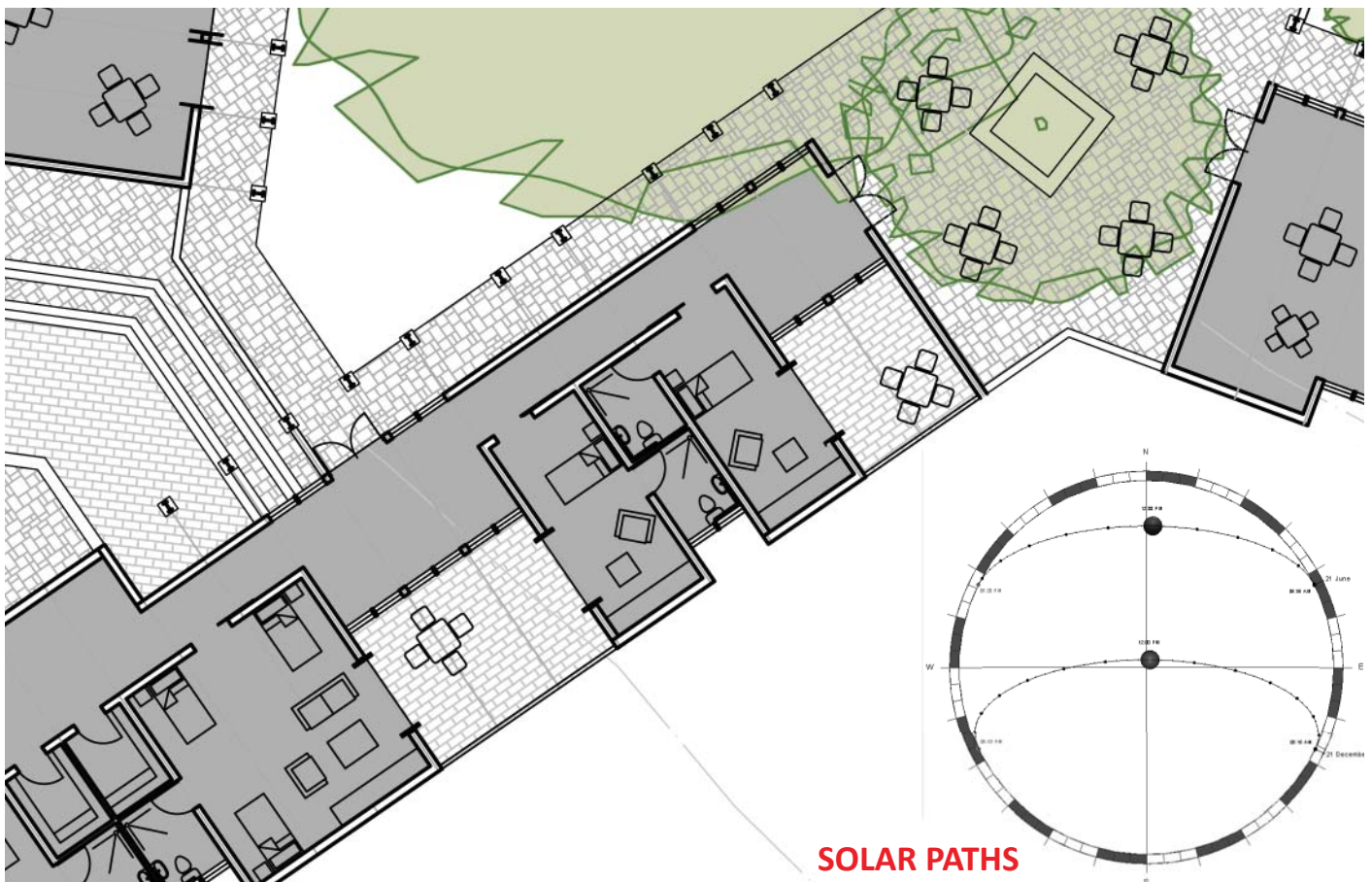
of cement compressed in portable machinery and cured on site. They are dry stacking blocks that can be assembled in a much shorter time period, have superb strength and a facebrick like finish when sealed which means they are low maintenance. They can also be reclaimed and reassemble easily.

Other environmentally friendly materials such as bamboo were used as well. The other materials employed particularly steel, are recoverable and recyclable. While the self supporting Winblok windows could easily be salvaged and reused through a planned deconstruction of the facility.

Through servicing another level of sustainability can be achieved. Through the use of an above ground bio-reactor such as the Liliput Bio-reactor sewerage is harnessed from around the site and is converted into safe irrigation water for the permaculture gardens, as well

as protecting the nearby river tributary from harmful pollution.

"The sewage from the septic tanks (pre-digestion) is pumped at a constant rate to the LILLIPUT BIO-REACTOR. The effluent enters the bio-reactor ... and is discharged to the garden for irrigation or rivers and streams or dams and storm water systems ... The plant does not require continuous supervision and minimal maintenance. All pumps are sealed units rated for continuous use. The chlorine disinfection unit should be topped up intermittently to ensure optimum efficiency. All mechanical / electrical components are readily available off the shelf from local shops. All plant and equipment is supplied in non-corrosive or corrosive protected material. As the entire plant can be constructed above ground, the necessity for extensive earth works and civil requirements is curtailed." (LILLIPUT 2010)



205. Ground floor plan hospice buildings

PERMACULTURE GARDENS

The permaculture garden becomes central to all three of the ideals of sustainability. It is used within this facility to not only be an environmental rehabilitation of the site but also to fulfill the needs of economic and social sustainability through the integration with the community, creation of jobs and sale of produce. It will also provide choice for the patients in the facility physically capable of exploring and helping with the work in the gardens, giving them purposeful pursuits.

The aims of the gardens and education program are:

- To help people find out more about the mental and physical benefits of food growing and a healthy balanced diet, and how this can particularly help those community members in terminal condition.
- To create jobs for those in the surrounding community and such education as to allow people to start their own profitable gardens at home, empowering the community.

- To rehabilitate the existing site and provide integration into the existing green space.
- To allow for the manufacture and sale of environmentally friendly products such as worm farms.
- To provide a space within which patients can interact with the surrounding community

This will be achieved through the offering guided tours, workshops and classes (FOOD VISION no date) in the provided



206. Permaculture Garden

classrooms, outdoor covered education space overlooking the permaculture gardens and the amphitheatre for larger crowds and school tours. While the sale of produce and products to the community will bolster the centre's self-sustainability and monitored open access will allow all those who wish to, to participate or view at their pleasure. The permaculture garden also helps to achieve the aims of the proposed linear nodal development framework for the area, those of integrated urban agriculture, green space rehabilitation and definable urban edges.



