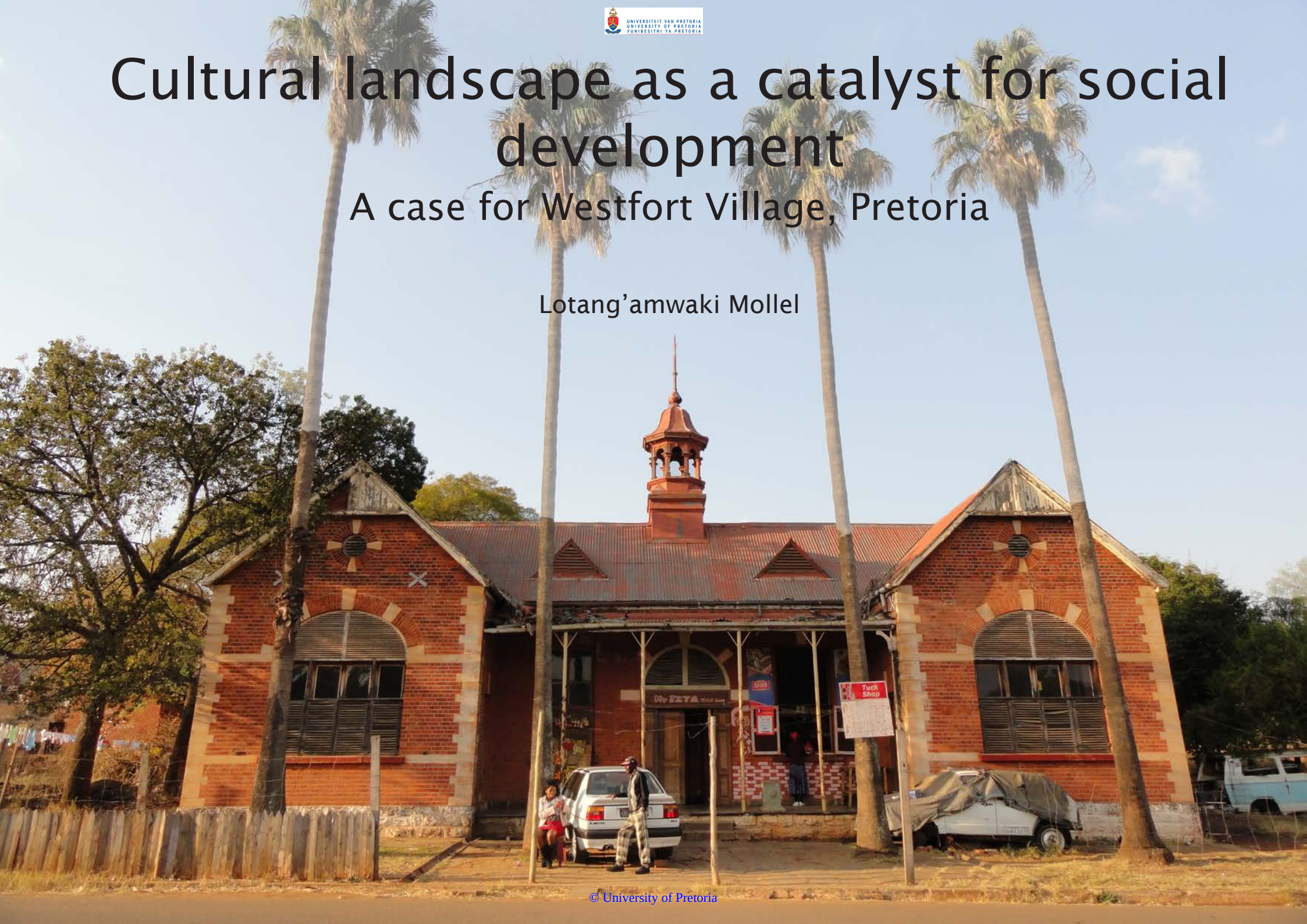
Cultural landscape as a catalyst for social development

A case for Westfort Village, Pretoria

Lotang'amwaki Mollel



Cultural landscapes as a catalyst for social development

A case for Westfort Village, Pretoria

Lotang'amwaki Mollel

Submitted in fulfilment of part of the requirements for the degree Master of Architecture (Professional) in the Faculty of Engineering, Built Environment and Information Technology,
University of Pretoria

November 2018

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The Site:
Westfort, Broekscheur 318-Jr, Pretoria
25°44'04.89''S
28°04'43.01''E

Programme:
Day-care clinic in a former leprosy institution

Clients:
Gauteng Department of Health and community of Westfort Village

Research field:
Heritage and Cultural Landscapes;
Human Settlements and Urbanism

Theoretical premise:
Spatial justice and heritage preservation

Architectural approach:
Adaptive re-use

Edited by:
Genevieve Wood

Abstract

Westfort Village, in Pretoria West, is a previous leprosy institution isolated from the rest of Pretoria, soon to be consumed in the urban fabric of a developing Pretoria West. The Westfort Leprosy Institution has since ceased to exist, leaving the site abandoned. The site is now home to occupants who have appropriated the abandoned buildings. Westfort Village is a site of heritage value and social issues. The research presented here uses heritage as a catalyst for social development (to combat social issues). Spatial justice and heritage preservation are used as theoretical frameworks to read and intepret Westfort Village. These readings result in an acknowledgment of the precinct as well as site-specific heritage, while adding a new layer to the site that both respects and contrasts with the existing built fabric. Addressing social injustices through the provision of public amenities may provide innovative ways of engaging with built heritage. Furthermore, the adaptive re-use of heritage residential buildings for public amenities provides an alternative way of adding to the architecture of Westfort Village.

Keywords:
Heritage Social justice Adaptive reuse Westfort Village

Acknowledgements

No man is an island; this work would have been possible without the help of generous people. I would like to acknowledge and express my sincere gratitude to the following people:

My parents, Prof Naftali Medoti Mollel and Dr Margaret Huruma Mollel,
for your continuous love and support. Thank you for enabling me to take this opportunity.

My sisters, Nailejileji Mollel-Matodzi & Ulumbi Lamola,
for your patience, love and support.

Johan Swart,
for your guidance, patience and belief in my ability.

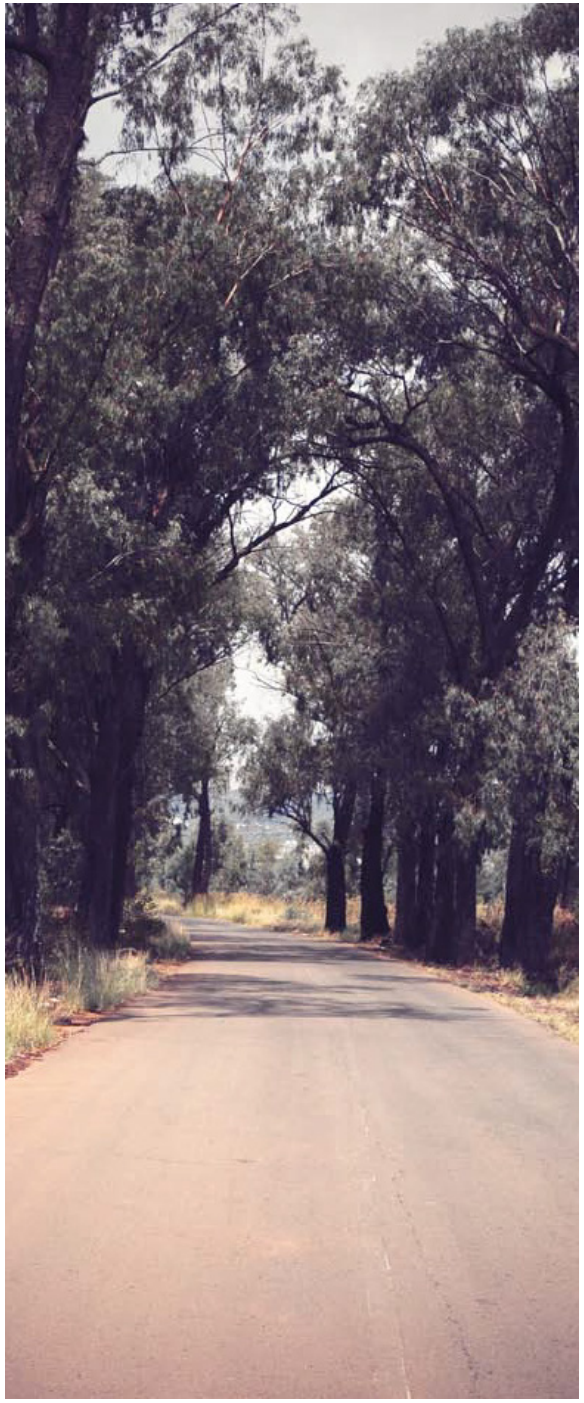
Prof Arthur Barker,
for your advice and encouragement in a difficult year.

Paballo Sebilwane and the rest of my friends,
who walked this journey with me.

'Monochromatic',
for being my architectural support system.

Dipuo Matena; Nthabeleng Mothamaha; Lungile Cindi; Joseph Kigozi; Audrey Nanjala; and Molebogeng Mokolane,
for helping make this project a reality.

God, my Heavenly Father,
for enabling me to steward this gift of creativity, giving me the desire to use what You have blessed me with to serve others, honour You and to do this to make much of You.



Dedications

Dedicated to my lovely parents,
who instilled in me the need for academic pursuit. An academic pursuit that is then used to serve the greater society. Thank you for showing me how to love and serve my neighbours. *Nawashukuru wazazi wangu*

To the residents of Westfort Village,
who taught me that resilience and hope may come about in any circumstance.

May our profession continue to serve the interest of our society.

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Normative position

My experience and growth as an architecture student have strengthened my cultural convictions and identity as an African. As a consequence I view myself (and my work) as that of Critical Regionalist, blending influences that are ancestral (Tanzanian), localised (South African), & globalised (Western). Furthermore, I am an advocate for what is local, what is just, and how our local history influences our current condition.

I strive to view architecture through a contextualised lens, therefore architecture must be connected to the past; that is to say, it must be influenced by the past so as to improve the present. Heritage in all its forms is something that we ought to take pride in, document, and research for a better understanding of respective cultures, which will inform the architecture created. To add to that, architecture ought to solve issues, which once resolved will enrich our lives and better our lived spaces. Furthermore, architecture is social, centred on people – considering their cultural values and social needs. Architecture may be used as a tool to rectify injustices (in whatever way, shape or form). Since social injustices are manifested spatially, such responses to these injustices must occur spatially.

The priority to contextualise through history and society leads to discourses on critical regionalism. Critical Regionalism, as defined by Kenneth Frampton, addresses the particulars of a place and culture (Canizaro 2007:71), where it mediates between the ‘local language’ and the ‘global language’ (Canizaro 2007:123). This mediation is accomplished through an acknowledgement of local social needs; the use of local resources (local materials and technology); and the recognition of the geographical characteristics of a place.

The culmination of all of this is an architecture that creates good, livable spaces that acknowledge local heritage, and address societal needs so that future generations may benefit from architecture. I subscribe to critical regionalism, valuing history, and concerning myself with the past and society, such that I can better understand the present and respond to it appropriately.

Bearing the above-mentioned in mind, Westfort Village is a site of an immense heritage (Kuipers 2015:10). However, due to the abandonment of the site and its subsequent re-appropriation, much of its heritage has been neglected. On the one hand, Westfort Village presents a heritage site, and on the other hand, a site with pressing social needs. Can this normative position bridge between the two aspects of Westfort Village?

CHAPTER 1

INTRODUCTION

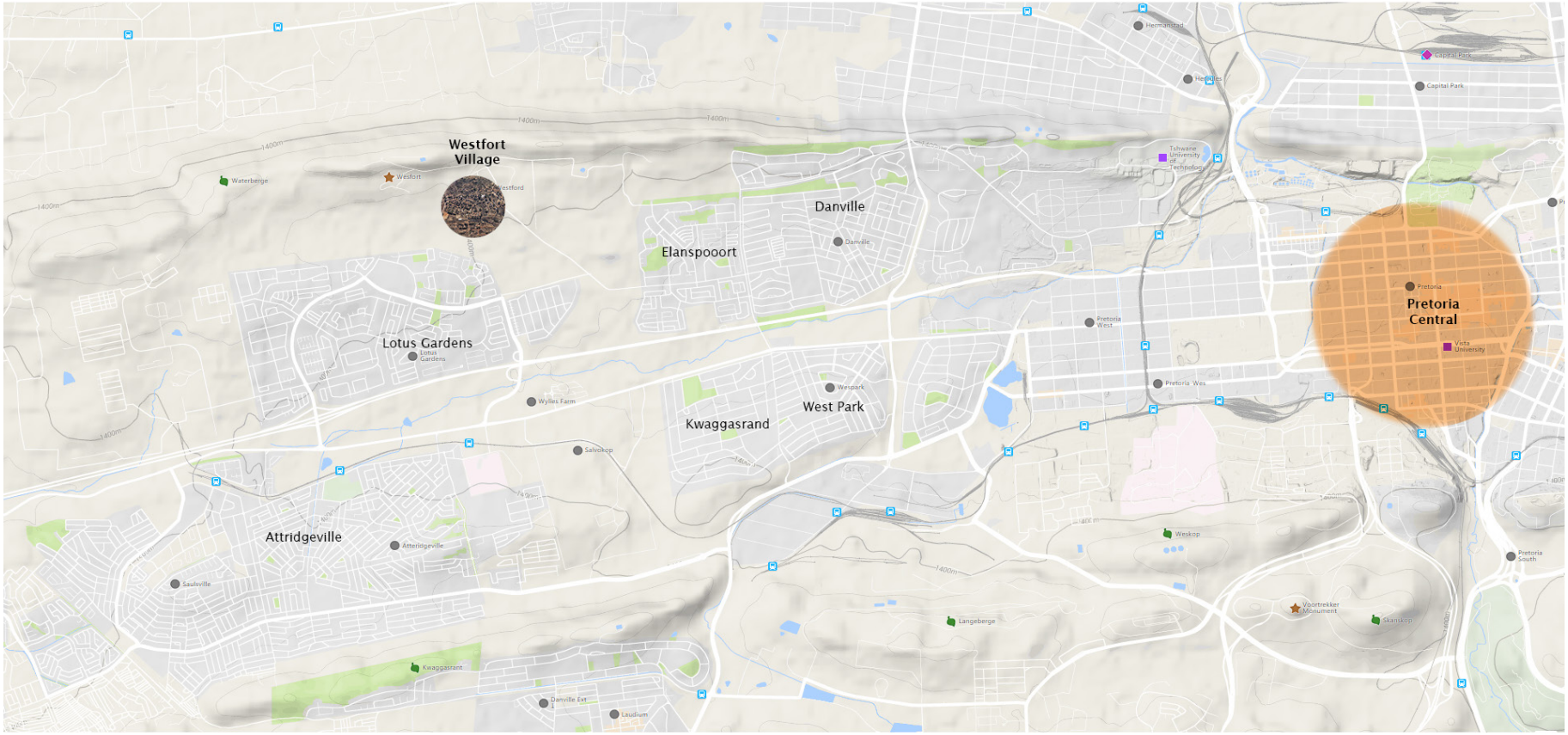


Figure 1-1: Location of Westfort Village

1.1. Introduction

Westfort Village is located in Pretoria West as seen in figure 1-1, approximately five kilometers from the Pretoria Central Business District (CDB). For most of the history of Pretoria, the west was seen as the 'forgotten' part of Pretoria. Various industries and 'undesirable' institutions (such as a leprosy institution and psychiatric institution) are located in Pretoria West. However this notion of the west has changed in recent years, due to urban development. There has been concentrated effort (by government and private developers) to provide residential development in Pretoria West, due to its proximity to the CBD as well as government's efforts to address past inequalities through the provision of housing (Tissington 2011:8).

Metropolitan urbanisation refers to the outward expansion of cities towards the urban periphery (Qvistrom 2017:239), due to government urban policies, urban-rural migration and economic opportunities. Isolated landscapes that were once rural are absorbed into the urban fabric and heritage landscapes are likewise affected by urbanisation, as will be illustrated in the case of Westfort Village (figure 1-2). Urban policy is concerned with the welfare of local residents in an urban area. It involves the planning and delivering of public services in support of the development of the local economy (Blackman, 1996:5). Urban policies should manage and realise the opportunities and problems that result from urban areas. Unimplemented urban policies encourages urban sprawl, as this occurs cities are strained to provide housing, public amenities, and associated facilities. In South Africa unimplemented urban policies have led to rapid, uncontrolled metropolitan urbanisation. In response to this urbanisation, a 'one size fits all' approach to the provision of housing has been used, as seen in figure 1-3 (Du Preez 2009:47). Furthermore, unimplemented housing policies lead to the establishment of more informal settlements (and the illegal occupation of land), which is a wider phenomenon in South Africa.

1947

2017

Figure 1-2: Westfort development over time (Author 2018). refer to Appendix C on page 190 for more detailed development over time.

Figure 1-3: Fort West RDP Housing (Author 2018)

1.1.1. Effects of urban developments on heritage landscapes

Urban development that is not governed by government urban policies has a number of effects on cities. Firstly, ungoverned urban development results in new developments on cultural landscapes (Bridge & Watson 2011:386).This is due to heritage landscapes generally being perceived as open, free land for development use (Qvistrom 2017:259), which in turn frequently leads to a loss of a formerly coherent heritage landscape. These new developments often neglect the history and the multiple voices given expression in a heritage landscape. Secondly, urban

development leads to increased environmental pressure on a landscape (Cui et al 2011:480) to provide for the increasing population. This increased population results in increased pollution and degradation of agricultural land. These effects are evident in Westfort Village.

Furthermore, ungoverned urban development has affected Westfort Village in the following ways:

- Additions to heritages buildings to accommodate the growing population – which degrades the built heritage;
- Changes in land use as new buildings are added to the landscape, more land is used for agriculture and new industries (Cui et al. 2011:481) are introduced to the heritage landscape (such as a pig farm and scarp yard), which all degrade the landscape and built fabric;
- Westfort Village had been neglected and abandoned; this gave rise to its illegal re-appropriation leading to its increasing population and development. The neglect and abandonment of Westfort Village highlights the unjust space that Westfort Village has become.
- While there has been an increase in residential use of buildings in Westfort Village, there has not been an increase in public amenities to serve the residents of Westfort Village

1.1.2. Unjust heritage landscapes

Social injustice is the unfair treatment of people due to a neglect of their rights. Spatial injustice is the physical and spatial manifestation of social injustices. These injustices are influenced by politics, market forces and urban planning, which affect the allocation of resources (Bridge & Watson 2011:387). Space is intrinsic to social relations, therefore to address injustice we must change space(s) (Bridge & Watson 2011:408). In South Africa, the attainment of social justice in the wake of the structural inequalities introduced in the past is explicitly linked to attaining adequate housing (Culwick 2018), which the government seeks to provide for all previously disadvantaged citizens. With this in mind, Westfort Village has been unjust since its inception (it was isolated and segregated from society due to leprosy and its associations), and remains unjust, in the sense that the current residents – who are vulnerable individuals despite having access to housing – are isolated and segregated from economic opportunities, and the provision of public amenities where they live.

This isolation and segregation is a location disadvantage for the residents of

Figure 1-4: Temporary water provision in Westfort Village (Linstra 2016:11)

Figure 1-5: Lack of rubbish collection. Fire used as energy (for cooking and heating) (Clark 2014)

Figure 1-6: Buildings erected to provide sanitation (Swart 2015)

Westfort Village. Location disadvantage is defined as the situation in which 'where a person lives affects their opportunities, which contributes to their wellbeing and difficulty' (Bridge & Watson 2011:410). To rectify this location disadvantage, spatial justice has to be implemented through the redistribution of resources (Bridge & Watson 2011:410), particularly the provision of public amenities in Westfort Village. To what degree should the provision of public amenities contribute to the housing and social justice debate?

The debate of heritage in South Africa has been a continuous, evolving conversation. Questions pertaining to the significance, representation and management of our inherited heritage are pertinent. Historically, certain aspects of heritage have been misrepresented and often suppressed in the broader narrative of the country (Bakker 2011:48). Since 1994, the government has sought to rectify this, but in the process of rectification, certain forms of heritage that do not fit into the current political narrative[1] are neglected (such is the case in Westfort Village).[2] This raises the issue of an appropriate response to such neglected heritage sites

Westfort Village does not have access to basic services (see figure 1-4 to 1-6). Housing developments currently exist on the periphery of Westfort Village (see figure 1-10 on page 25) and these housing developments have access to basic services.These housing developments are typical of government-funded low income housing which is outdated and further perpetuates some social injustices (through lack of public amenities and distance from economic opportunities). To add to that, Westfort Village represents the debate on access to land for previously disadvantaged individuals - does their occupation and stewardship of Westfort Village constitute a right for the current residents to own Westfort Village? Futhermore, the complex heritage of Westfort Village has been neglected - by government authorities as well as developers. Westfort Village is therefore a microcosm of the complexity of urban development in South Africa, and as such presents itself as a worthwhile case study for consideration.

1. The political narrative of the emancipation of non-whites from the Apartheid regime. The emanicipation leading to the formation of a democratic South Africa.

2. The heritage of Westfort Village is linked to the history of leprosy as well as the shared Dutch-South Africa history.

1.2. Problem Statement

The general issue is urban development that is not governed by government urban policies resulting in abandoned heritage landscapes (figure 1-7) and acontextual housing models (figure 1-8), both of which constitute an unjust space. These unimplemented urban policies affects urbanisation, land use, resource allocation (figure 1-9) and access to land.

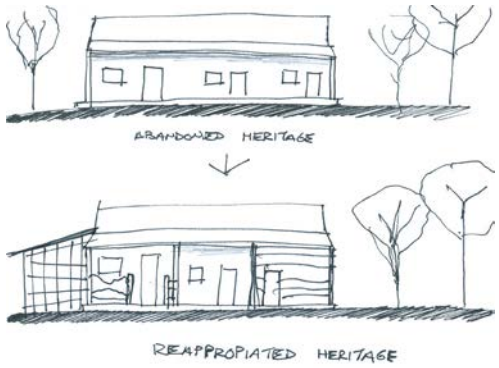


Figure 1-7: Reappropriation of Westfort Village (Author 2018)

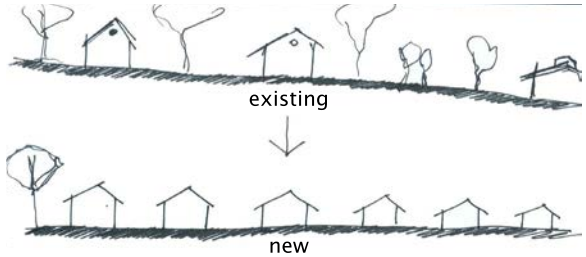


Figure 1-8: Tabula rasa approach to housing. Existing conditions are ignored and replaced by acontextual housing models (Author 2018)

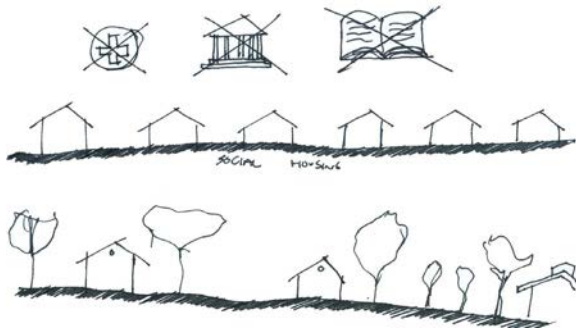


Figure 1-9: Lack of public amenities in both Westfort Village and RDP housing on periphery of Westfort Village (Author 2018)

The urban issue concerns the (lack of) integration of abandoned heritage landscapes and urban development resulting in instances such as Westfort Village, in which abandoned heritage landscapes have been illegally re-appropriated for residential use. Westfort Village and the Fort West RDP housing on the periphery of Westfort village (figure 1-10) do not have public amenities.

The architectural issue is the adaptive reuse of heritage buildings for public amenities. The public amenities are to serve the residents who occupy the heritage buildings. Therefore the main research question is as follows: how can the redevelopment of heritage buildings respond to contextual needs through adaptive reuse for public amenities?

The sub-research questions are as follows:

- What adaptive reuse approaches could be implemented around residential buildings for public amenities?
- How can social justice be achieved in a quasi-informal settlement, considering the contestation, legality and rights of that settlement (heritage landscape)?
- How can government housing models be improved so as to address the specific contextual needs of a site?

1.3. Past Research

Past research provided a reading of the village. Books such as *Eclectic ZA Wilhelmiens, A Shared Dutch Built Heritage in South Africa* provided the architectural influences from the Netherlands that contributed to the design of the village (Bakker, Clarke & Fisher 2014:165-168) and the context (during the Zuid-Afrikaansche Republiek) in which Westfort Village was built (Bakker, Clarke & Fisher 2014:3). Westfort Village has received focus from the Dutch Shared Cultural Heritage Mission. Furthermore, in 2015, the University of Pretoria Department of Architecture Honour's studio was focussed on Westfort Village. This generated a reading of the site, an identification of current issues and a re-imagination of the future of the site, which included adaptive reuse strategies. Dissertations focussing on the heritage potential (for narration and research), *The Heritage Portal* by Yvonne Bruinette as well as the ecological restoration of Westfort's cultural landscape, *For(t)midable Landscapes* by Tosca Grunewald. Various studies were undertaken on Westfort Village for Heritage Impact Assessments for various development proposals on the periphery of the site.

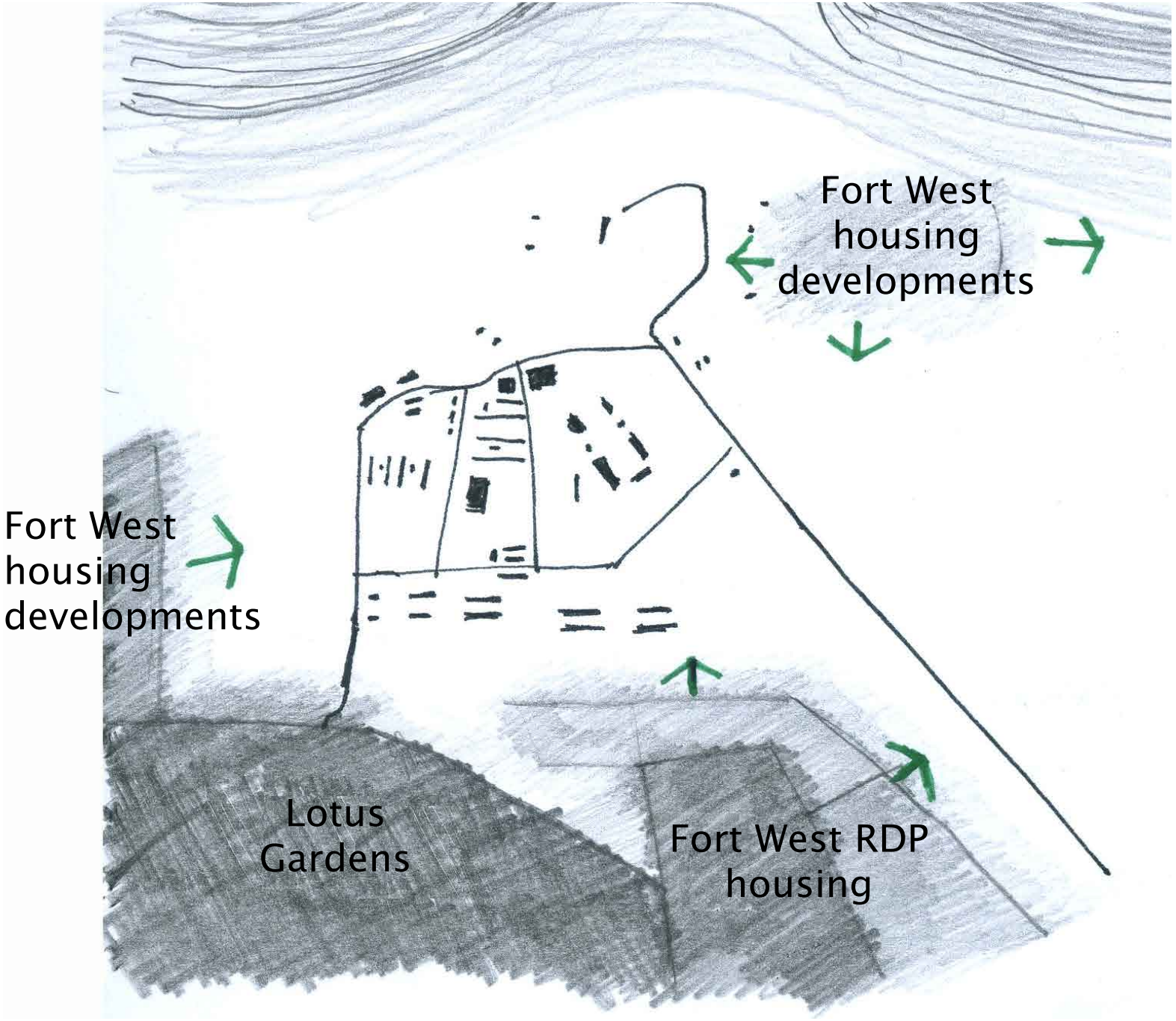


Figure 1-10: Housing developments on periphery of Westfort Village (Author 2018)

Upon perusal several research lacunae were detected. Firstly, the theme of social justice as it pertains to Westfort Village was not thoroughly investigated. Secondly, the discussion on social justice in South Africa has been centered on housing, where the provision of public amenities may too be seen as a form of social justice. Lastly, South African heritage discourse has focused on the reinterpretation of heritage according to prescribed methods as well as the reinterpretation that contributes to the current political narrative. Heritage that does not contribute to this narrative has received less attention.

1.4. Research Intentions

This dissertation seeks to:

- provide a framework for engaging with neglected heritage in a changing context. This entails strategies for heritage management; and
- to provide a reading and reinterpretation of the heritage in Westfort Village, considering the multiple voices of the village and providing a multi-layered interpretation of the site.

1.5. Design Intentions

The dissertation seeks to:

- on an architectural scale, to appropriate residential-scale buildings for an intended program that is not residential; and
- on a theoretical scale, to synthesis heritage stewardship and social justice.

This will culminate in the design of appropiate buildings that incorporates the above research and design intentions.

1.6. Research methodology

The methodological approach is qualitative and the research design will include textual/ narrative studies along with case studies.

The research actions (illustrated figure 1-11) will include a literature study on: the adaptive reuse and social justice theories to guide the dissertation; a history of Westfort Village for a better understanding of the site and its associations; and a synopsis of proposed programmes for the site. Furthermore, case studies and precedents studies will be conducted on abandoned sites that have been

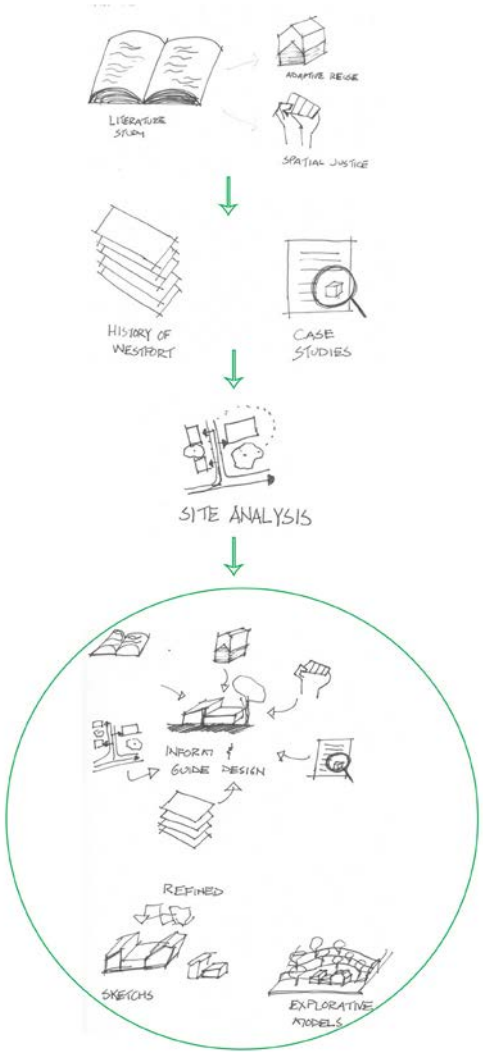


Figure 1-11: Research methodology (Author 2018)

appropriated. The case studies will be used to inform the way in which to engage with the site. A site analysis will be conducted which will provide for a better understanding of the site and provide informants to the architecture that will be created. All of the above will be used to inform and guide the design. Furthermore, the design will be tested and refined using sketches, explorative models and computer simulations.

1.7. Delimitations and assumptions

Although the entire Westfort Village is included and considered a holistic entity, the design focus will be on the Saint Mary Hospital and accommodating residences (figure 2-30 on page 52).

The assumptions are that the current residents of Westfort Village claim ownership of the heritage and are the custodians of the site, and that they therefore have the right (in principle) to remain in Westfort Village. Furthermore, the proposed residential developments to the Northeast, South and West of the village would commence. Since the entire village is protected by the 60-year clause of the National Heritage Act, any change made to the site should be appropriate to it.

The delimitations are as follows:

- the dissertation does not seek to design a new housing scheme incorporating the existing buildings in Westfort Village although such a scheme is proposed in the urban vision; and
- the dissertation does not seek to address the particulars of the restoration and adaptive reuse of the entire village.

1.8. Conclusion

Westfort Village is a site of potential, its heritage value and current social needs offer opportunity for certain buildings in the village to be re-appropriated. This re-appropriation would be influenced by the heritage of Westfort and will seek to address the social needs of its current residents.

CHAPTER 2

CONTEXT AND ANALYSIS

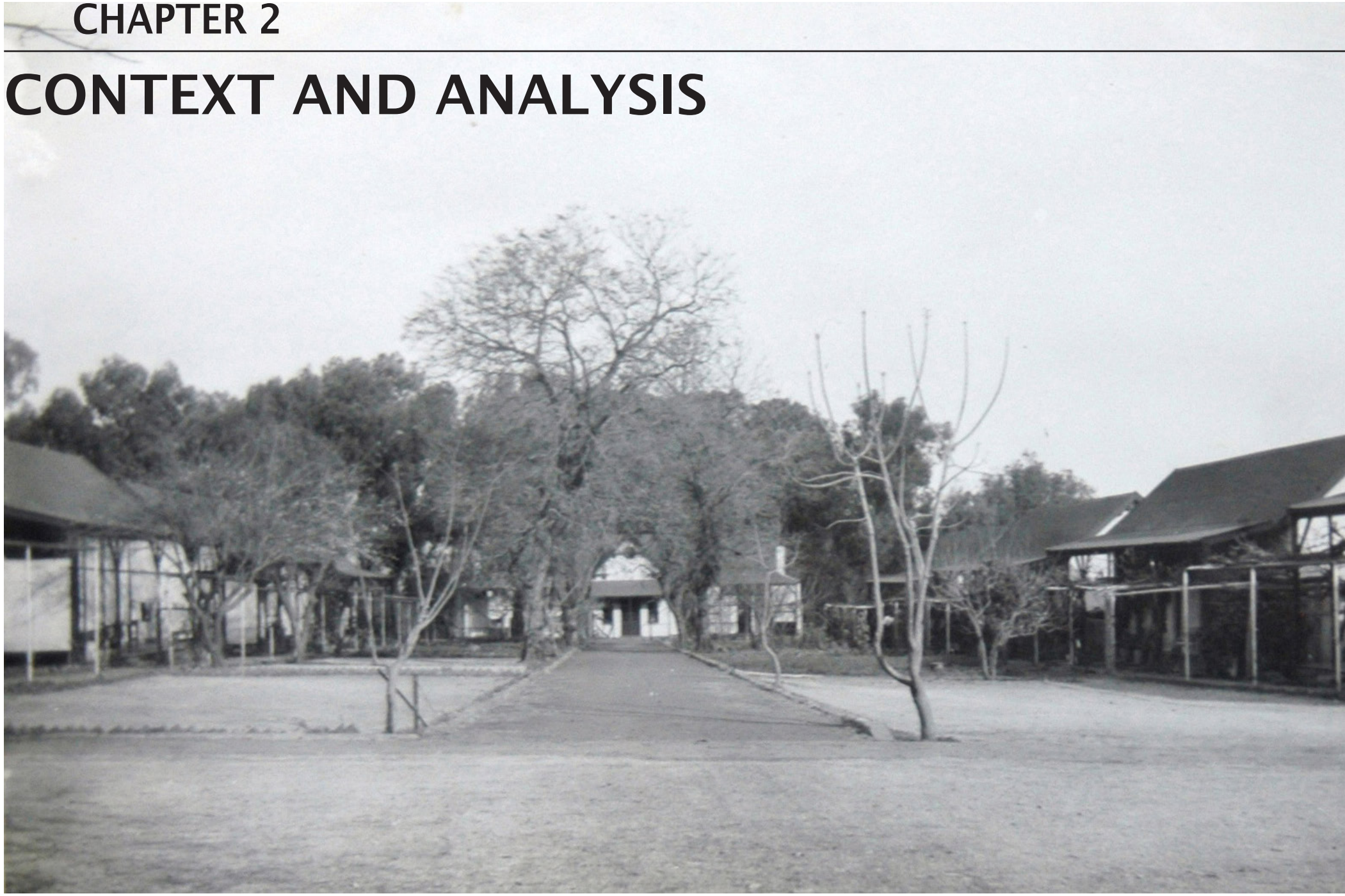


Figure 2-1: Location of Westfort Village adjacent to surroundings (Google Earth 2017). For images of alphabets listed, refer to the images on page 36.

2.1. Context

2.1.1. Westfort Village

The Westfort Leper Institution was established in 1897 by the Zuid-Afrikaansche Republiek (ZAR) Departement Publieke Werken[3] (Department of Public Works) (Kuipers 2015:8). It is situated on the southern slopes of the Magaliesberg, bordered to the South by Lotus Gardens, to the West by remnants of late Iron Age settlements (van Schalkwyk 2012:8), to the Northwest by Fort Daspoortrant and to the Northeast by the British Blockhouses. Both the Fort and the British blockhouses are ramnents of the Second Anglo-Boer War (Pelser 2016:20). Figure 2-1 illustrates the location of Westfort in adjacent to its surroundings. Westfort was originally built as an extension to the Daspoort Hospital to serve as the New Leprosy Asylum (Kuipers 2015:8). The initial buildings of Westfort were design by Sytze Wierda[4] and later additions were designed by Klaas van Rijsse[5] (Bakker, Clarke & Fisher 2014:7). The leprosy asylum developed organically (in distinct precincts) as the number of patients being admitted increased.

The development of Westfort Village was influenced by the medical and race theories of the time (Wolbers 2015:9). Leprosy was thought to have been a contagious and incurable disease; therefore patients with leprosy were to be separated from society (Kuipers 2015:8) for fear of the disease spreading. Furthermore, leprosy was perceived as a disease stemming from and perpetuated by the native Africans[6] (Horwitz 2006:282), hence the racial segregation of patients within Westfort Village (figure 2-2 to 2-3) and the development of unique precincts. In due time it became the only leprosy institution in South Africa after Robben Island was converted to a prison in 1930 (De Beer 2014:4). This institution was designed to be a self-sustaining village[7] through facilities that catered for this multi-ethnic Leprosy community.

Advances in medical technology eventually rendered the isolated leprosy institution redundant[8] in 1977. Soon after, Westfort Village served as an overflow facility for Weskoppies Psychiatric Hospital (De Beer 2014:4). By 1996 – almost a 100 years after it was established – Westfort Village had passed its useful operation. Westfort Village was abandoned, all services (including water and electricity) were terminated and the village was locked and secured.

By the mid-2000s, Westfort Village took on a new role, which was primarily residential. The current residents of Westfort Village are considered to be

Figure 2-2: Native male quarters, separated from the rest of Westfort, 1900s (Linstra 2016:11)

Figure 2-3: Coloured man outside his house, 1980 (National Archives of South Africa collection: 2018)

3.The name of the Department of Public Works during the ZAR in which Paul Kruger was the president.

4. Sytze Wierda was the chief architect of the Department of Public Works from 1887 to 1900.

5.Klaas van Rijsse was one of the architects for the Department of Public Works, he temporarily acted as chief architect before Sytze Wierda filled in that position.

6.Due to the 'unhygienic' living conditions of native Africans in the ZAR.

vulnerable people - single women with their children needing a safe haven; unemployed individuals seeking employment and illegal immigrants. None of these Individuals had housing and thus illegally occupied Westfort Village, making it their homes (Linstra 2016:12). Refer to appendix E on page 192 for a social description of the residents of Westfort Village. These residents are the current custodians of Westfort Village - safegaurding its heritage and demolishing new informal dwellings erected within the village by individuals who have not resided in Westfort Village. So that no new structures are erected without the consent of the current residents. This is the current resident's way of protecting Westfort Village. It is now an illegally-occupied settlement in a historic site. These current residents have social needs such as access to basic services[9], public amenities[10], job creation, improved housing and since the residents are considered vulnerable, certain government social services would be beneficial to them, which is not the case. However, the provincial government seeks to develop the periphery of Westfort Village into residential units (De Beer 2014:4), as indicated in figure 2-4 on page 33. There is no indication from government as to the future plans for Westfort Village as well as the current residents who occupy it (some of whom have since received RDP allocation).

Westfort represents a microcosm of the socio-economic and socio-political scene of South Africa. This includes factors such as: government urban policies; lack of integrated government structures; (lack of) provision of basic services; political lobbying of vulnerable people; and access and tenure ship of land; human rights; and the continuing debate of social justice.

Figures 2-10 to 2-18 on page 36 show the spatial quality, landscape and character of Westfort Village. Refer to figure 2-1on page 30 for the location of figures 2-10 to 2-18 within Westfort Village.

2.1.2. Meanings and associations

Throughout the existence of Westfort Village, various meanings and associations have been attached to it. Various literature sources were studied as they related to Westfort Village (from social, political to transnational issues), these readings were then synthesised into different meanings and associations. These meanings and associations provide a different lens with which to read Westfort Village. This ultimately provides a better understanding of Wetsfort Village and its complexities. These meanings and associations will be briefly discussed.

7. These faciities included churchs, pharmacy, police station, post office, milk depot, carpentry shop, smith and bookbinding workshop (Naude 2012:11-12).

8. Since leprosy could be treated at a local clinic. The Leprosy Segregation Law was repelled in 1979.

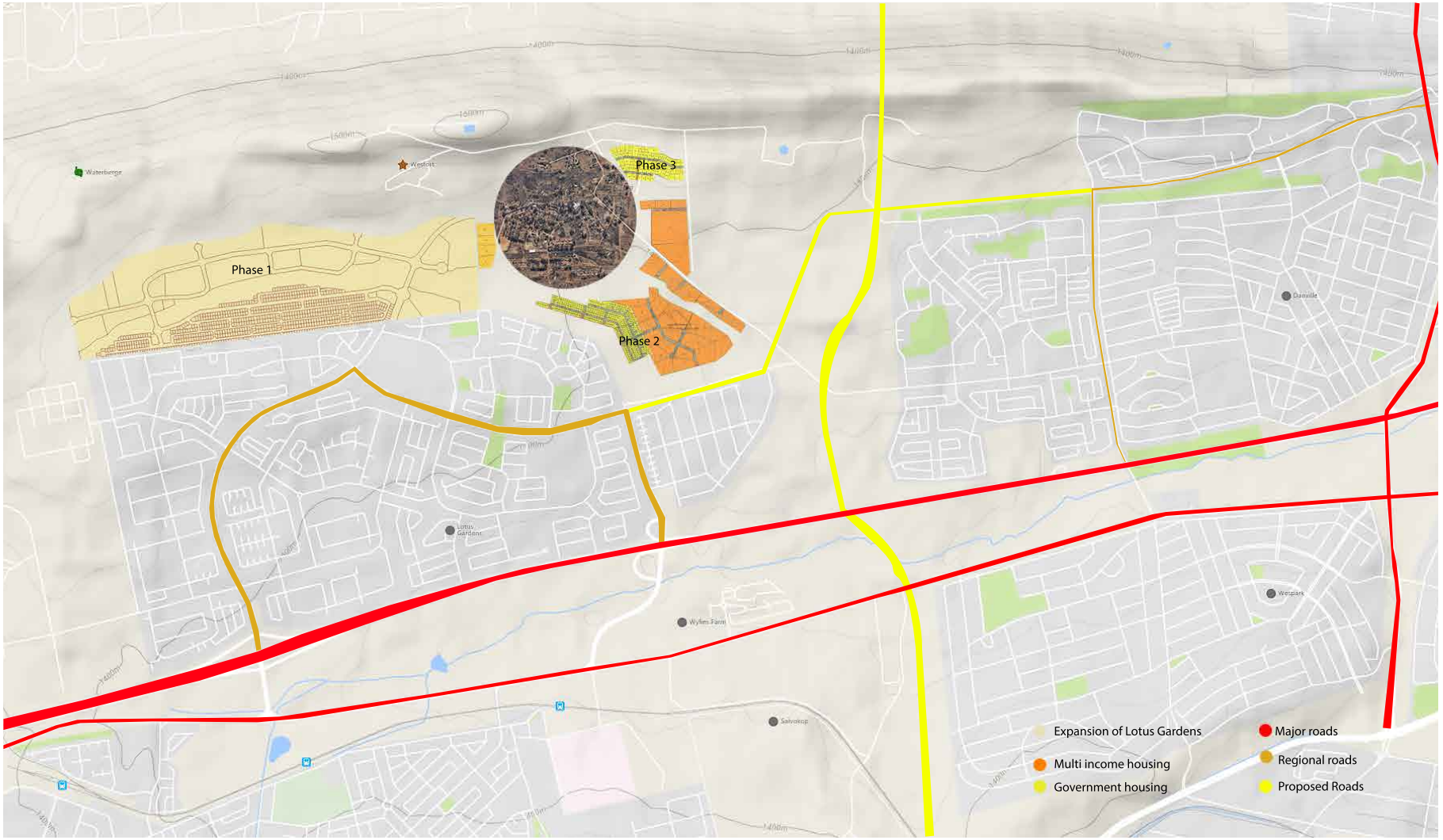


Figure 2-4: Proposed residential developments on periphery of Westfort Village by Gauteng Department of Local Government and Housing (Author 2018)

Leprosy

Medicine and health, in particular the understanding and study of leprosy (figure 2-5) had a profound influence on the spatial configuration of Westfort Village (Wolbers 2015:7). Due to the stigma and fear associated with leprosy (which stems from the ancient civilisations and their negative connotations of it), from the 1880s goverment policies were enacted that would define leprosy as being contagious and require that lepers be seperated from society for fear of contamination. As a cure become readily available, these government policies were retracted.