207. Children learning the joys of agriculture



208. Plan of the permaculture gardens and education facilities

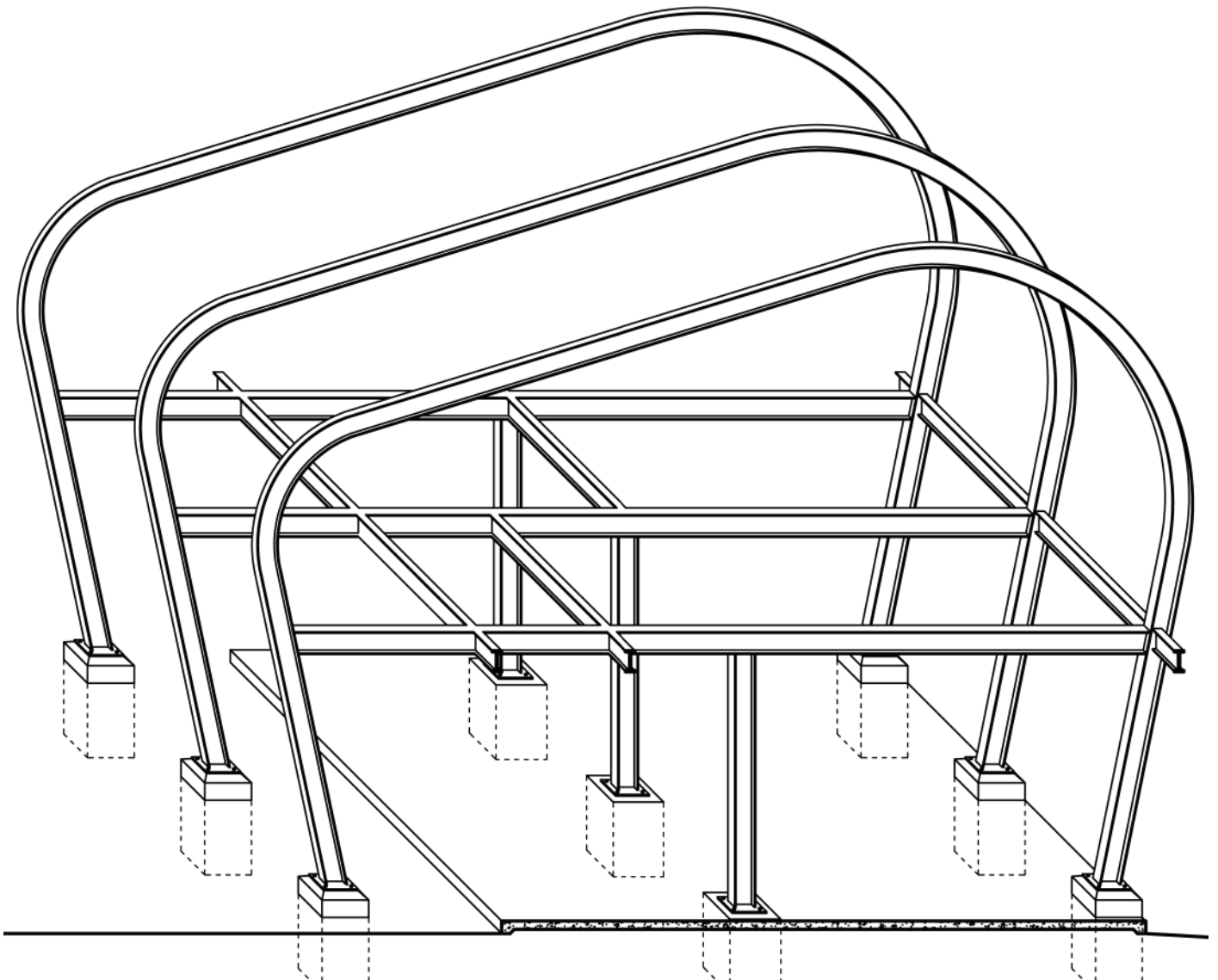


209. Structural model - Internal view

10.4 STRUCTURAL SYSTEMS

The Primary structure consists of ground floors slabs, concrete foundations and a lightweight steel structure with galvanised steel I-beams measuring 144 by 254mm. Cross beams support walls and form decking floor slabs, while the main arch beams are placed along a structural grid of 2000mm centre to centre.

The Secondary structure is the 'woven' timber lattice that forms the interior treatment of the arch, as depicted in figures 206 and 208. These require prior assembly, before the skin of the building is erected, in order to fix the 75 by 114mm planed all round timber



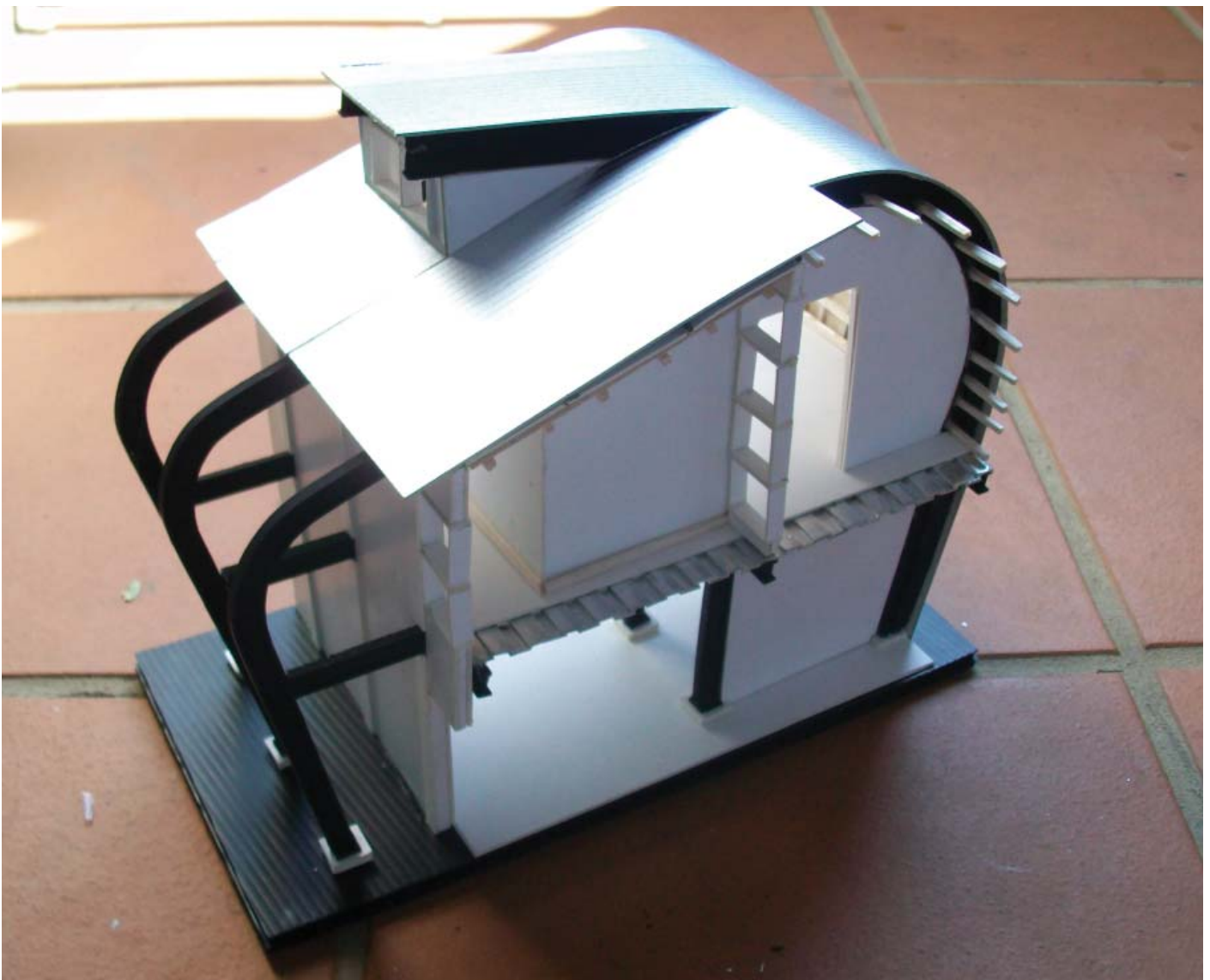
210. Primary structural drawing

pieces into their cleats as well as attach the bent battens and siding.

While the Tertiary structure consists of the skin of the building in the form of steel c purlins, curved steel roof sheeting and Hydraform block walls punctured by Winblock windows. The roof sheeting is pulled down on sections of the building to not only form the roof, but the walls of the structure as well.

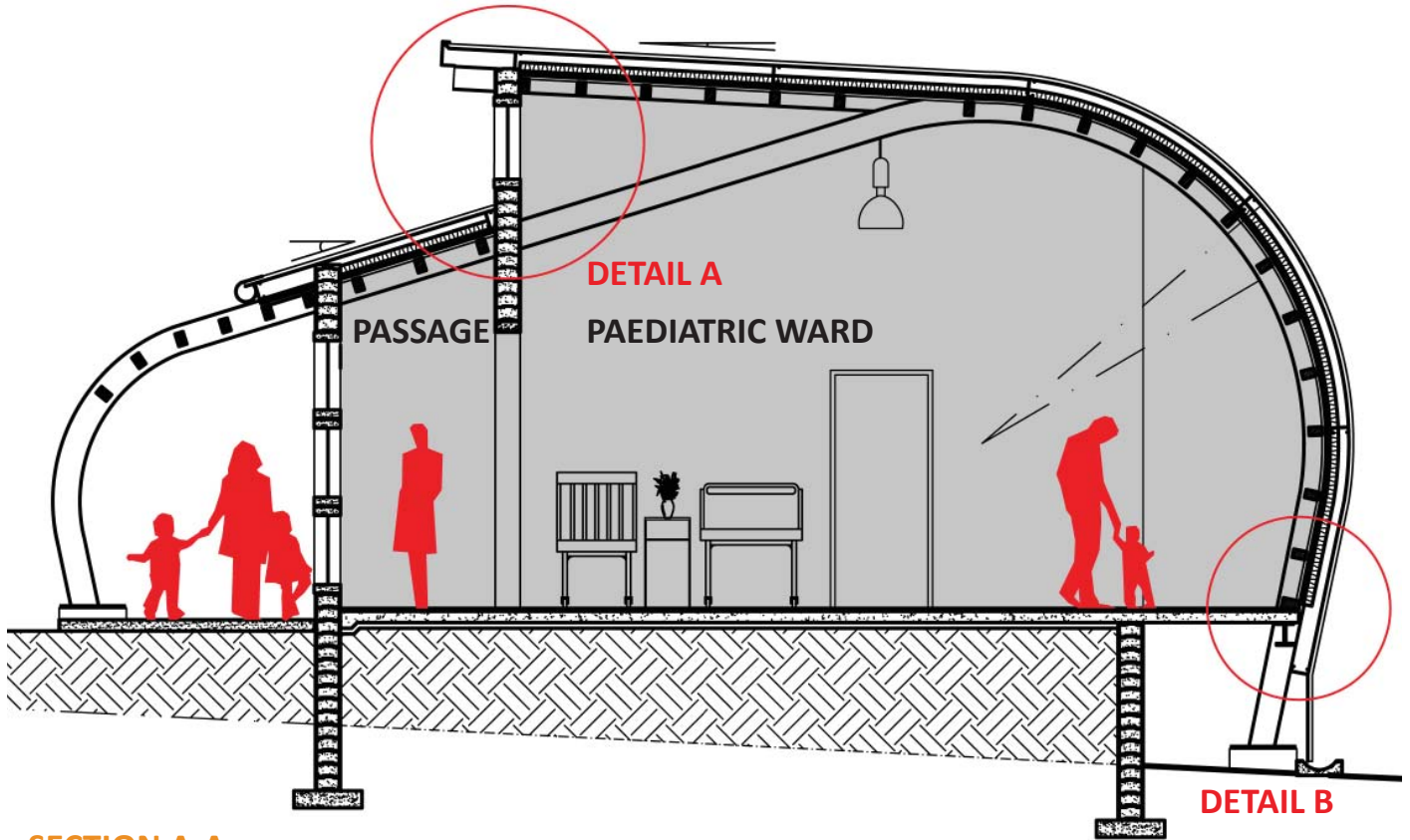


211. Structural model - side view



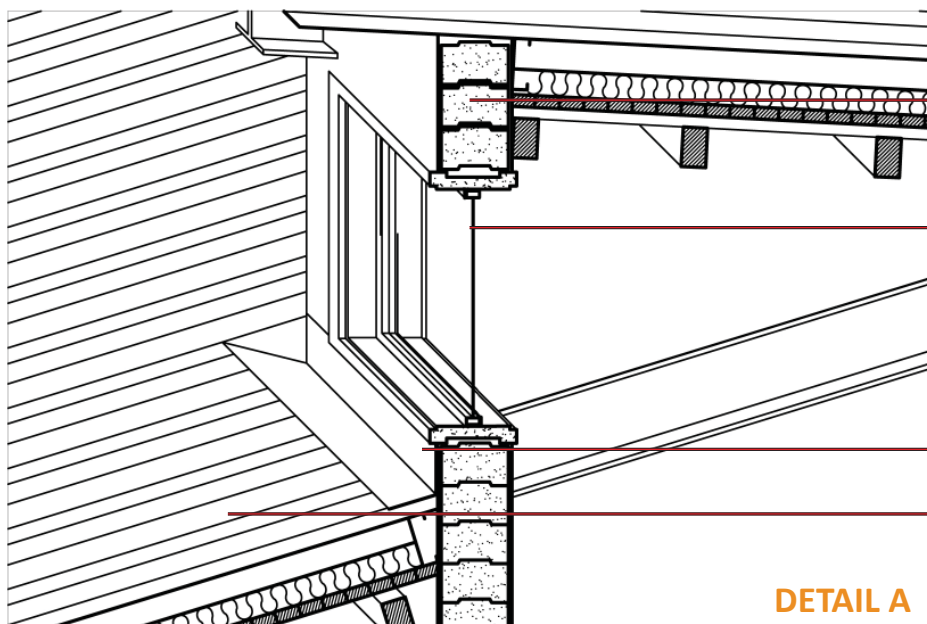
212. Structural model - external view

10.5 CREATING CONNECTIONS - SECTION A-A & DETAIL A



SECTION A-A

213. Section A-A



DETAIL A

214. Detail A

240x220x115mm Hydraform interlocking blocks, to be mortared with brickforce 1 course above the window top. To be plastered inside and out.

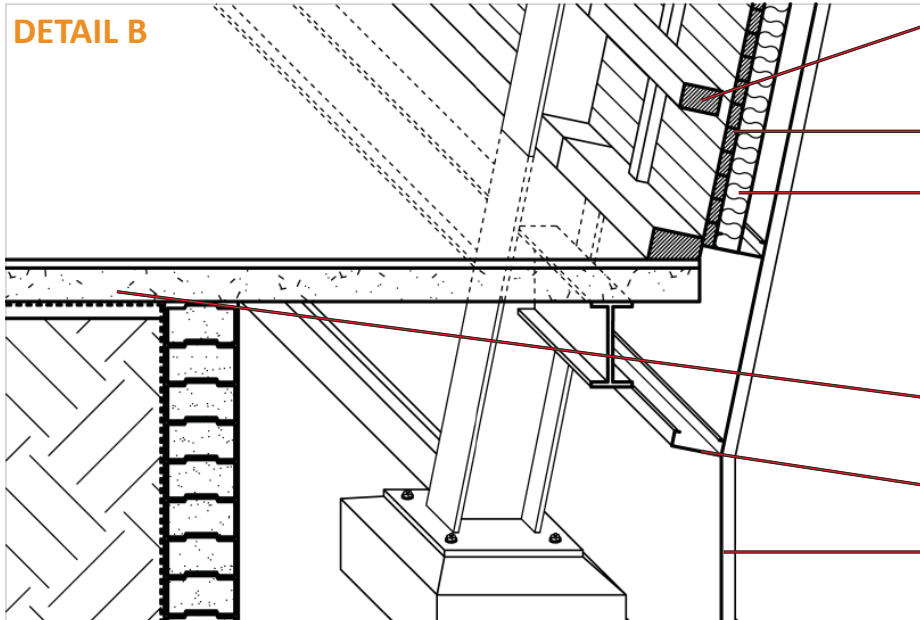
Winblock high density, low permeability, unreinforced 30 MPa smooth finish pre-cast concrete window surround. 800x800x260mm . With galvanised steel window insert, fitted to rebate of surrounding using non-ascetic silicone sealant.

Clotan Steel 0.58mm galvanised steel headwall flashing 305mm girth bent twice along girth.

Clotan Steel Craftlock profile, 0.58mm thick ISQ 300 z275 spelter galvanised steel roof sheeting. Bent to angle specified, fixed with 5mm Ø 12mm long s.s. self tapping screws to steel c purlins at 2000mm centers.