Figure 2-5: Doctors treating leprosy patient, 1981 (NASA 2015)

Westfort Village was isolated from Pretoria, and was situated on the foot of the Magaliesberg (to allow wind breezes into the village as this was thought to help cure leprosy). Watch towers and large fences separated the different patients from each other and prevented patients from escaping Westfort Village (De Beer 2014:4). This reinforced the idea of isolation and the village being a 'prison'(figure 2-2 on page 31).

9. Such as access to water, electricity and sanitation Portable toilets and water tanks have been provided to alleviate this problem.

Segregation

Segregated quaratine influenced the spatial layout and organisation of Westfort Village (figure 2-6). This segregation was influenced by and mirrored the developing racial order of Zuid-Afrikaansche Republiek. Native and white patients were treated differently and offered different privileges. This treatment of patients was at odds with the atmosphere of site, which is tranquil and immersed in rural nature. Patients were further segregated within Westfort from visitors, other patients, race, and gender (Horwitz 2006:272). This segregation of leprosy patients permeated into all spheres of life. Patients often ate, lived, worked, died and were buried within in the confines of the institution (Horwitz 2006:271).

Figure 2-6: Wedding ceremony attended by Natives only, 1979 (NASA 2015)

10. Public amenities includes health care facilities, educational facilities, economic facilities and recreational facilities.

Resistance

Throughout the history of Westfort Village, patients have made their grievances known by protesting and the signing of petitions (Horwitz 2006:284). This same spirit of resistance is evident in the current residents of Westfort Village, who are protesting for the provision of basic amenities, and striving to create a home and building a community despite the illegality of their occupancy.

Appropriation

Appropriation is evident Westfort Village. This is illustrated in the adaptation of a European architectural Style to suit the African context (Wolbers 2015:5), refer to figure 2-9. This appropiation resulted in the original design of buildings in Westfort Village. Furthermore, there is another kind of appropiation that has occurred in Westfort Village in its later years - the change of function from a leprosy institution to a residential settlement (see figure 2-7 to 2-8).

Dutch influence

Furthermore, there is an association with the Netherlands (Kuipers 2015:5). This is evident in the architects who designed the initial buildings in Westfort Village and the use of a Dutch precedent, Veenhuizen Colony, for the design of the initial village (Kuipers 2015:8). Refer to appendix B on page 189 for location of Veenhuizen Colony.

Unrecognised

Lastly, there are the unheard voices of Westfort Village that extend to the undocumented experiences of the patients of Westfort Village, the black labour that was forced to build Westfort Village (Bakker, Clarke & Fisher 2014:71) and the current residents of Westfort Village, whom the government has ignored (as evidenced by the lack of provision of basic services). Figure 2-19 on page 37 represents the other voices that have contributed to Westfort Village. Their contribution ranges from designing specific buildings to treating patients in specific buildings to individuals who lived and worked in some of the buildings in Westfort Village.

It is evident that Westfort's complex, layered history results in its contradictory associations. However such a heritage offers unique opportunities, which will be discussed.

Figure 2-7: Constructing new structures to accommodate adaptation of Westfort (Clarke 2014)

Figure 2-8: Constructing new buildings to accommodate adaptation of Westfort (Swart 2015)

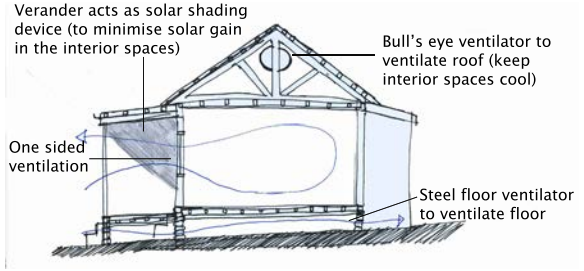


Figure 2-9: Architectural adaptation due to climate (Author 2018)

Figure 2-10: Native male quarters (Swart 2015). Image F

Figure 2-11: Dispensary (Author 2018). Image E

Figure 2-12: Demarcation of boundaries (Swart 2015). Image D

Figure 2-13: Trees defining edges (Swart 2015). Image A

Figure 2-14: Buildings in landscape (Swart 2015). Image B

Figure 2-15: 'New' hospital (Clarke 2014). Image C

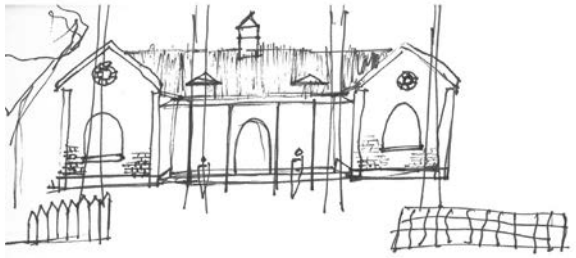


Figure 2-16: Administration building (Author 2018). Image G

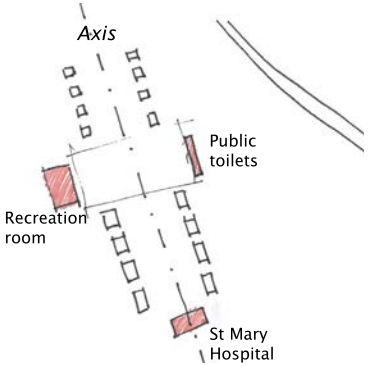


Figure 2-17: Spatial configuration (Author 2018). Image H

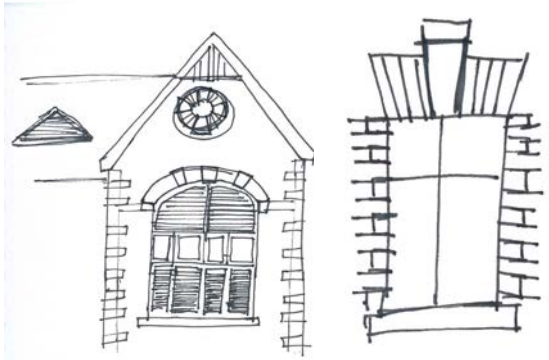


Figure 2-18: Administration building details (Author 2018). Image G

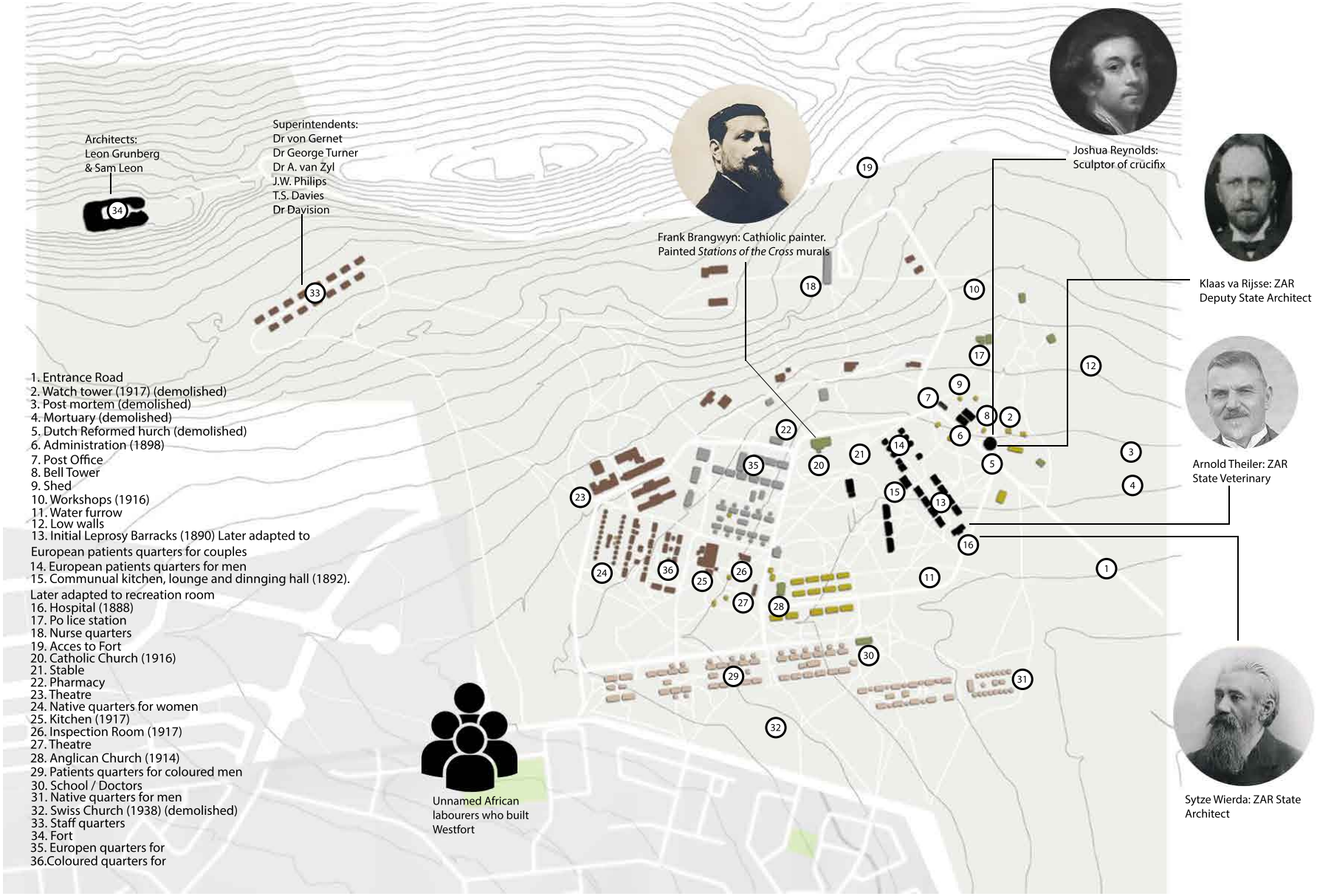


Figure 2-19: People who have contributed to Westfort Village (Author 2018)

2.2.1. Significance of Westfort Village

The general statement of significance for Westfort Village was influenced by the meanings associated with Westfort Village and a review of the general statements of significance from other Heritage Impact Assessments done in Westfort Village. This village is of exceptional cultural and historical significance due to its age, setting in landscape, architectural fabric of the buildings and the institution (Naude 2012:2). Thus classifying Westfort Village as a Grade 1 site according to the National Heritage Resources Act, which means that it should be a National Heritage Site. Westfort Village continues the narration of urban development, beginning with the Late Iron Age settlement (to the west of the site), to the village as a leprosy institution, to its current use as an quasi-informal settlement. Westfort Village is the only facility of its kind in South Africa classifying it as rare in terms of its cultural significance according to the National Heritage Resources Act (Naude 2012:2). Westfort Village is of significance to the general public, medical professionals (for its association with leprosy) and the new residents, who have made it their home, and have given the site hope.

Historical significance

Westfort Village is of historical significance as it represents the fight against leprosy in South Africa, throught the creation of a self-sustaining village (as a leprosy institution). It is the only remaining institution of its kind in South Africa. Westfort Village has come to be associated with leprosy and the stigmas attached to it, such as isolation and segregation. Since the closure of Westfort Village as an institution servicing those suffering from leprosy, the stigmas associated with it have fallen into memory.

Architectural significance

Westfort Village represents a variety of architectural styles (see figure 2-24 on page 45) which evidence the layers added to the site over time. Innovation in response to African climate is evident in Westfort Village (such as the use of vents on the gables for ventilation, and the use of a stoep for shading). The buildings in Westfort Village remain intact, and the craftsmanship on the buildings is still evident.

Spatial significance

The spatial significance of Westfort Village lies in the human scale of the buildings,

which furthers the idea of a self-sustaining village with different clusters that each have their unique spatial characteristics (indicative of urban development). Westfort Village is embedded in its landscape, which contributes to the human scale of the village.

Refer to appendix F: Significance criteria in terms of Section 3(3) of the National Heritage Resources Act on page 196. This criteria is used to determine the cultural significance of an artefact (and/or place) based on its aesthetic, historic, scientific or social value for past, present or future generations (Naude 2012:12). Cultural significance is a concept which helps in estimating the value of artefacts (and/or places).

2.2. Mapping

The following are conclusions from the mapping undertaken as part of this research. The conclusions will form the basis for the urban vision and design.

In figure 2-20 (on page 41), the site is situated on the slope of the Magaliesberg meaning that Westfort Village is sloped and immersed in the landscape. Furthermore Westfort Village being situated on the Magaliesburg offers views overlooking Pretoria (including the city centre, Lotus Garden and the greater Pretoria West). These views unto the city could be utilised during the designing of the building. Figure 2-21 (on page 42) illustrate the three vegetation types in Westfort Village which further reinforce the sentiment that Westfort Village is immersed in the landscape. These vegetation types also indicate that there are opportunities to explore and design for different plant species (which could respond to different programmatic or design needs). The location of Westfort Village on the slopes of the Magaliesberg gives it a good microclimate (figure 2-22 on page 43) with adequate rainfall and water catchment areas. This results in lush vegetation which gives the impression that one is isolated from the urban fabric. The adequate rainfall also presents opportunities for rainwater harvesting, which then links back to the history of Westfort Village in that water furrows were constructed to harvest water and help irrigate the landscape in Westfort Village. The prevailing wind in Westfort Village is Northeast in summer and Northeast, South and West in winter (figure 2-22 on page 43). Westfort Village receives adequate solar light throughout the year. All these factors encourage the use of passive design strategies to optimise the good microclimate, as was done when Westfort Village was originally built. Westfort Village is situated within a critical biodiversity area, meaning that its landscape features ought to be retained (refer to

appendix D on page 191).

In light of the larger precinct (figure 2-23 on page 44), Westfort Village does not have access to public transportation (apart from local taxis), main roads, medical facilities, educational facilities and commercial facilities. A majority of these services constitutes public amenities. The anticipated future residential developments on the peripheries of Westfort Village will strain the existing infrastructure in Pretoria West. There is therefore a need to provide such public amenities and infrastructure to serve Westfort Village and the future residential developments its peripheries.

The organic development of Westfort Village over time is illustrated in figure 2-24 (on page 45). This organic development was influenced by stigmas associated with leprosy at that time(s). The development of Westfort Village as time progressed is associated with different building styles (figure 2-24 on page 45). Therefore each cluster has its own character which relates to its history, the patients it housed and its architectural style. As Westfort Village development, orchards were used to isolate and separate the different clusters of Westfort Village. These orchards therefore contributed to the spatial character of Westfort Village and relate back the extensive use of the landscape within Westfort Village. The remaining historic orchards ought to be preserved.

The appropriation of Westfort Village after the closure of the institution is illustrated in figure 2-25 (on page 46). Westfort Village was appropriated from an institutional space to a residential space with few commercial activities. However with this increased residential appropriation, and lack of public amenities, there is a need to develop public amenities in Westfort Village to cater to the needs of the residential appropriation.

Figure 2-26 (on page 47) shows the extent to which buildings may be altered and restored (Naude 2012:25). This figure also indicates the state of buildings within Westfort Village. A few buildings have been demolished (for various reasons). Only a few of the buildings (predominately significant buildings) must be retained and protected. The rest of the buildings can be altered and reused, which lends itself to reappropriation and adaptive reuse.

Figure 2-27 (on page 48) indicate the major pedestrian movements and taxi stops in Westfort Village. These routes follow routes set out when Westfort Village was initially designed. The major pedestrian movements and taxi stops give an indication of the location of future developments.

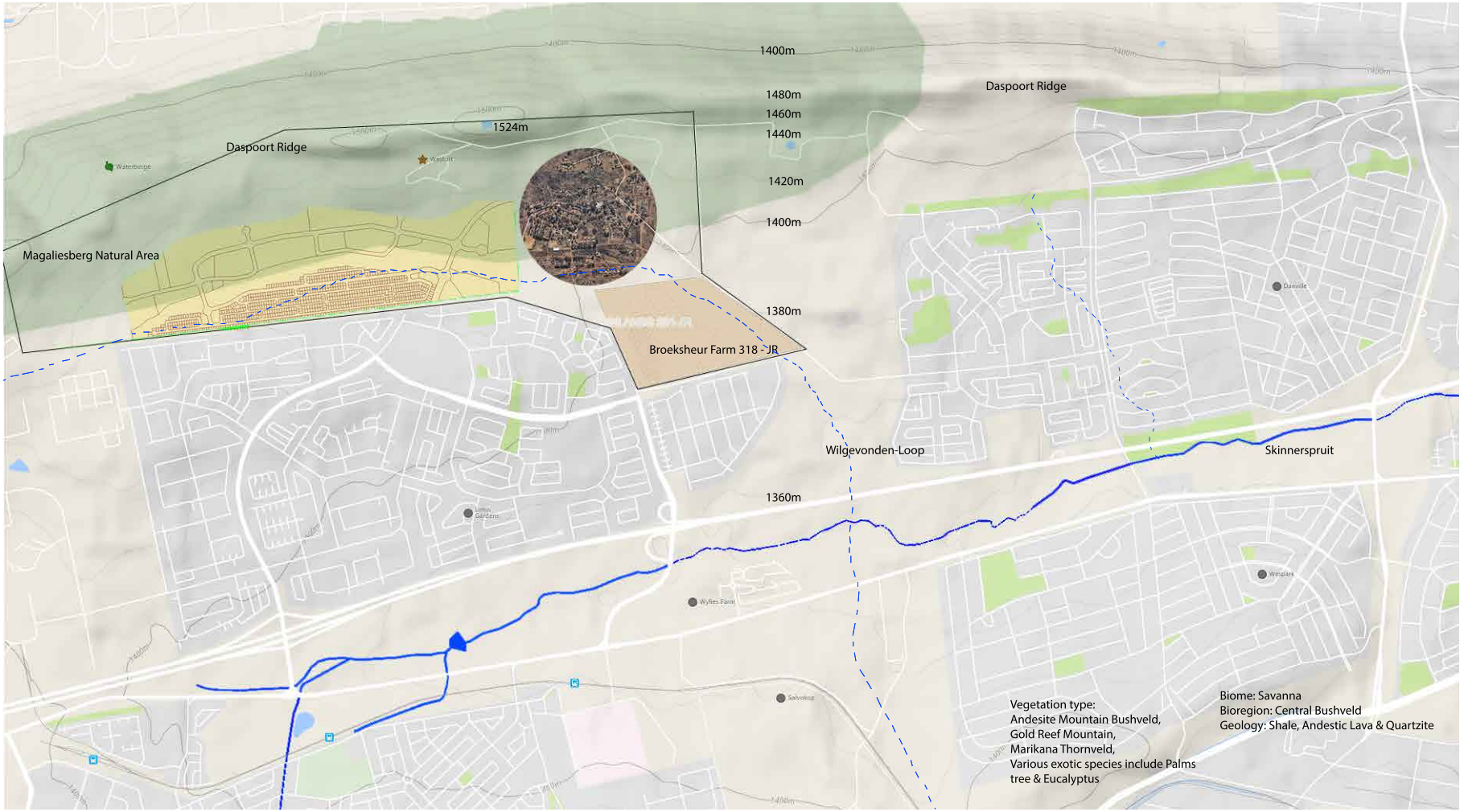


Figure 2-20: Topographical context of Westfort Village precinct (Author 2018)

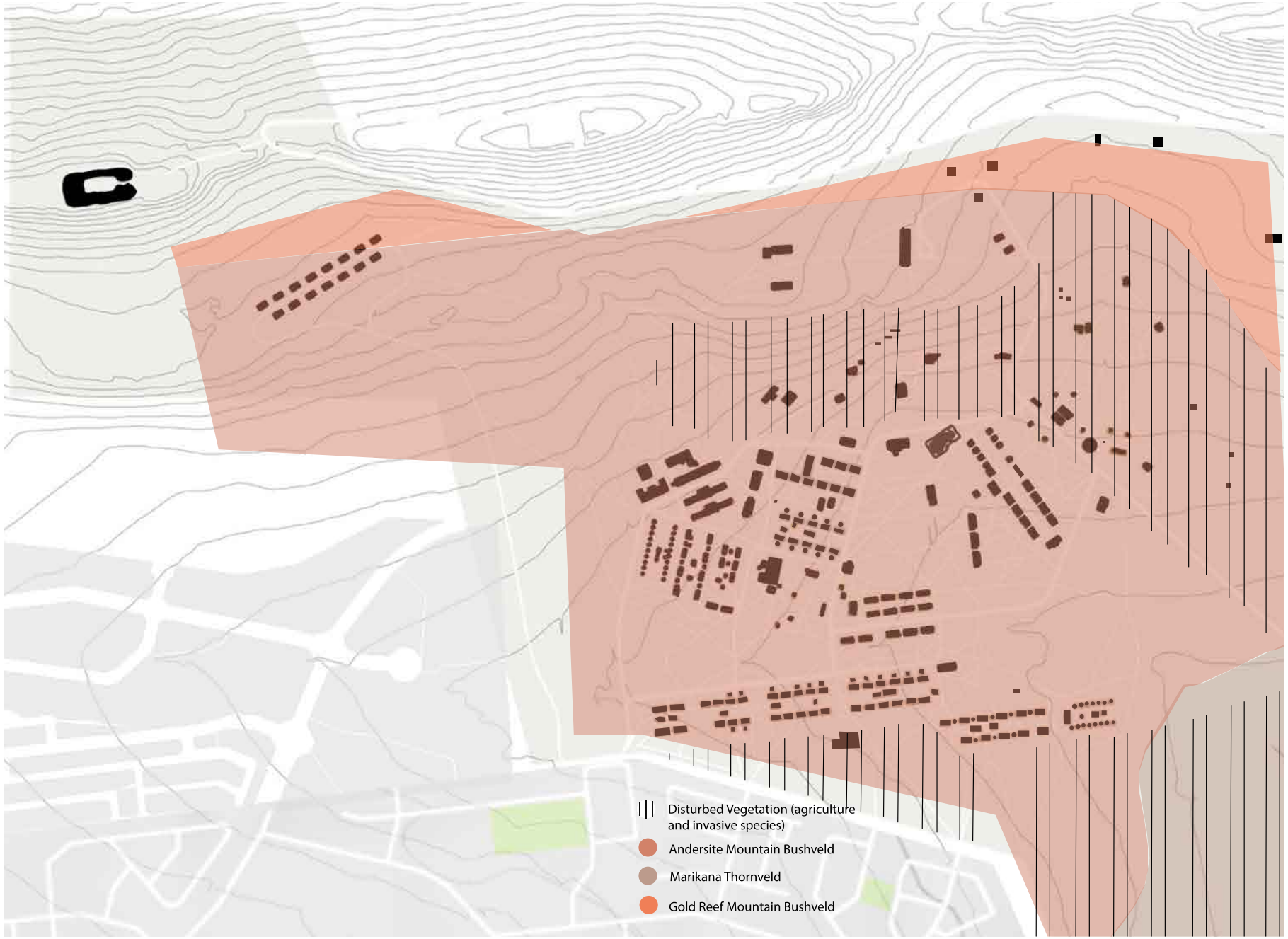


Figure 2-21: Vegetation and soil type in Westfort Village (Author 2018)

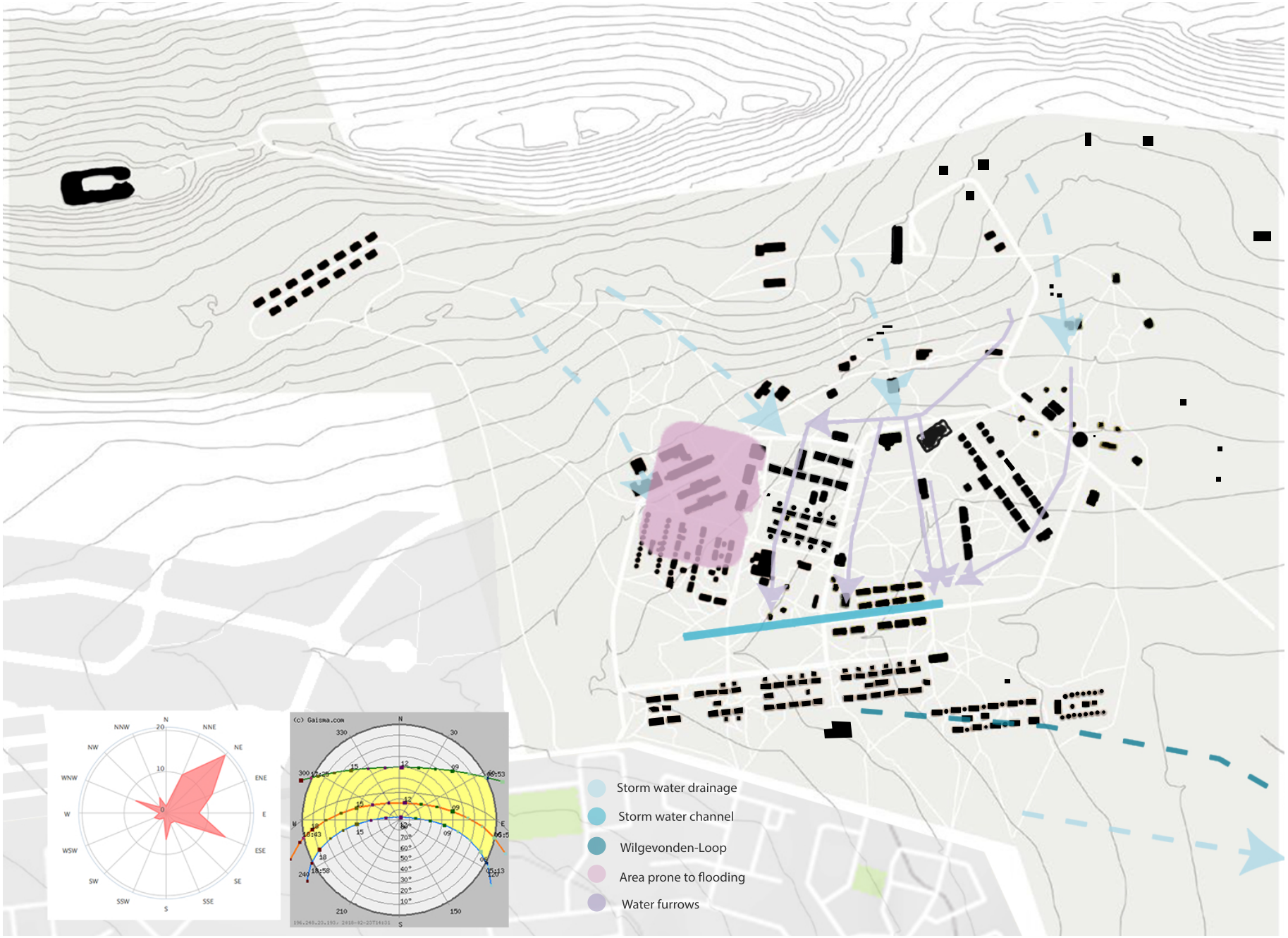


Figure 2-22: Water movement and microclimate in Westfort Village (Author 2018)

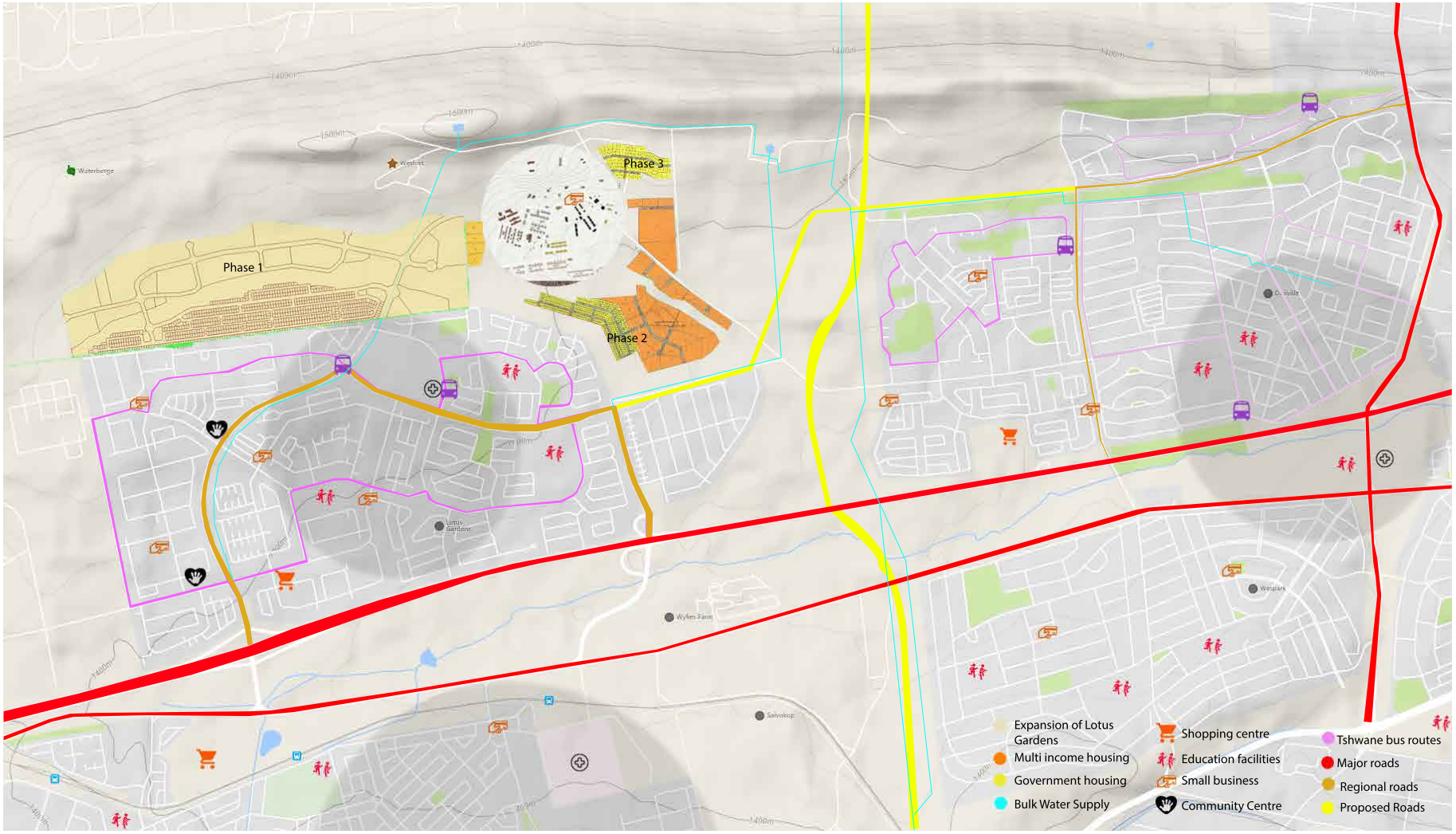


Figure 2-23: Public amenities availability in Pretoria West (Author 2018)

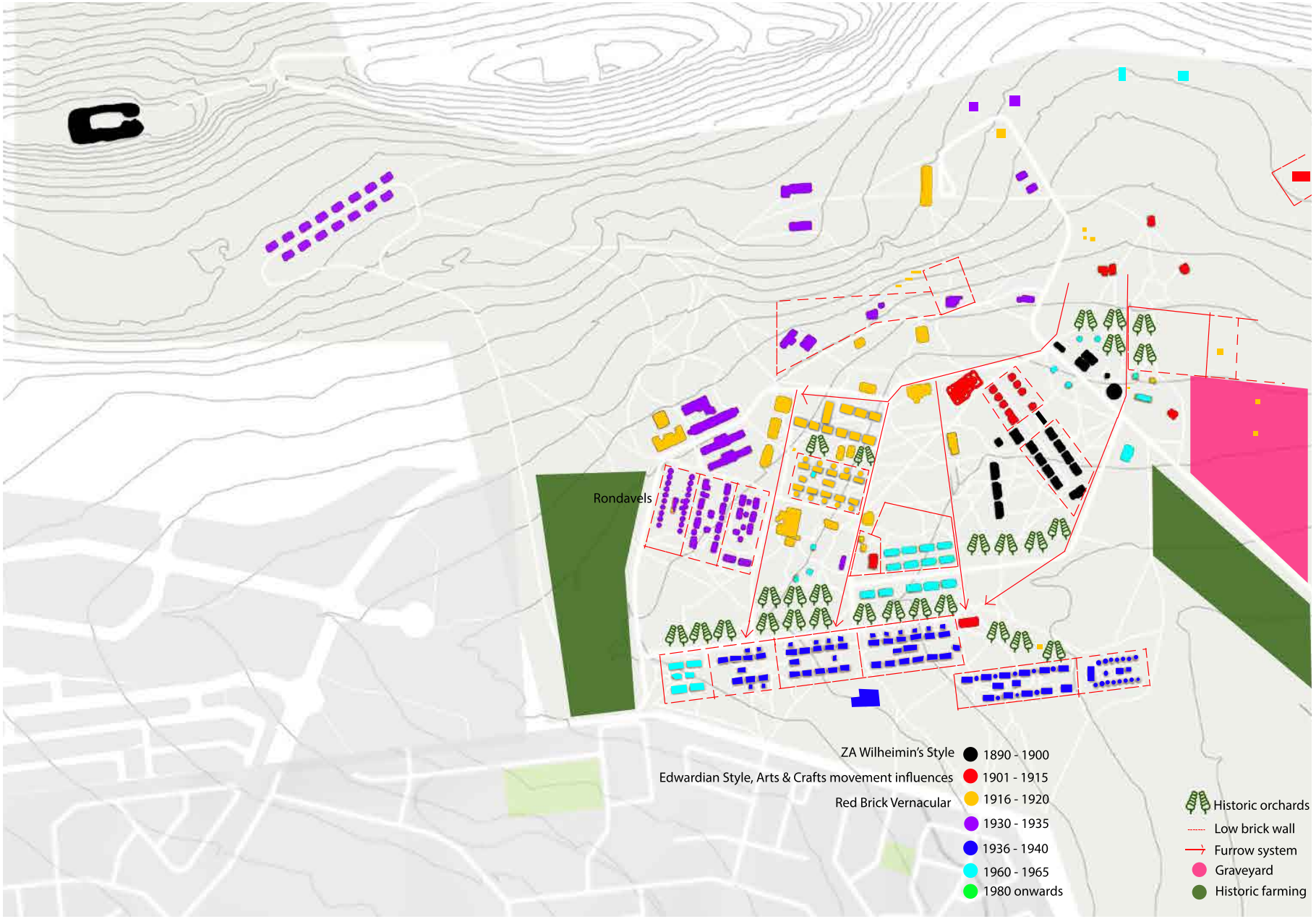


Figure 2-24: Development of Westfort Village over time (Author 2018)

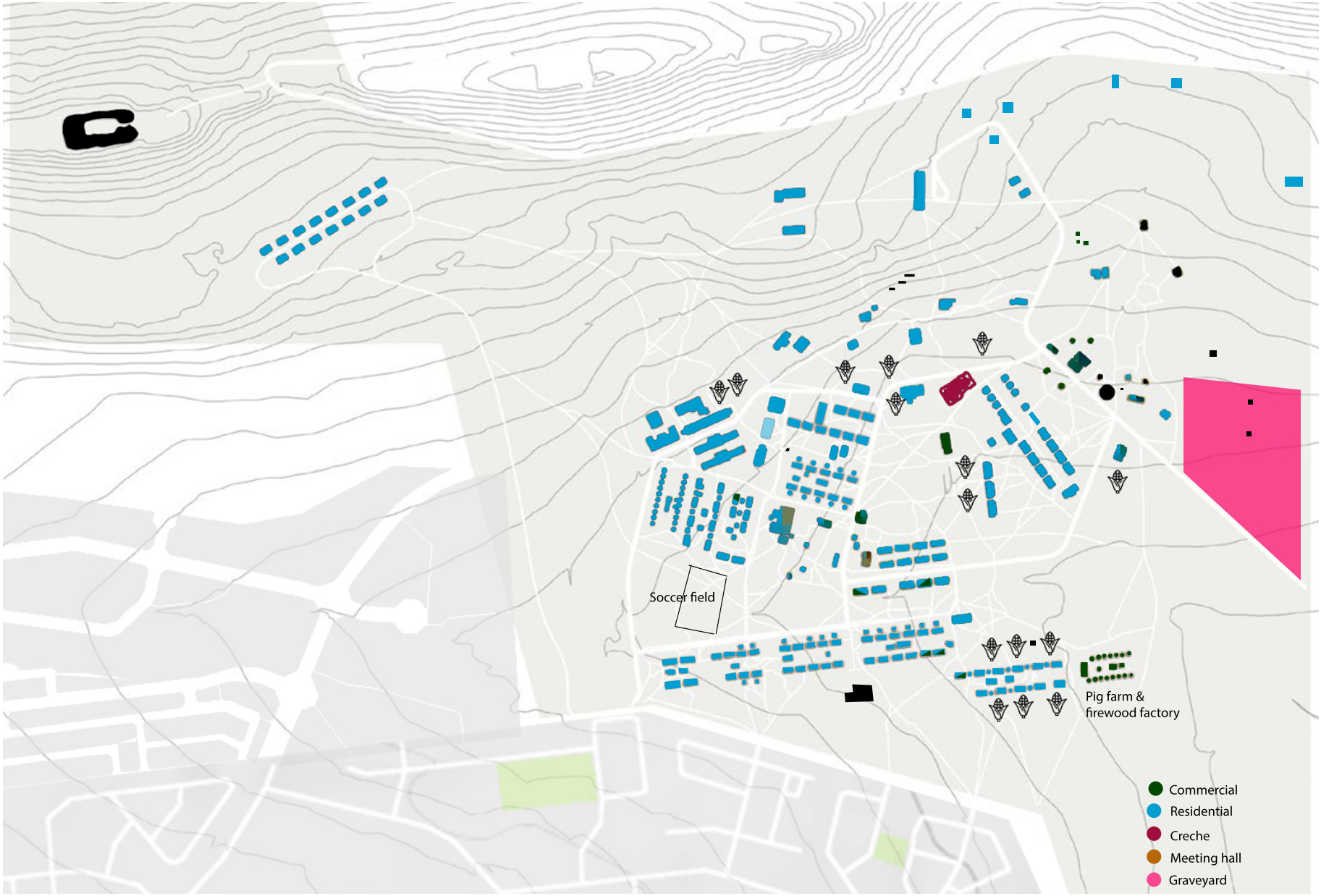


Figure 2-25: Current functions in Westfort Village (Author 2018)

Figure 2-26: State of buildings in Westfort Village (Naude 2012:24-25)

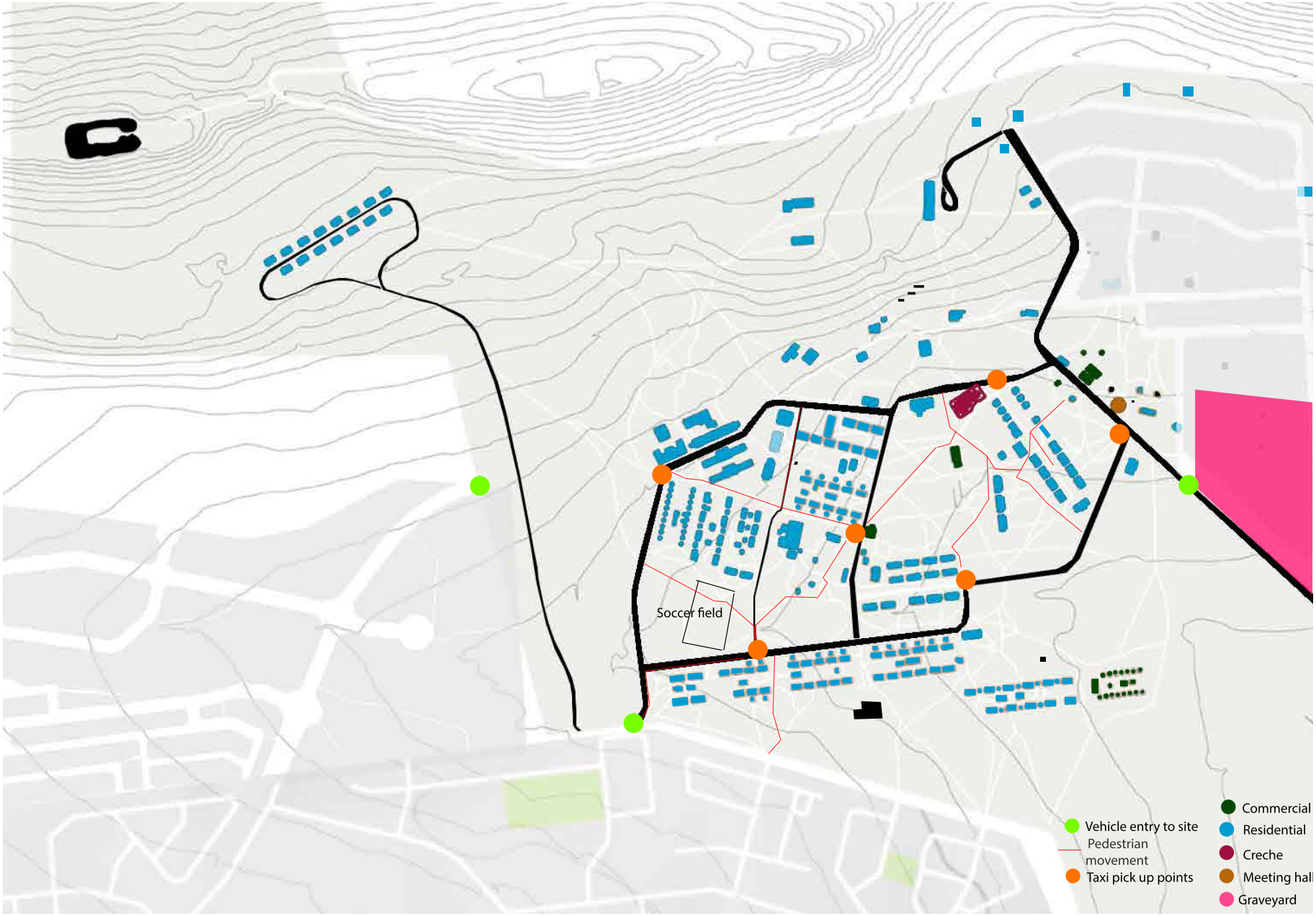


Figure 2-27: Pedestrian movement and taxi stops in Westfort Village (Author 2018)

2.2.2. SWOT Analysis

From the mapping conclusions, a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of Westfort Village was developed.

Strengths

- The majority of the built fabric is intact;
- the spatial relationship between built fabric and landscape is retained;
- heritage buildings have been reappropriated;
- various building typologies exist on site;
- the site has layered meanings and associations;
- shared South Africa-Dutch heritage which is rare both locally and internationally;
- informal communal networks; and
- Westfort Village has become a home (both in terms of shedlter and opportunity) for many of its residents.

Weaknesses

- Illegal occupation of Westfort Village by the current residents due to lack of legal ownership and tenure of buildings. There is no legal framework in place to handle this issue (as it partains to Westfort Village);
- isolation of village from urban fabric, affecting economic opportunities and access to other public amenities; and
- certain buildings in Westfort Village are in a dilapidated state and some buildings have been demolished.

Opportunities

- Current residents as custodians of Westfort Village;
- adaptive re-use possibilities for certain buildings within Westfort Village;
- Westfort Village to provide housing (as it currently does);
- provision of public amenities within Westfort Village (as part of the adaptive reuse of existing buildings or new developments); and
- business opportunites since formal commercial facilities do not exist on site and an informal economy is already established in Westfort Village.

Threats

- Urbanisation occurring on periphery of site due to expansion of Lotus Gardens and other residential developments;
- emphasis on residential developments on periphery of site, leading to a demand for public amenities;
- construction of bulk infrastructure (such as roads, water pipes) which may undermine the heritage buildings and natural landscape on site;
- informal additions on the buildings within Westfort Village which undermines the built heritage of Westfort Village; and
- increased pollution due to growth in population.

The SWOT analysis exposed the current failings of Westfort Village, which will be briefly discussed.

2.2.3. Legal context of Westfort Village

The current legal context of Westfort Village is one of uncertainty due to no future plans for it. This gives the impression that Westfort Village has been neglected.