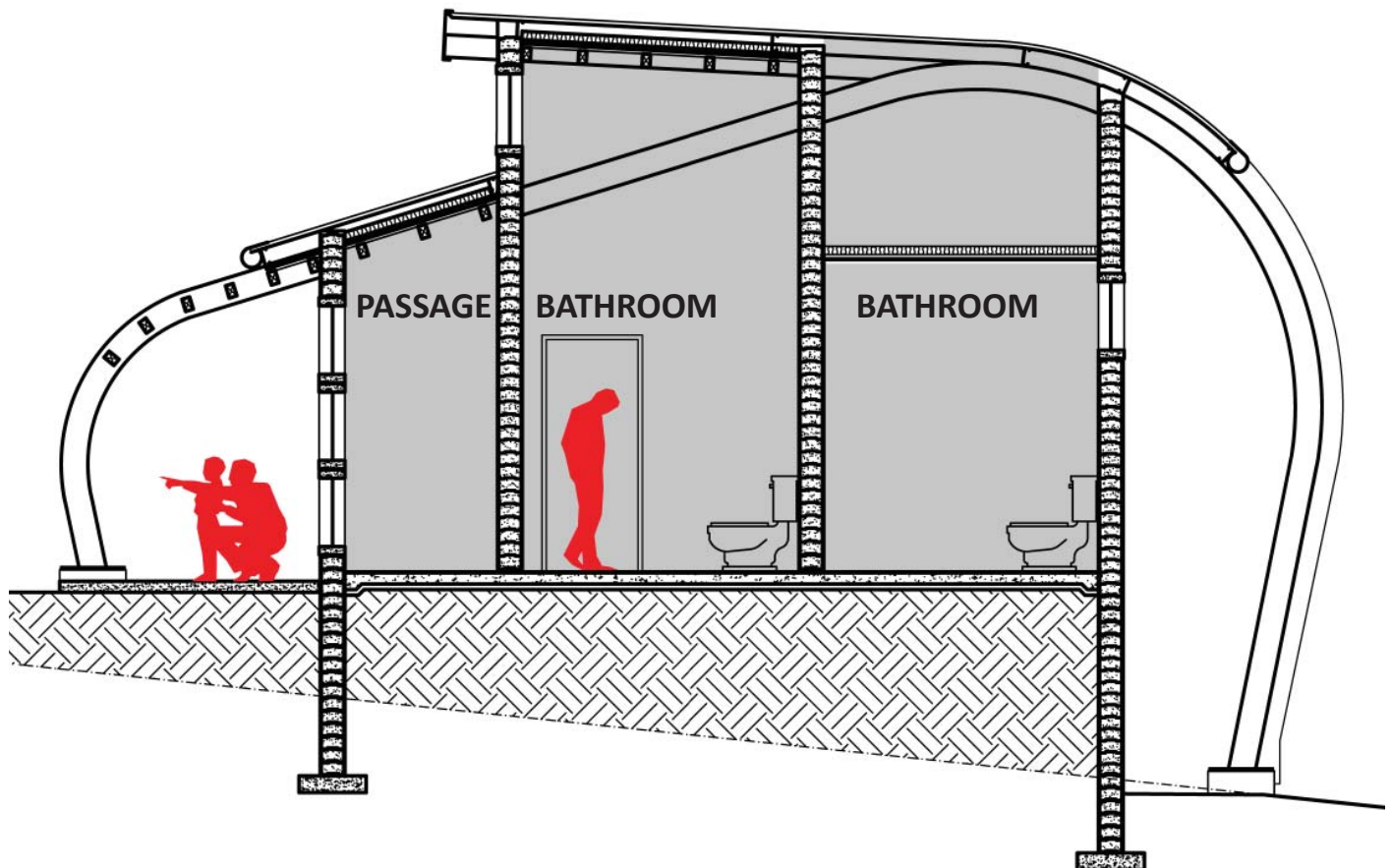
10.5 CREATING CONNECTIONS - SECTION B-B & DETAIL B

DETAIL B



- P.A.R. timber purlins 114x75mm in lengths of 1950mm
- Eco-Logic Bamboo strand woven bamboo planks with flat edge. 102x20mm in suitable lengths, screwed to supporting P.A.R. bent timber battens at 500mm centers
- Ceiling Insulation 75mm thick Isover Aerolite flexible non-combustible lightweight fiberglass reinforced insulation blanket. Closely fitted, ends butted firmly and fixed to the top of bracing between structural steel members at approximately 2000mm centers.
- 100mm concrete floor slab with 25mm polished cement screed on 250 micron DPM and 50mm blinding layer
- 152x64x2mm Hot dipped galvanised steel c-purlins fixed at 2000mm centers
- Sisalation 420 heavy industrial grade reinforced aluminium foil insulation double sided.

215. Detail B



SECTION B-B

216. Section B-B

10.5 CREATING CONNECTIONS - SECTION C-C & DETAIL C

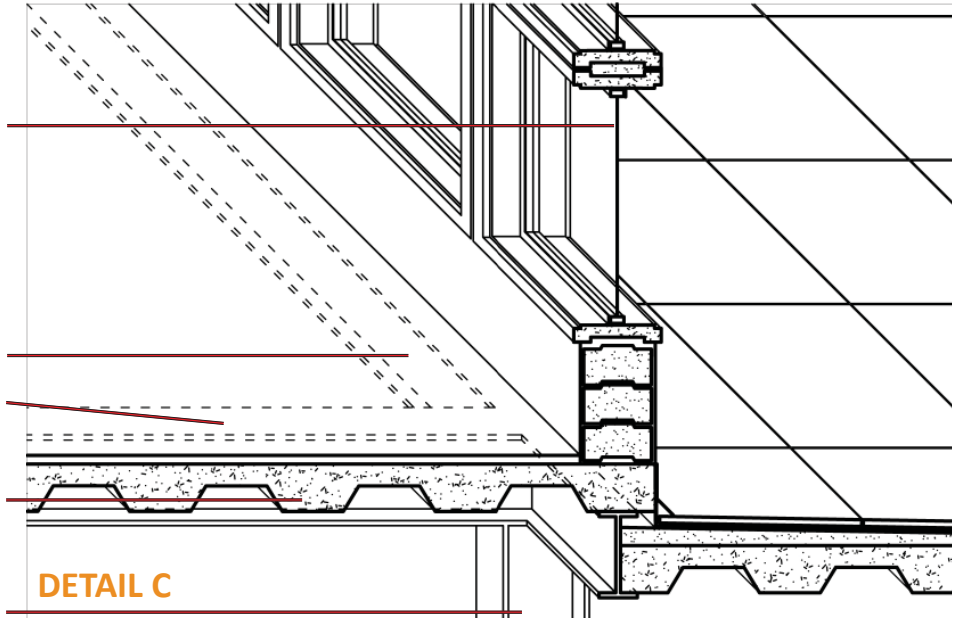
Winblock high density, low permeability, unreinforced 30 MPa smooth finish pre-cast concrete window surround. 800x800x260mm bedded on a continuous strip of class 1 mortar, with vertical joints filled after the whole row has been placed with no-fines concrete (13mm stone) between vertical frogs. Back grout vertical joints with class 1 mortar. With galvanised steel window insert, fitted to rebate of surrounding using non-ascetic silicone sealant.