The village has been neglected by a number of institutional bodies. The owners of Westfort Village, the Gauteng Department of Health, have failed to maintain Westfort Village. The site was secured until the mid-2000s, after which it was left unguarded leading to its current reappropiation. Furthermore, the Gauteng Department of Health did not notify the Gauteng Provincial Heritage Resource Agency (PHRA- Gauteng) of the changes to Westfort Village so that it may be documented and researched before future changes occurred on site. The PHRA-Gauteng neglected Westfort Village by failing to implement Section 32 of the National Heritage Resources Act through preventing altercations and demolitions on site without the necessary procedures being followed. The Tshwane municipality neglected Westfort Village by not providing basic services (such as water, electricity and sanitation) to the new residents of Westfort Village, despite the illegality of the new residents' occupation of Westfort Village. This neglect has resulted in the deterioration, damage and demolition of buildings.

The lack of future planning for Westfort Village in terms of reintegrating Westfort Village into Pretoria's urban fabric or utilising the heritage to revitalise the site. Since the abandonment of Westfort Village, it has been re-appropiated based on the needs of the current residents (for residential use).

The legal context of Westfort Village indicate its failures and that those issues originate at a higher level (such as government urban policies, resource allocation, and lack of integrated government structures) which directly impacts Westfort Village. This in-turn creates other localised issues in Westfort Village leading to its current condition. The issues in Westfort Village are complex and will thus require multiple solutions at varying scales.

2.3. Focus Area

The focus area in which the design is situated is the cluster consisting of the St Mary's Hospital and initial leprosy barracks (see figure 2-30 on page 52).

This cluster is the oldest cluster on Westfort Village and was the main node for the village. The site offers a microcosm of the contestation that occurs in the entire village – the Dutch Reformed Church was burnt during service delivery protests, where the Administration building was reappropiated to retailers and the initial leprosy barracks have been reappopiated for residential use).

2.3.1. Character elements of the site

The identified cluster offers a range of elements that give it its unique character. These elements will be briefly discussed.

Firstly, the landscape and vegetation (figure 2-28) that gives the site its unique character. The trees indicate the historical timeframe of the site and defining an edge. The vegetation on the site provides a sense of isolation and immersion in nature.

Secondly, the open spaces between the buildings and between the different clusters (figure 2-29). The open spaces reinforce the separateness of the cluster, as well as the rural atmosphere. This contributes to the character of the cluster in combination with the landscape and buildings.

Thirdly, the variety of buildings in both function and style (figure 2-31). These buildings begin the narrative of Westfort Village and contribute to the layering of the village (as additions were made over time). There are different building typologies on the cluster.

Lastly, the spatial layout of the cluster which is organised on an axis (figure 2-32).

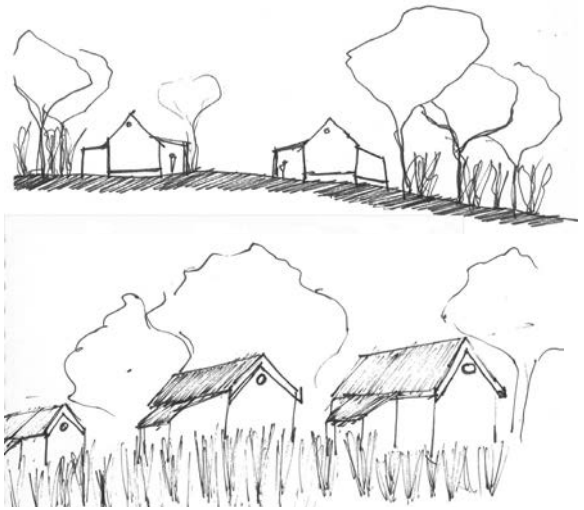


Figure 2-28: Vegetation & landscape (Author 2018)

Figure 2-29: Open spaces between clusters

The initial leprosy barracks and St. Marys' Hospital is organised on an axis. The termination of this axis is the St. Marys' Hospital, which is a prominent building on the cluster.

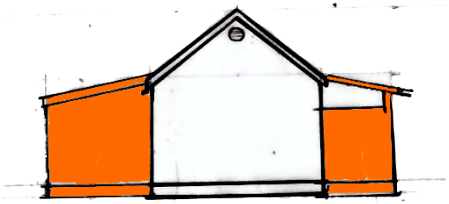
The character of the cluster will be preserved in the proposed design and will inform the new design. Refer to appendix G: Significance criteria in terms of historical, architectural and spatial significance for cluster on page 199.

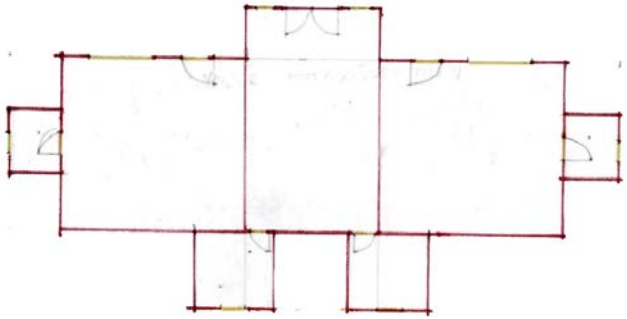
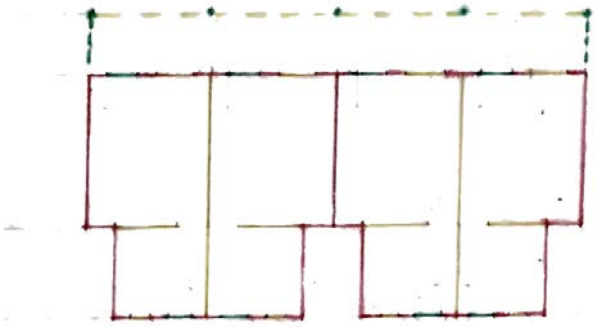
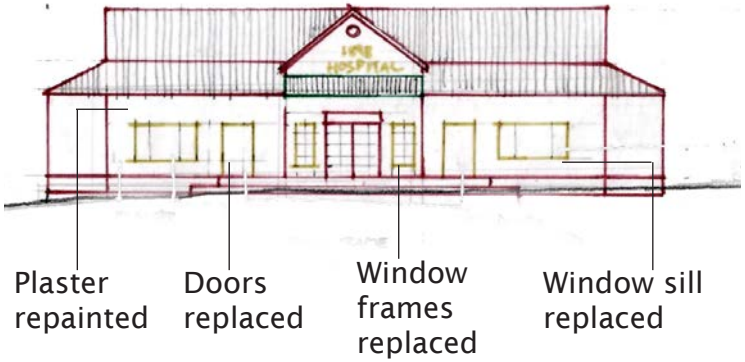
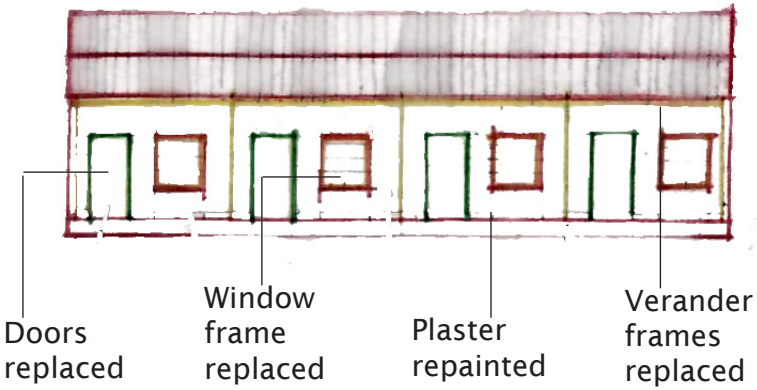
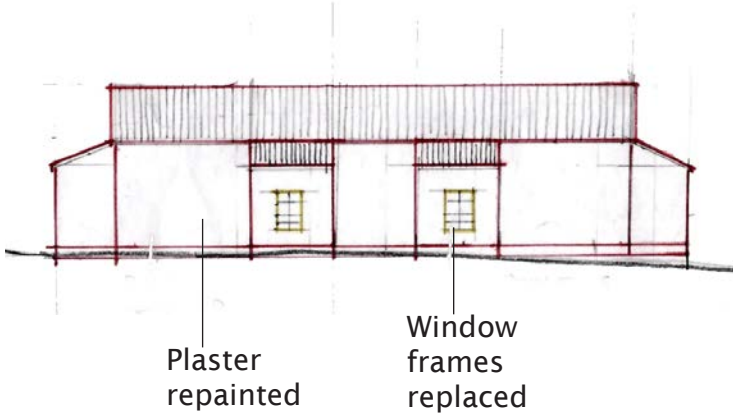
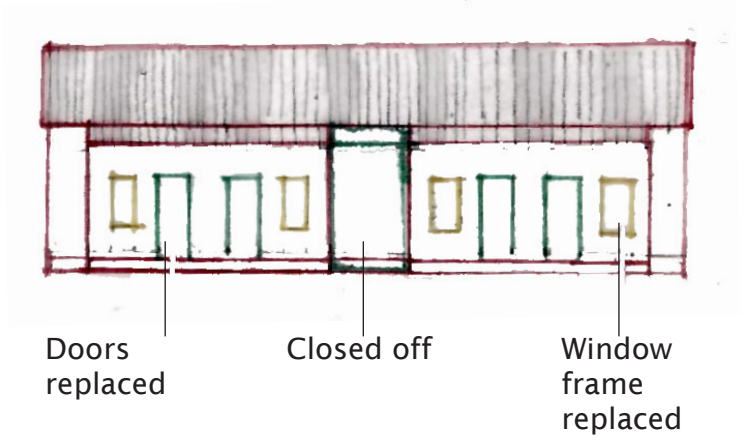
Figure 2-30: Location of focus area (Author 2018)

Figure 2-31: Variety of buildings (Author 2018)

Figure 2-32: Axial spatial layout (Author 2018)

2.3.2. Heritage assessment

	St. Mary's Hospital 1897	European Quarters 1897
Key plan		
Character	 · Protruding entrance · Bull's eye ventilator on front elevation · These elements signify hierachy within urban landscape	 · Verander in front · Services in the rear · Typology building replicated for housing within focus area · Private garden at rear of buildings used as part of healing (growing own vegetation)

Value Assessment Plan High value Medium value Low value		
Value Assessment Front Elevation		
Value Assessment Rear Elevation		

Structure	Stone plinth on brick walls (plastered) Timber roof	Stone plinth on brick walls (plastered) Timber roof
Skin	Wall plastered brick	Wall plastered brick
Space Plan	Relation between space, function & elevation	Openings (entrance & windows) at the front Building utilities at the rear
Services	· Original hospital to serve leporsy patients · Bull's eye roof ventilator with timber louvres · Cast iron floor ventilator · Verander as shading device, threshold and outdoor space · Space plan indicative of climatic response from the Netherlands	· Rooms for White leprosy patients · Gable-end bull's eye roof ventilator with timber louvres · Cast iron floor ventilator · Verander as shading device, threshold and out-door space · Space plan indicative of climatic response from the Netherlands

CHAPTER 3

THEORETICAL FRAMEWORK: reading cultural landscapes and social justice

This chapter will investigate the different theoretical frameworks used in this dissertation. Housing in South African cities (housing policy) will be appraised discussed to give a backdrop of the condition of South African cities (with application of the housing policy in Westfort Village) followed by a discussion on spatial justice and heritage stewardship. The notion of social justice will be explored in terms of its spatial manifestation. Spatial justice provides an alternative lens to the (un)intended consequences of urban development and possible clues to rectify social injustices. From there an exploration of heritage stewardship through the ICOMOS Washington Charter of 1987 will be discussed. The theoretical frameworks will then ground its application in Westfort Village - a heritage and cultural landscape experiencing urban development and social injustices. This will then give us a integrated framework from which to read and intepret Westfort Village (or any other site).

3.1. Housing in South African cities

Following the democratisation of South Africa in 1994, the Constitution of South Africa states that everyone has the right to adequate housing and it is the government's responsibility to ensure that it takes legislative and other measures to ensure that this right is fulfilled (DHS 2010:1). For this reason, the government introduced the New Housing Policy for South Africa, White Paper 1994 and the Housing Act 1997 (DHS 2010:38) which sought to provide previously disadvantages people with adequate housing (and secure tenure) and basic services (DHS 2010:2). After 10 years (in 2004), the government reviewed the housing act and other related policies resulting in the Breaking New Ground policy (Provision of Housing Establishment for Sustainable Human Settlements), which shifted emphasis from strictly housing provision to integrated communities (DHS 2010:2), which would provide a range of social and economic facilities. The National Housing Act of 1997, Breaking New Ground 2004, and White Paper 1994 all form part of the National Housing policy and its associated programmes to implement the provision of housing.

3.1.1. Significance of housing

Due to the inequalities of the past, many people live on land that is not theirs and erecting buildings that may be demolished at any given time. Access to housing is synonymous with access to land. Furthermore, in South Africa housing has been explicitly linked to attaining social justice (Culwick 2018). Access to housing is also linked to poverty reduction (by reforming the economy), food sovereignty (through

access to land that could be cultivated) and service delivery. It is evident that housing (and by implication land) have attained a high social and economic value. This highlights the urgency to address the provision of adequate housing for all (and the justice that will occur as a result).

3.1.2. Housing policy in practice

Government is faced with ever-increasing population that requires adequate housing and services. However, there are insufficient funds for this, and the limited funds that are available compete with other budgetary needs in health and education (Du Preez 2009:61). It is unfortunate that in the quest to address the housing need, new housing continues to be located on the urban periphery without access to public amenities (DHS 2010:41) thereby perpetuating the injustices of the past. This is due to lack of affordable well-located land close to the city (DHS 2010:45). New housing developments are not integrated with the city due to lack of funding and integrated planning. Furthermore, the government's response to addressing housing needs would be to uplift whole communities and move them to new locations rather than deal with the existing conditions (DHS 2010:4). To add to the list of problems, the housing backlog continues to increase thereby perpetuating the housing crisis.

3.1.3. Breaking New Ground

To combat some of the failures of the National Housing Act, the Breaking New Ground (BNG) Policy was introduced to address the housing need (as stated in the White Paper 1994) in the context of broader socio-economic needs (DHS 2010:44). Hence there is particular focus on sustainable human settlements that are spatially just. The BNG Policy stipulates that housing should integrated into spatial planning so that housing is located close to areas of opportunities (DHS 2010:51). The BNG may be summarised as follows:

- seeking to improve the location of new housing;
- develop social and economic infrastructure (public amenities); and
- improve existing housing stock

Such a view of housing in the context of sustainable human settlements leads to the realisation that housing provision may alleviate poverty (figure 3-1). By providing a fixed asset (a building and land), which may be used to leverage finance (thus earn an income) and services and opportunities may be accessed from the house (DHS 2010:50).

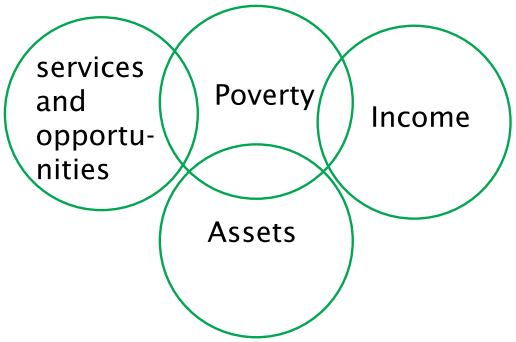


Figure 3-1: Spheres of influence of poverty (DHS 2010:50)

In order to address the BNG, a number of programmes were introduced. The programmes most suited for Westfort Village will be discussed[11].

Upgrading Informal Settlement Programme

This programme seeks to upgrade the living conditions of people living in informal settlements by securing tenure and access to basic services and housing (DHS 2010:6). The programme centres of the participation of the community to identify needs to be addressed and is an in-situ upgrade of the settlement (DHS 2010:7). It is the only programme that focusses on in-situ upgrading of basic services and housing.

Provision of Social and Economic Facilities Programme

Due to the backlog in existing settlements and need for new housing, the provision of public amenities[12] has been neglected (DHS 2010:7). This programme seeks to provide public amenities within extant, new housing settlements and informal settlements.

Westfort Village is in need of public amenities. The provision of these amenities would lead to a more spatially just Westfort Village (as housing and amenities are provided for).

Community Residential Unites Programme

This programme seeks to provide affordable rental housing and/or the upgrading of government-owned communal rental accommodation (DHS 2010:13).

This is particularly useful for certain buildings in Westfort Village, since some of the residents in Westfort Village would not seek permanent tenure of their respective buildings. This programme could be used to upgrade buildings that would be used as rental housing.

Integrated Residential Development Programme

This programme seeks to provide and develop integrated housing settlements in well-located areas with convenient access to public amenities and places of employment (DHS 2010:4). The programme centres on the provision and

11. Funding to these various programmes will come primarily from the Provincial MEC (Member of the Executive Council) and Tshwane municipality.

12. Such as schools, clinic, community halls, recreational facilities and trading facilities.

servicing of stands on new land. These stands will accommodate a variety of residential, commercial and social uses.

While the programme is not directly related to Westfort Village (due to Westfort Village being an existing settlement), the intentions of the programme could still be considered. Furthermore, the future developments on the periphery of Westfort Village may implement this programme.

The National Housing Policy asserts that cities may become spatially just through the provision of housing and public amenities. The BNG and its associated programmes will act as guidelines for the implementation in Westfort Village. These policies promote the cause of spatial justice, however, the implementation of the policies remains a hindrance to achieving spatial justice. The following section will elaborate on spatial (in)justice and its manifestation in Westfort Village.

13. Rights in the broad sense relating to human rights, housing rights, cultural rights, economic rights, right to health care and rights to public space.

3.2. Spatial justice

Spatial justice is the physical (spatial) manifestation of social justice. Social justice refers to the ability of an individual for self-actualisation, self-expression and self-direction within a society (Rosenthal 2013:21). All of these are related to access to and expression rights[13] (Themba et al. 2011:3). These rights are socially constructed and occur spatially. As such, a relationship exists between the social realm and physical spatial realm. Spatial justice is therefore a manifestation and relationship between social justice and its spatial dimensions. This relationship can be visible or invisible in a society. An inability for an individual to access or express any of their rights would constitute an injustice, with spatial manifestations.

Spatial justice was first theorised by Henri Lefebvre (1991), who identified the relationship between space and social beings, which he a termed social space. Social space refers to the way in which social beings affect their physical spatial realm (space). Spatial justice in architectural terms was theorised by Edward Soja in his book *Seeking Spatial Justice* (2010). Soja continued the work of Henri Lefebvre and noted the principles of spatial justice to be as follows:

- space is socially produced, therefore space can be socially challenged and changed;
- the spatial qualities of everyday life have an ability to shape social circumstances and how these social circumstances change our spatial

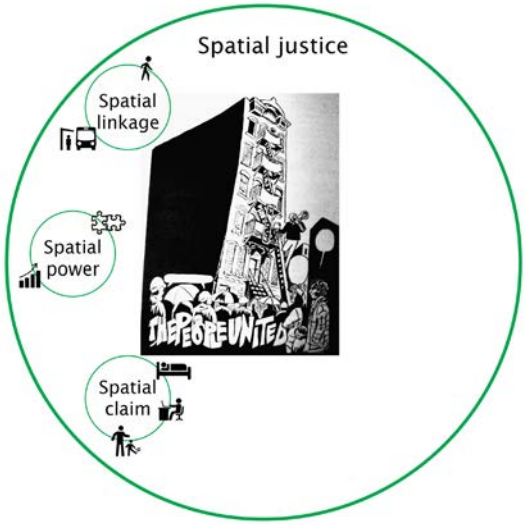


Figure 3-2: Theoretical approach focusing on Spatial justice (Author 2018)

environment.

Thus, it is evident that social (in)justice is embedded in our social and physical infrastructure, which has formed through uneven development (Basset 2013:1).

The University of California (UCLA) Critical Planning Group developed a framework (figure 3-3) for recognising spatial (in)justice (Brown et al. 2007:15-16), comprising of spatial claim, spatial power and spatial linkage. Through this framework we may understand the spatial indicators from our social and physical environment that contribute to just/unjust spaces. This framework can be used to identify and understand the spatial (in)justices of a given space.

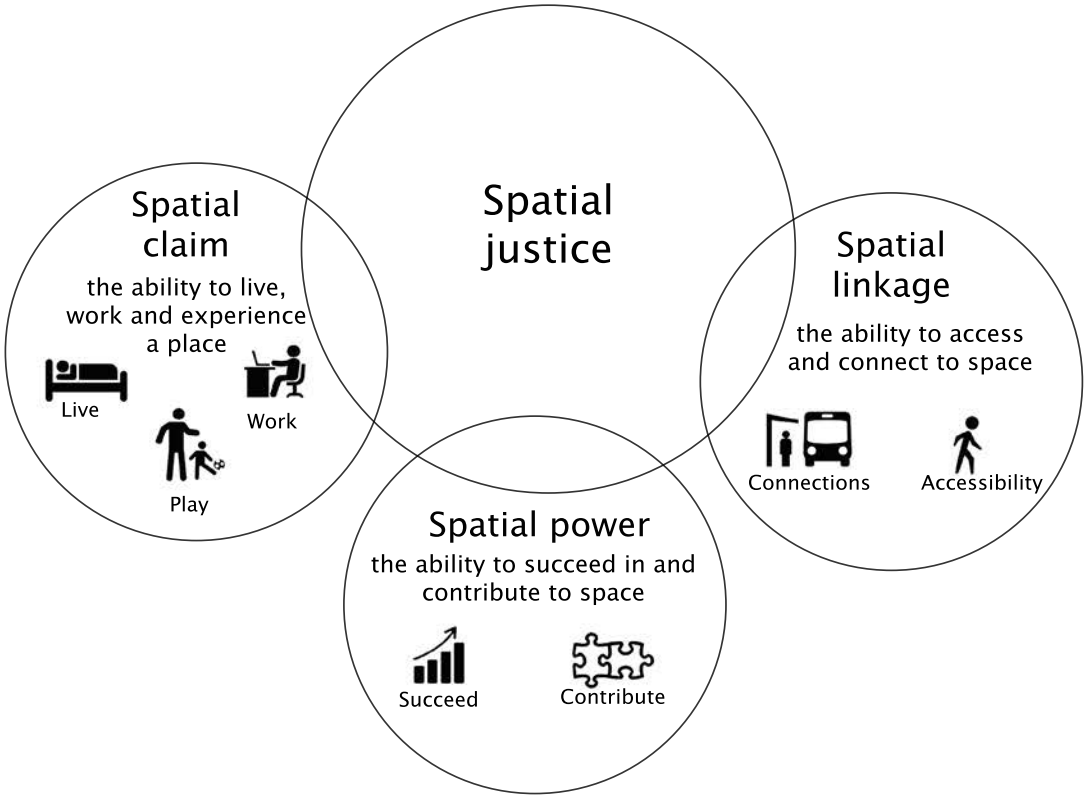


Figure 3-3: Summary of spatial justice according to UCLA Critical planning group (Brown et al. 2007)

3.2.1. Spatial claim

The concept of spatial claim refers to an individual's right and ability to live, work and experience a place (Themba et al. 2011:15). It is a person's right to live in a community, to work within a community and to enjoy and experience the various social platforms within that community. If an individual lacks the ability to live, work or experience a place then that individual has no claim over that space.

To help determine whether an individual has spatial claim over a space, a number of guiding questions are posed[14] (Basset 2013:5), followed by answers as it pertains to Westfort Village.

- Who has taken ownership of the place?
- What is the relationship between the history of the place and the current community?
- How is the space currently being used?
- What work is an individual able to do in the space?
- What does an individual do for recreation in this space?

14. These questions were derived from Basset's research on spatial justice (Basset 2013).

Spatial qualities to consider when designing are as follows in figure 3-4.

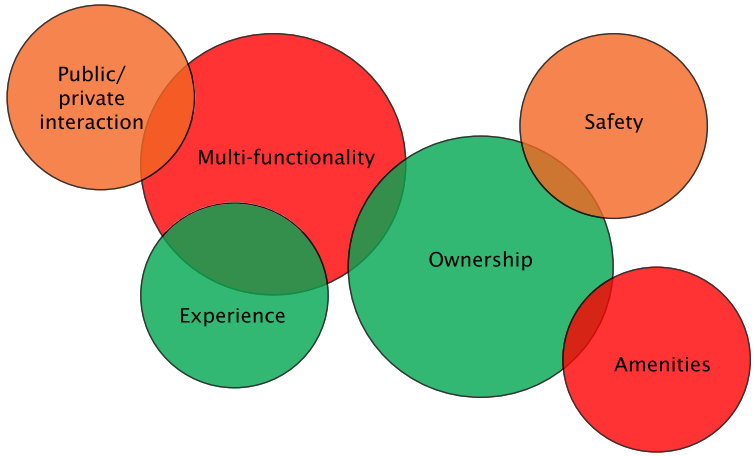


Figure 3-4: Spatial claim design informants (Author 2018)

3.2.2. Spatial power

Spatial power refers to the availability of opportunities for an individual to succeed and contribute to a space (Themba et al. 2011:15). It is the right for an individual to have success within a community and the individual's responsibility to contribute back to that community using their skills (Basset 2013:5). If an individual lacks the opportunity to succeed and contribute to a space then, they have no spatial power over it.

To help determine whether an individual has spatial power over a space, a number of guiding questions are posed[14] (Basset 2013:5).

- What qualities would be used to describe this space?
- Is the community able to practice freely and contribute to space?
- What special skills do the people of this space have?
- Is there any preventative barriers limiting the community from participating fully in public life?

14. These questions were derived from Basset's research on spatial justice (Basset 2013).

Spatial qualities to consider when designing are as follows in figure 3-5.

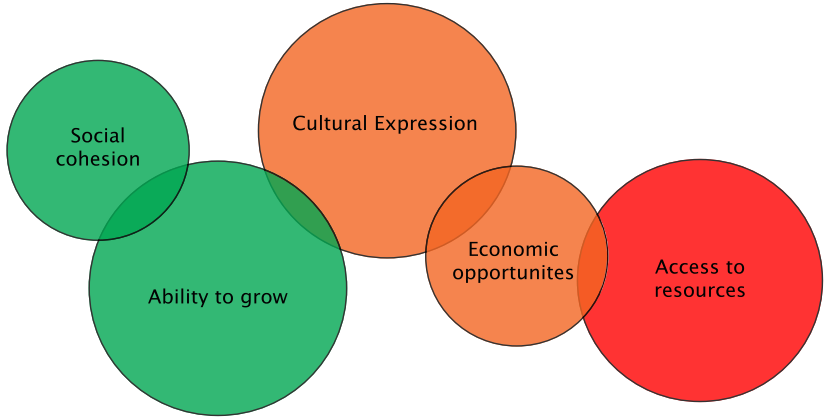


Figure 3-5: Spatial power design informants (Author 2018)

3.2.3. Spatial linkage

Spatial linkage refers to the ability for an individual to access and connect to/with other spaces (Basset 2013:5). It is the right for an individual to connect to other spaces and services around a community (Themba et al. 2011:16). It also refers to the accessibility of people to enter and leave a space. If an individual is unable to connect and access a space then they have no spatial linkage in that space.

To help determine whether an individual has spatial power in a space, a number of guiding questions are posed[14] (Basset 2013:5).

- Are there any physical barriers in the space?
- What are the invisible barriers that divide that space (either social, political or cultural barrier)?
- Whose history and heritage belong in this space?
- Is this space physically or social connected to other spaces?

14. These questions were derived from Basset's research on spatial justice (Basset 2013).

Spatial qualities to consider when designing are as follows in figure 3-6.

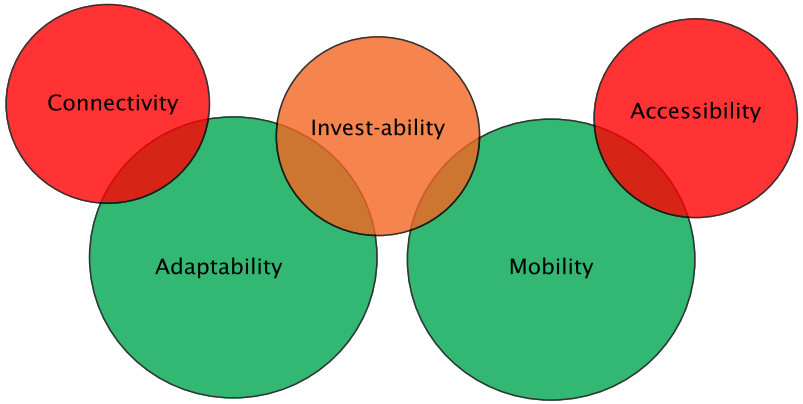


Figure 3-6: Spatial linkage design informants (Author 2018)

3.2.4. Social architecture

Social architecture is linked to social justice as it offers a framework to implement social justice (as it partains to architects and other built environment specialists). Social architecture refers to architecture praxis that is concerned with collective process (comprising of professionals and end-users) which generates spaces that are just for all (Rosenthal 2013:5). As Dana Luff states, social architecture refers to "the everyday world of work where architecture takes place" (Rosenthal 2013:4). There are three types of social architecture, namely: inclusive architecture, participatory architecture, and proactive architecture.

Inclusive architecture intentionally engages with those people traditionally excluded from the architectural profession (Rosenthal 2013:5). The end-user would make their needs known. Professionals would then work with the end-users and this would stiimulate the growth of the local economy due to the use of local skills (Rosenthal 2013:7).

Participatory architecture involves local end-users in the design process (Rosenthal 2013:10). The knowledge of the end-user is needed as they are the local experts of their space. This participatory practice is an empowering process for the end-users. It fosters ownership, stewardship and is constituted by the power relations between end-users and the professional team. Participatory practice builds capacity for end-users to use the skills gained after a project has been completed. Hussem states that "building capacity of community members goes hand-in-hand with shaping their built environment" (Rosenthal 2013:12).

Lastly, proactive architecture offers design solutions that go beyond the building (Rosenthal 2013:17). It seeks out the public welfare of the end-user (Rosenthal 2013:18).

3.3. Heritage stewardship

Heritage[15] encompasses the long process of historical development of a site (Du Preez 2009:51). Heritage is a dynamic reference point and a positive instrument for growth and change. Heritage in South Africa is a contested issue due to the multiple heritages to which the country has given rise and the manner in which these heritages are interpreted and represented (Bakker 2011:5). One the one hand, the National Heritage Resources Act (NHRA) states that heritage resources have lasting value and this must be preserved for the heritage artefact to survive;

15. Heritage is a broad concept that includes natural and man-made environment. Heritage encompasses the landscape; historical places, sites and built environment; biodiversity; collections of past and present; cultural practices, knowledge and living experiences (ICOMOS 1999).

on the other hand, heritage must serve to reconcile the past, heal divisions, and advance the interest of social change and cultural restitution (South Africa 1999:4). It is evident that the NHRA recognises the need for change (of heritage where appropriate) but also the need to protect our heritage.

This section will discuss the ICOMOS Charter for Conservation of Historic Towns and Urban Areas (Washington Charter 1987) and draw on principles to guide heritage responses.

3.3.1. ICOMOS Charter for Conservation of Historic Towns and Urban Areas

The Washington Charter was adopted as a complement to the Venice Charter with respect to urban areas. This charter acknowledges the heritage value of an area and the challenges[16] that historic towns/ urban areas face (ICOMOS 1987:1). With these challenges in mind, the charter seeks to protect, conserve, restore and allow for development and a harmonious adaptation (adaptive re-use) for contemporary life. The charter highlights principles and methods that will be discussed and which will be applied to Westfort Village.

16. These challenges include degradation, damage and demolition due to urban development.

Principles

- Preservation of historic towns should be an integral part of coherent polices and urban planning encompassing economic and social development (ICOMOS 1987:1). Such manner of integrated planning is not evident in Westfort Village. The dissertation will address this through the urban vision and proposed programme.
- Qualities of the historic town should be preserved such as (ICOMOS 1987:1-2):
  a. Urban patterns (trees and building sizes) (figure 3-7);
  b. Relationship between buildings and green spaces (figure 3-8);
  c. Formal appearance of buildings defined by scale, size, style, construction, material, colour and decoration (refer to images on page 36);
  d. Various functions the town has acquired over time. In Westfort Village this would mean acknowledging a transition from an institutional town to a residential town.
  Any threat to these qualities compromises the authenticity of the historic town. This advocates for current residents to remain in Westfort Village.
- Community participation from the local residents is essential for the preservation of the historic town (ICOMOS 1987:2). This is because the

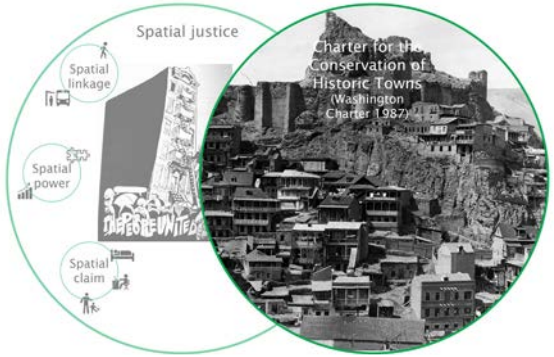


Figure 3-9: Theoretical approach diagram focusing on the Washington Charter (Author 2018)

Figure 3-7: Urban patterns in Westfort Village (Langevald 2016:53)

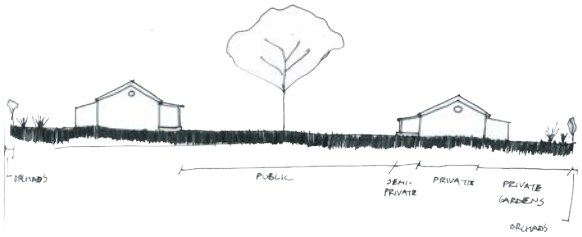


Figure 3-8: Relationship between building and green spaces (Author 2018)

residents will be most affected by any preservation efforts in the town. This principle relates to social architecture discussed in the previous chapter.
- Preservation demands a systemic approach (ICOMOS 1987:2). Therefore, a fluid policy and conservation management plan needs to be created for Westfort Village.

Methods

- Continuing maintenance is critical for effective conservation (ICOMOS 1987:2); this will be included in the conservation management plan. Heritage maintenance training is proposed as one of the programmes in the urban vision of Westfort Village.
- New functions should be compatible with the character of the historic town (ICOMOS 1987:2). The adaptation of a historic town for contemporary living requires careful installation and improvement of basic services and public amenities (ICOMOS 1987:2). This highlights the need for public amenities which will be designed through the adaptive reuse of an existing building.
- Improvement of housing ought to be one of the basic objectives of preserving a historic town (ICOMOS 1987:2). This aspect will be addressed in the housing strategy for Westfort Village.
- When constructing new buildings and adapting existing buildings, the existing spatial layout should be respected (ICOMOS 1987:2).
- To encourage participation and involvement of the community, general information programmes ought to be initiated (ICOMOS 1987:3), since they inform the community of the significance and important of the historic town and methods relevant to preserving it.

The charter can be defined as an integrated strategy as a variety of factors are considered in the preservation of a historic town. The charter advocates not only for preservation of the historic town but also spatial justice by allowing current residents a level of spatial claim and power through their involvement. Lastly the charter stipulates that change of historic towns is inevitable, where, in order to preserve such towns, certain adaptation is needed.

3.4. Overlaps in theoretical framework

The theoretical frameworks of spatial justice and the Washington Charter of 1987 have some overlaps, which are grouped into two themes - urban renewal and community participation. These overlaps will be discussed in the following section.

Urban renewal

Firstly, these overlaps are evident in adaptive reuse. Buildings have always been re-used in the past (Plevoets & Cleempoel 2012:1). Eugene Viollet Le Duc argued for the restoration (and reuse) of buildings (Plevoets & Cleempoel 2012:1). Over time, this approach to reusing buildings has been developed resulting in three distinct approaches: typological, technical and strategic. This study will discuss the strategic approach in which process and strategies are employed to reuse a building (Plevoets & van Cleempoel 2011:159). The idea of palimpsest is applicable in this instance. Phillipe Robert sets seven design strategies for an approach to adaptive re-use in his book Adaptations: New uses for old buildings. The seven adaptive reuse approaches are: building over; building within; recycling materials; building in the style of; building alongside; adapting to a new function; and building around (figure 3.10).

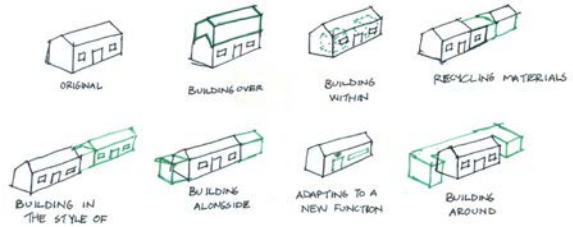


Figure 3-10: Adaptive reuse strategies according to Phillipe Robert (Author 2018)

Adaptive reuse has economic, environmental and social benefits (Fisher-Gewirtzman 2016:172). Through adaptive reuse a new layer and meaning is added to the historic context of a building and/or landscape. Thus retaining and acknowledging the heritage while responding to a contemporary need. Through adaptive reuse the potential to extend a building's lifespan is present because the historic qualities of that building are maintained. There is an opportunity to design better spaces within and around the historic building(s), thereby respecting the heritage while also designing spaces that are spatially just. The intoduction of a function that is compatible with the character of that building (both formally and spatially) is another possibility. This new function adds to the functions that that building has aquired over time. There is the possiblity to enable an individual to exert spatial claim by extending the buildings lifespan and enable an individual to exert spatial power through the new function that is introduced to that building.

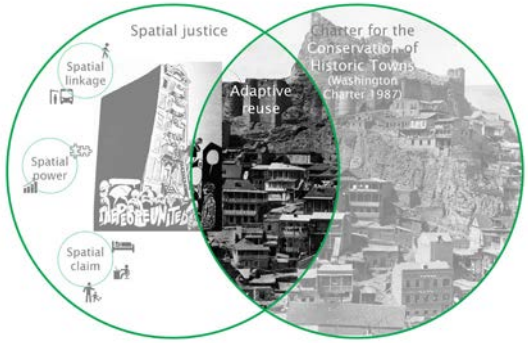


Figure 3-11: Theoretical framework diagram focusing on adaptive re-use (Author 2018)

Adaptive re-use falls within the ethos of the Washington Charter and will be used to preserve the heritage of a space while seeking to address its current needs thus ensuring that the space achieves spatial justice.

These overlaps are evident in the new functions and programmes that may be introduced to a space. There are a number of programmes and functions that may make a space more just, such as a public amenity. These programmes have a variety of functions that are associated with them but are not directly linked to them (such as a health care facility that is supported by a transportation

facility and an informal trading space). When a new function and programme is introduced to a historic town (or building), some principles from the Washington Charter will then be adherred to (as discussed previously). These programmes and their associated functions allow for spatial claim, power and linkage to occur at a variety of scales and for a variety of people. This may be illustrated in the following example: a healthcare facility enables spatial claim for the community (as a whole), in that the healthcare facility is a platform that improves how one lives and experiences a place. A transportation facility enables spatial linkage to occur, in the sense that the facility links the community and healthcare facility with others, as well as provide linkages within the community. The informal trading space enables spatial power to occur for the individual traders as they are able to improve their own livliehood while simultanously increaing spending power within their own community which in turn benefits the community as a whole.

Community participation

Secondly, both spatial justice and the Washington Charter advocate for community participation, which is best expressed thorugh social architecture (or agency). In the spatial justice framework, community participation is inevitable since individuals (and a community) are the ones who experience that space and thus must be enabled able to change it. In the Washington Charter community participation is necessary due to the communities' knowledge of the historic town, their current needs in the context and their continued use of the historic town after conservation management plans have been drafted and implemented.

3.4.1. Spatial injustice in Westfort Village

This section will discuss the injustices in Westfort Village and will investigate how these injustices have manifested spatially. A number of guiding questions are posed (Basset 2013:5) that are answered in the context of this study. Westfort Village may act as a catalyst for social development (which supports urban development) and simultanously facilitate community participation in this development.

Spatial linkage

To help determine whether an individual has spatial linkage, a number of guiding questions are posed (Basset 2013:5), followed by answers as it pertains to Westfort Village.

Are there any physical barriers in the space?

Yes, there open landscape between Westfort Village and Lotus Gardens and Fort West Housing acts as a barrier.

What are the invisible barriers that divide that space (either social, political or cultural barrier)?

There is a political barrier created through the lack of access to basic services and social barrier through the lack of public amenities in Westfort Village. Historically, Westfort Village was an isolated space associated with the stigma's of leprosy. The patients in Westfort Village were also subjected to racialised separate development policy. A stigma is still associated with Westfort Village – as an abandoned, 'dangerous' space, although the stigma is not related to leprosy.

Whose history and heritage belong in this space?

The history of the leprosy patients who stayed and were buried in Westfort Village; the Dutch civil servants who designed the various buildings in Westfort Village and the Zuid-Afrikaansche Republiek era which relates to the political climate which the institution was designed. However, the current residents of Westfort Village have embraced this heritage as well as the desire to protect it.

Is this space physically or social connected to other spaces?

Westfort Village is not well-connected physically, as there is only two vehicle roads leading to Westfort Village, and there are no formal bus routes to Westfort Village, with only one extant taxi route. Socially it is not well connected because the residents are considered the marginalised people namely jobless, vulnerable, immigrants of Pretoria.

Spatial linkage (and disconnection) is manifest in Westfort Village through the landscape, mobility and access to services

1. Open landscape as barrier

   Figure 3-13 illustrates the open landscape between Westfort Village and Lotus Garden. While the open landscapes were intended to separate the village from the rest of Pretoria, this separation still persists today. The new RDP developments (Fort West Housing) remain separated from Westfort Village by open landscape/ buffer zone.

2. Disconnected mobility
   There are only two vehicle entry points into Westfort Village. Furthermore, the Village has limited public transportation (see figure 2-27 on page 48). Lastly, the taxi stops (being the only public transportation available within the village) are not defined.

3. Access to basic services
   The heritage buildings in Westfort Village do not have access to water, electricity and sanitation (since these services were disconnected when the village was abandoned). This highlights the disconnection of basic infrastructure from the rest of Pretoria. Water tanks and portable toilets/ pit toilets have been installed in the village (figure 3-12 and figure 1-4 to 1-6 on page 22). This is far from ideal. Lastly, there are very few public amenities in Westfort Village (only a crèche).

Figure 3-12: Provision of temporary basic services (Author 2018)

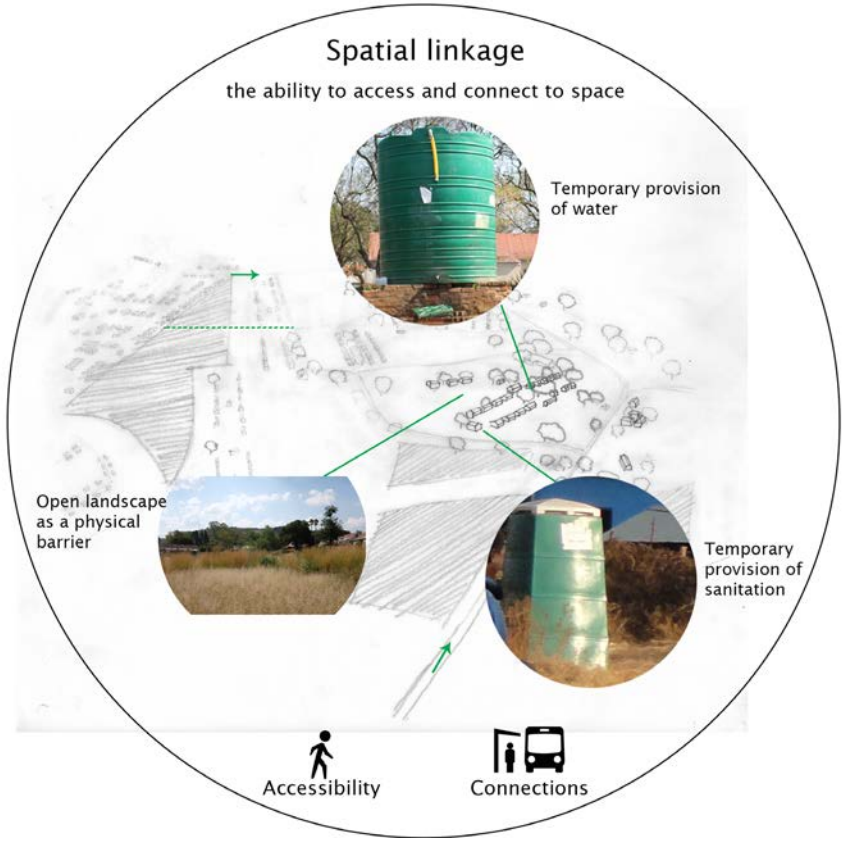


Figure 3-13: Spatial linkage in Westfort Village (Author 2018)

Spatial power

To help determine whether an individual possesses spatial power over a space, a number of guiding questions are posed (Basset 2013:5), followed by answers as this pertains to Westfort Village.

What qualities would be used to describe this space?
Juxtaposition, tranquil, neglected and secluded.

Is the community able to practice freely and contribute to space?
Yes, the residents are able to practice freely (as seen by the re-appropriation of and additions to the heritage buildings for residential and commercial use). However this re-appropriation has not been undertaken with lawful consent.

What special skills do the residents have?
Ingenuity as expressed in the entrepreneur spirit evident amongst some residents. They are able to maximum their available resources.

Is there any preventative barriers limiting the community from participating fully in public life?
There is no access to resources and the distance from resources is far.

Spatial power is manifest in Westfort Village through informal trade and cultural expression (see figure 3-17 on page 74).

1. Informal trade
   A number of informal trades exist in Westfort Village (figure 3-14). The trade is small in scale, and is focussed on daily consumer goods and services.

   In order for a community to exert their social power on a given space, they need to have the ability to grow and succeed in it. There is evidence of this occurring as residents would erect new buildings for trade (figure 3-15) as well we re-appropriate existing heritage buildings (figure 3-16). However, the exertion of spatial power is limited to availability of resources, types of trade offered and physical barriers.

2. Cultural expression
   Westfort Village has two forms of cultural expression namely recreation and gatherings. Sports are played mostly by the children and young adults. The

Figure 3-14: Informal trade in Westfort Village (Author 2018)

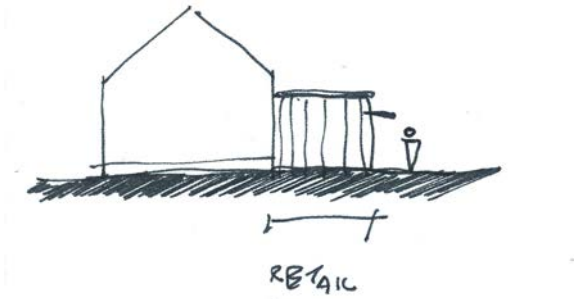


Figure 3-15: Additional building for informal trade (Author 2018)

Figure 3-16: Appropriated exisiting buildings for trade (Author 2018)

gatherings are church services and communal meetings. The church services occur in the landscape and the communal meetings used to happen in the Dutch Reformed Church (which is now demolished). Smaller gatherings occur at the water tanks as chance-encounters.

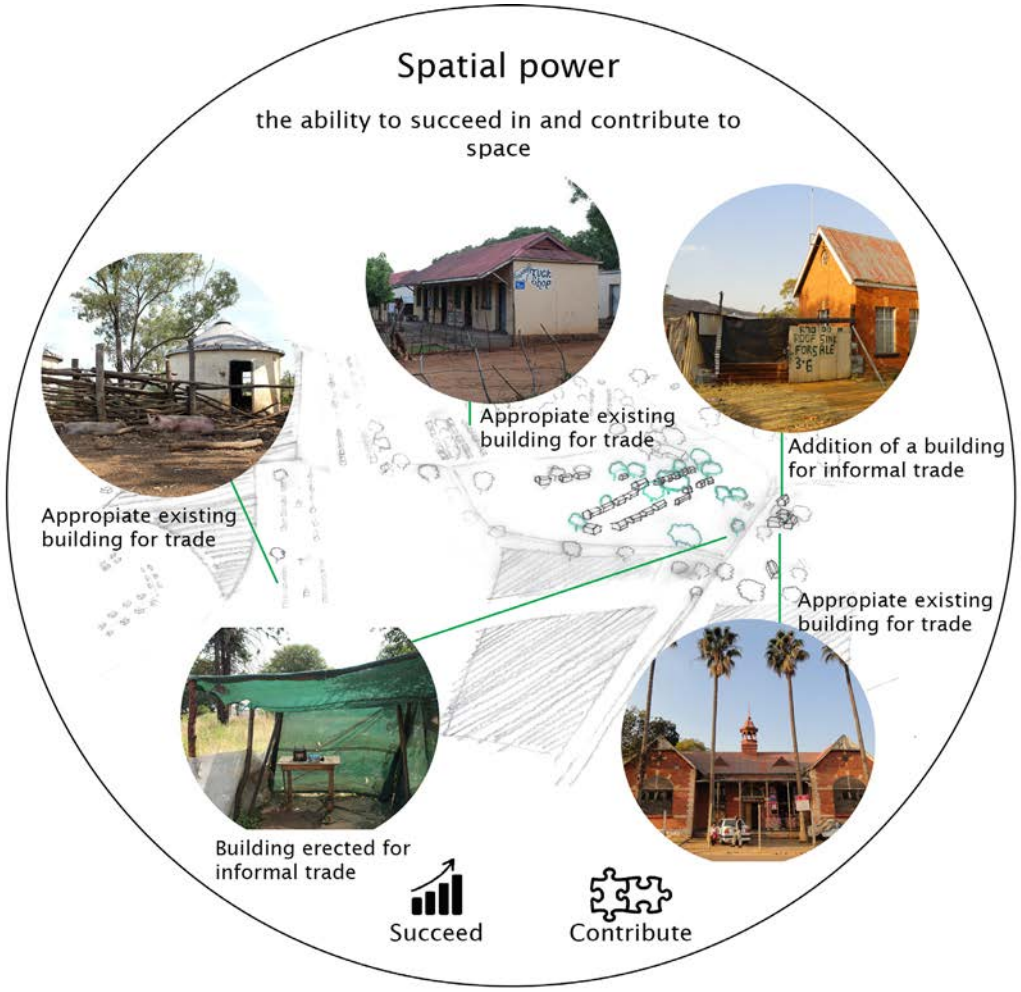


Figure 3-17: Spatial power in Westfort Village (Author 2018)

Spatial claim

To help determine whether an individual has spatial claim over a space, a number of guiding questions are posed (Basset 2013:5), followed by answers as it pertains to Westfort Village.

Who has taken ownership of the place?

The current residents have taken ownership of Westfort Village. Westfort Village is neglected by the provincial government. The residents have taken ownership of their individual buildings but not the village as a whole.

What is the relationship between the history of the place and the current community?

Current residents do not evidence a relationship with the history of the spatial context in which they reside. However, both previous and current residents have been marginalised and isolated.

How is the space currently being used?

It is mostly residential with some commercial buildings. This was done through re-appropriating the abandoned heritage buildings.

What work is an individual able to do in the space?

No formal work is done in Westfort Village. Some of the residents started their own business to cater for some needs within the village while others go to Pretoria Central for work. The rest of the residents are unemployed (for a variety of reasons).

What does an individual do for recreation in this space?

There are no formal recreation spaces in Westfort Village. The open landscape between the different cluster of buildings functions as recreation space, this mainly consists of children playing soccer.

Spatial claim is manifest in Westfort Village through re-appropiated living (see figure 3-21 on page 76).

1. Re-appropriated living

   A majority of the heritage buildings in the focus area have been re-appropriated for residential use. Rooms that were designed for one person now accommodate entire families. The residents have laid spatial claim on their

Figure 3-18: Deterioration of building (Clarke 2014)

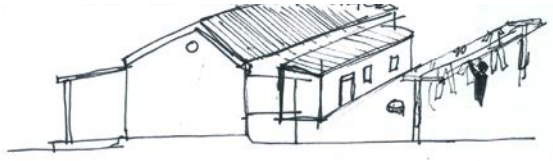


Figure 3-19: Reappropriation of semi-private spaces (Author 2018)

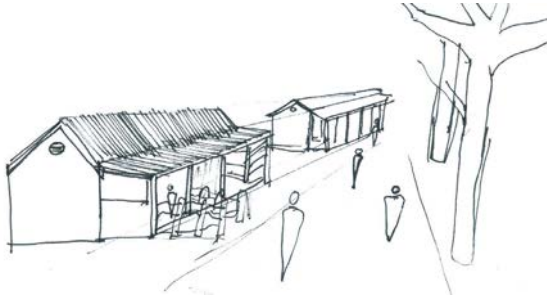


Figure 3-20: Reappropriated living spaces (Author 2018)

private spaces and formed social networks. However, due to limited resources some residents have left the heritage buildings in a deteriorating condition (figure 3-18 on page 75).

What is evident is that the re-appropriation only occurred in private spaces (interior of the buildings and the backyard of the buildings) (figures 3-19 to 3-20 on page 75). The public realm does not show signs of spatial claim.

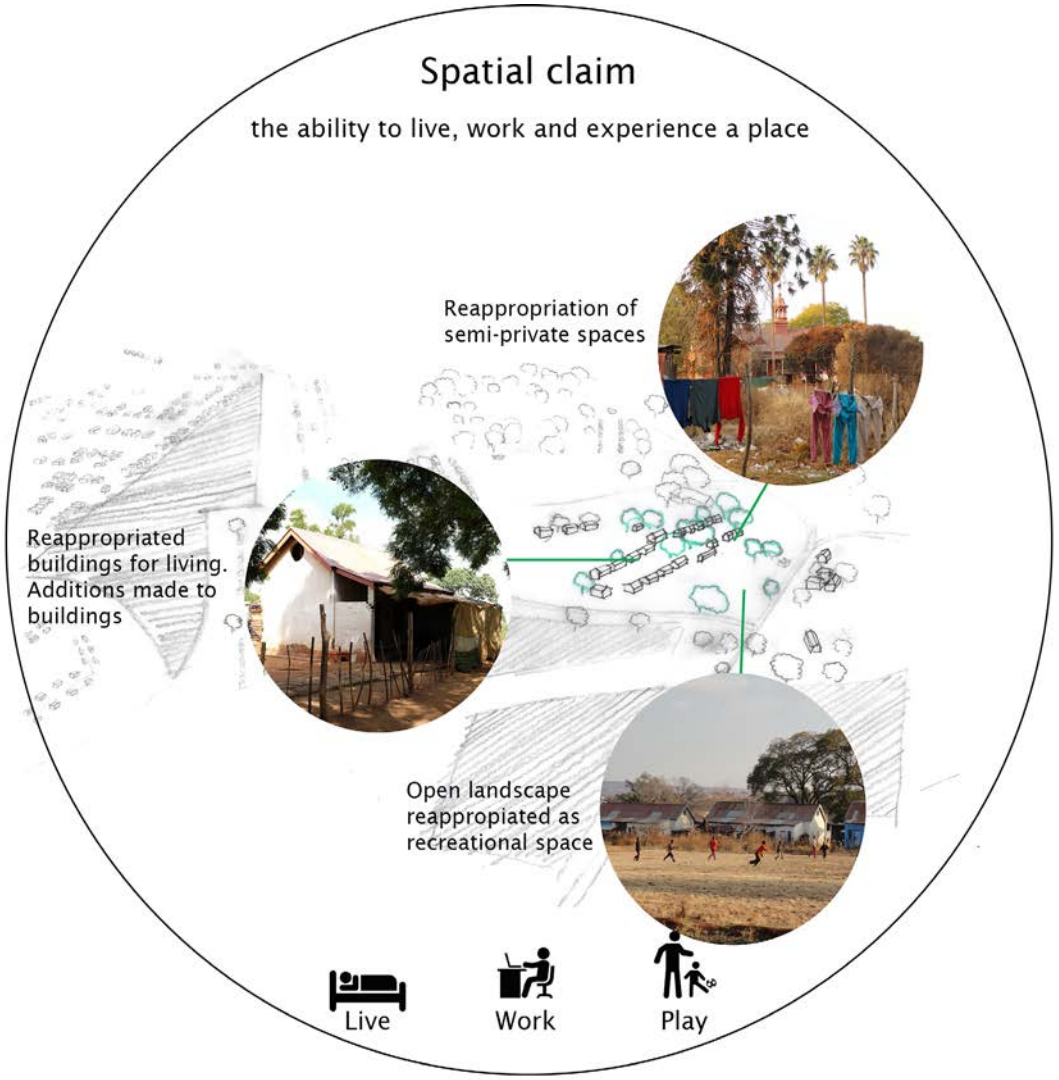


Figure 3-21: Spatial claim in Westfort Village (Author 2018)

3.4.2. Heritage in Westfort Village

The principles and methods discussed in the Washington Charter will be applied to Westfort Village.

Westfort Village does not appear to be integrated into urban planning policies or economic or social development. Government policies on social, economic and urban development do exist (as highlighted in the housing policy), however these policies are not applied in Westfort Village. Westfort Village seems to be abandoned by the government authorities. There are no basic services linked to Westfort Village. The goverment housing developments on the periphery of Westfort Village does not engage with the historic village. There is no enforcement of the National Heritage Resources Act within Westfort Village. A conservation management plan for Westfort Village will have to be developed in future that incorporates the economic and social needs of the residens of Westfort Village and factors in the urban development that is occuring on its periphery.

Westfort Village has a number of qualities that need to be preserved. The urban pattern of Westfort Village consists of clusters of buildings within a landscape. These buildings are residential in scale and an axis is used as device of spatial organisation. Trees were used to define a space as well as direct movement (tree-lined avenues). The relationship between buildings and landscape is that of buildings situated within a landscape. The prominent buildings are often perceived as objects in the landscape. The front of the buildings were often public, face onto a road or landscape (which acted as an axis), the rear of the buildings were private and opened onto a private garden. Some of the buildings are in the ZA Wilhelmiens architectural style. Westfort Village has changed in function from a leprosy asylum to a residential village.

Since no conservation management plan has been made for Westfort Village, little community participation has occured between the local residents and the government authorities. Furthermore, due to the lack of a conservation management plan, there is no systemic approach to the preservation of Westfort Village. The principle of community participation and systemic approach are not adherred to and can only be achieved once a conservation management plan is drafted for Westfort Village.

There is no continuing maintenace of Westfort Village both from goverment authorities and from the residents who occupy Westfort Village. This is linked to

the lack of a conservation management plan. The lack of continuing maintenace further hampers the efforts to preserve Westfort Village. Maintenance will have to be included in the conservation management plan and include resident training on residential maintenance.

The new function that Westfort Village has acquired has been compatible with its previous function. Westfort Village used to be a leprosy asylum that housed leprosy patients; and it is now a residential village that houses individuals who do not have access to housing. Any new functions introduced to Westfort Village ought to complement the residential village.

The improvement of housing in Westfort Village has occurred informally by the residents who have made interior and exterior additions to the houses that they occupy (such as closing off an open verander). Such a manner of improvements will have to be formalised and systemic. Since Westfort Village is now a residential village, the improvement of housing becomes paramount.

17. Public amenities did exist when Westfort Village functioned as a leprosy asylum. Since its closure as an asylum those amenities ceased to exist and the buildings that housed the public amenities were reappropiated.

Based on the discussion of the housing policy, Westfort Village may be seen as a housing model since existing building stock that is suitable for residential use is available; basic services infrastructure is present (though not functioning) and public amenities are no longer present[17] but could be designed for. Therefore Westfort Village has the potential to be a spatial just, housing model if its current issues are adequately addressed. These issues could be addressed using the various BNG programmes. Westfort Village requires the upgrading of housing stock through preservation/ restoration and the provision of basic services, which the Upgrading Informal Settlement Programme could address. Westfort Village is in need of public amenities, therefore the Provision of Social and Economic Amenities programme would be used to address this. Some of the residents in Westfort Village would not seek permanent tenure of their respective buildings. Therefore the Community Residential Units programme could be used to upgrade buildings that would be used instead as rental housing. Although the Integrated Residential Development programme is not directly related to Westfort Village (due to Westfort Village being an existing settlement), the future developments on the periphery of Westfort Village may implement this programme.

Some aspects of the Washington Charter are present in Westfort Village while others are not. In Westfort Village it is evident that the heritage landscape has experienced change but the heritage is not protected. In order to achieve this,

the Washington Charter in its entirety will need to be implemented.

Westfort Village is a unique heritage precinct that is of value to Pretoria and the rest of South Africa. Since its inception it could be viewed as spatially unjust, this injustice continues to this day. In order to address the existing issues and respect the heritage of Westfort Village, spatial justice and the Washington Charter were used as theoretical frameworks to read and intepret Westfort Village. These frameworks and their overlapping themes then guided the development of a statement of significance, an urban vision and programmatic intentions within which architecture may be created to address spatial justice and preserves Westfort Village

CHAPTER 4

PRECINCT VISION

4.1. Precinct Vision

The precinct vision of Westfort Village was influenced by the Tshwane Spatial Development Framework (TSDF), as well as the Tshwane Compaction and Densification Strategy (TCDS). These influences are discussed below, after which an urban vision is presented as a form of response.

The TSDF proposes to improve access and linkages (City of Tshwane 2013:41), provide social facilities (City of Tshwane 2013:46) and housing (City of Tshwane 2013:60) in the greater Pretoria West area. The proposed cluster could accommodate these proposals. The TCDS proposes for infill development, which responds to existing needs of a given site (this will occur throughout Westfort Village). That will develop economic opportunities and provide a range of dwelling sizes (City of Tshwane 2005:23-26). All of this takes note of the anticipated residential development to occur on the peripheries of Westfort Village. However, the TSDF does not propose any specific plans for Westfort Village apart from acknowledging the heritage of the site. The precinct vision in this dissertation will aim to fill in the gap left in the TSDF. The strategies proposed seek to address the spatial injustices in Westfort Village while preserving its heritage.

The precinct vision is that Westfort Village will become a node serving its surrounding urban fabric by providing public amenities. A primary care day clinic will be the catalytic program (public amenity). From there other public amenities will be provided in Westfort Village. Its heritage serves to encourage development for use by residents of Westfort Village and visitors to Westfort Village.

4.1.1. Strategies

Three strategies were developed to help achieve the precinct vision for Westfort Village.

Firstly, it is envisioned to integrate Westfort Village into its surrounding urban fabric (see figure 4-13 on page 87), by providing vehicle and pedestrian access to Westfort Village (figure 2-27 on page 48); provide basic services such as water, electricity and sanitation to Westfort Village; and define streets as is illustrated in figures 4-2 to 4-3.

The streets will be defined as main streets, secondary streets and pedestrian streets. Main streets will have two lanes with vehicle traffic in both directions,

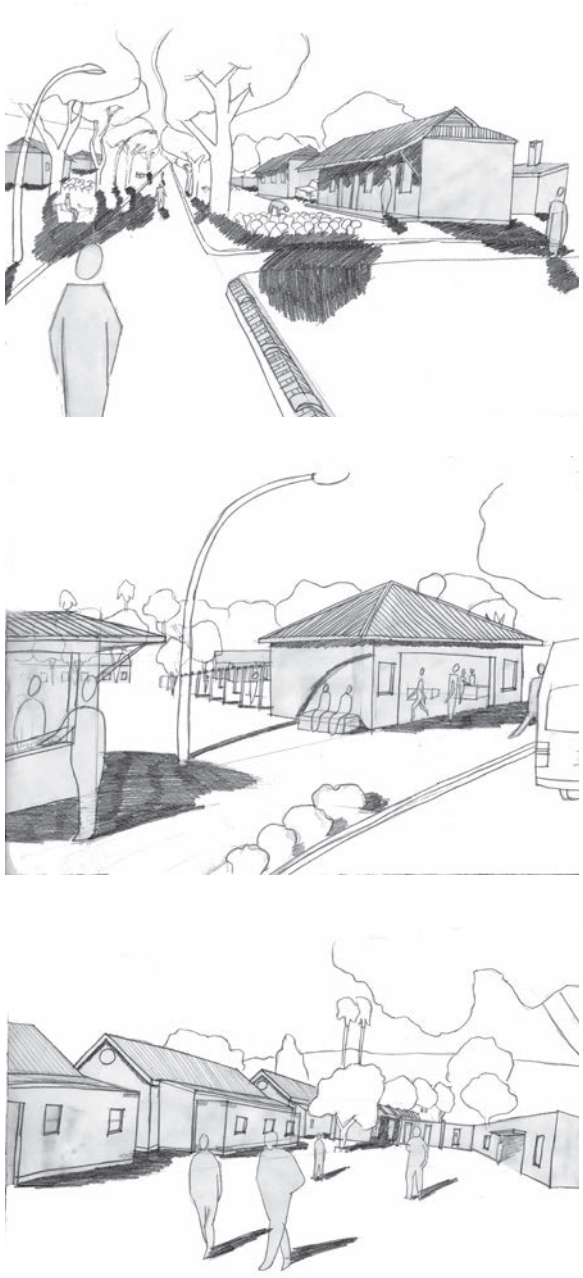


Figure 4-1: Urban Vision sketches (Author 2018)

a pedestrian pathway with street furniture and street edges will be defined by restored water furrows, which were part of the original design of Westfort Village. Secondary streets will have one lane for vehicle traffic in one direction and a pedestrian pathway with street furniture. Secondary streets are located in predominately residential zones which are not as busy in terms of vehicle traffic. Pedestrian streets will be wide to accommodate the increased pedestrian traffic and will have a variety of street furniture. Pedestrian streets will be edged by an avenue of trees, which provide shade and references the tree-lined avenues of Westfort Village when it first opened. The integration Westfort Village into its surrounding urban fabric produce spatial linkage and spatial claim thus making Westfort Village spatially just.

Secondly, it is necessary to provide social facilities in Westfort Village. The social facilities will include public amenities (including welfare programs), mixed income housing and green spaces (see figure 4-14 on page 88).

These social facilities would support the opportunities present in Westfort Village. One such opportunity is the entrepreneurial spirit of the current residents in Westfort Village. Through the resident's own endeavours, they have set up small scale businesses. This shows that residents of Westfort Village exercise a certain level of spatial power over their space. It would be beneficial to harness this entrepreneurial spirit by empowering the existing entrepreneurs as well as develop new entrepreneurs. This presents possibilities for social facilities (such as an entrepreneurship incubator) to be introduced in Westfort Village. These social facilities would increase the level of spatial power exerted on Westfort Village, which would increase the spatial claim on Westfort Village (better working and living environment), which would lead to increased development. Theses social facilities would link other facilities in Pretoria to Westfort Village thus supporting spatial linkage.

Thirdly, it is necessary to retain the heritage fabric of Westfort Village. To facilitate this, a conservation management plan will need to be drafted. This will require urban heritage strategies to be developed (see figure 4-4 to 4-7 on page 85). Infill developments are to be consolidated so that the character of Westfort Village is retained. Future developments will need to adhere to the urban heritage strategies (see figure 4-7 on page 85). The conservation management plan will include heritage maintenance training so that the local residents are able to maintain the heritage buildings. Furthermore, plaques will be placed in front of certain buildings narrating its history.

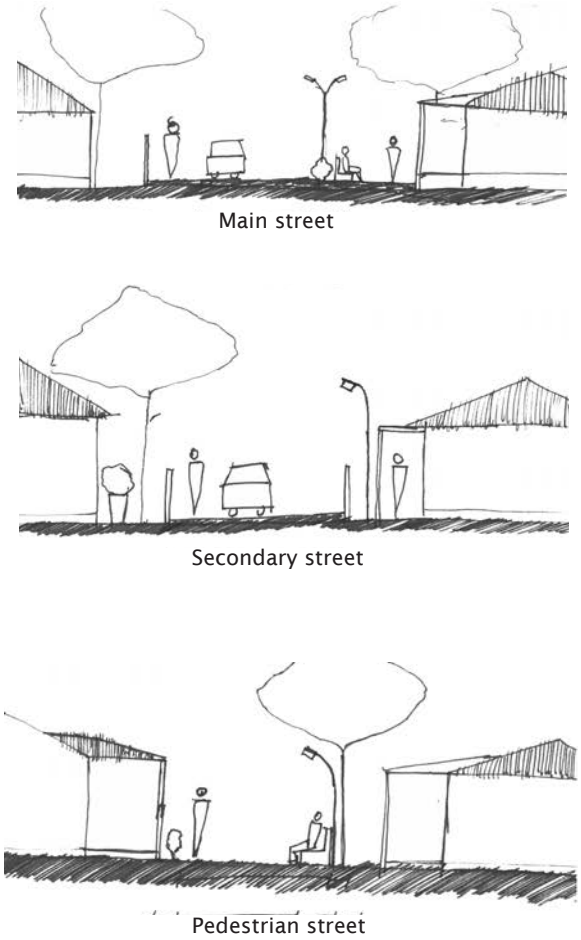


Figure 4-2: Different street types (Author 2018)

The housing strategy will involve provision of housing and the upgrading of heritage buildings for residential use. This would ease the housing crisis (as some individuals already have access to housing in the form of heritage buildings). These heritage buildings would need to be upgraded (thus addressing the improvement of housing principle in the Washington Charter) and these improvements would be done through the various programmes offered by the Breaking New Ground Policy, which is part of the housing policy (discussed in Chapter 3). The improvement of housing would aid in preserving Westfort Village through the adaptive reuse of heritage buildings. Furthermore, improvement of housing would enable spatial claim to occur for the residents as their living environment is improved. This will ensure that Westfort Village is a habitable settlement.

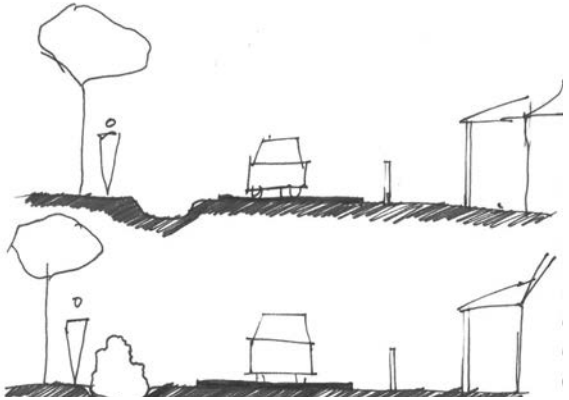


Figure 4-3: Rejuvenated water furrows as part of defining streets (Author 2018)

The following measures will be implemented:

- Some residents of Westfort Village will be allocated a RDP house (figure 4-8 on page 86). This is currently the case, as some residents have been relocated to Fort West Housing scheme (RDP development on the periphery of Westfort Village)
- Residents not offered RDP houses, will instead be given title deeds to the respective buildings that they occupy (figure 4-9 on page 86).
- The unoccupied residential buildings (following the relocation of residents after RDP allocations) will be renovated and leased/sold as mixed income housing (figure 4-10 on page 86). The renovations will result in different spatial configurations of the heritage buildings (figure 4-12 on page 86).
- Mixed income residential buildings will be constructed, which form part of the infill development of Westfort Village (figure 4-11 on page 86). The mixed income housing will seek to integrate different socio-economic classes in Westfort Village and evoke the multi-racial nature of Westfort's past.

The vision will be implemented incrementally, according to the availability of funds; sensitivity to the environment; and ongoing engagement required with various stakeholders (Gauteng Department of Health, PHRA-Gauteng, Department of Social Development and residents of Westfort Village). It is anticipated that incremental implementation will allow for a change in perception of Westfort Village to accompany the changes made, so as to allow for services to be provided that might enable economic opportunities (through local entrepreneurship and/or private investment).

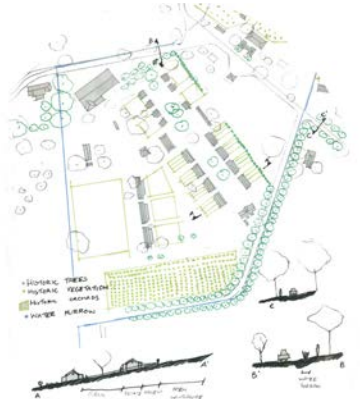


Figure 4-4: Historic vegetation (Author 2018)

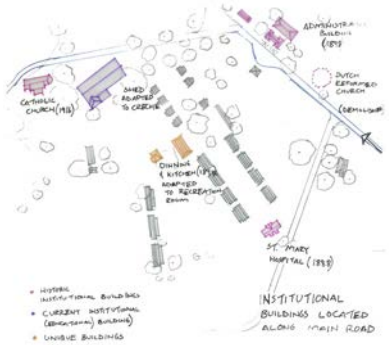


Figure 4-5: Historic programmes (Author 2018)

Figure 4-6: Historic spatial configuration (Author 2018)

Figure 4-7: Urban heritage strategies (Author 2018)

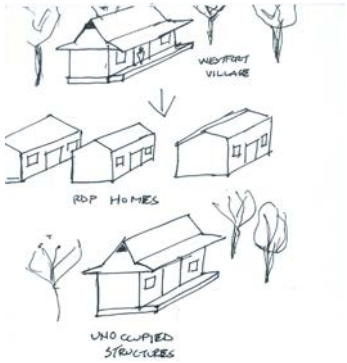


Figure 4-8: RDP allocation of Westfort Village residents (Author 2018)

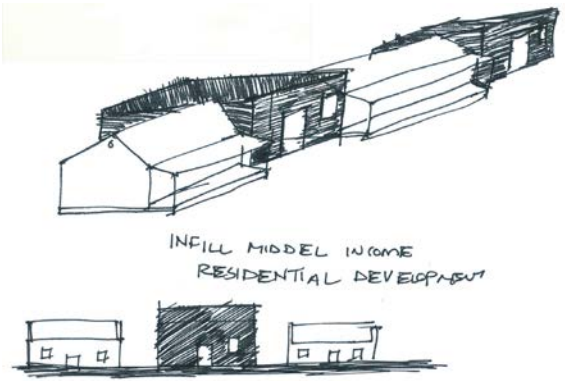


Figure 4-11: In-fill development of mixed income residences (Author 2018)

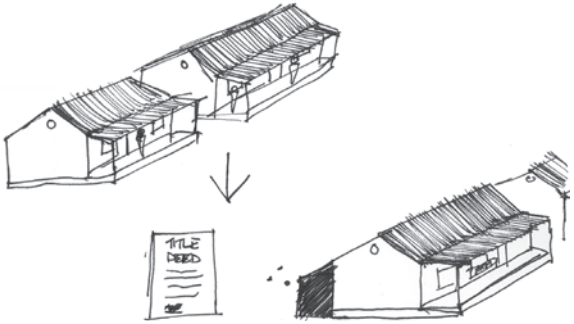


Figure 4-9: Allocation of title deeds (Author 2018)

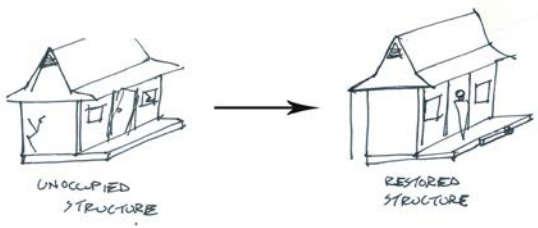


Figure 4-10: Renovation of unoccupied buildings (Author 2018)

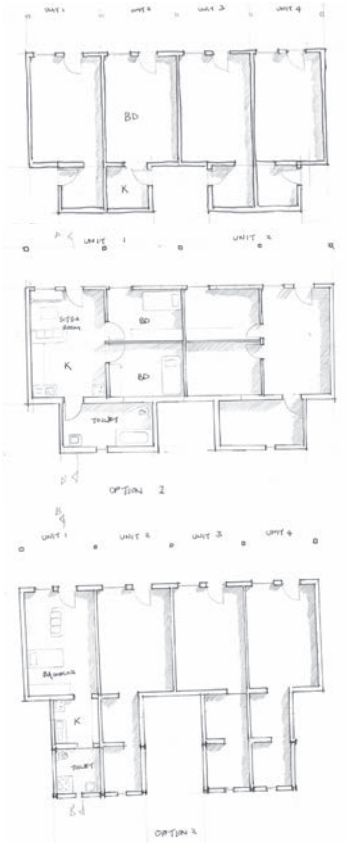


Figure 4-12: Spatial configuration of renovated buildings (Author 2018)

Figure 4-13: Urban vision site plan (Author 2018)

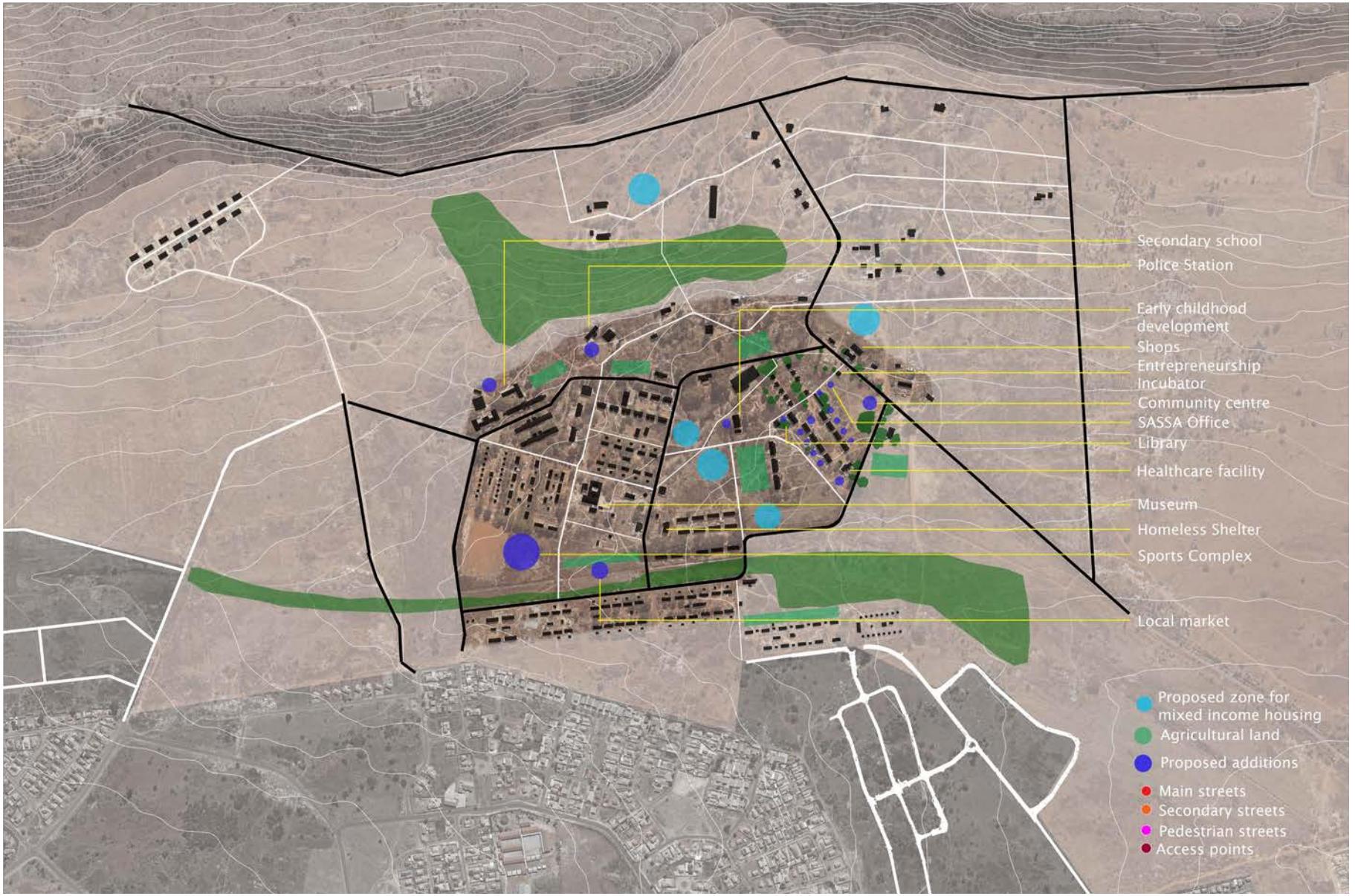
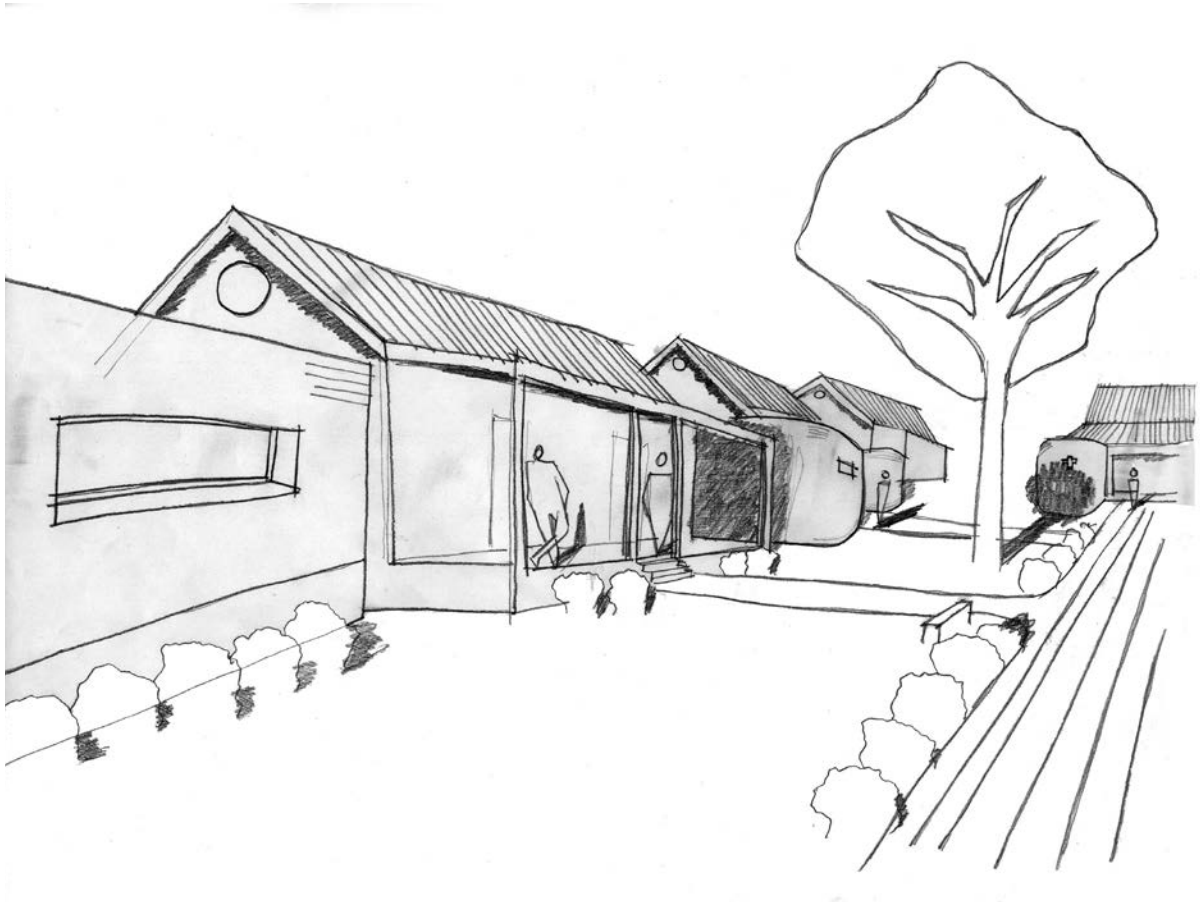
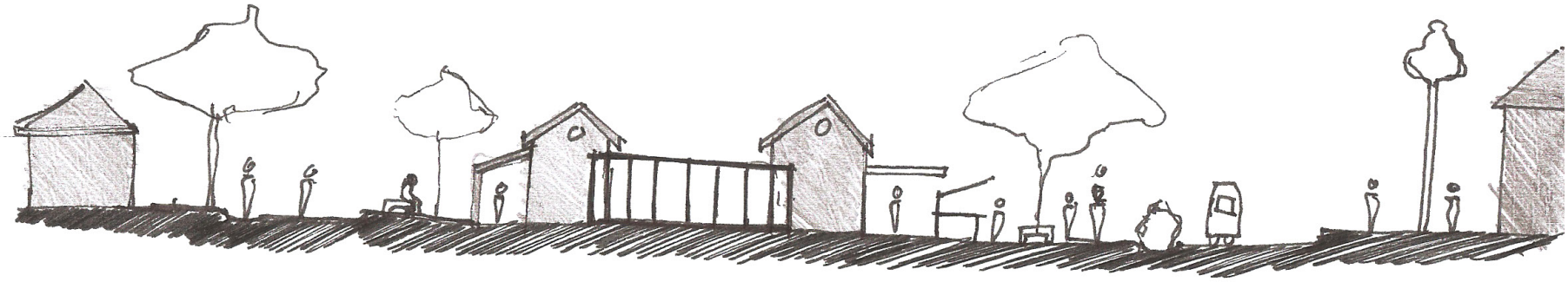


Figure 4-14: Urban vision indicating programmatic possibilities (Author 2018)





4.2. Precinct scale precedent

4.2.1. Genadendal Conservation Project

Location: Genadendal, Western Cape, South Africa
Architect: Braaksma & Roos
Programme: Historic town
Date: 1738 (established), 2008 (restoration)
Keywords:
Conservation urban heritage strategies community participation

The restoration of Genadendal - a historic Moravian mission town,[18] involved a joint venture[19] to restore the total ensemble of the town by means of Integrated Conservation (Du Preez 2009:3) that considers historical, natural, socio-economic factors to ensure that any conservation work contributes positively to a space (Du Preez 2009:7).

Action plans:
- training, marketing and communication;
- town improvement and cleaning;
- accommodation management;
- integration with the natural environment; and
- community-based cultural tourism

In order to achieve the action plan, a mapping of the town was conducted (Du Preez 2009:28-35), which resulted

18. A historic mission town with significant heritage related to South Africa, Christianity and Agriculture which is still reflected today in its architecture and local residents.

19. Undertaken by the Western Cape Government and the Netherlands Ministry of Education, Culture and Science.

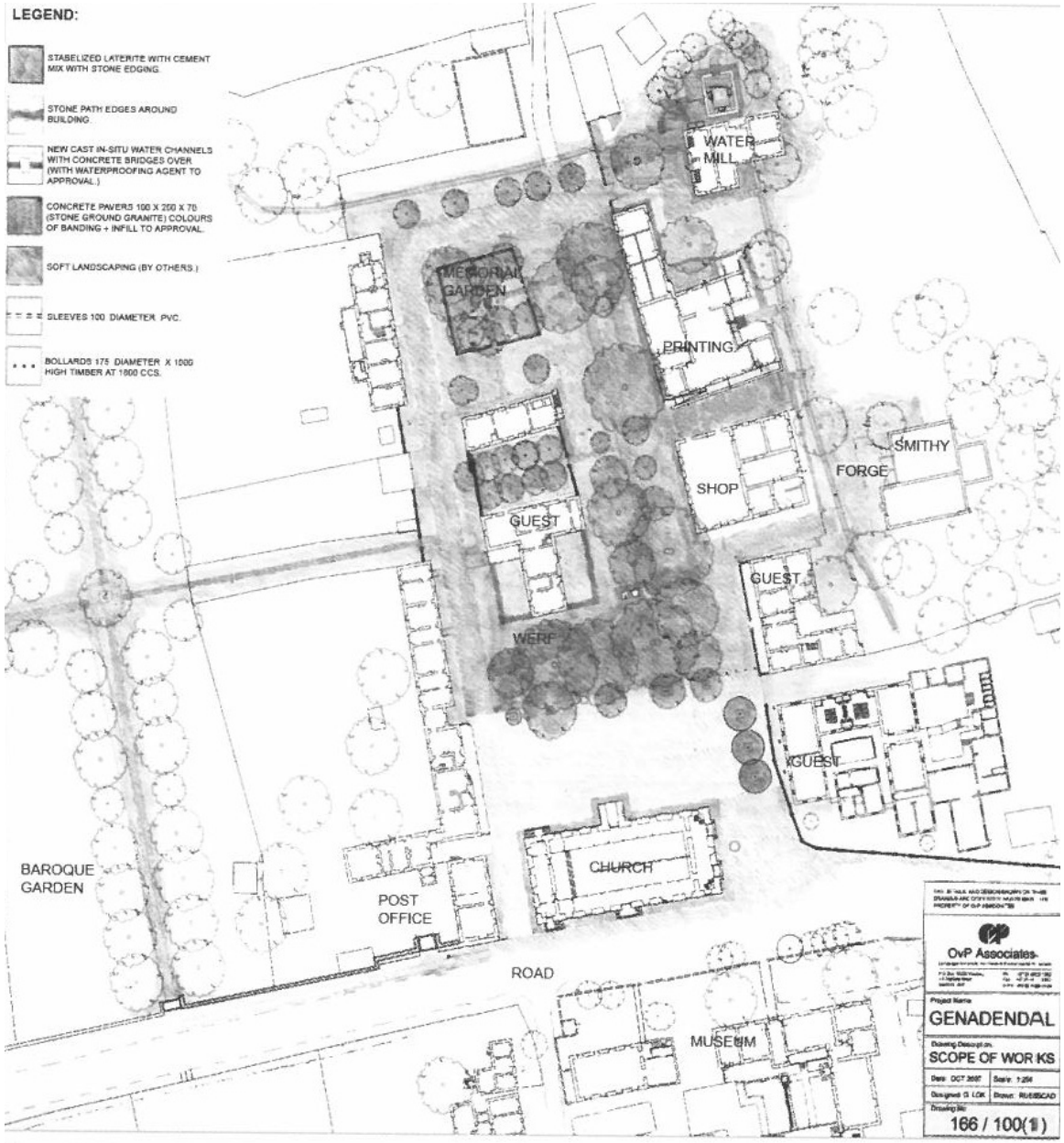


Figure 4-15: Map of town centre (De Preez 2009:56)

in three critical points of interest: the fertile valley for agricultural development (along with its residential buildings); the central church as the focal of the town (figure 4-15) and the natural surroundings to promote eco-tourism. The critical points would be restored and driven by the community as a catalyst for further restoration of the town.

The restoration entailed the use of government housing subsidy (Du Preez 2009:69) to upgrade housing (figures 4-16 and 4-18) and improve infrastructure (figures 4-17 and 4-19); community involvement to help and lead restoration efforts and urban heritage strategies through an acknowledgment of the critical points.

The lessons learnt to be applied in Westfort Village are as follows:

- Mapping and research of Westfort Village to inform a conservation management plan;
- Restoration of the entire village using government policies and funding;
- Community participation in the restoration and continued maintenance of Westfort Village.