114x254 galvanised steel I beam

114x254 galvanised steel I beam

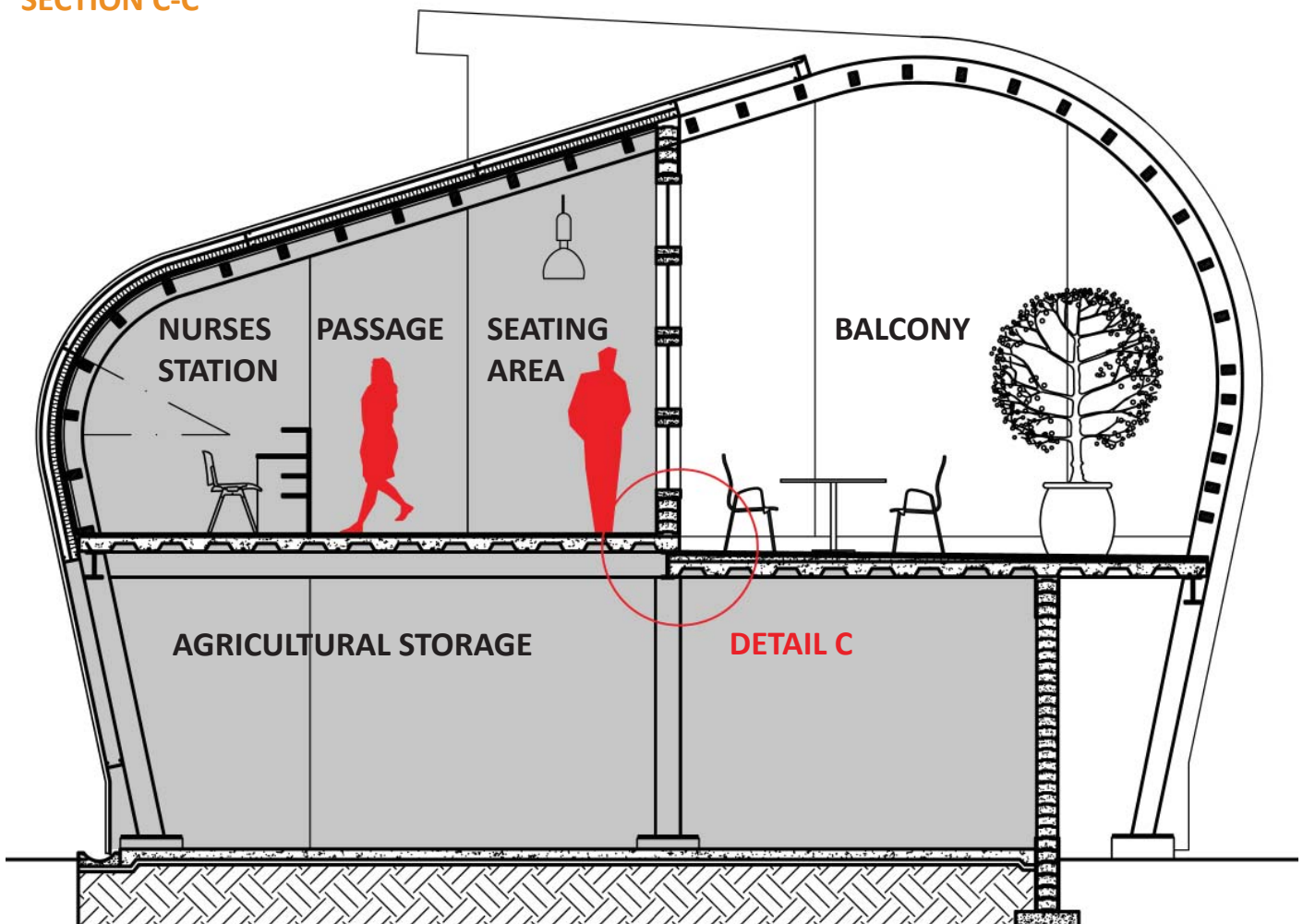
Form decking to be Brownbuilt 0.8mm thick bond-dek Z275 spelter galvanised ASTM 446 grade C troughed interlocking permanent formwork fixed at 2000mm centers to steel I beams with concrete slab depth of 140mm.

114x254 galvanised steel I beam



217. Detail C

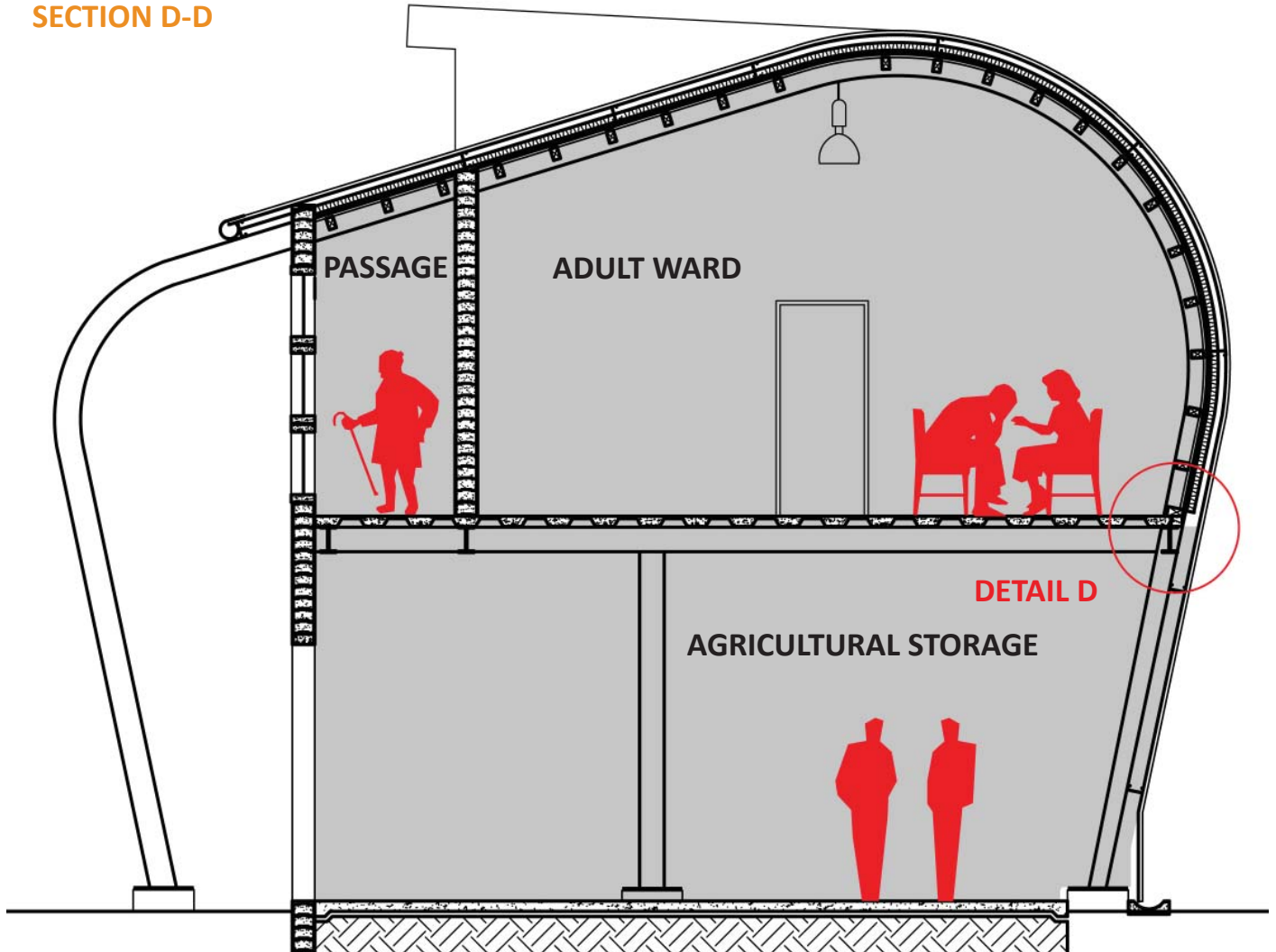
SECTION C-C



218. Section C-C

10.5 CREATING CONNECTIONS - SECTION D-D & DETAIL D

SECTION D-D



219. Section D-D

P.A.R. steam treated and bent timber battens
32x32mm at 500mm centers

P.A.R. timber purlins 114x75mm in lengths of
1950mm

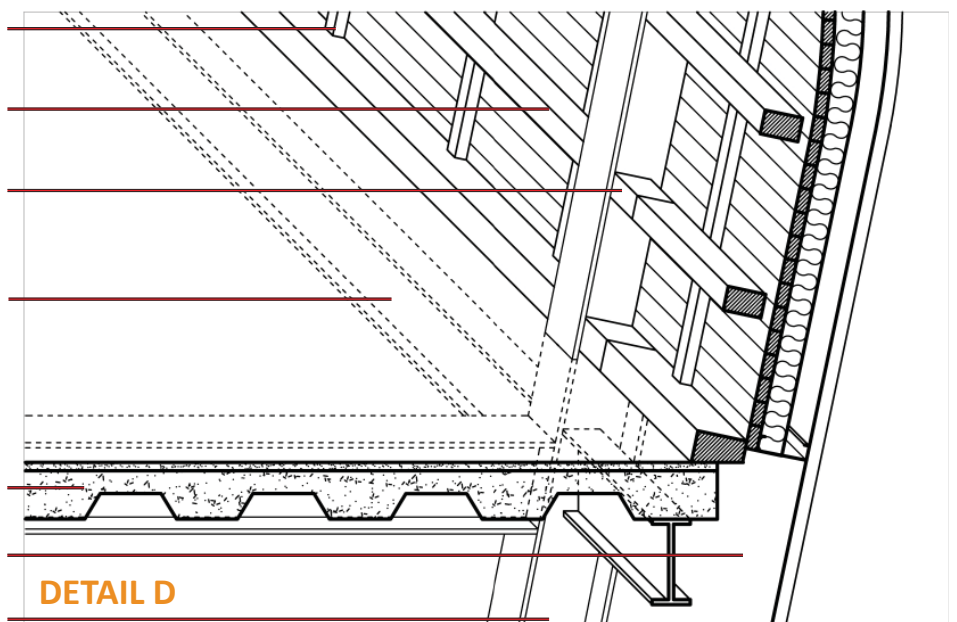
75x120x80mm galvanised mild steel C cleat,
butt welded to steel I beam at specified
centers and predrilled

114x254 galvanised steel I beam

Form decking to be Brownbuilt 0.8mm thick
bond-dek Z275 spelter galvanised ASTM 446
grade C troughed interlocking permanent
formwork fixed at 2000mm centers to steel I
beams with concrete slab depth of 140mm.