Genadendal has similarities in both heritage and spatial organisation with Westfort Village resulting in an adaptation of principles from the conservation of Genadendal to Westfort Village.

Figure 4-16: Restoration of house (De Preez 2009: 66)

Figure 4-17: Improvement of Infrastructure (De Preez 2009:80)

Figure 4-18: Addition to house (De Preez 2009:33)

Figure 4-19: Improvement of pathway (De Preez 2009: 31)

CHAPTER 5

CLIENT AND PROGRAMME

5.1. Client

The main clients in the focus area will be the Gauteng Department of Health (for the Primary Care Day Clinic and as owner of Westfort village), Gauteng Department of Economic Development (for the entrepreneurship incubator), and the Gauteng Department of Arts & Culture (for the library). The other clients would be the Gauteng Department of Human Settlements with regards to the various programmes for the improvement of housing in Westfort Village, as part of the precinct vision. The Gauteng Department of Health; Economic Development and Human Settlements all work towards social justice implicitly by virtue of the work they do in providing such amenities - as a response to the context of South Africa (due to amoung other things the consequences of the past). The Gauteng Department of Arts & Culture seeks to promote the heritage of South Africa. Although that is not their main function in Westfort Village, this aim corresponds with the author's agenda for Westfort Village to preserve (and thus promote) the heritage of Westfort Village.

The main stakeholder will be the residents of Westfort Village as they will be the ones to benefit most from the provision of public amenities. The residents of Westfort Village are the ones primarily experience social injustices in that village and they will be the ones to benefit most from the preservation of Westfort Village. Therefore it is important that we engage with them. Other stakeholders include RLabs, various investors in partnership with RLabs, Westfort Foundation, Various NGOs in partnership with Westfort Foundation and the Gauteng Department of Social Development.

The Westfort Village residents will benefit from interactions with various stakeholders as follows:

- access to primary health for the residents of Westfort Village;
- skills development in entrepreneurship through engagement with Rlabs[20] (possibly skills developments in heritage conservation, management and maintenance through engagement with PHRA-Gauteng);
- catalytic effects of successful entrepreneurs in Westfort Village (more money made in Westfort Village resulting in more money spent in there);
- training and education in healthy living for the residents of Westfort Village
- access to facilities such as computer rooms, library and meeting rooms for residents; and
- formalisation of the Westfort Foundation to better sustain the community through interactions with various Non-Governmental Organisations (NGO), the

20. Rlabs is an incubator programme (as part of the Centre for African Cities) for economic businesses that are birthed and sustained through the youth of a given community.

21. The Heritage Portal is an independent volunteer -based organisation that acts as a mediator in facilitating information related to the heritage of South Africa.

Gauteng Department of Social Development, the Gauteng Department of Health and the Heritage Portal[21].

5.1.1. Programmes

The main intention of the dissertation is to provide public amenities, through adaptive re-use of heritage buildings. Through mapping the public amenities in Pretoria West (refer to page 44), it was evident that there was a lack of public amenities in Westfort Village. Furthermore, with the future residential developments planned on the peripheries of Westfort Village, the need for public amenities will be exacerbated, not to mention the social injustice that occurs in Westfort Village as a result of the lack of public amenities.

To address this issue, a number of programmes are proposed for the entire Westfort village (refer to figure 4-15 on page 88). These programmes provide public amenities which will aid in restoring social justice to Westfort Village. Furthermore, additional mixed income housing will be introduced in order to address the housing crisis and to introduce a diverse socio-economic group to the village. The overarching programmes for the focus area will be a primary care day clinic; an entrepreneurship incubator and a library. The focus on this dissertation will be the primary care day clinic.

Westfort Village is well suited for a primary healthcare facility due to the current need in continuity with previous needs; as there are few healthcare facilities in the immediate precinct (refer to figure 2-23 on page 44). The history of the precinct is related to the medical field (and so a continuation of healthcare-related services would be appropriate), the existing infrastructure is suitable a for healthcare facility. This would entail the adaptive reuse of heritage buildings and infrastructure which would ensure that the heritage of Westfort Village is maintained. Westfort Village is suited close to residential developments which the primary care day clinic could serve in the future (as an increase in housing developments would lead to an increase for healthcare facilities). The landscape of the precinct is indicative of preventative healthcare (lush vegetation, mountain range bringing in wind breezes) and the local community would benefit from having individuals who would be trained in healthcare and thus train others to promote good health in Westfort Village (spatial power). This training offered by the clinic contributes to human development and engages the social, economic, and cultural determents of health and disease (Hugo et al 2013:2). A primary care day clinic would improve the living environment of Westfort Village, by ensuring

that residents and the environment are healthy. This improves spatial claim, which ultimately leads to a just space.

The entrepreneurship incubator is intended to harness the entrepreneurial spirit of Westfort Village. This will be done by empowering existing entrepreneurs as well as develop new entrepreneurs so that they may collectively contribute to Westfort Village. The entrepreneurship incubator would increase the spatial power of residents in Westfort Village therefore leading to a just space.

The library intents to be a communal resource that would allow for learning on all levels to take place. There are no learning facilities in Westfort Village. The library would respond to the need for learning in Westfort Village. Furthermore, the library links Westfort Village to the rest of the world via information and this is a form of spatial linkage which would lead to a just space.

The primary care day clinic, entrepreneurship incubator and library all seek to ensure that Westfort Village is spatially just. All this programmes could be accommodated in the existing buildings, therefore retaining the heritage of Westfort Village.

The primary care day clinic will be developed first, as it has the most opportunities to act as a catalyst from which other programmes could build on. The overlap in library and entrepreneurship incubator will result in shared facilities. The entrepreneurship incubator and library will be developed incrementally (after the first phase of the clinic is complete). In the interim, the clinic will offer facilities that will be shared (communal) amoung the residents of Westfort Village. These facilities include a multi-purpose community room which will partly-function as spaces in which the entrepreneurship incubator is held (until its own building is erected).

Figure 5-1: Location of clinic (Author 2018)

Primary Care Day Clinic

The clinic will serve a population of approximately 12 000 people. This population includes current residents of Westfort Village, Fort West Housing (RDP housing) as well as the future residents who will inhabit the peripheries of Westfort Village. The clinic is focussed on curative healthcare (consulting rooms, treatment rooms, etc.) and preventative healthcare (community health workers). The clinic will include a community outreach hub which will be modelled after a Community Oriented Public Care (C.O.P.C) post. The community outreach hub will accommodate 15 community healthcare workers who will work in the greater Westfort area.

C.O.P.C. concerns the creation of **health posts** located in communities to serve **defined populations** in defined geographic areas within a municipal ward (Hugo et al. 2012:2). These health posts become the extension of primary care within the specified community. The focus of C.O.P.C is on health promotion, health prevention and early detection of disease treatment and rehabilitation. This makes C.O.P.C. an entry point to bring people into the health and social care services. For this reason, emphasis is placed on preventative healthcare as opposed to curative healthcare.

This emphasis results in community health outreach programmes as well as home-based health services (Hugo et al. 2012:2) in addition to the health prevention services offered at the clinic. The community outreach programme involves interaction with community members to prevent, detect and cure disease while also promoting health (Hugo et al. 2012:3). Diseases that cannot be cured from home will be referred to the clinic for further consulting. Furthermore, the emphasis on community oriented health care creates shared responsibility for health care between the service providers (clinics) and the service users (community) (Hugo et al. 2012:3).

C.O.P.C. (and by extension clinics) rests on a partnership between various institutional stakeholders (such as the Gauteng Department of Health, local ward councillor, University of Pretoria Department of Family Medicine and local NGOs within the community. This partnership extends to the local community through health promotion services, preventative healthcare measures and equipping locals to become their own community health care workers (Hugo et al. 2012:3). The aim of primary care day clinic and C.O.P.C. (community outreach hub) is to build mutual empowerment where authority, responsibility and capacity are shared between the local community and external service providers (Hugo et al. 2012:7).

Pages 98 to 100 indicate the programme list to the Primary Care Day Clinic (in detail). The other public amenities to be implemented in the focus area are included (although their programme list is not specified).

Space	Activities	Size (m^2)
Community Oriented Primary Clinic		
Owner: Gauteng Department of Health Community client: Westfort Village		
Foyer & reception		
- Records storage	Patient records storage	35
- Switch room (IT)		5
Main waiting area (indoors)		72
Main waiting area (outdoors)	Waiting in landscape (preventative healthcare measure), contemplation spaces	57
Admin offices		20
Facility manager office		15
Storage	General storage, stationery storage	50
Garden storage		5
Equipment storage		16
Cleaners room	Cleaning equipment storage	8
Ablutions		
- Males (x2 wc, 3 hwb, x3 urinals)		16
- Females (x3 wc, x3 hwb)		16
- Persons with disability		4
- Baby change room (x2)		4
Clean utility	Linen, surgical storage	
Dirty utility		17
- Drying yard		9
- Waste storage		4
Pharmacy		
- Dispensary		15
- Pharmacy consultation office		15
- Bulk storage		21
Receive/ holding		16
Staff parking	For 10 cars	138
Public parking	For 14 cars	168
Plant room		
Water storage		
Gas storage		
Herbal garden	Herbs to aid in preventative healthcare	
Sub waiting area (indoors)	For mother and child care and emergency care	64
Sub waiting area (outdoors)	For infectious and chronic care	32
Direct Observation Treatment (D.O.T) room	For Infectious care	26
Sputum collection (x2)	For infectious and chronic care	12
Counselling room (x5)	For infectious, chronic, mother and child care and community outreach	105
Vital/ preparation room (x3)	For infectious, chronic and mother and child care	48

Treatment room (x2)	For chronic and emergency care	50
Specimen collection (x3)	For infectious, chronic and mother and child care	23
Consulting room (x14)	For infectious, chronic and mother and child care. Tuberculosis care, chronic care, antenatal care, child healthcare services and HIV care	184
Play area (outdoors)		16 m2
X Ray	For infectious care	
- Change room		5 m2
- X Ray room		24 m2
- Observation room		6 m2
- Storage		5 m2
Blood room		
- Office		16
- Sample taking		8
Emergency care	Minor & emergency surgeries	
- Office		12
- Triage		20
- Emergency room		40
- Procedure room		20
Ambulance drop off		120
Community Outreach		
- C.O.P.C Office		12
- Storage		18
- Workstation		46
Staff quarters		
- Lounge		36
- Kitchenette		8
- Meeting room		35
- Nurse station		13
- Doctor office		13
- Change room/lockers		12
- Staff toilet		12
- Staff garden		
Communal services		
- Multipurpose hall	Incubator training sessions, community health education (nutrition workshops, prenatal and post natal training), children extra mural activities, NGO meetings	96
- Storage		8
- Kitchen		8
- Reception & foyer		48
Ablutions		
- Males (x1 wc, x2 hwb x2 urinals)		13
- Females (x2 wc, x2 hwb)		13

Space	Activities	Size
Library (Master plan only)		
Owner: Gauteng Department of Arts & Culture Stakeholders: Westfort Foundation Community client: Westfort Village		
Entrepreneurship Incubator (Master plan only)		
Owner: Gauteng Department of Economic Development Stakeholders: RLabs Community client: participants in incubator programme and Westfort Village		
Offices, workshops and formal trading spaces for entrepreneurship programme. Informal trading spaces for Westfort Village entrepreneurs not involved in incubator		
Offices, workshops and formal trading spaces for entrepreneurship programme. Informal trading spaces for Westfort Village entrepreneurs not involved in incubator		
Shared facilities (Master plan only)		
Meeting rooms, computer labs used by residents of Westfort Village for Incubator training sessions, community health education (nutrition workshops, prenatal and post natal training), children extra mural activities and NGO meetings		
Vegetation Processing (Master plan only)		
Owner: Gauteng Department of Economic Development Stakeholders: Various NGOs Community client: Westfort Village		

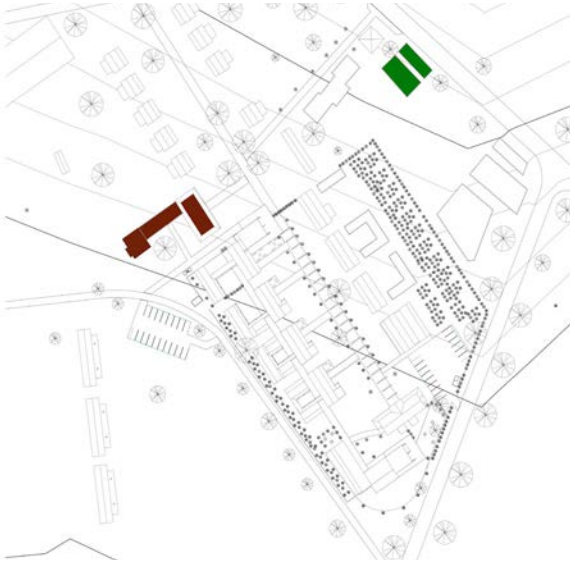


Figure 5-2: Location of entrepreneurship incubator in green and library in brown (Author 2018)

Figure 5-3: Location of shared facilities in grey and vegetation processing in red (Author 2018)

5.2. Programme precedent

Westbury Clinic

Location: Westbury, Johannesburg, South Africa
Architect: Ntsika Architects
Programme: Community Oriented Primary Clinic
Date: 2016
Keywords
Preventative healthcare
Justice
Dignity

Westbury Clinic, located in the marginalised community of Westbury serves to provide preventative healthcare (public amenity) and a well-defined public space. The clinic offers comprehensive healthcare[22].

22. This includes Tuberculosis care, chronic care, antenatal and post-natal care, child healthcare services, HIV care, cancer care and prostate screening (Africa Architecture Awards 2017).

Since the clinic is community oriented, a preventative emphasis is placed on the consultation rooms and public educational rooms. The clinic was designed to mitigate and reduce the transmission of airborne diseases within the clinic and eliminate the stigma associated with those who are ill (Africa Architecture Awards 2017).

The design strategy incorporated a courtyard into the clinic (which serves as a secondary waiting area) (figure 5-5). The courtyard allows natural ventilation to occur (preventative spread-of-disease strategy). Furthermore, the courtyard acts as

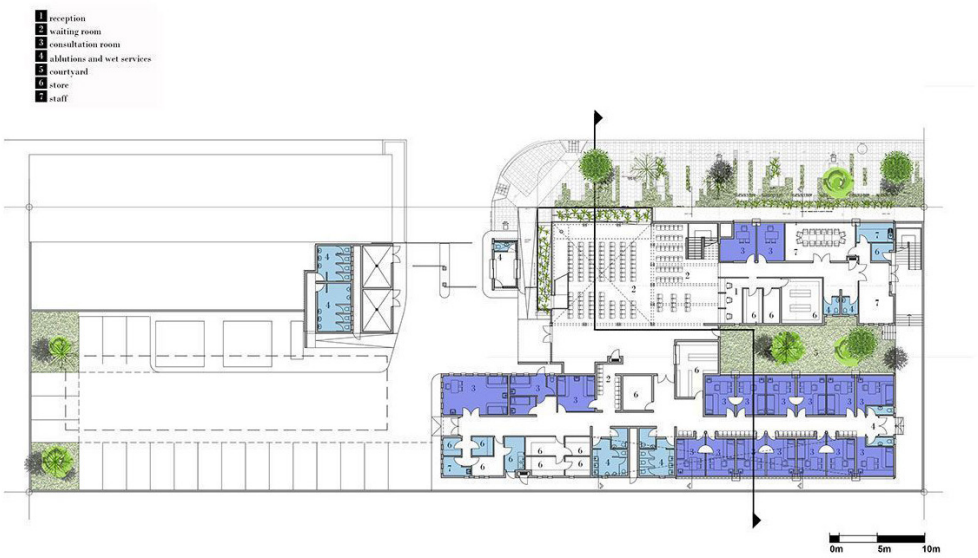


Figure 5-4: Floor plan of Westbury Clinic (Africa Architecture Awards 2017)

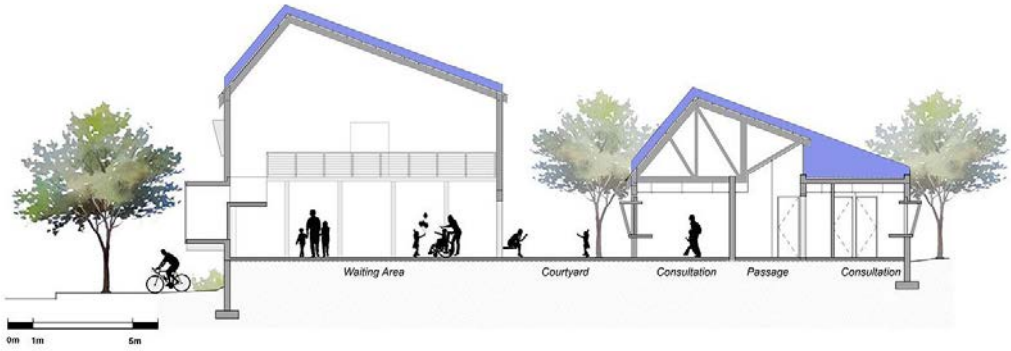


Figure 5-5: Section through Westbury Clinic (Africa Architecture Awards 2017)

a separating device in which the all functions of the clinic are separated from each other (preventative spread-of-disease strategy) (figure 5-6). The courtyard and landscape provide soft edges and shade between the buildings (figure 5-8) encourages patients to wait outside (preventative spread-of-disease strategy) (Africa Architecture Awards 2017).

The use of natural light is prevalent in the design – due to the psychological effects of light in healing as well as the opportunities for cross ventilation to occur (figure 5-9)

Westbury Clinic promotes health, justice, and human dignity for the community of Westbury.

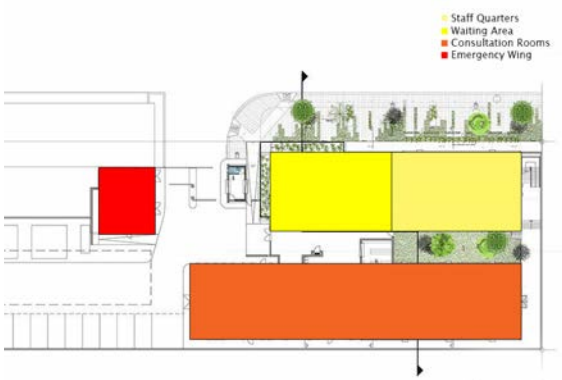


Figure 5-6: Separation of functions

Figure 5-7: Exterior street view (Shmucker 2016)

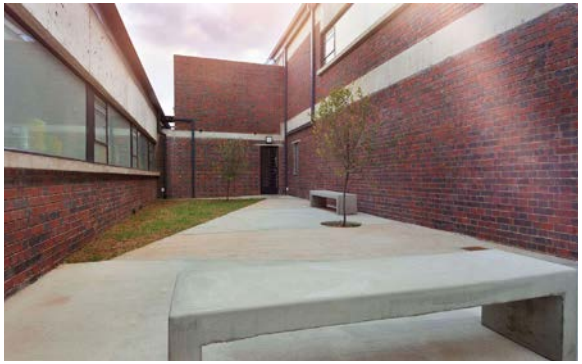


Figure 5-8: Courtyard space (Shmucker 2016)

Figure 5-9: Primary waiting area (Shmucker 2016)

CHAPTER 6

DESIGN DEVELOPMENT

This chapter will elaborate on the conceptual approach that guided the design and technical development of the dissertation. A review of the hypothesis as an answer to the problem statement will be stated followed by a discussion of the various design generators.

6.1. Conceptual approach

The Conceptual approach is layering (figure 6-1), which is defined as adding to that which exists. This layering is evident in the following ways:

- historical development of Westfort Village and its associated memories - from a Tshwane-Nbele settlement to a Leper institution to an illegally reappropriated settlement;
- the theory of spatial justice and the Washington Charter (with their overlap in adaptive reuse in application);
- the change in programs of Westfort over time;
- changes in built fabric over time; and
- the changes of the physical site from a natural mountain range to a landscape with planted vegetation to a landscape with buildings to cater for leprosy patients to illegally reappropriated settlement with smaller buildings erected unto the landscape.

Tabula Plena, as defined by Bryony is a site full of existing buildings and systems that have accumulated over time (Roberts 2016:11), with the result that whatever is added to the site ought to add to (layer unto) what is existing. In an urban sense, what is added to an existing site ought to have positive socio-cultural benefits for the site and its inhabitants (Roberts 2016:39).

According to the Heritage Impact Assessment done for Westfort Village (refer appendix F on page 196), this site is of high heritage significance and must therefore be preserved. The Washington Charter states that historic towns ought to be preserved and allow for development to occur. To ensure that the heritage of Westfort Village is preserved, adaptive reuse approaches will be used. Adaptive reuse approaches may be interpreted as layered in the following ways:

- *building over*, a lateral new addition (layer) built on top of the existing building;
- *building within*, a new addition inside of an existing building. A layering in which the interior is new and the exterior is left as is (existing);
- *building in the style of*, a layering that continues the architectural language of the existing (form, materiality, patterns and scale);
- *building alongside*, a new addition (layer) built next to an existing building. This

Figure 6-1: Layering diagram (Author 2018)

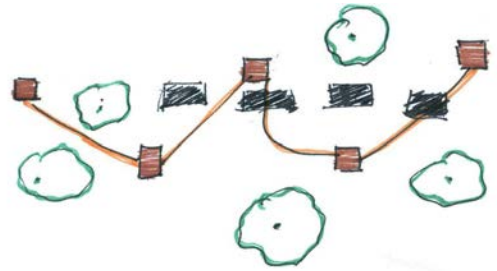


Figure 6-2: Movement through site (Author 2018)

is often used to contrast the new and existing;
- *building around*, a new addition that surrounds the existing. A layering in which the new addition frames the existing;
- *recycling materials*, a new addition uses materials from the existing building (part of which may have been demolished). This is a layering in which the materials are reused and thus achieve a new function and meaning; and
- *adapting to a new function*, an existing building is altered or retrofitted to accommodate a new function. This is layering in which a building in its entirety is given a new use and meaning.

These approaches will guide the design development of the dissertation. The following quote sums up the intention of the dissertation: 'The hand of the new architect has to be obvious but it must frame and document the original (old) work' (Roberts 2016:23).

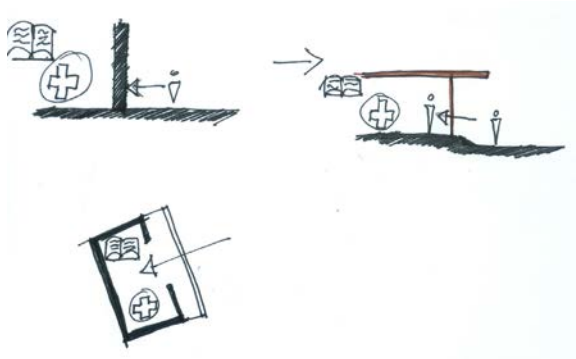


Figure 6-3: Access and threshold (Author 2018)

6.2. Hypothesis

The hypothesis is that adaptive reuse of heritage buildings in Westfort Village will lead to spatial justice as the heritage value of the buildings will be respected and the new program will contribute to the housing and public amenities need in Westfort Village (and the greater housing debate). Adaptive reuse in its nature is layered in that it builds up on what is existing and extends a buildings use.

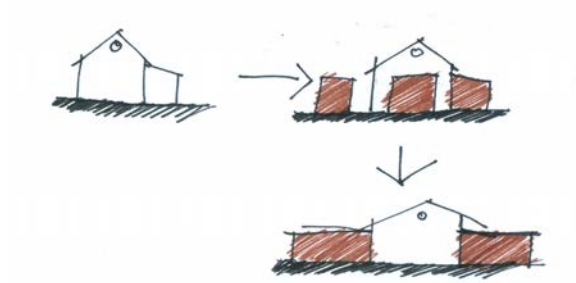


Figure 6-4: Adding to existing buildings (Author 2018)

6.3. Design generators

The design generators took into account the programmatic needs for a clinic, appropriate heritage responses of existing buildings, existing landscape of Westfort Village and spatial intentions that were set out at the beginning of the dissertation.

The programmatic needs included focussing on infection prevention through proper ventilation and separation of certain functions within the clinic. Other programmatic needs such as lighting, safety and auxiliary functions were considered in the design development. Appropriate heritage responses made particular reference to the Burra Charter and Washington Charter. The Burra charter highlighted that the new additions should read differently from the existing building. The new additions should be able to be removed without damaging the heritage fabric. The Washington Charter highlighted the need to preserve the urban character of Westfort Village.

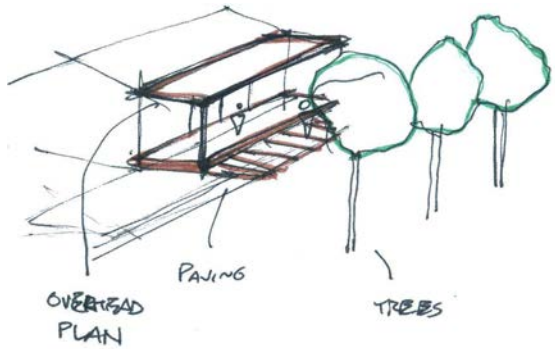


Figure 6-5: Permeable boundaries (Author 2018)

The existing landscape of Westfort Village offered opportunities to respond to the topography and vegetation of Westfort Village. The urban spatial intentions for Wesfort Village were to promote movement within the village. The architectural spatial intentions were to increases access within Westfort Village (figure 6-2 on page 104), accentuate thresholds within Westfort Village (figure 6-3 on page 105), add to the existing buildings (figure 6-4 pn page 105), provide permeable boundaries (figure 6-5 on page 105) and provide gathering spaces (both of which were restricted or non-existent when Westfort Village was a leprosy asylum).

The design development will be discussed according to the iteration intent, response to generators and shortcomings of iterations.

6.4. Design Development

6.4.1. Initial Ideas

The initial ideas emphasized the different adaptive reuse approaches applied to the institutional and religious buildings in Westfort Village (figure 6-9). It was envisioned that the adaptive reuse approach discussed on pages 104 and 105 would be applied to all the institutional and religious buildings in Westfort Village. In order for all the buildings to be reused, additional adaptive reuse approaches were generated. These additional approaches are as follows:

- *cut through existing*, this is an extension of the building within approach;
- *connect buildings*, this is an extension of the building alongside approach;
- *enclose space*, this is a different interpretation of the building around approach. The new addition not only frames the existing building but encloses a space between the existing building and new addition;
- *introduce and new form* and *add a new scale* both contrast the existing building and allow for the new addition and existing building to be distinguished. This emphasises the existing; and
- *restore to the original design*. This normally negates the changes that have occurred to the building over time.

Figure 6-6: Existing building in background and mimicked building in foreground (build in the style of adaptive reuse approach) (Author 2018)

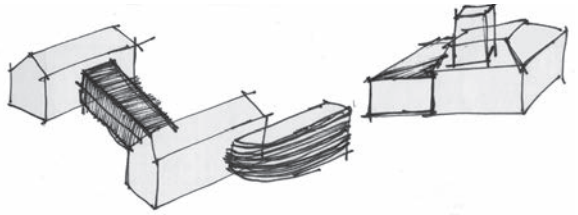


Figure 6-7: Different insertions into existing building (Author 2018)

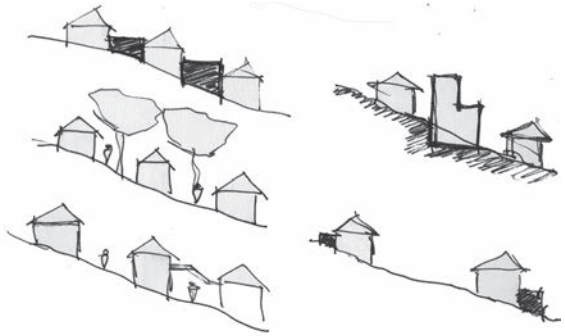


Figure 6-8: Designing with topograhy (Author 2018)

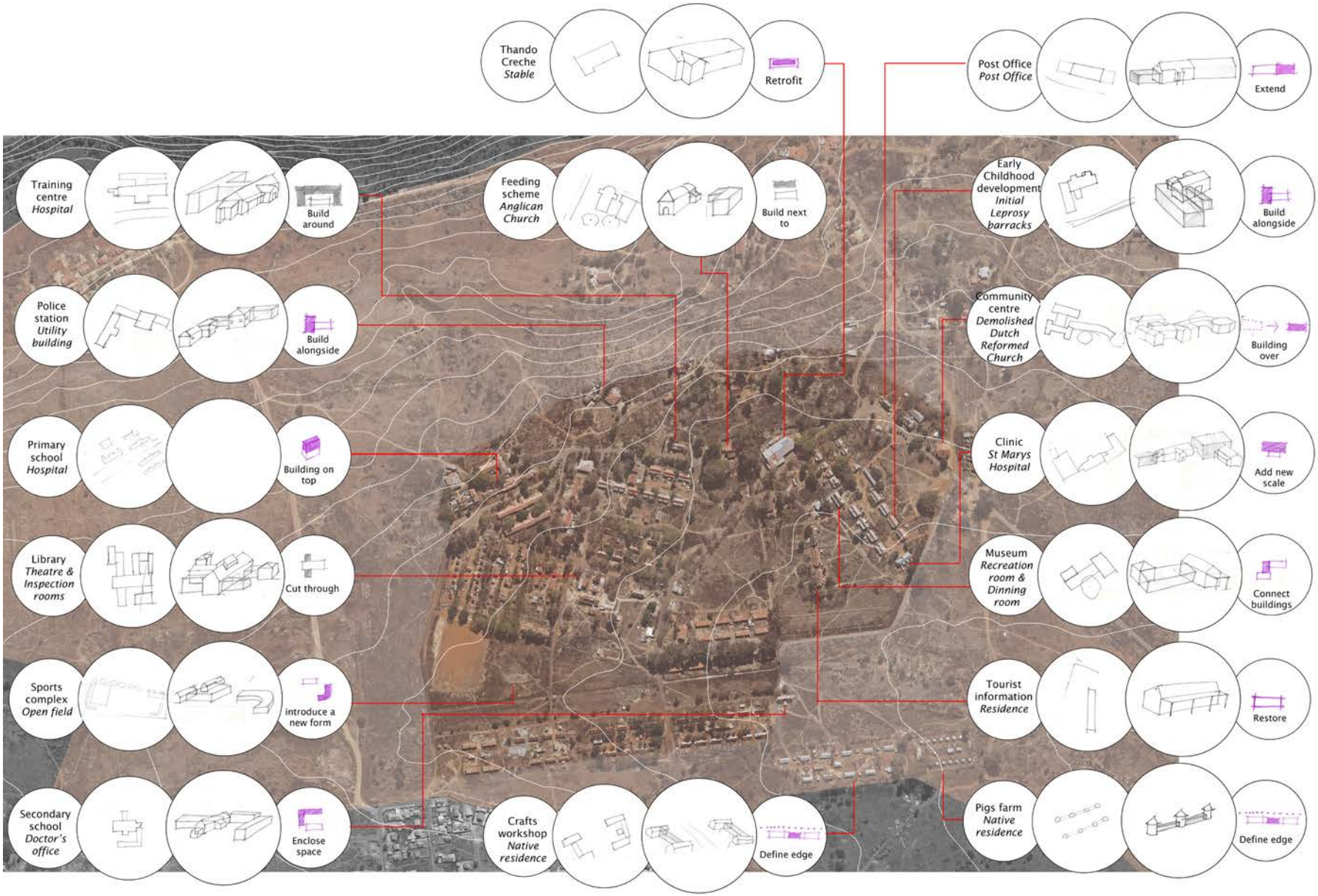


Figure 6-9: Initial ideas for Westfort Village (Author 2018)

6.4.2. Iteration 1

The intent of iteration 1 was to contrast the spatial organisation of the existing fabric by making the new additions dispersed buildings, as opposed to being organised along an axis. These dispersed buildings allows for the existing vegetation to remain. The topography allowed for multiple open gathering spaces to be designed. Iteration 1 considered views (to the landscape), scale (of existing and new buildings) and programmatic functions (since this design centred on a clinic, community centre, entrepreneurship incubator and NGO offices). The architecture language developed through the roof, as unifying element (the new roof referenced the existing roofs in Westfort Village). The adaptive reuse approaches used in this iteration were adapting to a new function, building within and building alongside. Figures 6-10 to 6-14 illustrated iteration 1.

Figure 6-10: Iteration 1 model (Author 2018)

The shortcomings of iteration 1 were the unsympathetic additions done to the heritage buildings.

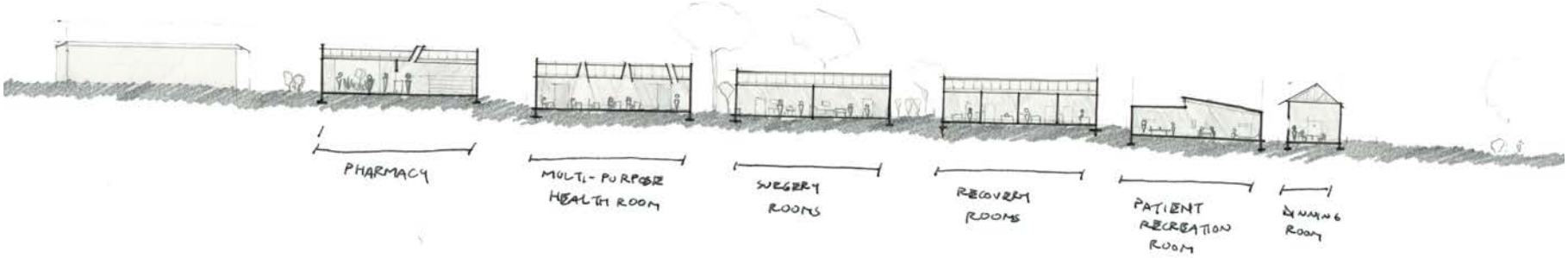


Figure 6-11: Longitudinal section showing the adapt to a new function and building alongside adaptive reuse approaches (Author 2018)

Figure 6-12: Iteration 1 floor plan (Author 2018)

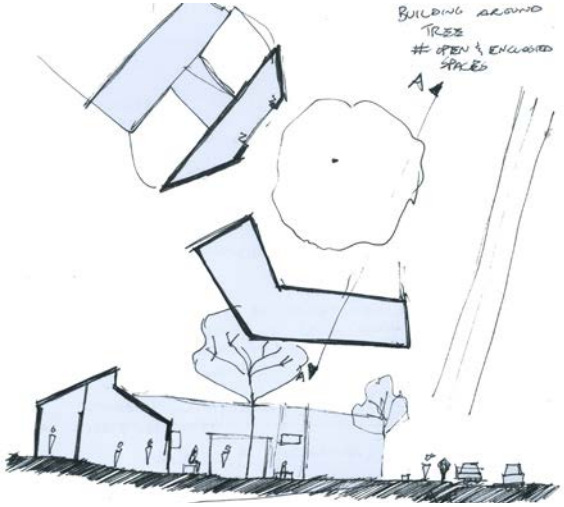


Figure 6-13: Enclosing gathering space (Author 2018)

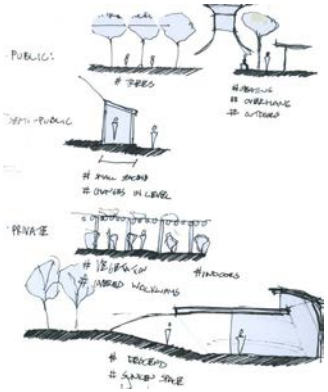


Figure 6-14: Thresholds (Author 2018)

6.4.3. Iteration 2

Having identified the shortcomings of responding to heritage, iteration 1 emphasised a sensitive response to heritage. This resulted in urban heritage strategies (figure 4-7 on page 85) that became the main generator for the architecture. The strategies included building along the main axis of the focus area, retain open landscapes, acknowledge the significant buildings in the focus area and retain the scale of the existing architecture through the new additions. Iteration 2 adhered to retaining the urban character (as stipulated in the Washington Charter) by ensuring that the existing and new additions are not contrasted.

Figure 6-15: Iteration 2 model (Author 2018)

The generators for iteration 2 consisted of adaptive reuse approaches for each building (figure 6-18) and programmatic functions. The programmes changed to accommodate a clinic, entrepreneurship incubator, library and shared facilities. The change in program better addressed the theoretical framework(s) and spatial intentions (through access and gathering spaces).

The shortcomings of iteration 2 were that the new additions were too similar to the existing buildings (through scale, form and materiality). This similarity resulted in missed opportunity to articulate new additions better. The articulation of programmatic functions was lacking.

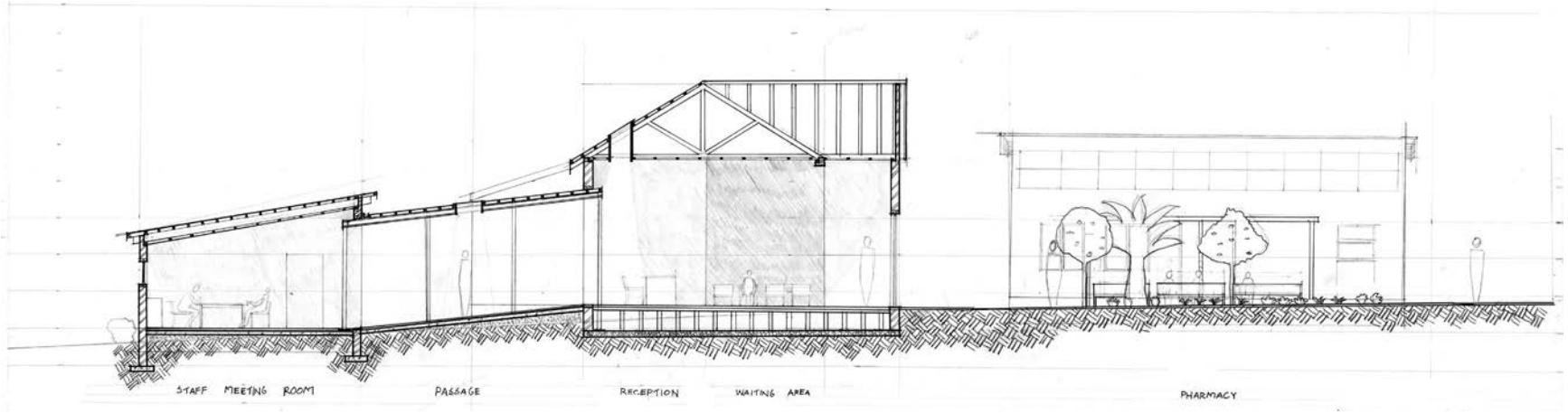


Figure 6-16: Section of iteration 2 - build alongside adaptive reuse approach (Author 2018)

Figure 6-17: Iteration 2 Floor plan (Author 2018)

Figure 6-18: Adaptive reuse approaches for iteration 2 (Author 2018)

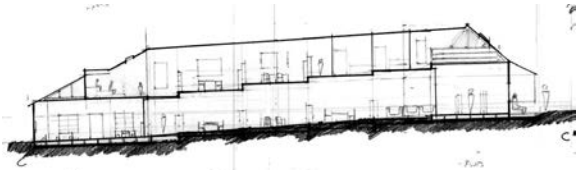


Figure 6-19: Build alongside and adopt new function adaptive reuse approaches (Author 2018)

6.4.4. Iteration 2.1

Iteration 2.1 was a refinement of iteration 2 in terms of response to heritage. Emphasis was placed on the scale of the new additions in relation to existing buildings, new additions referencing the existing buildings (in terms of form and materiality) and the articulation of different adaptive reuse approaches (figure 6-23 to 6-25) and central courtyard (figure 6-20).

The shortcomings of iteration 2.1 were the synthesis of different design generators. These design generators responded to heritage response, landscape, adaptive reuse approaches and programmatic requirements). There was a need to develop a hierarchy of generators to help develop the design of future iterations.

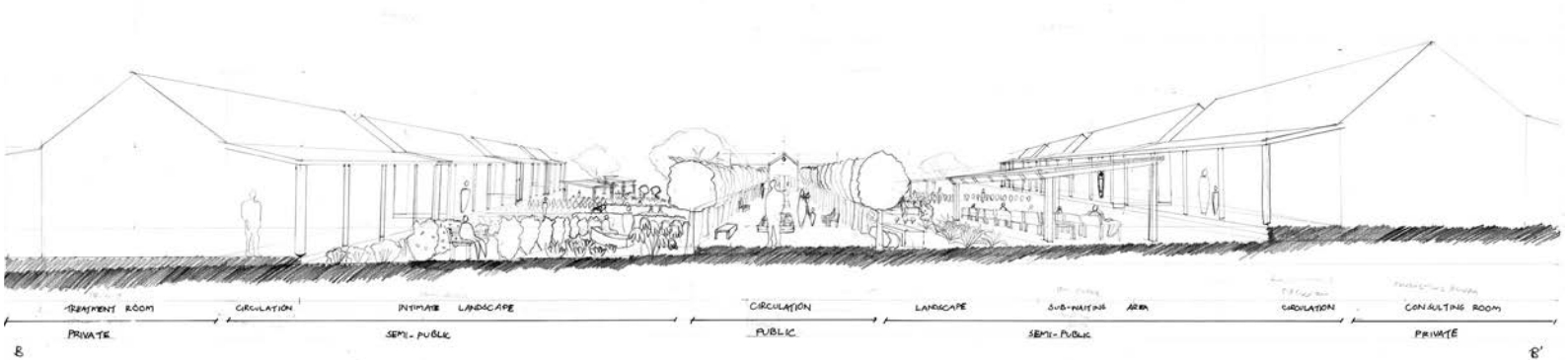


Figure 6-20: Sectional-perspective through central courtyard (Author 2018)

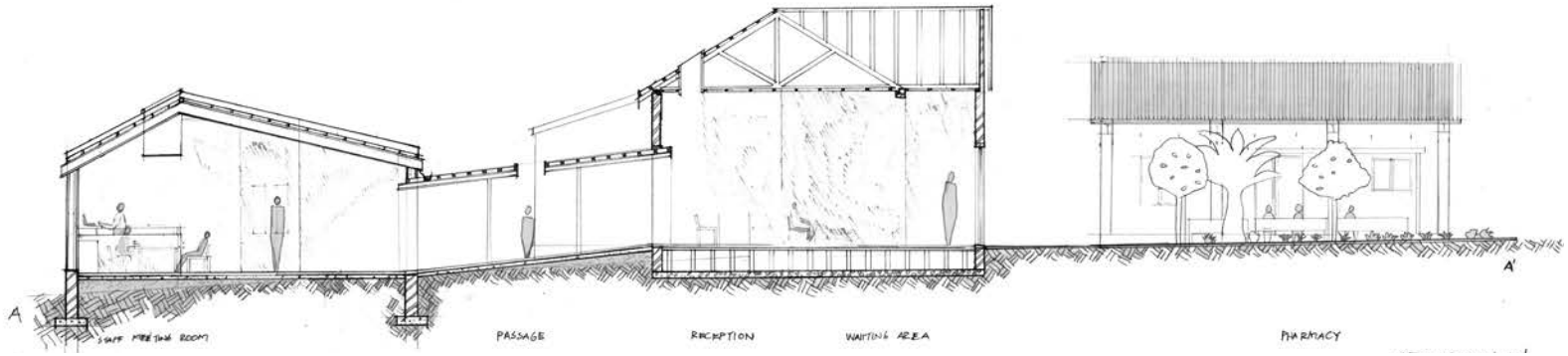


Figure 6-21: Section through iteration 2.1 (Author 2018)

Figure 6-22: Iteration 2.1 floor plan (Author 2018)

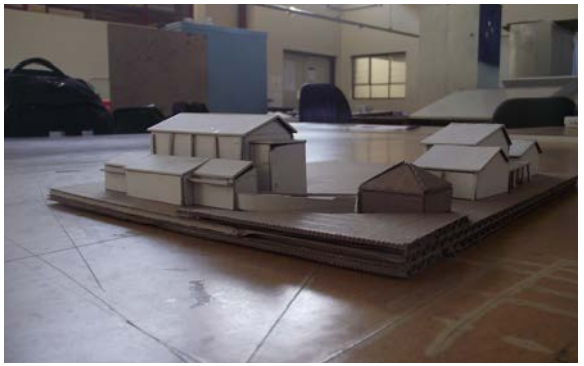


Figure 6-23: Iteration 2.1 entrepreneurship incubator model, build around adaptive reuse approach (Author 2018)

Figure 6-24: Iteration 2.1 library model, build alongside adaptive reuse approach (Author 2018)

Figure 6-25: Iteration 2.1 clinic model, build around adaptive reuse approach (Author 2018)

6.4.5. Iteration 3

Iteration 3 (and its subsequent iterations) was a response to the shortcomings of iteration 2.1. A consolidation of the design and programs were necessary in order to synthesis the project. In order to achieve this, the clinic was to be the main program focussed on in this dissertation. The entrepreneurship incubator and library would form part of the incremental development for the site (as part of the precinct vision).

Furthermore, a consolidated approach to adaptive reuse was necessary. This entailed using the building around adaptive reuse approach, adapting a new function adaptive reuse approach (so that existing buildings meet requirements of a clinic) and recycling materials adaptive reuse approach (as part of the layering concept and for efficient use of resources). These approaches are a sensitive response to the existing buildings. This is done through adhering to the scale of the existing buildings (both in plan and section), referencing the existing form in the new additions, articulation of the landscape though the design of different courtyards (and outdoor waiting areas). These responses would contrast the existing and new additions while retaining the urban character of Westfort Village.