Sisalation 420 heavy industrial grade
reinforced aluminium foil insulation double
sided.

114x254 galvanised steel I beam

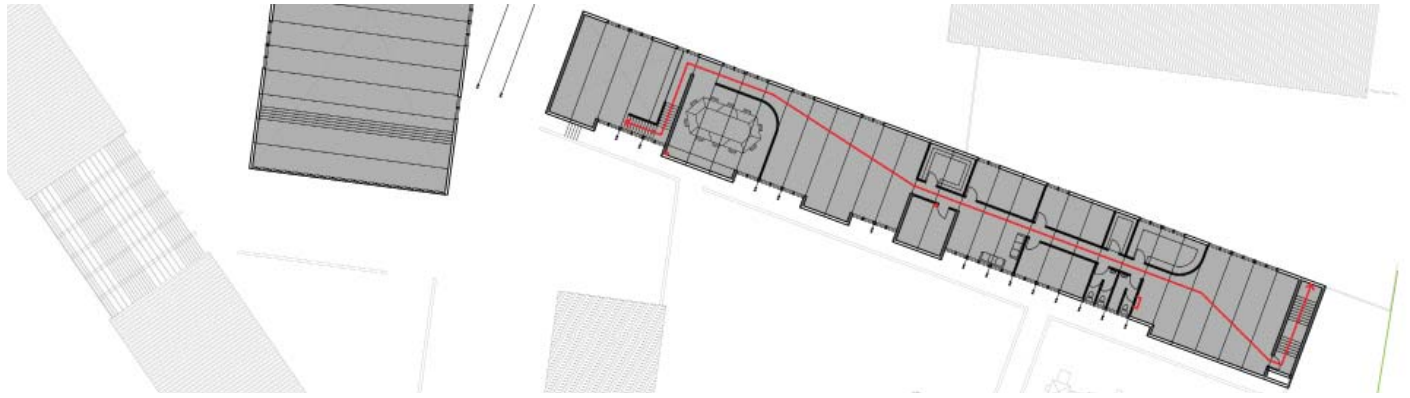


DETAIL D

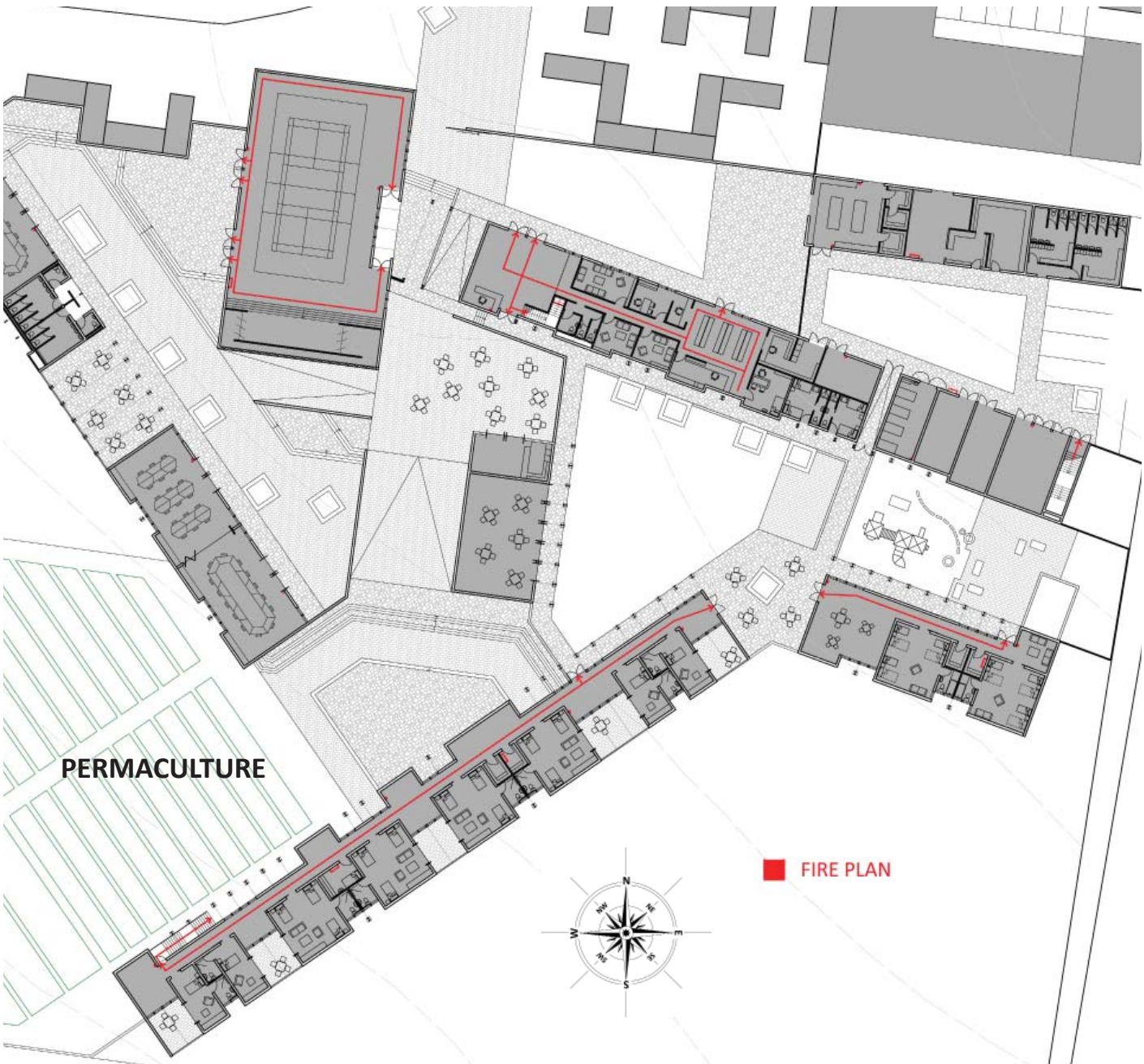
220. Detail D



10.6 SERVICES - FIRE PLAN



221. First floor - fire plan



222. Ground floor - fire plan

10.6 SERVICES - CATERING PLAN

10.6 SERVICES

FIRE PLAN

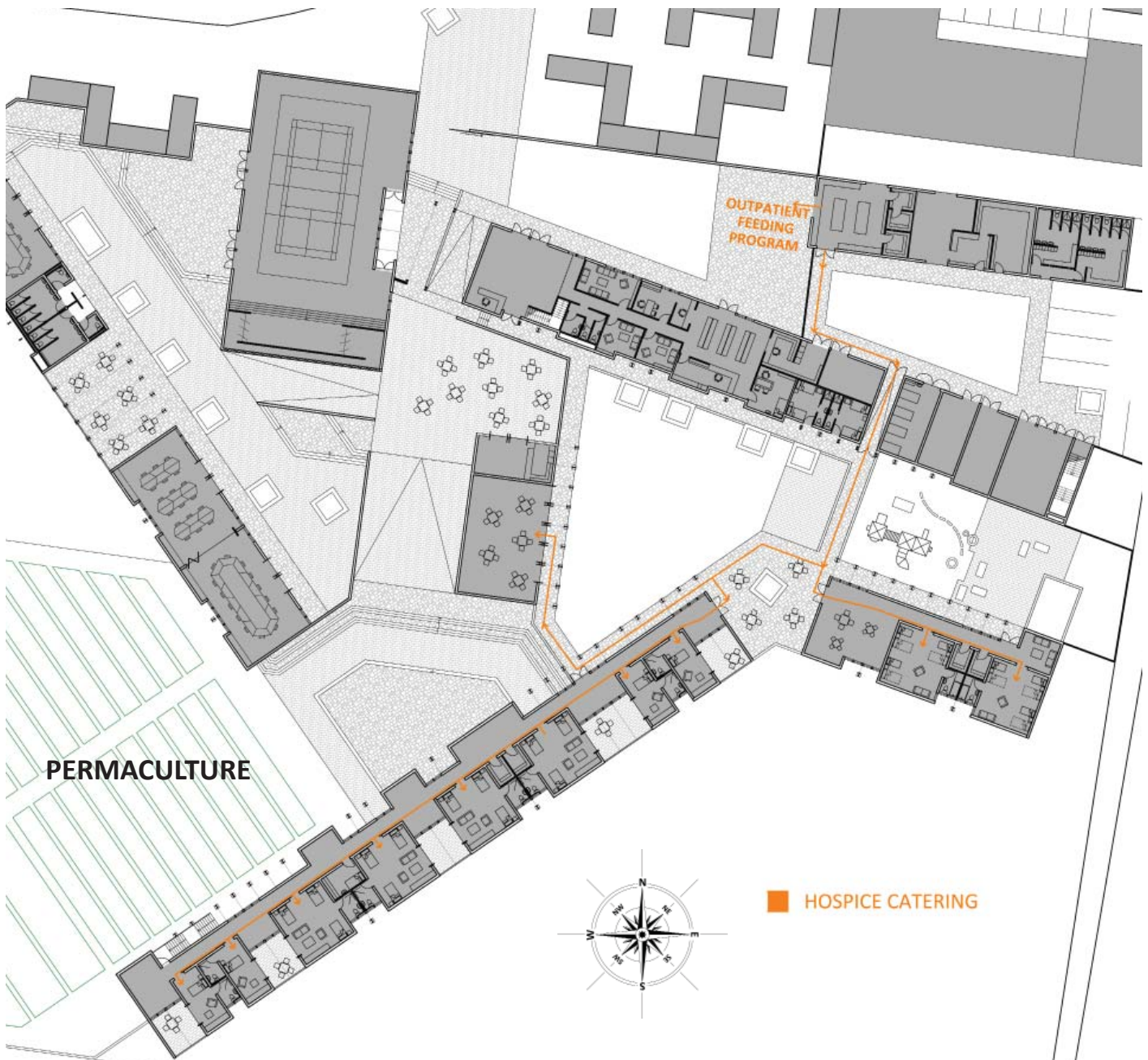
The fire plans have been completed in accordance with section T of the National Building Regulations. Two or more fire escape routes have been provided when necessary. And a fire hose reels or alternately fire extinguishers of sufficient number have been accommodated in all the buildings.

In the Hospice sections of the facility the hose reels etc. have been placed within the sluices rooms allowing for more efficient water provision and centrality to the building.

CATERING PLAN

The Kitchen is placed within the service building and has access to a service entrance for the removal of waste and to take delivery of supplies. The kitchen

is also optimally placed to serve into the outpatient courtyard as part of the Hospices feeding scheme. Food is then delivered in individual servings to Hospice wards and bain-maries to the day rooms, for those patients who are able and prefer to eat in a conventional dining setting, rather than in bed.



223. Ground floor - catering plan



10.6 SERVICES - WASTE PLAN



224. Ground floor - waste plan

10.6 SERVICES - DRAINAGE PLAN

WASTE PLAN

Waste and laundry are collected for the facility and brought, in the case of medical and normal waste to the waste management centre, while laundry would proceed to a sluice room adjoining the waste centre. The medical waste is collected by specialised companies that deal with its disposal or incineration off site. Laundry then passes from the sluice room (after bio hazardous waste

is removed) to a section in the laundry for cleaning and then eventually into an area for drying and ironing.

DRAINAGE PLAN

Drainage from the service building is unfortunately too remote to be harnessed cost-effectively and is therefore linked to the municipal connection. While the rest of the site's sewerage is channelled down to the sub floor plan of the hospice into an

above ground bio-reactor, the Lilliput system mentioned before in 10.3 SUSTAINABILITY. The resulting water is then safe to use for the irrigation of the permaculture garden.



225. Ground floor - drainage plan

CONCLUSION

CHAPTER 11

This thesis set out to investigate meaning and life in architecture through the design of a Hospice which facilitated the process of dying. The juxtaposition of such elemental forces as life and death helped throw the concepts into stronger contrast, creating a rich research field to draw from. After investigating the area it became evident that although meaning and life was discussed frequently and expounded as a good design principle it was never quite pinned down, nor defined. When such definition was given it became to the architectural style, or was so broad it could apply to anything one could dream up.

The thesis then endeavoured to find its own principles by which life could be achieved and it was argued that through the embodiment of movement, visual interest, meaning, memory, choice and integration, life could be brought to the architectural form. And that this would not only create a dynamic architectural aesthetic that responded to its surroundings, but would also support the physical, emotional and spiritual needs of the Hospice's patients, their family and community members. The design then attempted to embody these principles while providing a facility that not only embodied life, but could indeed function efficiently and correctly for its needs. The concept was applied right down to the detailed connections and woven spaces of the dying.

Mamelodi proved to be an exciting and dynamic area within which to work, with many opportunities and design informants, which greatly affected the design process and development of the concept - for community involvement was of great importance to allow the building to achieve life. For if the building - through lack of social sustainability - became shunned, it would impact negatively on the surround area, making the space a place of only death.

The research and conclusions drawn through the process of completing this thesis are far from exhaustive and defining. But one opinion amongst many on the subject matter, tailored for the specific site and circumstances surrounding the design and functions of a hospice within the context of Mamelodi.

REFERENCES

BIBLIOGRAPHY

REFERENCES

BIBLIOGRAPHY

1. ALEXANDER, C. 2002. *The Nature of Order – An Essay on the Art of Building and the Nature of the Universe – Vol. 1 The Phenomenon of Life*. California: The Centre for Environmental Structure.
2. ALEXANDER, C. 2002. *The Nature of Order – An Essay on the Art of Building and the Nature of the Universe – Vol. 2 The Task of Creating Life*. California: The Centre for Environmental Structure.
3. ALEXANDER, C. 2002. *The Nature of Order – An Essay on the Art of Building and the Nature of the Universe – Vol. 4 The Luminous Ground*. California: The Centre for Environmental Structure.
4. ALEXANDER, C. ISHIKAWA, S. SILVERSTEIN, M. 1977. *A Pattern Language: Towns, Buildings, Construction*. UK: Oxford University Press.
5. AMERICAN BRAIN TUMOR ASSOCIATION (ABTA). 2010. *Palliative Care*. [Internet] www.abta.org/index.cfm (Accessed 23/04/2010)
6. AMITABHA HOSPICE SERVICE (AHS). 2010. *A Brief History Of Hospice*. [Internet] www.amitabhahospice.org/public/who_we_are/general_history.php (Accessed 23/04/2010)
7. ARMSTRONG. 1987. *Bodies of Knowledge: Foucault and the Problem of Human Anatomy in SCRAMBLER, G. (ed.) Sociological Theory and Medical Sociology*. London: Tavistock.
8. BLACKWELL. 2007. *Encyclopaedia of Sociology Online*. [Internet] http://www.sociologyencyclopedia.com/public/tocnode?id=g9781405124331_chunk_g978140512433110_ss2-3 (Accessed 23/04/2010)
9. BNET. No Date. *A sketch depicting a prisoner of in a Panopticon*, [Internet] <http://www.bnet.com/blog/advertising-business/corporate-america-8217s-new-anti-consumer-mantra-> (Accessed 04/10/2010)
10. BOLTON, R. 1989. *Figments of the Public: Architecture and Debt*, in DIANI, M. & INGRAHAM, C. 1989. *Restructuring Architectural Theory*. USA: Northwestern University Press.
11. CHURCHMAN, C.W 1971. *The design of Inquiring systems*. in ZEISEL, J. 1981. *Inquiry by Design: tools for environmental research*. UK: Press syndicate of the university of Cambridge.
12. CLENDENIN. 2010. *Mamelodi Stories*. [Internet] <http://www.mamelodistories.org/image-gallery> (Accessed 16/07/2010)
13. COCHRANE, A. & TALBOT, D. 2008. *Security, Welfare, Crime and Society*. England: Open University Press.
14. CONOR, S.R. 1998. *Hospice: Practice, Pitfalls and Promise*. USA: Taylor & Francis.