Iteration 3 better articulates movement through the site through the size of circulation spaces, tree avenues and different entry and exit circulations. Thresholds are articulated through varying heights of the horizontal plane (see figure 6-34, 6-37, 6-39 page 117). The connections to the existing buildings are all consistent – additions were made to the primary elevations and an overhead horizontal plane connected the existing building to the new additions. Gathering (public spaces) were articulated in the anchor buildings that contrasted (in form and scale) to the existing buildings and spilled out to outdoor spaces (see figure 6-35, 6-38, 6-40 on page 117). Only one side of the existing axis was designed for in the dissertation, the other side of the axis is to be developed incrementally at a later stage (as part of my precinct vision).

The architectural language is a building that wraps around the existing heritage buildings, referencing the existing buildings while simultaneously contrasting them.

Figure 6-26: Iteration 3 model (Author 2018)

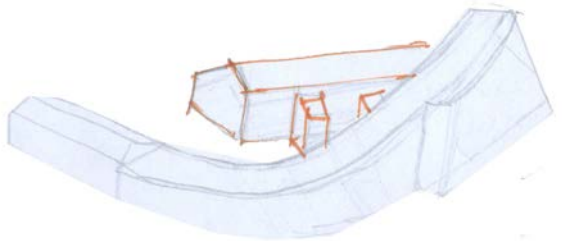


Figure 6-27: Sketch of anchor building and St Marys Hospital (Author 2018)

Figure 6-28: Sketch on anchor building as entrance to clinic (Author 2018)

Figure 6-29: First iteration of floor plan. Emphasis on circulation (Author 2018)

Figure 6-30: Second iteration of floor plan (Author 2018)

Figure 6-31: Third Iteration of floor plan. Emphasis on one half of axes (Author 2018)

Figure 6-32: Fourth Iteration of floor plan (Author 2018)

Architectural hierarchy

Roofs

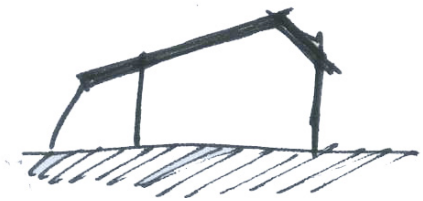


Figure 6-33: Roof form of consulting rooms (Author 2018)

Figure 6-36: Roof form of anchor buildings (Author 2018)

Courtyards

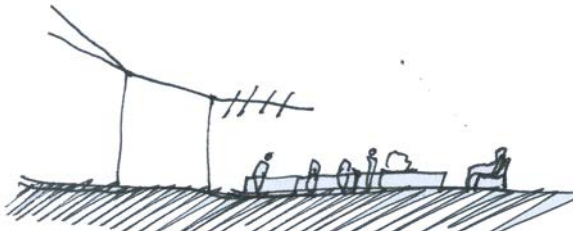


Figure 6-34: Sub-waiting area courtyard (Author 2018)

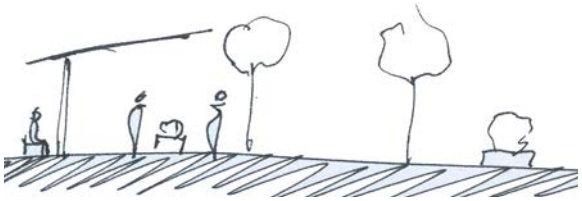


Figure 6-37: Main courtyard (Author 2018)

Figure 6-39: Consulting room courtyard (Author 2018)

Circulation and threshold

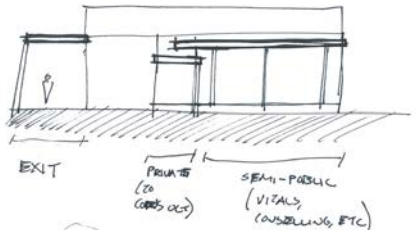


Figure 6-35: Different circulations (Author 2018)

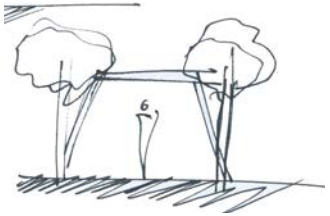


Figure 6-38: Main circulation (Author 2018)

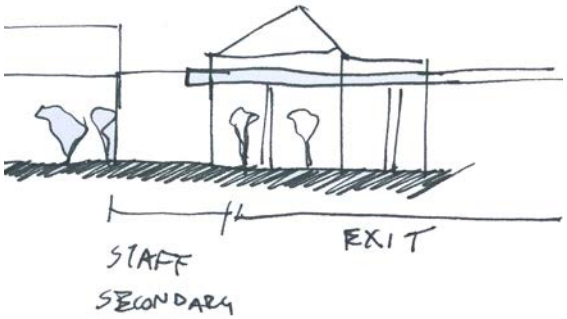


Figure 6-40: Exit circulation (Author 2018)

Consulting rooms

The consulting rooms went through a refinement from initial sketch to final design. The factors influencing the design of the consulting rooms were ventilation, views to the exterior and circulation. All these factors have an impact on the overall health of a patient. The ventilation helps regulate rate of air exchange and thus acts as infection control. The views to the exterior connect patients to nature and this has psychological health benefits for healing. Linked to views is the amount of natural light that enters the consultation rooms. Optimal natural light infiltration is preferred. The circulation is primary a psychological device in that sick patients and treated patients use different circulation and access points

In order to optimise views, windows were placed on both sides of the consultation so that patients may view the courtyard on one side and the herbal gardens on the other side. The position of the consultation desk allows for patients and medical staff to face each other without a desk inbetween them. This decreases intimidation of patients to staff and gives a more friendly space for patient/staff encounters.

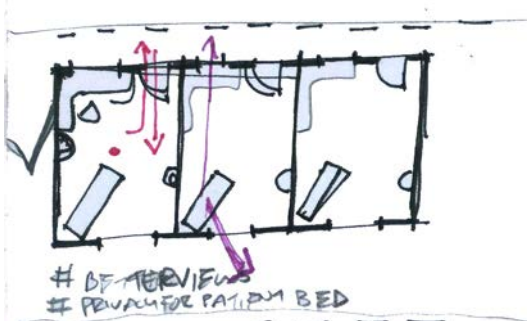


Figure 6-41: Seperated consulting rooms (Author 2018)

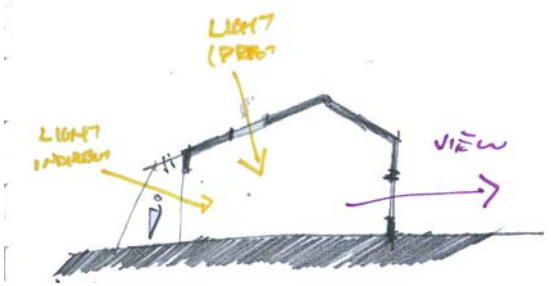


Figure 6-42: Sky light to allow natural light in (Author 2018)

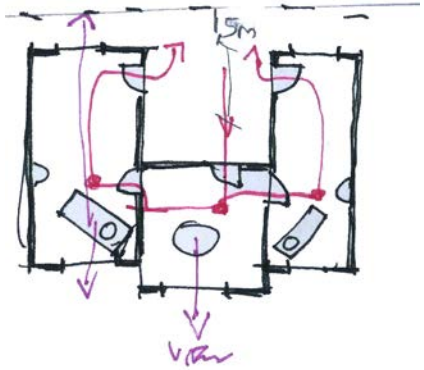


Figure 6-43: Consulting rooms sharing an examination room. Inefficient use of space due to multiple circulations (Author 2018)

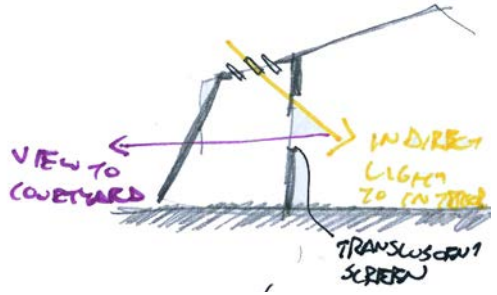


Figure 6-44: Covered walkway with lourvres to allow natural light in (Author 2018)

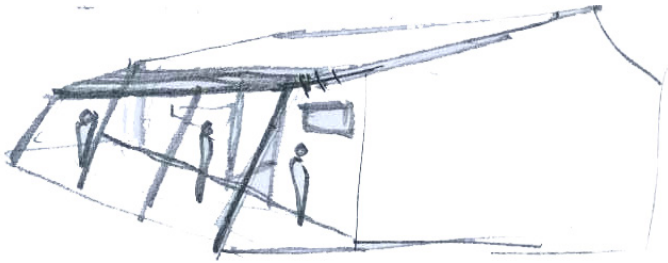


Figure 6-45: Perspective of covered walkway (Author 2018)

Waiting area

The waiting area was another space that went through a process of refinement. The main waiting area had to be situated close to ablutions as well as a pharmacy dispensary. As the waiting areas accommodated a number patients that were ill, infection control became an important consideration.

In order to address the infection control, the waiting area was divided into an indoor and outdoor waiting areas. This provided patients with options while they wait and this improves their overall experience of visiting a clinic. The waiting areas make use of plenty of natural light. the indoor waiting area makes use of hybrid ventilation of passive and geothermal ventilation (for infection control). Since the outdoor waiting areas are in the open, the wind breeze would take care of ventilation.

Consideration was given to the existing heritage building which accommodates the pharmacy dispensary. It was decided to accommodate the pharmacy as opposed to the ablutions in this heritage building so as to respect and respond appropriately to the heritage building.

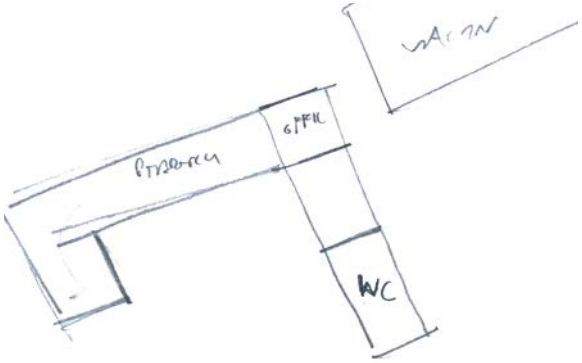


Figure 6-46: Pharmacy at the rear of heritage building (Author 2018)

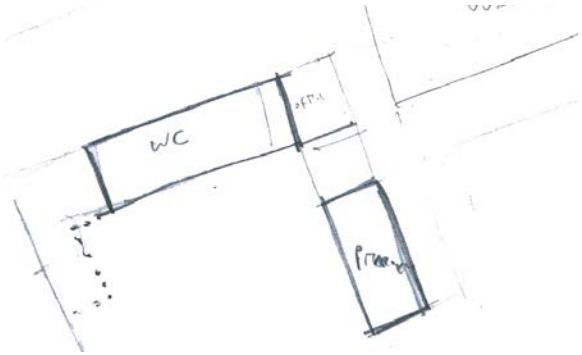


Figure 6-47: Pharmacy in the heritage building (Author 2018)

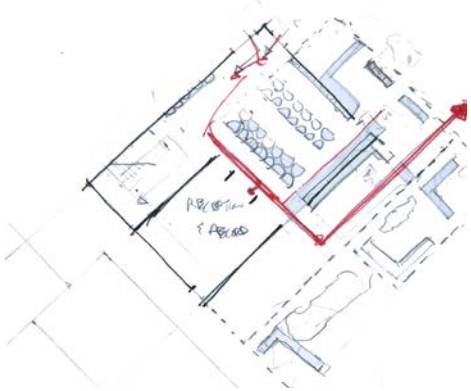


Figure 6-48: Indoor and outdoor waiting area (Author 2018)

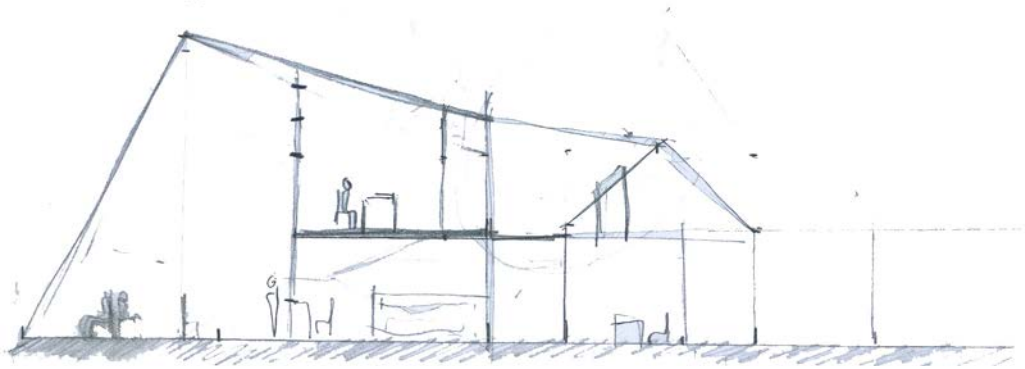


Figure 6-49: Section through main waiting area (Author 2018)

6.5. Conceptual development precedent

Ganga Maki Textile Studio

Location: Bhojpur, Madhya Pradesh, India
Architect: Bijoy Jain
Programme: Textile Weaving Facility
Date: 2016
Keywords:
Collaborative design
Craft
Embedded in place

The Ganga Maki Textile Studio is an ensemble of buildings on the slopes of the Himalayas (Srivathsan 2017). This facility was the result of a collaborative (layered) effort between Chiaki Maki (textile designer), Nijoy Jain (architect) & the residents of Bhojpur (who work in the textile facility). The facility like the textiles is handmade, sensitive and of the place. As such the intention of the project was to live and work in tune with nature, as people once did (Border&Fall 2017).

The architecture has been designed to align to the process of making and living (figure 6-54 to 6-55). This is evident in the incorporation of the landscape in the design (figure 6-52 to 6-53); the proximity of living and working spaces; the site surrounding the facility being land cultivated for food and brick, limestone and bamboo harvested locally and used to construct the buildings.

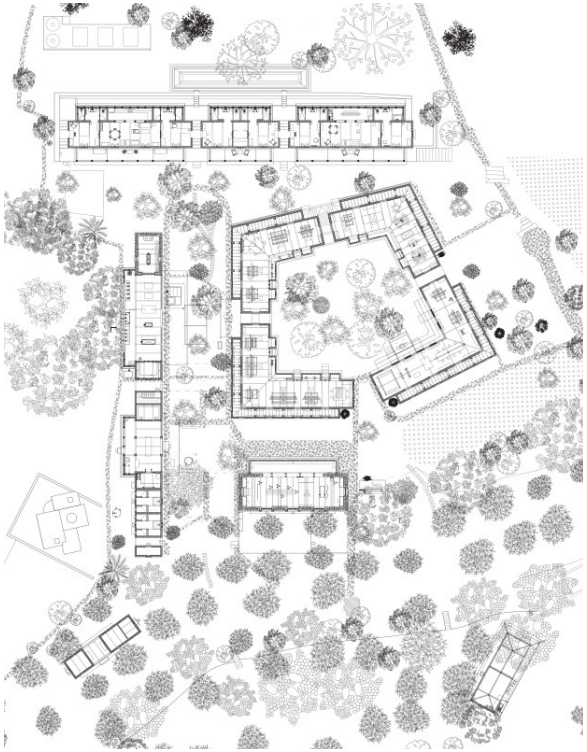


Figure 6-50: Floor plan of textile facility (Studio Mumbai 2016)

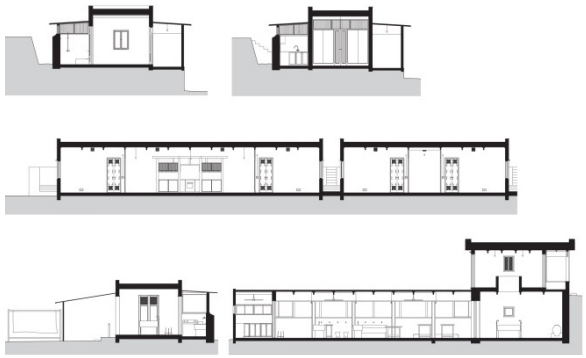


Figure 6-51: Section through facility indicating live and work spaces (Studio Mumbai 2016)

Figure 6-52: Incorporation of landscape (Baan 2017)

Figure 6-53: Facility embedded in landscape (Studio Mumbai 2016)

Bijoy Jain's sought to 'embody and cultivate the cyclic relationship between work and life, bringing together past, present and future' (Paskin 2018).

Figure 6-54: Dye-making and fermentation space (Baan 2017)

Figure 6-55: Sink appears to 'grow out of floor' (Baan 2017)

6.6. Design development precedent

Las Mercedes House-Workshop

Location: Asunción, Paraguay
Architect: Lukas Fuster
Programme: Residence & Workshop
Date: 2012 (renovated)
Keywords:
Multipurpose spaces
Adaptive reuse

The project sought to intervene on an existing Paraguayan housing typology[23] in order to upgrade the site to suit a new function and living requirements while retaining the genius loci.

23. Casa Chorizto typology consists of a linear plan in which all spaces are interconnected by a common intermediate space (Divisarie 2015).

The interconnectivity is enhanced through extending openings (between spaces (figure 6-58) and volumes of spaces) (Divisarie 2015). The internal walls of the existing house were removed (figure 6-56) and the materials from the demolished wall were recovered (including tiles and window frames) to be reused in the new intervention.

The new roof follows the form of the old roof. However the new roof extends the height of the interior spaces thus allowing natural light into the spaces and creating a mezzanine floor with access to an outdoor garden (figure 6-59 to 6-60).

Next to the existing building, a space

Figure 6-56: Existing floor plan and new floor plan (Divisarie 2015)

Figure 6-57: Front elevation of house restored to original state so that character of street is retained (Cairoli 2012)

Figure 6-58: Intermediate space (Cairoli 2012)

containing services was built (toilets, laundry and workshops) following the same dimensions as the original house (Divisarie 2015). The exterior walls are made of recovered brick (from the internal walls) (figure 6-61).

The paint workshop is small and intimate with an open floor plan to allow for a variety of activities to occur (figure 6-62). This is the sort of workshop space envisioned for the entrepreneurship incubator.

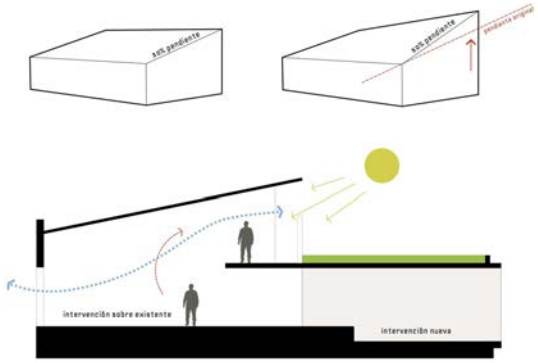


Figure 6-59: Extending roof of existng building (Divisarie 2015)

Figure 6-60: Mezzanine floor (Cairoli 2012)

Figure 6-61: House extension with recovered bricks protected by glass sheet (old enclosed in new) (Cairoli 2012)

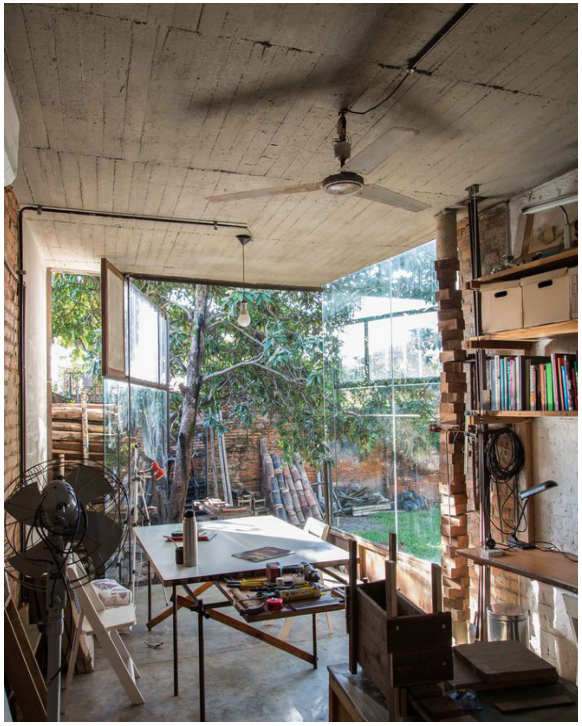


Figure 6-62: Workshop space (Cairoli 2012)

Cultural Civic Center

Location: Palencia, Spain
Architect: EXIT Architects
Programme: Provincial Prison (former), Community Centre (current)
Date: 2011
Keywords:
Adaptive Reuse
Public Amenity
Social Justice

The former Palenicia Provincial Prison created at the end of the 19th Century built in the Neo-Mudejar style[24] was converted into a cultural civic centre (Archdaily 2018).

24. Neo Mudejar or Moorish Revival style emerged in Madrid Spain and was characterised by a return to the Mudejar art – horseshoe archs, arabesque tiling and brick ornaments (Archdaily 2018).

The conversion fromer prison (figure 6-66) to a civic centre (figure 6-65) may be seen as social justice in the following ways:

- prison cells, which housed people, were converted to a library which' houses knowledge' (figure 6-67);
- materiality which speaks of isolation (brick) was translated to accessibility (zinc and glass); and
- from no spatial power (for inmates) to complete spatial power (for new users).

By changing the narrative and use of this building, spatial justice was achieved.

Design strategies used involved the central meeting hall as an organising device (figure 6-69). The four existing wings converge at the central hall and

Figure 6-63: Floor plan of Cultural Civic Centre (Archdaily 2018)

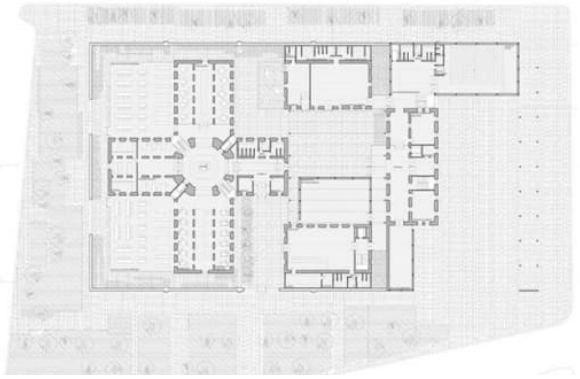


Figure 6-64: Floor plan of former prison (Archdaily 2018)

Figure 6-65: Cultural Civic Center (Guerra 2012)

Figure 6-66: Former Palencia Prison (Guerra 2012)

Figure 6-67: Library (Divisarie 2012)

Figure 6-68: Exterior view of Cultural Centre (Guerra 2012)

the four new pavilions are accessible from the central meeting hall (figure 6-68).

The response to the heritage involved building on top of the existing (figure 6-68) using a 'lighter material' – zinc and glass. The zinc and glass contrasted the existing from the new (figure 6-70) (Archdaily 2018).

Building on top allowed for natural light to filter into the building through the addition of large skylights (figure 6-71).

The new roof and perimeter wall act as a unifying element to tie all the buildings in the complex (figure 6-68).

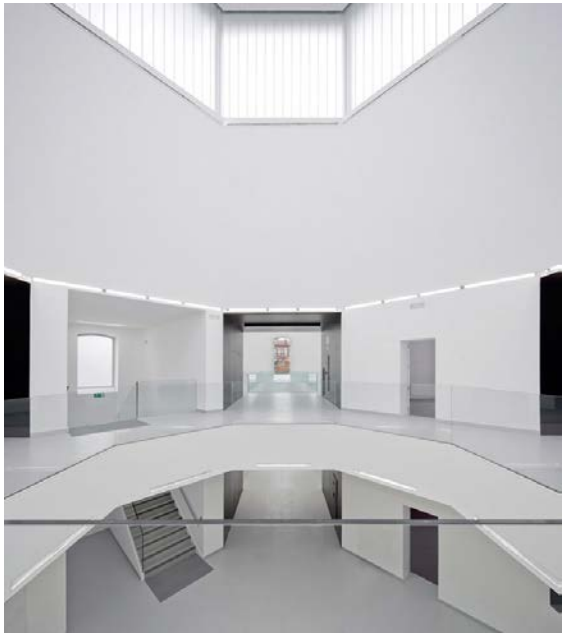


Figure 6-69: Central meeting hall (Guerra 2012)

Figure 6-70: Contrast between old and new (Guerra 2012)

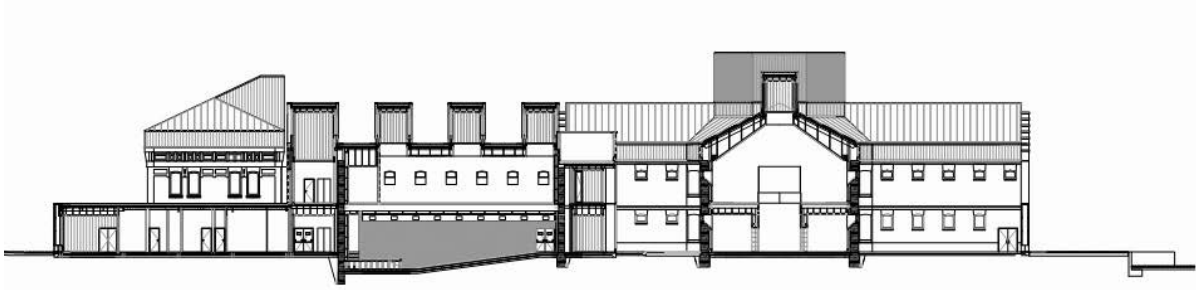


Figure 6-71: Section through Cultural Civic Centre (Archdaily 2018)

Beaufort West Hillside Clinic

Location: Beaufort West, Western Cape
Architect: Gabriel Fagan Architects
Programme: Primary healthcare facility
Date: 2017

Keywords:
Environmentally friendly design

The Beaufort West Hillside Clinic employs a number of passive design strategies in its design while adhering to the requirements for a clinic. The clinic was built as an extension of the Beaufort West civic axis along Kerk Street (Louw 2017:30).

The passive design strategies include rock stores (to cool the air before it enters the building) and rammed earth (which acts a thermal mass that controls the interior temperature of the clinic). Then floor plan consists of parallel wings separated by courtyards (Louw 2017:31) (see figure 6-73). These courtyards allow for natural light into interior spaces, they offer views to the landscape, improve ventilation of interior spaces and offer a pleasant breakaway area for patients and staff.

The design of the floor allows for further expansion of the clinic in future. The form of the building was influenced by the context (surrounding houses, see figure 6-74), environmental consideration and functional

Figure 6-72: Floor plan of Beaufort West Hillside Clinic (Kuschke & Jehan 2017:29)

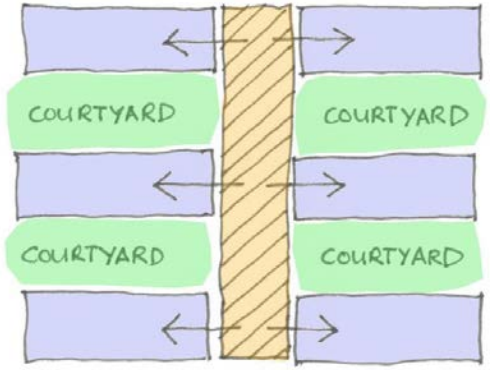


Figure 6-73: Floor plan to courtyard ratio (Kuschke & Jehan 2017: 11)

arrangement (separation of various units within a clinic, see figure 6-72) (Louw 2017:32).

The ventilation strategy made use of rock stores and stack ventilation (Louw 2017:35). The rock stores cooled the air before it entered the clinic and stack ventilation was used to remove air from the interior to the exterior.

The landscape surrounding the clinic comprises a variety of indigenous medical plants that are grown in the courtyard (Louw 2017:35) and used in the clinic.

Figure 6-74: Photo of Beaufort West Hillside Clinic with surrounding context (Kuschke & Jehand 2017:33)

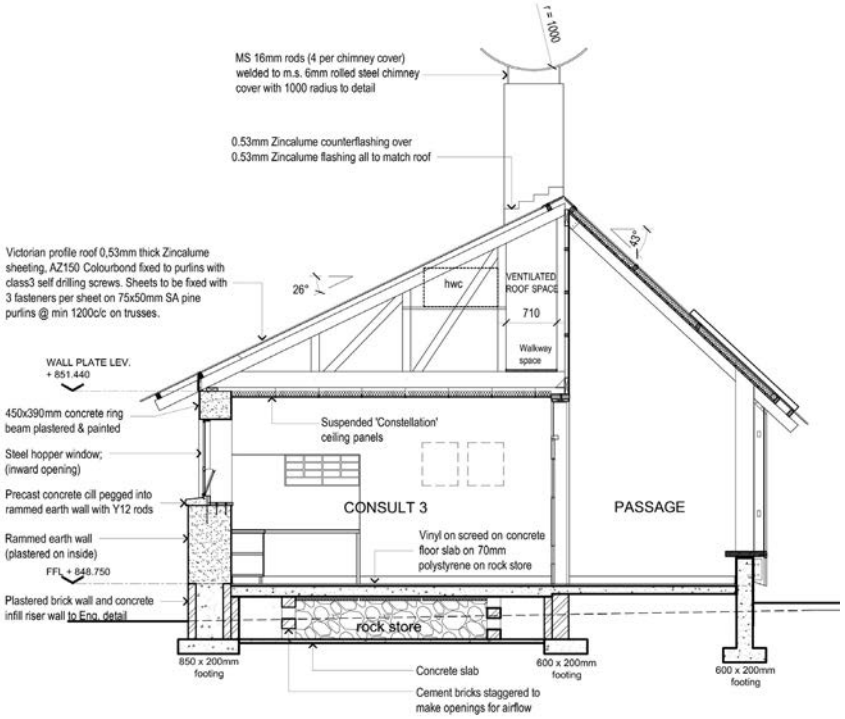


Figure 6-75: Section through consulting room (Louw 2017:51)

CHAPTER 7

TECHNICAL INVESTIGATION

This chapter will discuss the technical aspect of the design beginning with the technical concept (as a continuation of the conceptual approach) followed by its application in materiality, structural system, environmental concerns, services and finally technical explorations.

7.1. Technical concept

The technical concept is a continuation of the conceptual approach (see figure 6-1 on page 104). The technical intent is that the technical investigation would communicate layering (be it the layering of existing and new or layering of different elements unto each other). Similar to the soil horizons (layering), each element is distinct yet contributes to the overall composition of the soil (figure 7-1). This analogy is helpful to describe the technical intent of the dissertation. The intent is manifested in the following ways: new materials that contrast the existing materials but in their composition contribute to the urban character of the existing (figure 7-2); exposure of construction joinery highlighting layering between existing and new (figure 7-3), and different components meeting each other (figure 7-3); structural systems that are tectonic (as opposed to the existing stereotomic).

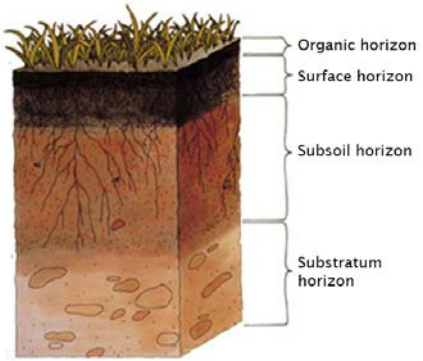


Figure 7-1: Soil horizons (Lorain Soil & Water Conservation District 2018)

Figure 7-2: New materials contrast existing materials in Palencia Civic Cultural Centre (Guerra 2012)

The layering conceptual approach is in line with the Burra Charter in terms of ensuring that the new addition is read as distinct from the existing (ICOMOS 2013:7). This reading of distinct existing and new elements enforces the conceptual approach of layering. Furthermore the technical concept could be interpreted as a light intervention (tectonic) placed on an existing landscape (stereotomic). The light intervention relates to the heritage response of the landscape which is a sensitive touch to the existing. This sensitive touch responds to the Burra Charter, *do as much as necessary but change as little as possible* (ICOMOS 2013: 1) and Washington Charter, *retain and respect the urban character of a historic town* (ICOMOS 1987:1). The resulting architecture is one that connects lightly to the existing buildings at certain points and an architecture that physically separates existing and new, so that the existing and new may be read as distinct elements which complement the urban character of Westfort Village.

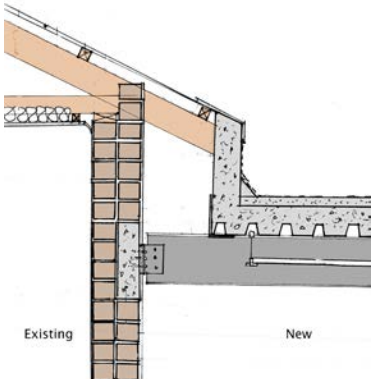


Figure 7-3: Existing and new connections (Author 2018)

7.2. Structural systems and materiality

In support of the technical concept the structural system consists of steel frames (portal frame and light gauge steel frame, see figures 7-4 to 7-6) which both allow materials to be layered unto these primary structures. Bearing in mind the context and technical concept the materials were selected because they were cost effective

(in terms of embodied energy, cost of erecting and cost of maintenance) and the materials contrasted the existing fabric (as stipulated in the Burra Charter (ICOMOS 2013:7)).

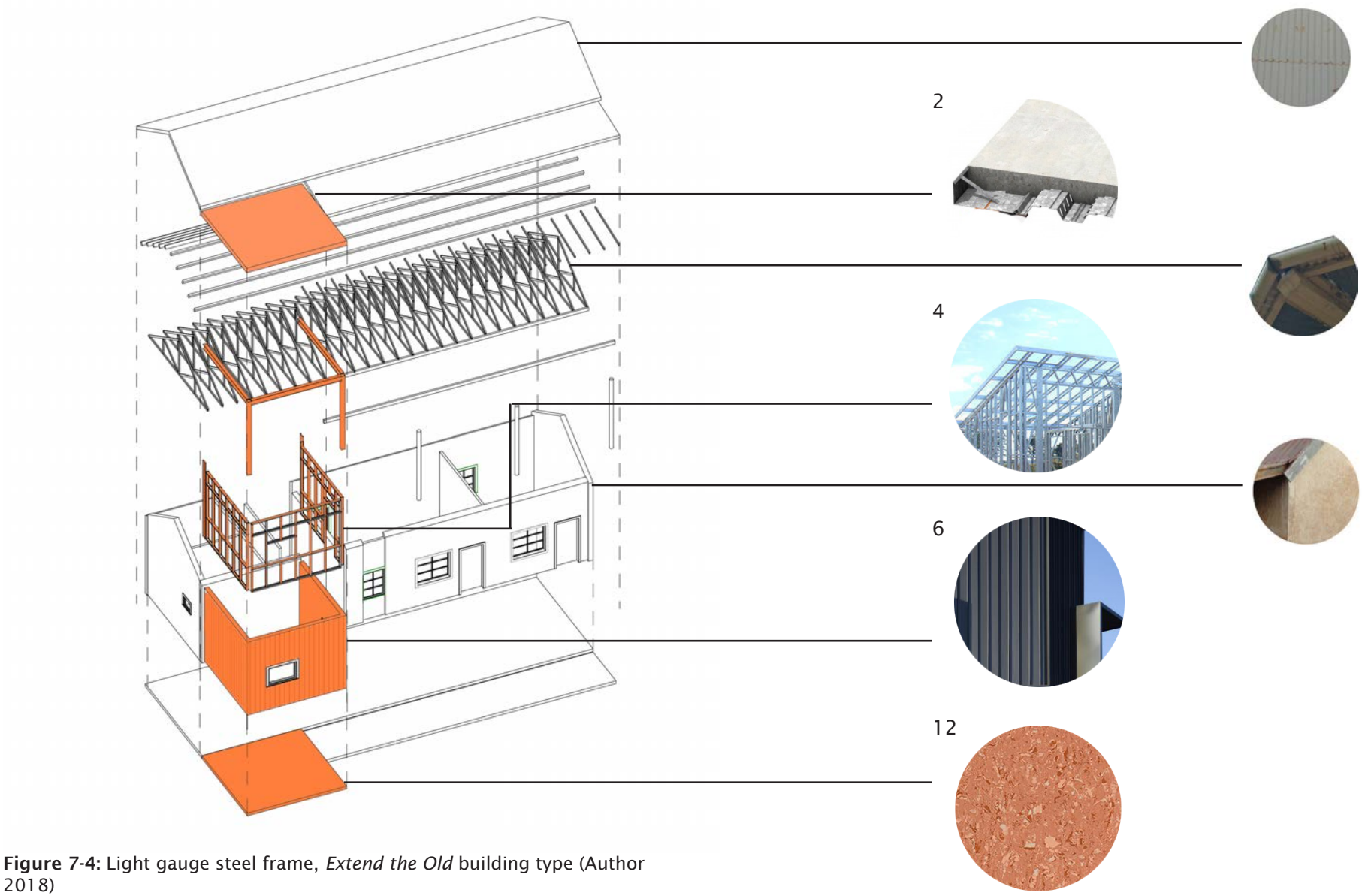


Figure 7-4: Light gauge steel frame, *Extend the Old* building type (Author 2018)

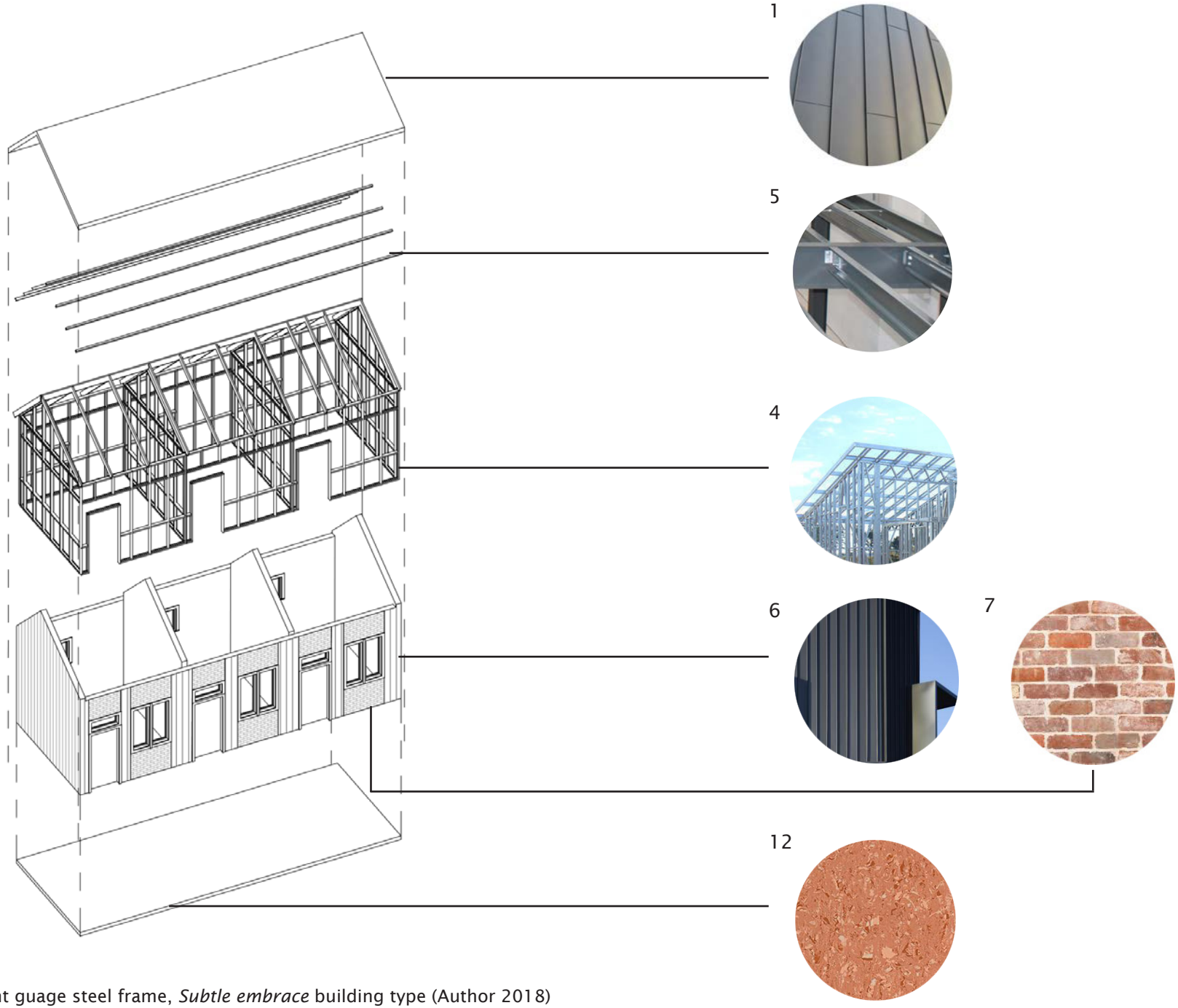


Figure 7-5: Light guage steel frame, *Subtle embrace* building type (Author 2018)

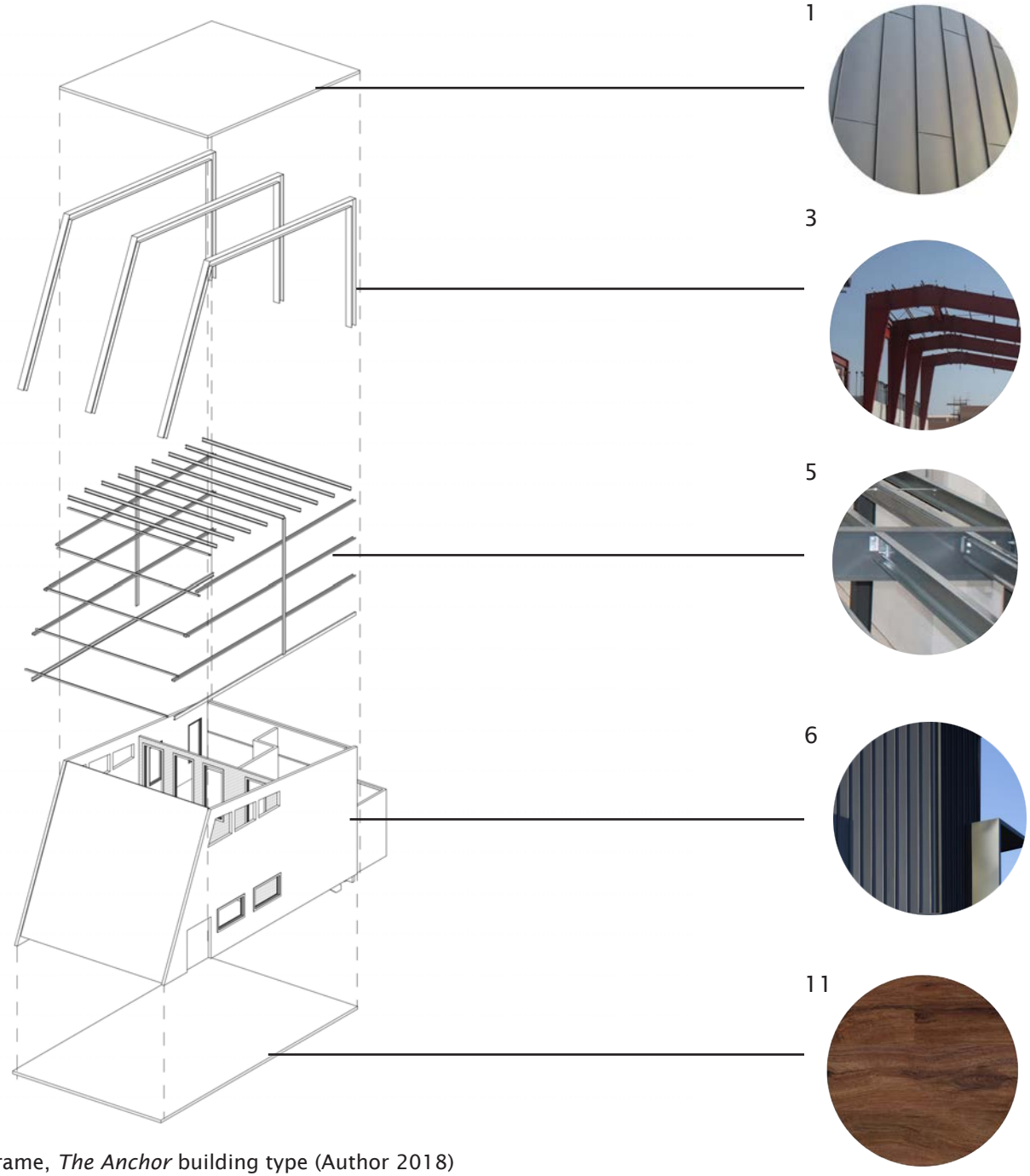
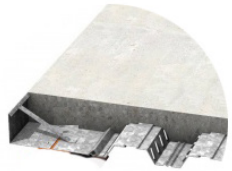
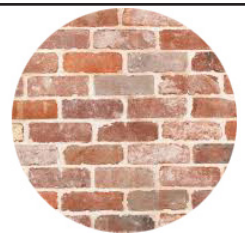


Figure 7-6: Steel portal frame, *The Anchor* building type (Author 2018)

1.	Roof (Brownbuilt roof sheeting)	1 
	The Brownbuilt roof sheeting references the existing corrugated iron roof and communities a tectonic aesthetic.	
2.	Composite concrete slab	2 
	The composite concrete slab relates back to the layering concept as the slab is made up of concrete that is cast (layered) on top of profiled steel decking.	
3.	Primary structure (steel portal frame)	3  4 
4.	Primarcy structure (light gauge steel frame)	
	The primary structures contrast the existing fabric in terms of materiality and construction type. The steel portal frame and light gauge steel frame both communicate a light tectonic aesthetic which contributes to the layering conceptual approach.	
5.	Secondary structure (steel purlin and girts)	5  
	The secondary structures are steel purlin and girts which are fastened unto the primary structure thus enforcing the layering conceptual approach.	
6.	Infill (Brownbuilt wall cladding)	6 
	This material contrasts the existing fabric while communicating a tectonic aesthetic.	

7.	Infill (recycled facebrick)	7 
	The recycled bricks were salvaged from the demolished walls of the existing buildings. Layering is reinterpreted not only through composition of materials but through use and appropriation of materials.	
8.	Exterior floor finishes (Burgundy Piazza paver)	8  9 
9.	Exterior floor finish (stone paving)	
10.	Exterior floor finish (Lafarge Artervia with exposed aggregate)	
	These materials reference the existing pathways in Westfort Village. The Burgundya Piazza paver references the brick paving in Westfort Village, the stone paving references the landscape (use of natural elements) and the Lafarge Artervia references the floor finish of the stoeps on the existing buildings. The exterior floor finishes serve as circulation spaces.	10 
11.	Interior floor finish (vinyl floor on screed	11  12 
12.	Interior floor finish (laminated PVC flooring	
	These materials are advantageous in healthcare facilities due to their ease of cleaning, infection control and aesthetic.	
13.	Existing	
	The existing materials of Westfort Village consist of brick walls that are plastered white, corrugated iron roof sheeting, sandstone plinths and Baltic timber door and window frames.	

7.3. Environmental systems

The environmental systems are also layered (as will be discussed later) and work as a unified whole in order to create a pleasant space. Due to the programmatic concern with infection prevention and control in a clinic, ventilation will be the environmental system dealt with. Other clinical concerns include heating, cooling and natural light. These concerns are partly associated with ventilation and will also be briefly discussed.

Westfort Village is located on the slopes of the Magaliesberg and so it is more likely to get wind breezes from the Magaliesberg. This partly influenced the location of Westfort Village as a leper's asylum (as wind breezes were believed to help patients with leprosy).

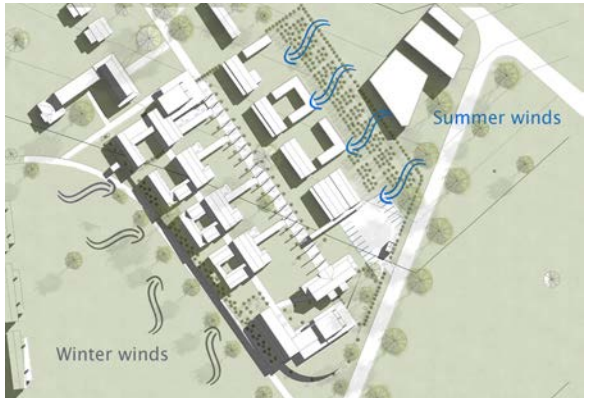


Figure 7-7: Prevailing winds in Westfort Village (Author 2018)

7.3.1. Cross ventilation

Cross ventilation has a number of benefits when used in clinics. The following are some reasons for this: firstly, cross ventilation helps achieve a steady rate of air change which is needed to help with infection control. Secondly, the orientation of buildings and whether they face prevailing winds help with cross ventilation (figure 7-7). Since Westfort Village was positioned on the slopes it receives ample wind breezes (therefore cross ventilation is an added layer to the passive ventilation strategies[25] used in the existing buildings of Westfort Village). Thirdly, cross ventilation is a sustainable means of ventilating a building since it uses less energy and resources. Limiting the use of mechanical ventilation is also required in clinics and so cross ventilation achieves that. Fourthly, the rooms are small enough to allow for cross ventilation to occur without any problems (figure 7-8). Lastly, vegetation surrounding a building will lower the ambient air temperature thus keeping the air cool. This helps with cross ventilation as cool air will enter a space. Figure 7-11 (on page 138) explains the various layers needed in order for cross ventilation to work properly.

25. The passive design strategy used in the existing buildings are one-sided ventilation, ventilated floors and roofs. Refer to figure 2-8 on page 35

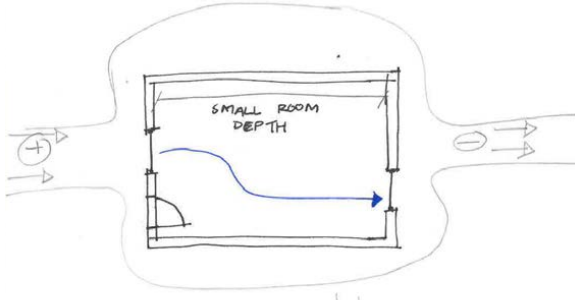


Figure 7-8: Cross ventilation principle (Author 2018)

7.3.2. Geothermal ventilation

To add to the passive ventilation strategy, geothermal ventilation will be used. The geothermal ventilation will be used to supplement the cross ventilation and provide a consistent air temperature. Geothermal ventilation will be used in the main indoor waiting area, community room, pharmacy storage, x-ray room and blood room. All these rooms require a consistent air temperature due to

increased air temperature as a result of more people in a space (such as the main indoor waiting area and community room) and the need to keep items stored (such as the blood office and pharmacy store room).

Much like cross ventilation, geothermal ventilation requires various layers in order for it to work properly. These layers include the prevailing wind, buoyancy of air and underground temperature. The geothermal pipes will be 3 meters underground (where the ground temperature is 21˚C). Figure 7-12 (on page 139) explains the various layers needed in order for geothermal ventilation to work properly. Figure 7-13 (on page 139) illustrates the layout of the piping for the geothermal ventilation.

7.3.3. Heating and cooling

In order for cross ventilation to work efficiently, heating and cooling of a building will have to be addressed. Therefore passive means of heating and cooling the building will be addressed. Figure 7-14 (on page 140) explains the various layers needed for a space to be heated and cooled.

7.3.4. Natural Light

Natural light is linked to passive ventilation, heating and cooling. Openings in a wall may be used to ventilate a space, allow heat into a space and allow light into a space. Since the openings in the dissertation cater to all three uses, natural light will have to factored. Therefore the openings will have to be shaded in order to control the amount of natural light that enters a space. The openings on the northern façade will have horizontal overhangs (figure 7-9), the openings on the eastern and western façade will have vertical louvers (figure 7-10) and the openings on the southern façade will not have any shading. Tresses surrounding the buildings diffuse natural light before it enters the interior spaces. Natural light has psychological benefits for healing patients.

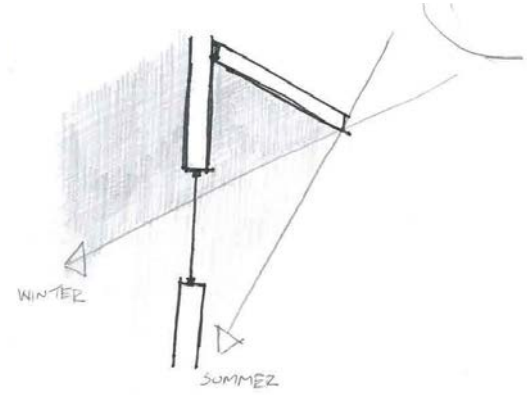


Figure 7-9: Horizontal overhang (Author 2018)

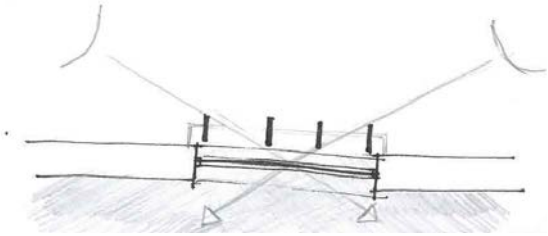
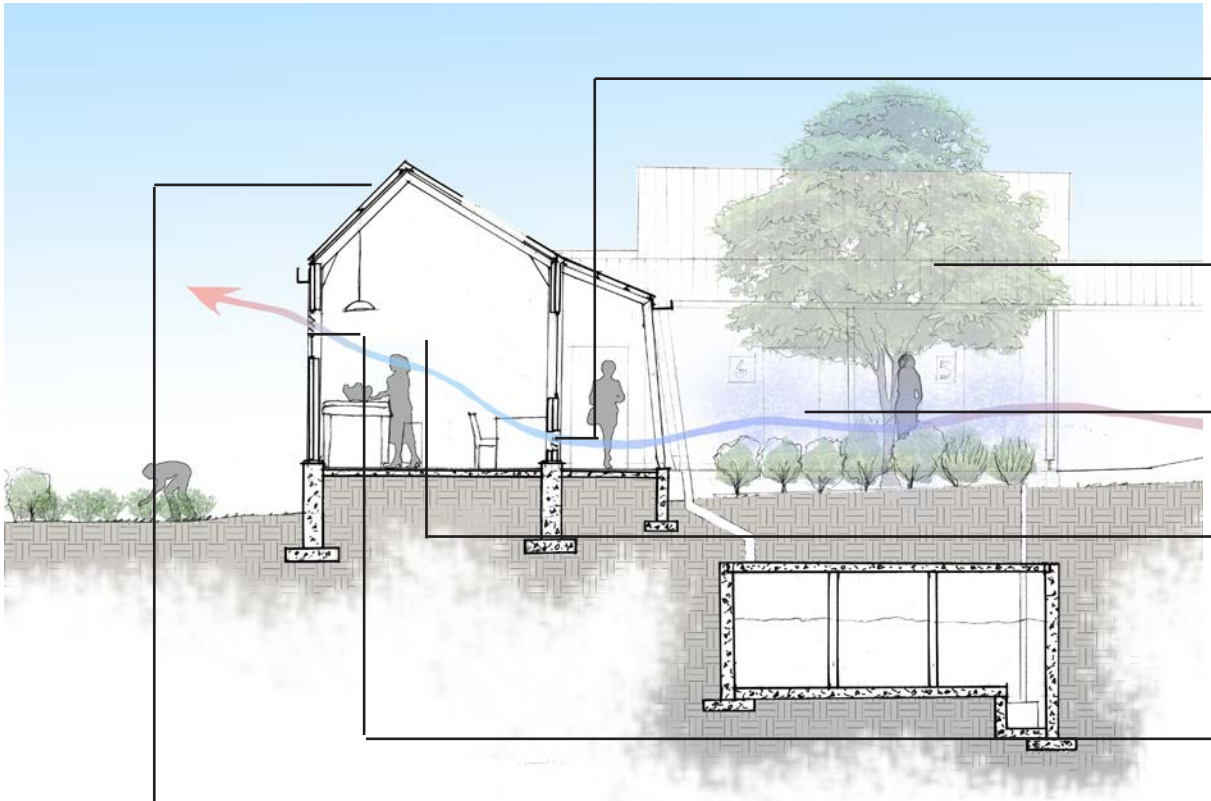


Figure 7-10: Vertical overhang (Author 2018)



Air inlets are low and located close to the shrubs/ trees therefore encourage cool air to enter the space. The air inlets create a positive air pressure.

Shrubs and trees cool the ambient air causing air to sink. Prevailing wind blows towards building where cool air then enters the building.

Cool air sinking.

Warm air rises (due to buoyancy of air). Therefore contaminated air will rise.

Air outlets are located high in the space. This will allow the warm air that has risen to exit the space via the air outlets. Fan extractors will also be installed to help extract contaminated air (especially when there is not a strong wind breeze).

The design of the roof creates a negative wind pressure at the rear of the roof. This negative air pressure will help extract the warm air out of the building and into the atmosphere.

Figure 7-11: Cross ventilation in consultation rooms (Author 2018)

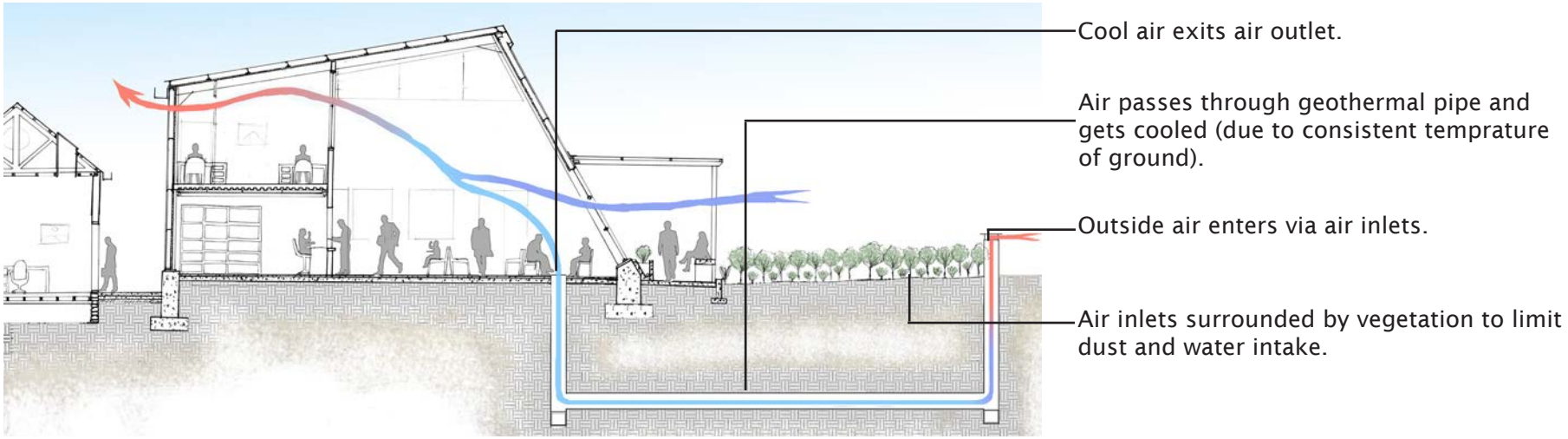
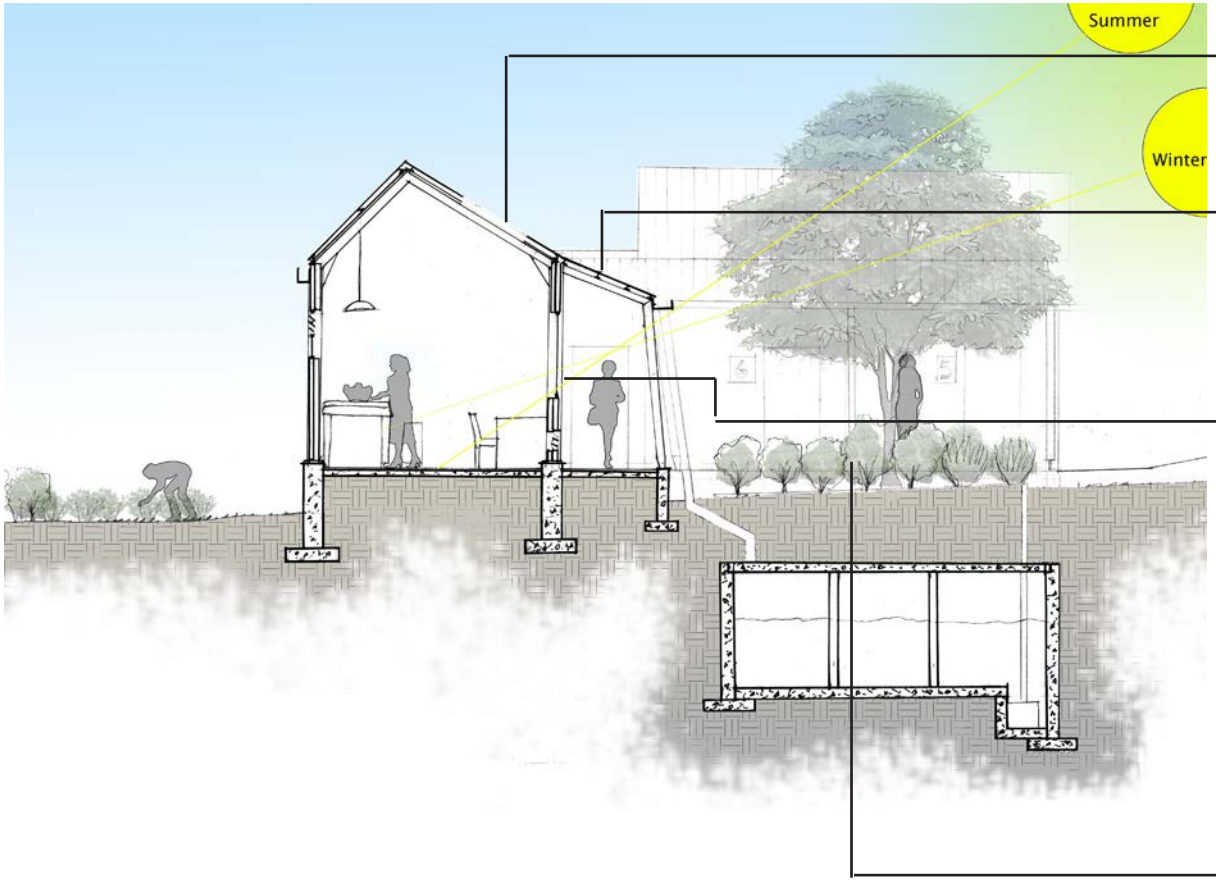


Figure 7-12: Geothermal ventilation for main indoor waiting area (Author 2018)

Figure 7-13: Piping layout for geothermal ventilation (Author 2018)



Solar panels will harness the solar radiation from the sun to generate electricity so that fan extractors and wall heaters may work.

Covered walkways act as overhangs to protect the interior spaces from excessive heat gain in summer but allow solar gain in winter.

Double glazed Aluminium frame windows limited heat infiltration into a space (since large windows are used, excessive heating may be an issue). Therefore in summer the double glazed windows keep heat out (which keeps a space cool) and in winter keep heat in the space (which keeps a space heated).

The trees and shrubs help keep the ambient air cool thus ensuring a cooler microclimate. The trees used will be deciduous so as to provide shade (and protect from heat gain) in summer and allow light in winter (due to no leaves on the trees). The trees will aid in the heating and cooling of the interior spaces.

Figure 7-14: Heating and cooling in consultation rooms (Author 2018)

7.4. Services

The service designed for is water harvesting. Westfort Village is a site that is immersed in the landscape (from its natural state, to its use as a leprosy asylum). Throughout its history water has played a central role on this site (from irrigating the natural landscapes, to the private gardens, to furrows being built to direct the flow of water). This highlights the use of water during the history of Westfort Village and adds layers unto the water harvesting that has occurred in Westfort Village.

Clinics likewise require a constant supply of water. Community gardens associated with clinics also need access to water. This places a huge demand for water supply. Therefore by harvesting water we are able to decrease the demand for water supply from the municipality. However since a clinic needs clean water, the water harvested on site would be used where clean water is not needed. It is for this reason that harvested rainwater will be used for irrigating the herbal gardens as well flushing toilets. Grey water will be harvested in the non-clinical ablutions and will be used for flushing of toilets. Water used for washing of hands and cleaning the clinic will come from the municipal supply since this water needs to be clean and free of any pathogens (which might harbour in the harvested rainwater and grey water). The harvested rainwater and grey water will be stored in separate underground water tanks. The rainwater storage tanks will be placed under each courtyard for the various units. This ensures that smaller storage tanks will be constructed and puts less strain on pumps to pump water from centralised water storage stank (which also saves electricity). Figure 7-15 and figure 7-20 (on page 143) explains the rainwater harvesting system. Refer to appendix H on page 202 for rainwater harvest budget.

Electricity generation was also considered in the design. This was to ensure that less energy demand is placed on the municipal electricity grid. Electricity will be generated on-site using solar photovoltaic (PV) panels. PV panels convert light energy into electric energy (electricity). The PV panels will be orientated to true north to capture most of the light energy from the sun. Due to the orientation of Westfort Village, there is ample roof surface area that is orientated towards north. This means that clinic may be fully off the municipal electricity grid (should weather conditions be favourable for a majority of the year). However a municipal electricity connection will be provided for emergencies or in instances when there is not sufficient sunlight for electricity generation. The PV panels will be connected to salt water batteries so that electricity generated that is not used may be stored

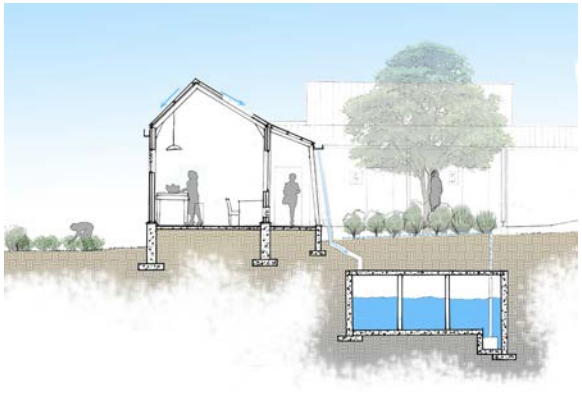


Figure 7-15: Rainwater harvesting diagram (Author 2018)

Figure 7-16: Sunmodule SW80 Polly RNA PV panel information (Solarworld 2018)

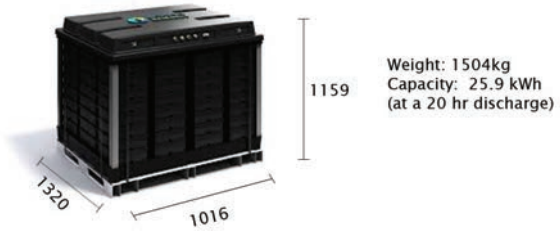


Figure 7-17: AquionAspen 48m-259 25kW Saltwater battery information (Aquion energy 2018)

and used at a later stage. Each of the clinical units (i.e. chronic care, infectious care, etc.) will have their own salt water battery. These batteries will be interconnected so that electricity generated may be distributed and used efficiently. In order for electricity to be generated using solar energy, a number of systems have to work together as follows: PV panels will convert the light energy from the sun into electricity; this electricity will then be stored in a saltwater battery after which it will be used. This system of generating electricity may be interpreted as a layering of systems in order to generate electricity.

In order to meet the energy demands for the clinic (which is 130 kWh per day), 80 Sunmodule PV panels will be installed (figure 7-16 on page 141), generating a total of 132kWh of electricity per day. This electricity will then be stored in 6 Aquion Aspen salt water batteries (figure 7-17 on page 141). Figure 7-21 (on page 144) illustrates the position of solar panels and placement of saltwater batteries. Refer to appendix I on page 204 for energy demands for the clinic.

7.4.1. Sustainable building assessment

In order to evaluate the social, economic and environmental sustainability of the project, the SBAT rating was used. This rating assesses the social, economic and environmental impact of the project in its area.

The rating is summarised in figure 7-18 and figure 7-19. The project achieves a high social rating due to it the ease of accessibility of the clinic, it's promotion of health education for the local residents and high levels of occupant comfort (because of the passive design strategies used in the clinic). The project achieves a moderate economic rating due to the use of locally sourced materials. However points were lost due to initially high capital costs (which are then set off by low costs of maintenance). The project achieves a moderate environmental rating due to improving the condition of the existing buildings and the project makes use of low-tech passive systems which do not require a lot of energy to operate. However points were lost due to waste management systems that were not considered.

SBAT Assessment	Score
Social	4.2
Economic	3.4
Environmental	2.6
Overall SBAT rating	3.4

Figure 7-18: SBAT Assessment table (SBAT 2018)

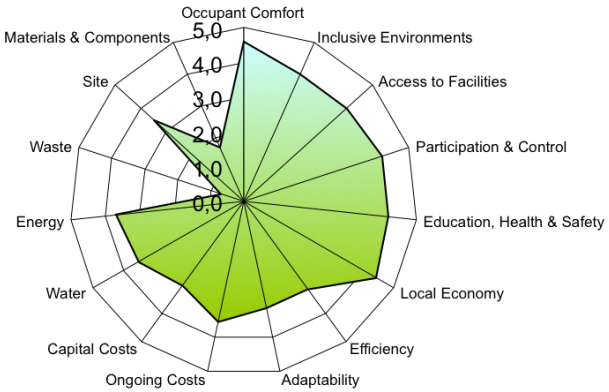


Figure 7-19: SBAT Assessment graph (SBAT 2018)

Figure 7-20: Water harvesting in Westfort Clinic (Author 2018)

Figure 7-21: Solar energy harvesting in Westfort Clinic (Author 2018)

7.5. Technical explorations

In order to articulate the technical concept a number of iterations were done using the materials discussed (on page 134 to 135). The materials investigated were steel portal frame, light gauge steel frame, Brownbuilt wall sheeting, Imison wall system, red face brick and recycled brick from Westfort Village. The aim of these iterations was to determine which materials best articulates the technical concept.

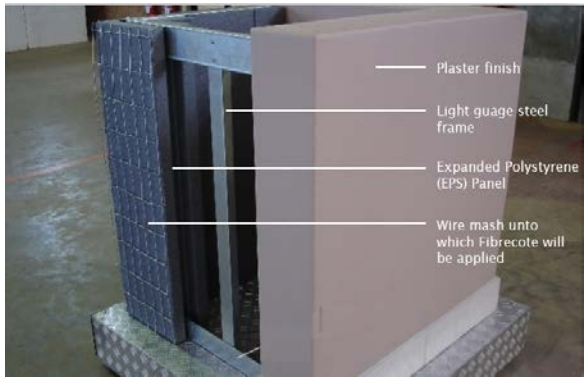


Figure 7-22: Imison wall system (Imison 2014:2)

7.5.1. Steel portal frame

The initial explorations made use of steel portal frame (as a primary structure), red face brick and Brownbuilt wall sheeting as infill and cladding respectively. The steel portal frame was used in both the anchor building (figure 7-26 to 7-27 on page 147) and sensitive additions (figure 7-34 on page 149). The steel portal frame permitted the use of use of exposed bolted connections (figure 7-30 and 7-34 on page 148). Steel portal frame allowed for the primary structure and infill and/or cladding to be exposed thus articulating the layering concept. Furthermore there was a better articulation of connections between the existing and new due exposed bolted connections (figure 7-36 and 7-40 on page 150). There was a continuity of structure for all the new additions (whether the anchor building or the sensitive addition).

However steel portal frame is a heavy material and is therefore not appropriate for the sensitive additions, which need to be light (both visually and conceptually). Steel portal frame is relatively expensive to erect, considering the small spans of the sensitive additions. Therefore, it was decided to change the primary structure of the sensitive additions. The anchor buildings would remain using the steel portal frame due to the form and span of the anchor buildings.

Figures 7-26 to 7-58 show technical explorations using steel portal frame.

7.5.2. Light gauge steel

The subsequent exploration made use of light gauge steel frame and Imison wall system for the sensitive additions. Light gauge steel is lighter and cheaper than steel portal frame. Light gauge steel is quick to erect and allows for an easier transfer of construction knowledge for the residents of Westfort Village. This makes it a more appropriate structure for the sensitive additions.

Light gauge steel and Imison wall system complement one another. The Imison wall system comprises of a number of layers (see figure 7-22 on page 145): metal studs as a frame (light gauge steel), Expanded Polystyrene (EPS) Core panels (for sound, moisture and heat insulation), fibrecote (as a surface to apply plastered finish) and plastered finish. Therefore a layering of materials is evident in the Imison wall system and this articulates the layering concept. Furthermore, brick tiles may be used as a finish on the Imison wall. Bricks from demolished walls of the existing heritage buildings may be recycled, cut and then used as brick tiles to articulate the openings of the sensitive additions (figure 7-23). The recycled bricks (brick tiles) will be cut into 220mm x 40mm x 70mm sizes and plastered unto the fibrecote. The recycled bricks further strengthen the layering concept in that part of the existing fabric is layered unto the new addition.

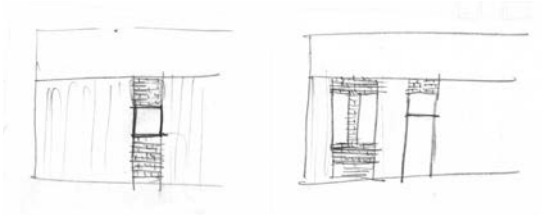


Figure 7-23: Recycled brick from site used to articulate openings (Author 2018)

Light gauge steel frame allows for the roof to be articulated in different ways. The roof system used in this exploration is vaulted roof rafters (light gauge steel C sections) resting on a ridge beam (made up on nested steel C sections) (see figure 7-24). This roof system allows for the full volume of the interior to be experienced. Ceiling boards will be fastened between the rafters, therefore exposing the roof structure and emphasising the layering concept.

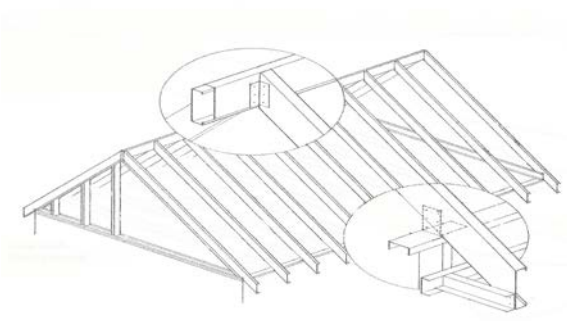


Figure 7-24: Vaulted roof rafters resting of ridge beam (Ching 2011:6.18)

The sensitive additions on the heritage buildings made use of a steel beam and hallow square column system (primary structure) and light gauge steel wall studs as infill (figure 7-25). This shows a different application of light gauge steel and Imison wall system as infill rather than structure. This articulates the layering of primary structure (steel beam and column) with infill (light gauge steel and Imison wall) as well as layering of applications for light gauge steel framing.

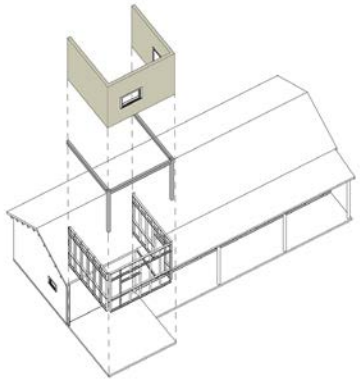


Figure 7-25: Light gauge steel wall studs (Author 2018)

In conclusion, steel portal frame and light gauge steel frame both articulate the technical concept in different ways. A combination of steel portal frame and light gauge steel frame allow for the best articulation of layering in their respective applications. Furthermore, the use of both steel systems adds to the layered use of steel.

7.5.3. Existing/new connections

There were only three instances in which existing and new materials came into directed contacted with each other. In such instances, the intent to touch the existing lightly was the case. Figures 7-55 to 7-58 on page 154 show the explorations of these connections.

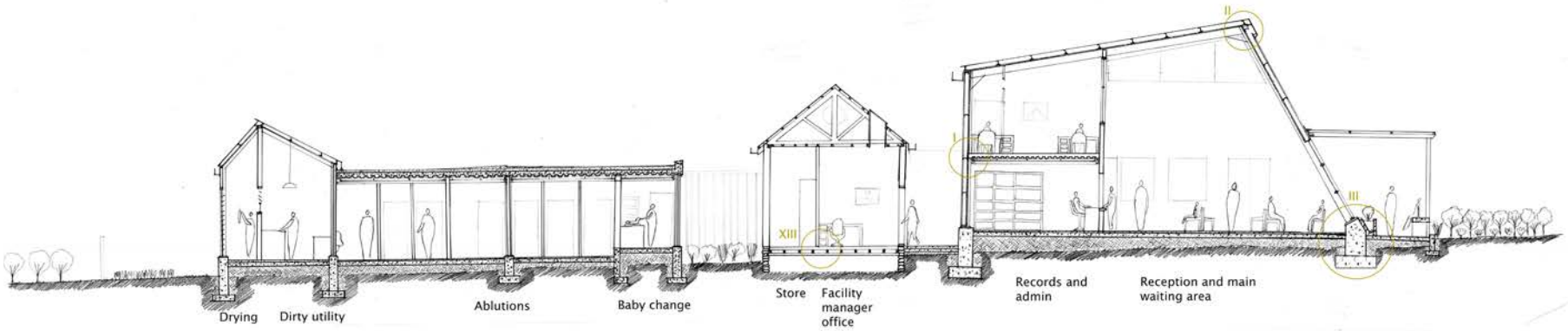


Figure 7-26: Longitudinal section (Author 2018)

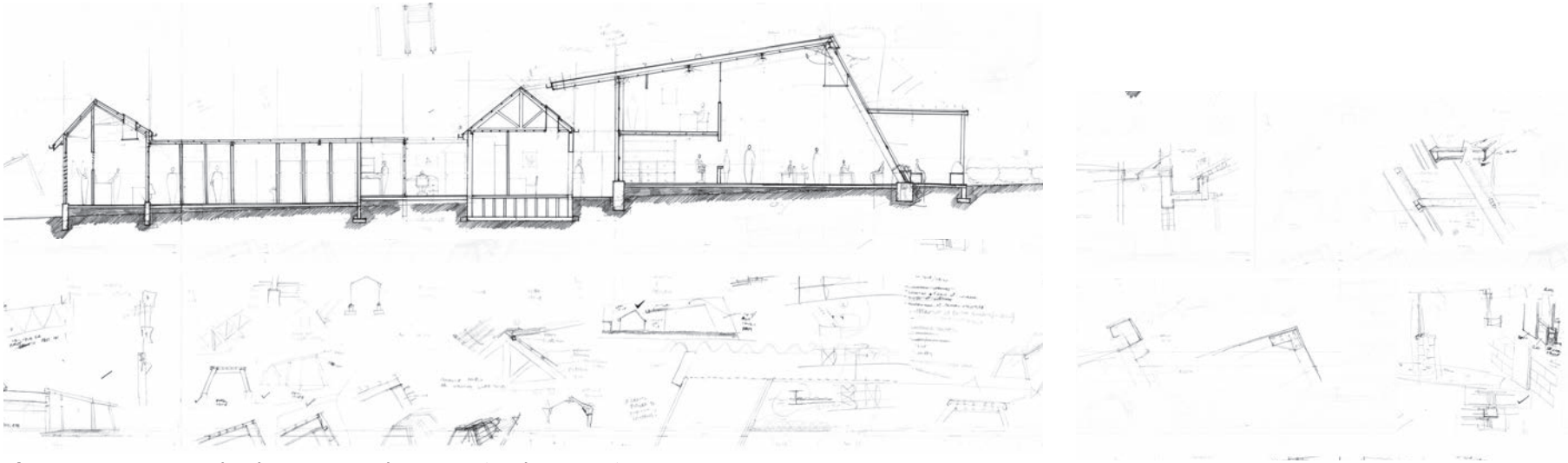


Figure 7-27: Longitudinal section explorations (Author 2018)

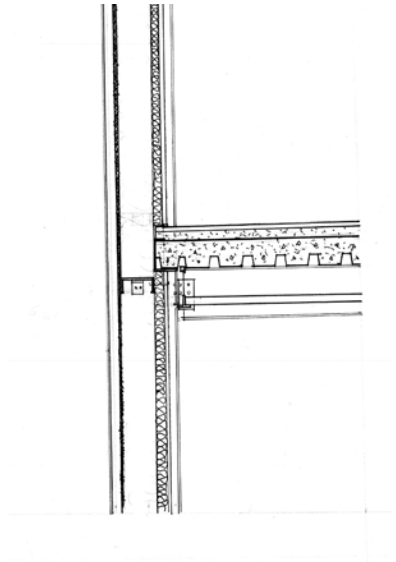


Figure 7-28: Detail I - mezzanine floor (Author 2018)

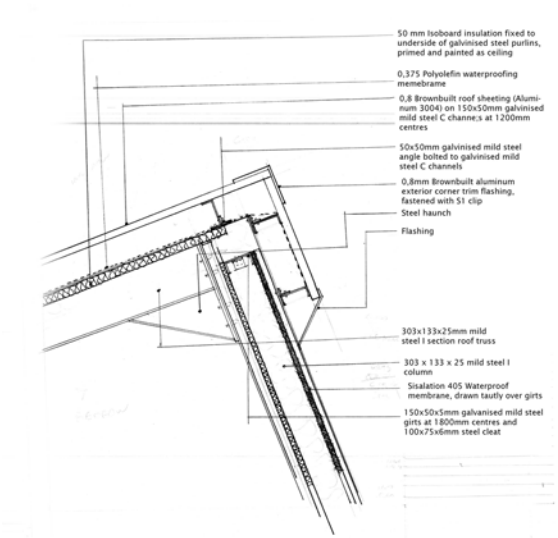


Figure 7-30: Detail II - roof connection (Author 2018)

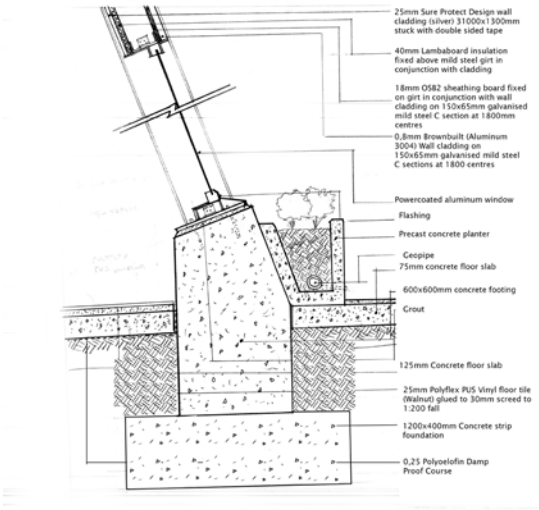


Figure 7-32: Detail III - column connection (Author 2018)

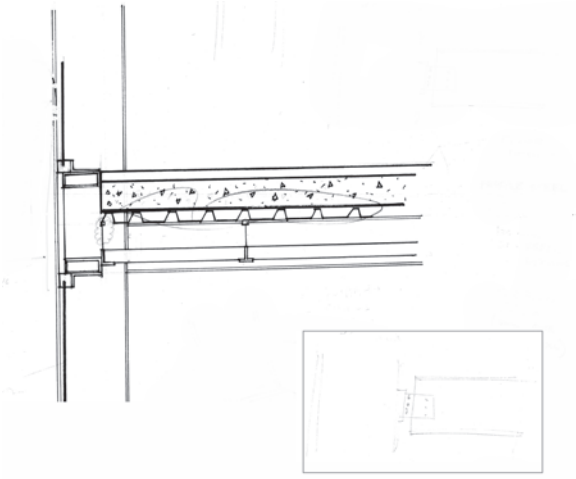


Figure 7-29: Detail I explorations (Author 2018)

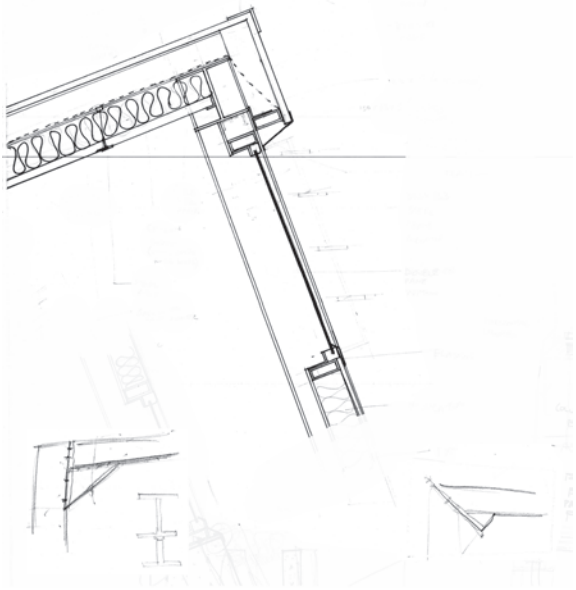


Figure 7-31: Detail II explorations (Author 2018)

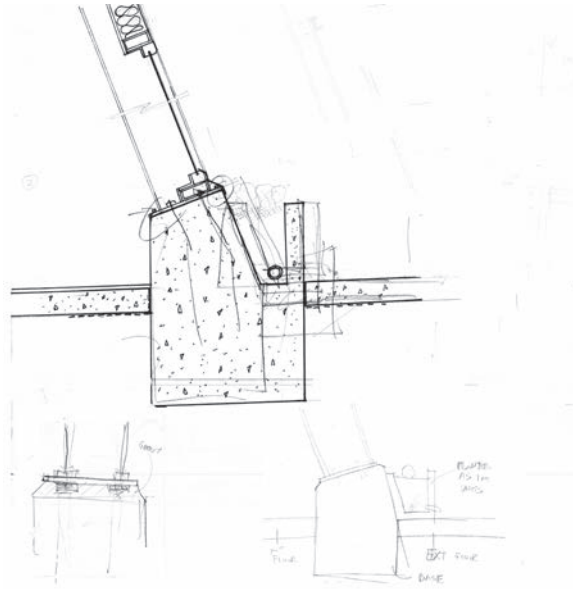


Figure 7-33: Detail III explorations (Author 2018)

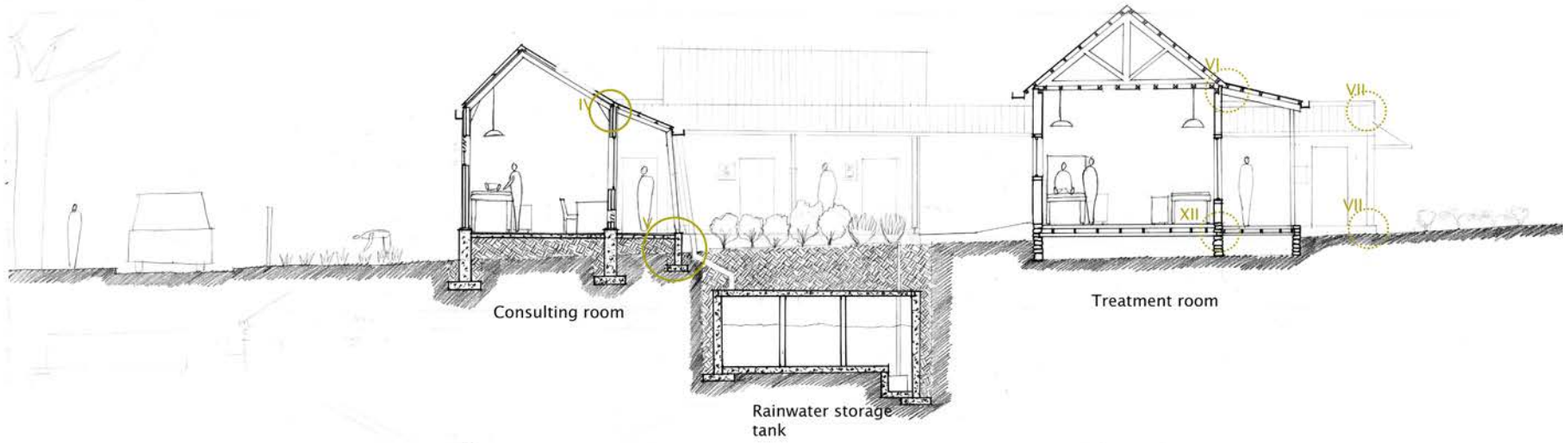


Figure 7-34: Consultation room section (Author 2018)

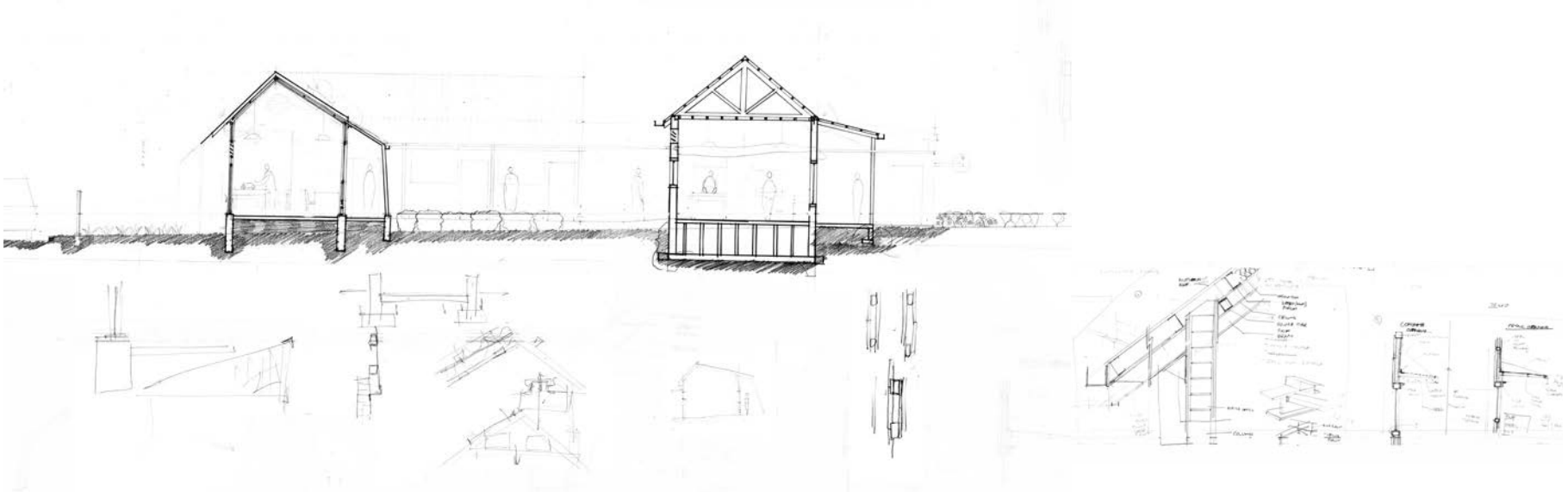


Figure 7-35: Consultation room section exploration (Author 2018)