15. CSUSTAN. no date. *Agricultural Studies*. [Internet] www.csustan.edu/AGStudies/Permaculture_conc.htm. (Accessed 24/10/2010)
16. DAY, C. 2008. *Places of the Soul – Architecture and Environmental Design as a Healing Art – Second Edition*. Oxford: Elsevier.
17. DAY, C. 1990. *Places of The Soul – Architecture and Environmental Design as a Healing Art*. San Francisco: The Aquarian Press.
18. DECKLER, T. & GRAUPNER, A. & RASMUSS, H. 2006. *Contemporary South African Architecture in a Landscape of Transition*. Cape Town: Double Storey Books.
19. FCBS - Feilden Clegg Bradley Studios. 2008. *New Offices, Hospice and Chapel - Ingwavuma Orphan Care - Project Brief and Concept Development*. Durban, South Africa: Unpublished.
20. FOOD VISION. no date. *Offshoots Permaculture*. [Internet] <http://www.foodvision.gov.uk/pages/offshoots-permaculture-project> 24/10/2010 food vision - offshoots permaculture project. (Accessed 24/10/2010)
21. GIBRAN, K. 1926. *The Prophet*. Great Britain: Bookprint.
22. GUENTHER, R. & VITTORI, G. 2008. *Sustainable Healthcare Architecture*. New Jersey: John Wiley & Son.
23. HADLEY GROUP. No Date. *sheeting*. [Internet] <http://www.hadleygroup.co.uk/Portals/0/images/common/Curved-Corrugated2.jpg> (Accessed 21/10/2010)
24. HIMMELBLAU, C. 1984. *Architecture is Now*. London: Thames and Hudson.
25. HYDRAFORM. 2010. *Hydraform installation*. [Internet] www.hydraform.com/BuildingSystems/Hydraform-Dry-Stacking.asp (Accessed 21/10/2010)
26. JONES, B.D. 2001. *Politics and the Architecture of Choice: Bound Rationality and Governance*. USA: The University of Chicago Press.
27. KENNEDY, J. FENTON, N (e), COLLERTON, P. (d) 2003. *The Boy Whose Skin Fell Off*. UK: A VIPP FILMS production for Channel 4.
28. KYLE, A. 2010. *Glossary of Dermatology Terms*. [Internet] www.southbayskindoctor.com/glossary.htm (Accessed 23/04/2010)
29. LAST.FM. No Date. *Stethoscope*. [Internet] <http://www.last.fm/user/Gaffer74> (Accessed 04/10/2010)

30. LILLIPUT TREATMENT TECHNOLOGIES. 2010. *Sewerage Effluent Treatment*. [Internet] www.lilliput.za.net (Accessed 18/10/2010)
31. LINN0100. No Date. *Newyork City*. [Internet] <http://blog.lib.umn.edu/linn0100/architecture/> (Accessed 04/10/2010)
32. LIPMAN, A. 2010 *An Impatient Patient's View, Architecture South Africa, Journal of the South African Institute of Architects - Architecture of Security* (Jan/Feb) End Piece
33. LUPTON, D. 1997. *Chapter 5 - Foucault and the Medicalization Critique*, published in PETERSEN, A. & BUNTON, R. (e) 1997. *Foucault - Health and Medicine*. London: Routledge.
34. MAMELODI TRUST. 2010. *About Mamelodi*, [Internet] <http://www.mameloditrust.org.uk/about.htm> (Accessed 16/07/2010)
35. MARCUSE, H. 1959. *The Ideology of Death*, in HERMAN, F. (ed.) 1959. *The Meaning of Death*. New York: McGrawHill.
36. MARKUS, A. & CAMERON, D. 2002. *The Words Between the Spaces – Buildings and Language*. London: St Edmundsbury Press.
37. MEDICAL ONCOLOGY GROUP OF AUSTRALIA (MOGA). 2010. *Oncology Glossary*. [Internet] www.moga.org.au/patients-carers/oncology-glossary (Accessed 23/04/2010)
38. MIKELLIDES, B (e) 1980. *Architecture for People*. London: Studio Vista – Cassell.
39. MTONGANA, L. 2008. *The Changing Face Of SA's Townships*, [Internet] http://www.sagoodnews.co.za/newsletter_archive/the_changing_face_of_sas_townships.html (accessed 16/07/2010)
40. NACHWEY, J. 2010. *Mandela's Children* in (e) JOHNS, C. June 2010. *National Geographic - Greenland, Ground Zero for Global Warming*. USA: National Geographic Publishing Group.
41. NHO (The National Hospice Organization) 1993. *Standards of a Hospice Program of Care and the Self-Assessment Tool*. Arlington: The National Hospice Organization.
42. NICE, J.A. 2008. *Community Engagement - South Africa: A development in community theory and education engagement - Architecture A Facilitator*. University of Pretoria, South Africa : Unpublished Masters Thesis.
43. PETER RICH ARCHITECTS. 2010. *The Alexandra Interpretation Centre*. [Internet] <http://www.peterricharchitects.co.za/alexandra.php> (Accessed 10/05/2010)
44. PETERSEN, A. & BUNTON, R. (e) 1997. *Foucault - Health and Medicine*. London: Routledge.

-
45. PHAIDON PRESS, 2008. *The Phaidon Atlas of 21st Century World Architecture*. London: Phaidon.
 46. PROKOPOVYCH, O. 2008. *Death and Progressive Social Vision: Marx and Marcuse on Mortality and Medicine*. [Internet] www.allacademic.com//meta/p_mla_apa_research_citations/2/3/8/1/4/pages238142/p238142-1.php (Accessed 25/04/2010)
 47. RATTENBURG, J. 2000. *A living Architecture: Frank Lloyd Wright and Taliesin Architects*. London: Pomegranate Communications Inc.
 48. SANTEFE FARMERS MARKET. No Date. *formdecking*. [Internet] <http://www.santafefarmersmarket.com/institute/construction/construction080603.jpg> (accessed 21/10/2010)
 49. SAPA. 2010. *Bullets fly in Mamelodi Protest, Sunday Times* [Internet] <http://www.timeslive.co.za/local/article345297.ece> (accessed 16/07/2010)
 50. SASIX. no date. *Permaculture Training for a Community Food Garden*. [Internet] www.sasix.co.za/projects/view/FS-NW-MAY-0063/ (Accessed 24/10/2010)
 51. SCOTT, G. 1961. *The Architecture of Humanism*. London: Methuent.
 52. SCHWARTZ, B. BRENT, R. 1999. *Aging, Autonomy, and Architecture: Advances in Assisted Living*. USA: The John Hopkins University Press.
 53. STATISTICS SOUTH AFRICA (STATSSA) 2009. *Mortality and Causes of Death in South Africa, 2007: Findings from Death Notifications*, [Internet] <http://www.statssa.gov.za/publications/P03093/P030932007.pdf>. (Accessed 14-03-2010)
 54. UNWIN, S. 2009. *Analysing Architecture - third edition, revised and enlarged*. New York: Routledge.
 55. VERDERBER, S. & REFUERZO, B. 2006. *Innovations in Hospice Architecture*. New York: Taylor & Francis.
 56. WASSERMAN, B.L. SULIVAN, P. & PALERMO, G. 2000 *Ethics and the Practice of Architecture*. Canada: John Wiley & Sons.
 57. WINBLOCK. No Date. *winblock window*. [Internet] <http://www.winblock.co.za/> (Accessed 21/10/2010)
 58. WORLD BUILDING DIRECTORY. 2009. *Sheep Stable*. [Internet] <http://www.worldbuildingsdirectory.com/project.cfm?id=284> (Accessed 18/08/2010)
 59. ZEISEL, J. 1981. *Inquiry by Design: tools for environmental research*. UK: Press syndicate of the university of Cambridge.
 60. ZULULAND ZIG-ZAG. 2010. *Mtunzini*, [Internet] www.zululandzigzag.co.za/zululand-mainmenu-37/mtunzini.html (Accessed 27/05/2010)