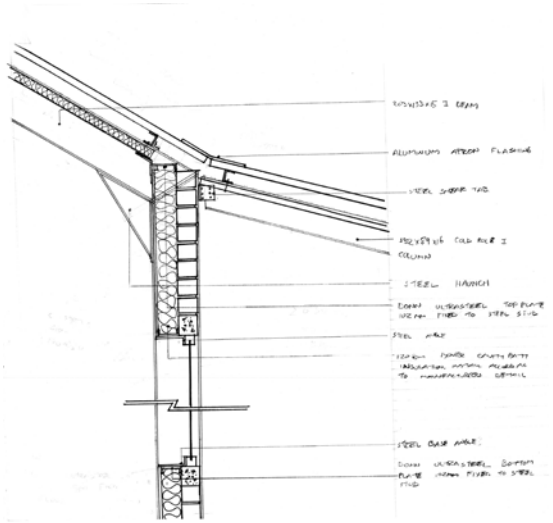


Figure 7-36: Detail IV - walkway roof connection (Author 2018)

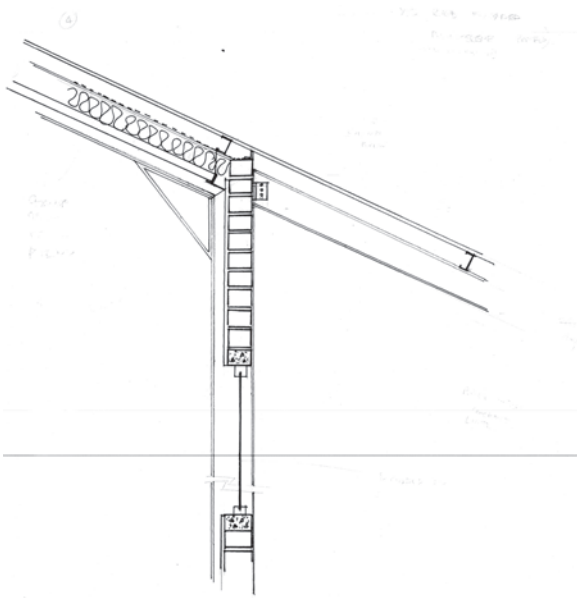


Figure 7-37: Detail IV explorations (Author 2018)

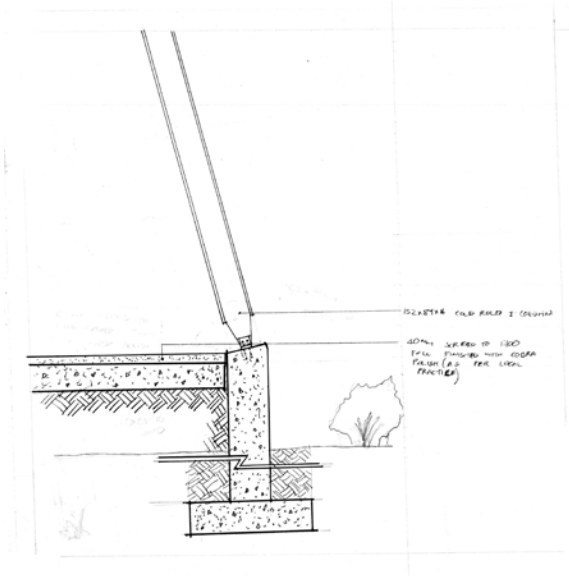


Figure 7-38: Detail V - walkway floor connection (Author 2018)

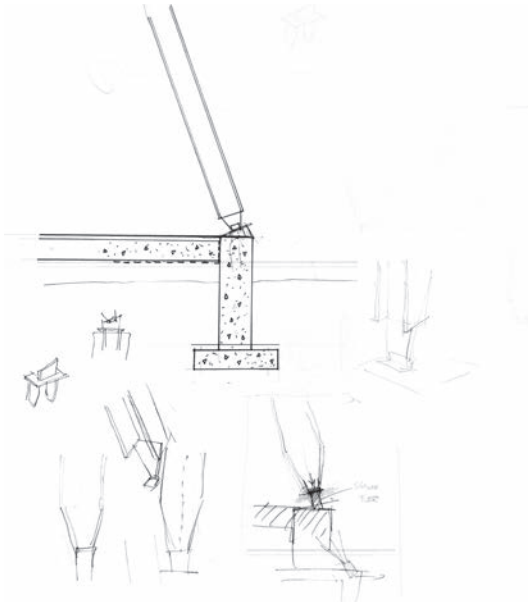


Figure 7-39: Detail V - explorations (Author 2018)

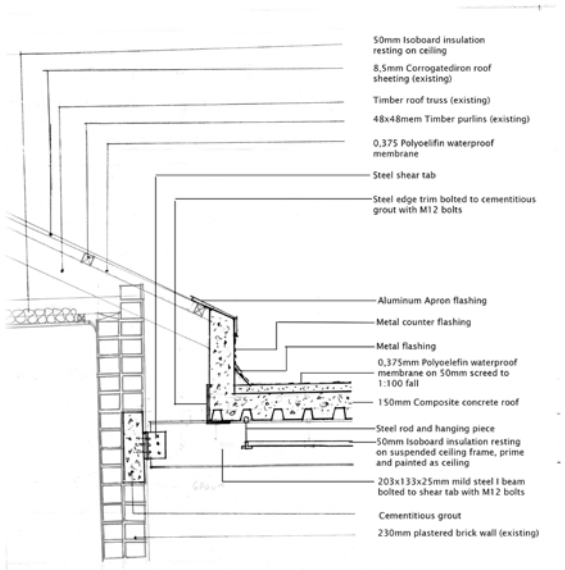


Figure 7-40: Detail VI - existing and new roof connection (Author 2018)

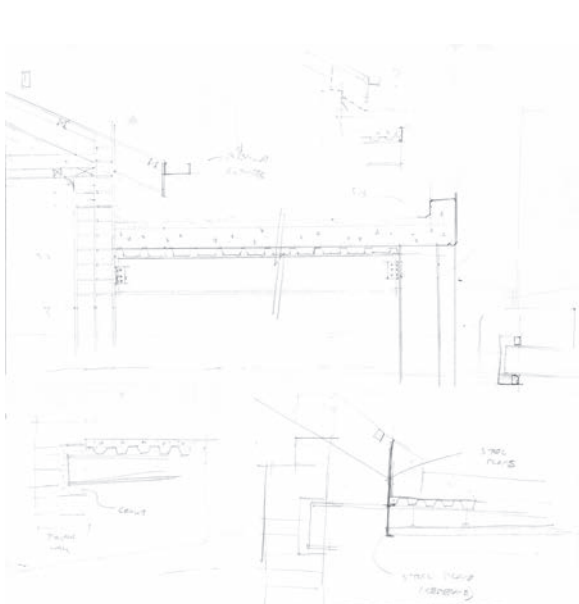


Figure 7-41: Detail VI explorations (Author 2018)

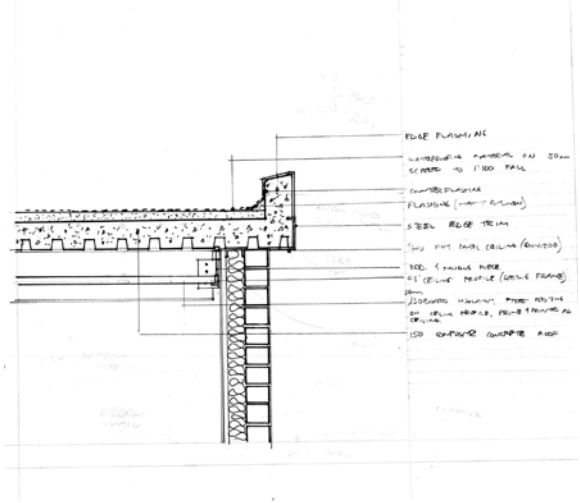


Figure 7-42: Detail VII - vitals room roof connection (Author 2018)

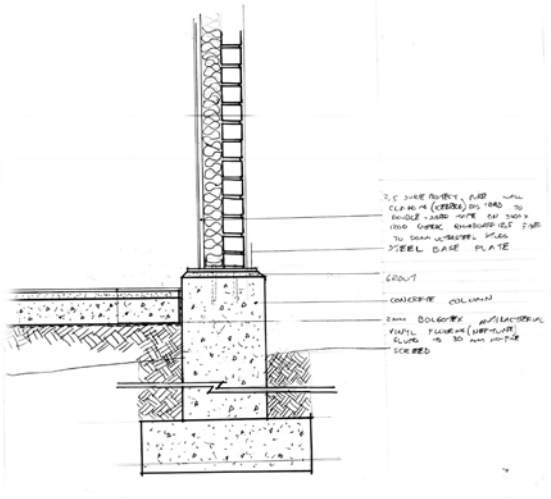


Figure 7-44: Detail VIII - vitals room floor connection (Author 2018)

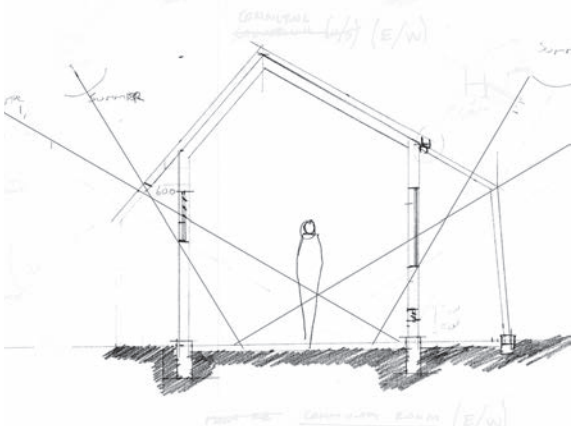


Figure 7-46: Consulting room sun study (Author 2018)

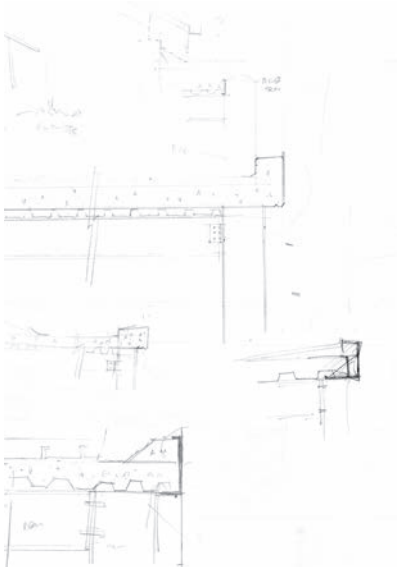


Figure 7-43: Detail VII explorations (Author 2018)

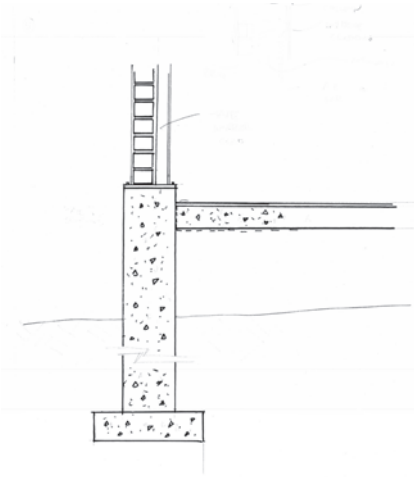


Figure 7-45: Detail VIII explorations (Author 2018)

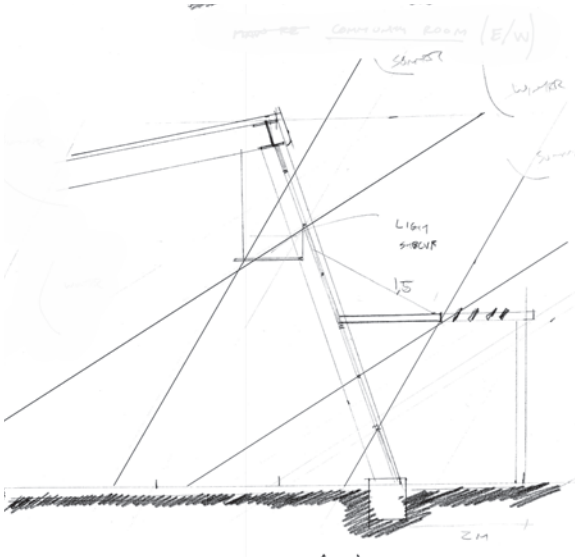


Figure 7-47: Main waiting area sun study (Author 2018)

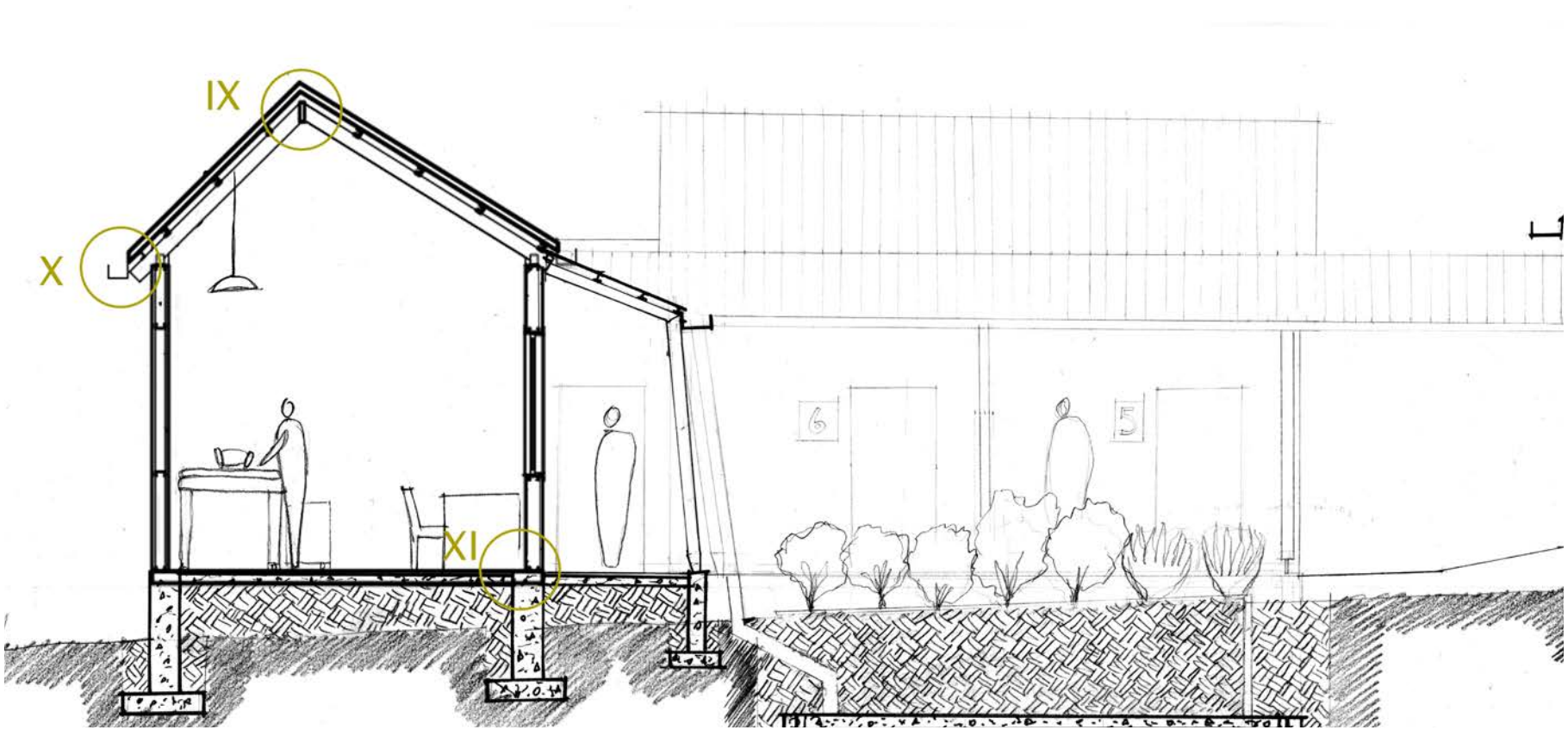


Figure 7-48: Consultation room section in light gauge steel (Author 2018)

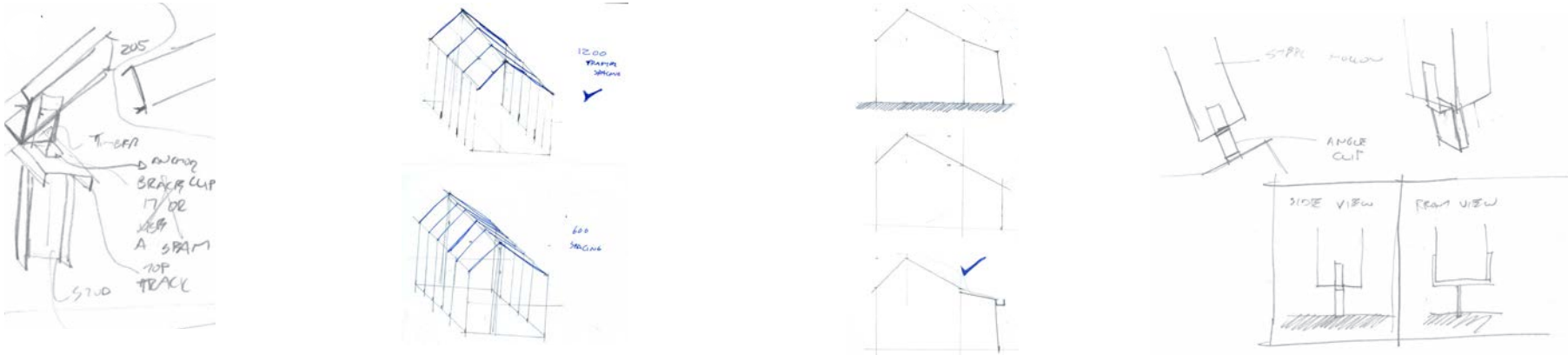


Figure 7-49: Light gauge steel explorative explorations (Author 2018)

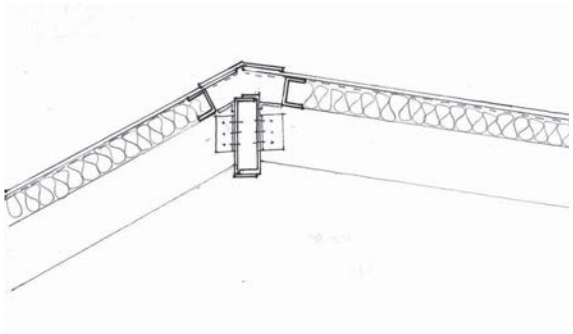


Figure 7-50: Detail IX - Nested beam to rafter connection detail (Author 2018)

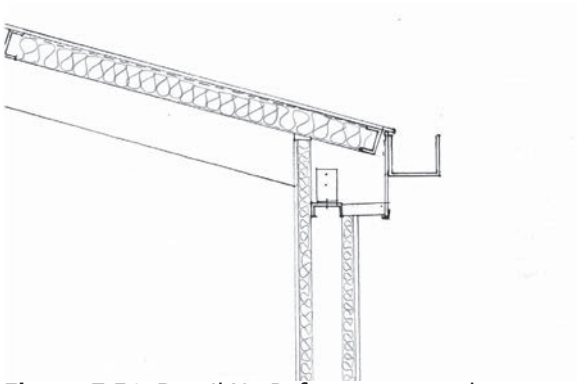


Figure 7-51: Detail X - Rafter to top track connection detail (Author 2018)

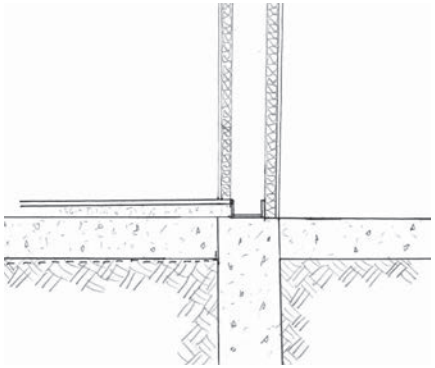


Figure 7-52: Detail XI - Light gauge steel frame to floor connection detail (Author 2018)

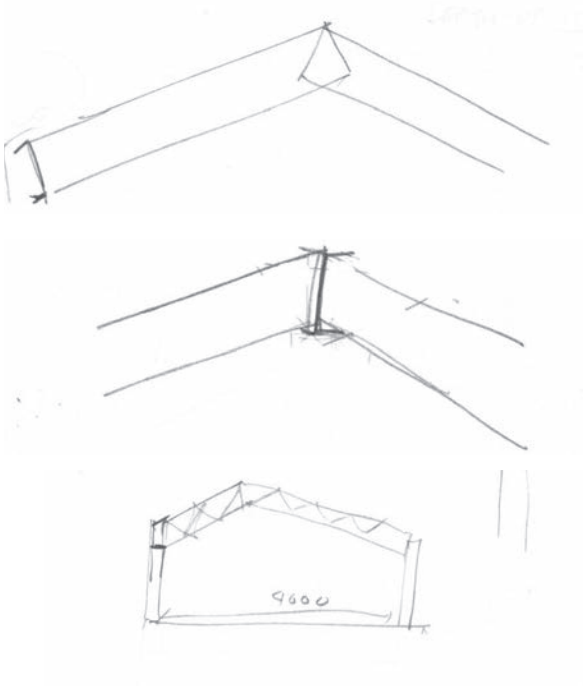


Figure 7-53: Light gauge steel roof explorations (Author 2018)

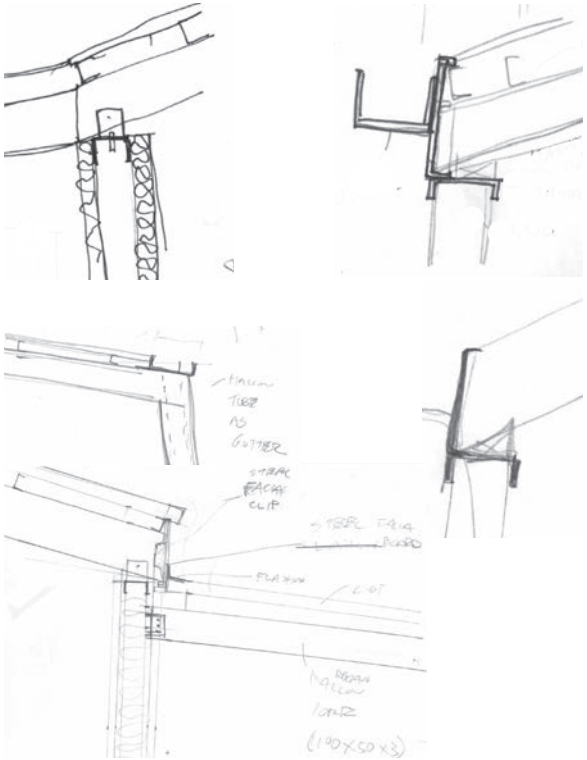


Figure 7-54: Rafter to top track connection explorations (Author 2018)

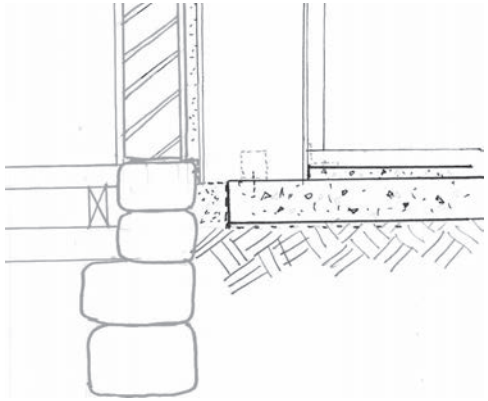


Figure 7-55: Detail XII - New to existing floor slab connection detail (Author 2018)

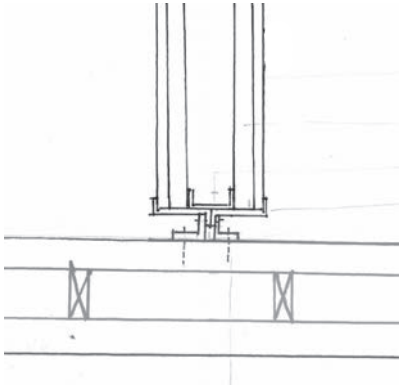


Figure 7-57: Detail XIII - New to existing wall to floor connection detail (Author 2018)

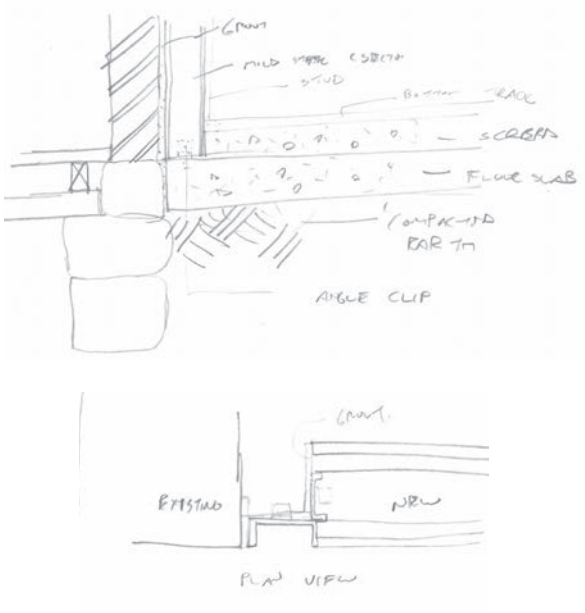


Figure 7-56: New to existing floor slab connection explorations (Author 2018)

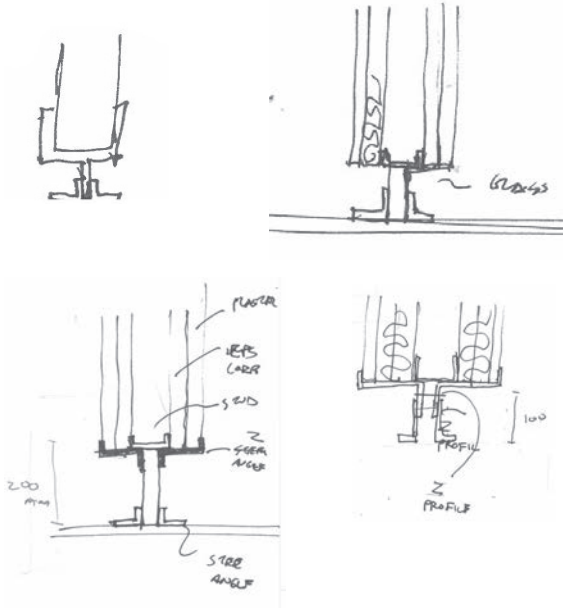


Figure 7-58: New to existing wall to floor connection explorations (Author 2018)

CHAPTER 8
DESIGN RESOLUTION

The final resolution is a culmination of the design development iterations and technical explorations. In keeping with the concept of layering and heritage responses, the existing buildings are altered lightly. The heritage strategy for the final resolution is a sensitive intervention on the existing buildings, which can be read as distinct from the existing but complement the urban character of Westfort Village. This ensures that the heritage of Westfort Village is preserved. The architectural hierarchy of roofs, courtyards and threshold and circulation are adhered to. The existing central courtyard is retained and used as sub-waiting areas. The final resolution implemented four adaptive reuse approaches: build alongside, build around, recycling materials and adapt to a new function. The final resolution is made up of three types of buildings: existing buildings, anchor buildings and sensitive additions (see figure 8-1).

Figure 8-1: Building types in Westfort Village (Author 2018)

8.1. Existing buildings

The existing buildings implemented the adapt a new function adaptive reuse approach. This entailed adapting these buildings for counselling and treatment rooms. Minor changes were done to these existing buildings which resulted in demolishing some internal walls (these bricks were then recycled and used elsewhere) and erecting new internal walls. Although the functions of the buildings had changed, effort was made to keep the composition of the facades the same as the original design (existing). This was done by closing up openings (where not needed) thus creating blind openings or changing a door opening to a window opening (figure 8-2) and keeping the proportions of the room similar to the original design (existing). The existing buildings are connected to the new additions via a covered walkway. The covered walkway cuts through the existing building (figure 8-2). The covered walkway is used as a circulation device throughout the clinic.

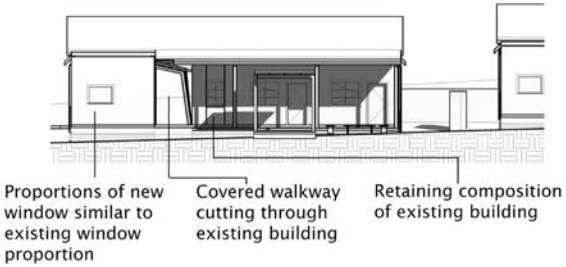


Figure 8-2: Alterations to existing buildings (Author 2018)

8.2. Anchor buildings

The Anchor building types accommodate the public functions of the clinic (reception, main waiting area and community room) and are used to anchor the clinic on an urban scale. In order to achieve this, the anchor buildings had to contrast the existing buildings in scale, form and materiality. The anchor buildings do not implement an adaptive reuse approach as these buildings are entirely new. However the buildings are considerate of the existing buildings, therefore, the anchor buildings do not touch the existing buildings but are mindful of the existing building's scale and composition. The anchor buildings make use of a steel portal frame as a primary structure with a Brownbuilt roof and wall cladding. The portal

frame and cladding allow for the primary structure to be exposed on the exterior and interior thus articulating the layering concept (see figure 8-3). The roof form of the anchor buildings slopes towards the existing buildings, thus acknowledging the existing buildigs (see figure 7-26 on page 147). The covered walkways surrounding the anchor buildings have a high overhead plane because these spaces are more public.

8.3. Sensitive additions

The sensitive additions consist of Extend the old and Subtle embrace building types. Extend the old implemented the build alongside adaptive reuse approach. The Extend the old building type occur along the primary elevations of the existing buildings – that were once the male European residences (see figure 8-1). The composition, rhythm and scale of Extend the old respect that of the existing buildings. This is evident in the room proportions and position and dimensions of openings. Extend the old building type made use of steel I beam and steel square hallow columns as a primary structure with light gauge steel frame and Imison wall system as infill (see figure 7-25 on page 146). Connections between new and existing elements are found in the box additions. Steel I beam connects to the existing wall via bolted steel shear tab. This type of connection allows one to see the existing wall and trusses as well as the new steel I beam and ceiling. The I beam meets the square hallow column via an exposed bolted connection onto a steel shear tab. A concrete deck then rests on the steel I beam (figure 7-40 on page 150). The exposed bolt connections articulate the layering concept.

The Subtle embrace building type implements the build around and recycles material adaptive reuse approaches. Subtle embrace building type consistent of a light gauge steel frame and Imison wall system with Brownbuilt sheet cladding. The roof is a vaulted rafter (light gauge steel C section) resting on a steel beam (nested light gauge steel C sections). The roof is also an asymmetrical pitched roof which is an appropriation of the existing roof forms (see figure 8-4). The vaulted rafters resting on a beam allow one to experience the volume of the interior spaces. The recycling materials adaptive reuse approach is manifested in the recycled bricks (from the demolished internal walls) which are used to articulate openings (see figure 8-5). Between the existing and Subtle embrace buildings is a smaller courtyard which is used as a passive design strategy – to shade and cool buildings and provide space for the underground water tanks. The covered walkway around the Subtle embrace building types has a lower overhead plane since the Subtle embrace building types are more private (such as the consulting rooms).

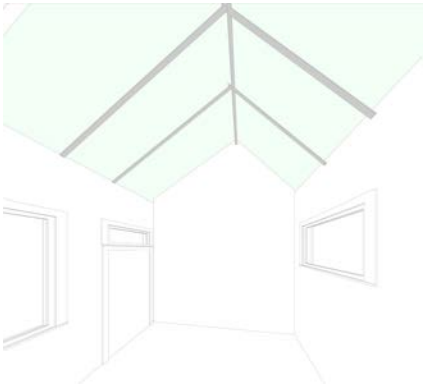


Figure 8-3: Exposed rafters (Author 2018)

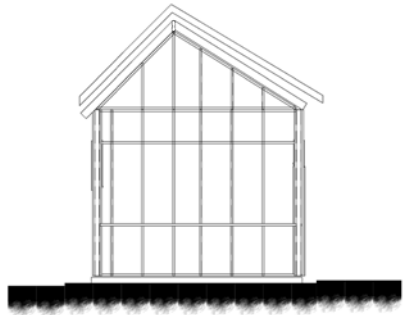


Figure 8-4: Asymmetrical roof for Subtle embrace building type (Author 2018)

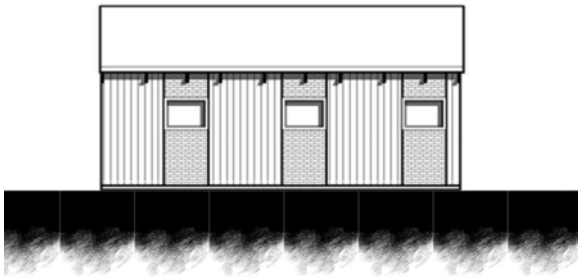


Figure 8-5: Recycled bricks to articulate openings (Author 2018)

8.4. Heritage considerations

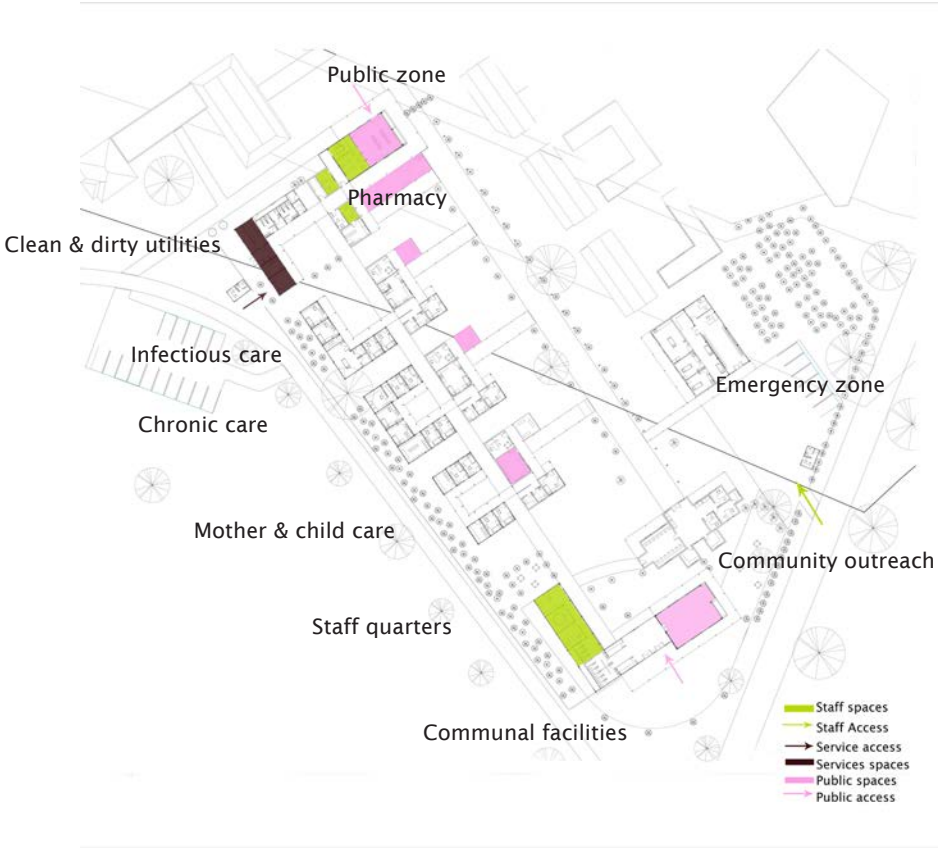


Figure 8-6: Access and associated spaces in the clinic (Author 2018). Due to the security concerns, access into the clinic has been limited. Therefore there are two public accesses, one for the clinic and the other for the community room. The staff access and service access are monitored by security to ensure that only authorised parties use those accesses. Public spaces are mainly in the anchor buildings.

Figure 8-7: Adaptive reuse approaches (Author 2018). Existing buildings made use of the adapt to a new function adaptive reuse approach; the box additions made use of the building alongside adaptive reuse approach and the sensitive additions made use of the building around and recycling materials adaptive reuse approach.

8.5. Programmatic concerns

Figure 8-8: Clinical flows (Author 2018). There are two main clinical circulation routes in the clinic, one for the public and the other for staff. The main circulation path for the path is along the central courtyard, enabling patients to experience the heritage buildings and landscape, while experiencing the wind breeze (as an infection- control device) and gazing at the landscape. All circulation for patients are covered walkways which decrease in height of overhead plane the more private the spaces become. The width of the covered walkways also decrease the more private the spaces become. The main circulation path for staff is behind the existing buildings (former European male residences). This sits on the boundary between the existing buildings and wrap around additions. This ensures that staff gets to experience the existing buildings and new additions as they move to their respective spaces. The main circulation path for staff is not covered.

Figure 8-9: Patient progression (Author 2018). Each unit of the clinic was designed to ensure that patients move efficiently through the unit while simultaneously allowing for privacy and contact with nature. The existing buildings were adapted into preparatory (sub waiting area and specimen collection rooms) and early diagnosis spaces (treatment and counselling rooms). The box addition is used as a preparatory space (vital room). These set of buildings are located close to the sub waiting area for ease of access since people going to the early diagnosis spaces may not need to go to the consulting rooms and so would need easy access to the main circulation pathway. Once patients have gone through the preparatory and early diagnosis spaces, those needing further consultation will progress to the diagnosis spaces (consultation room, blood room, x ray room). The diagnosis spaces are centred by a small courtyard and the early diagnosis and preparatory spaces face unto the central courtyard thus ensuring there is contact with nature both physically and visually.

8.6. Clinical considerations

Placement of desks and chairs
- Decrease patient/staff intimidation
- Increase patient comfort
- no physical seperation between patient and staff

Position of bed
- East access to patient's right hand
- Views to exterior courtyard and landscape - keeps patient calm

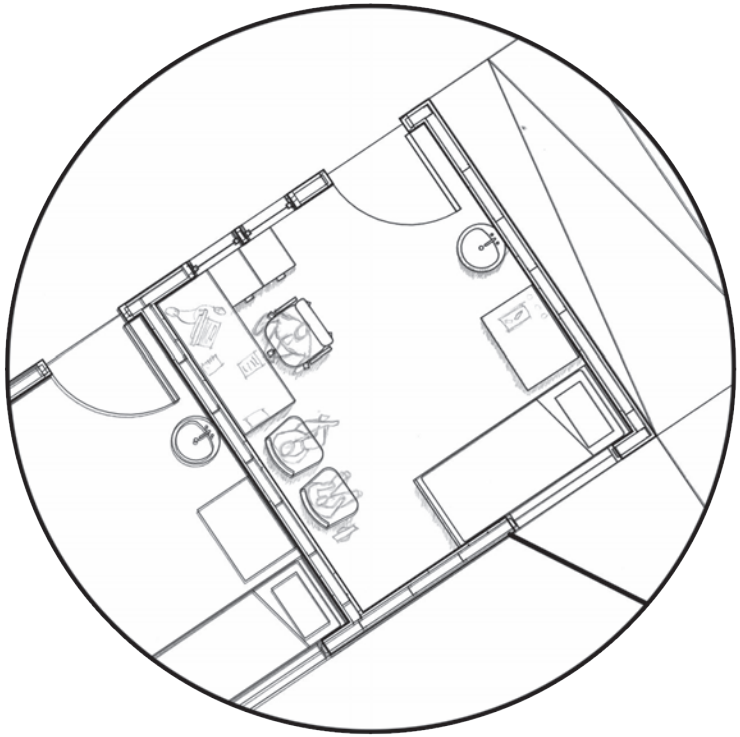


Figure 8-10: Patient/ staff interaction (Author 2018)

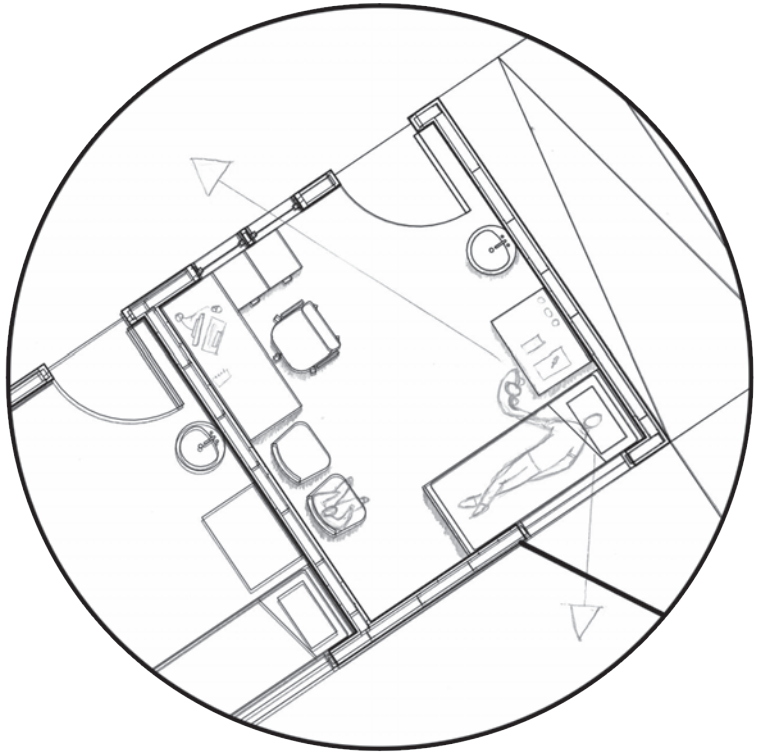


Figure 8-11: Procedural efficiency (Author 2018)

Position of desk and chairs
- Ventilation purposes. Fresh air blows from staff to patient thus minimising risk of infectios on staff

Location of handwash basin
- Encourage staff and patients to wash their hands as the enter/leave consult rooms

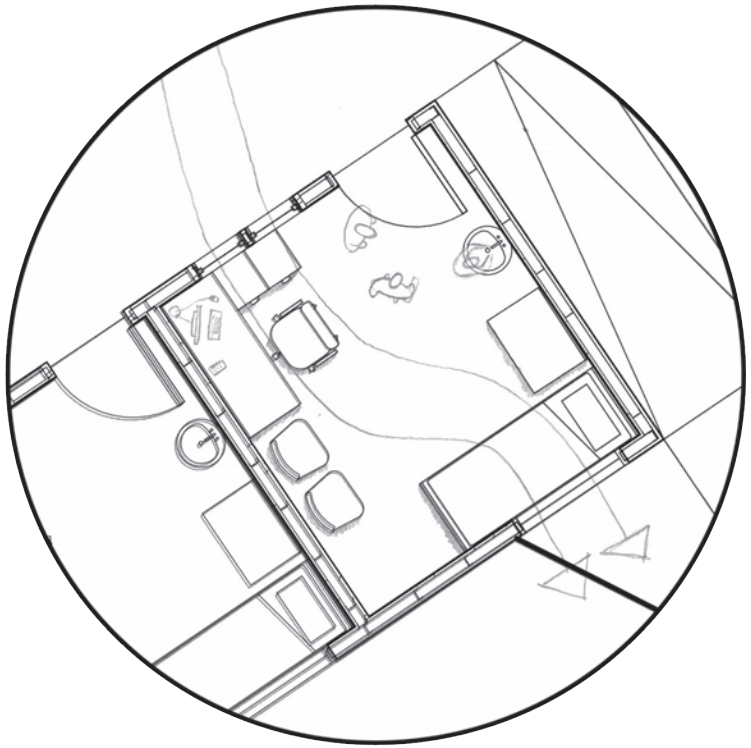


Figure 8-12: Infection control (Author 2018)

Wayfinding
- Covered walkways guide patients
- Clear signage to guide patients

Landscape and vegetation
- Psycological effects of nature for nature

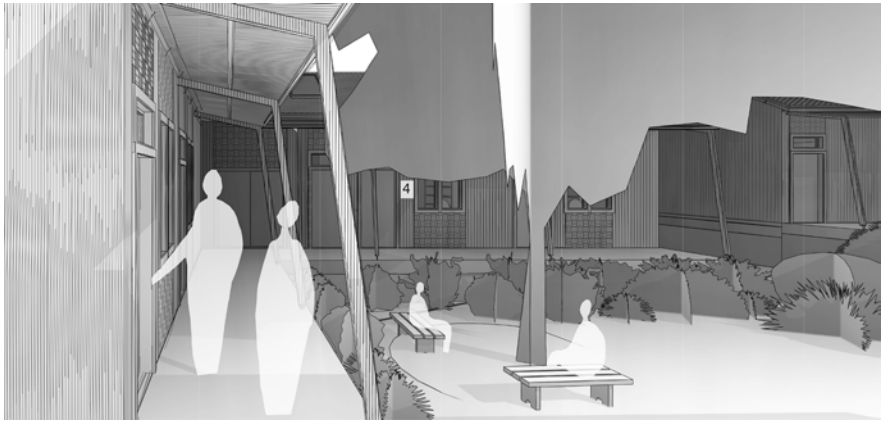


Figure 8-13: Patient comfort (Author 2018)

8.7. Final presentation

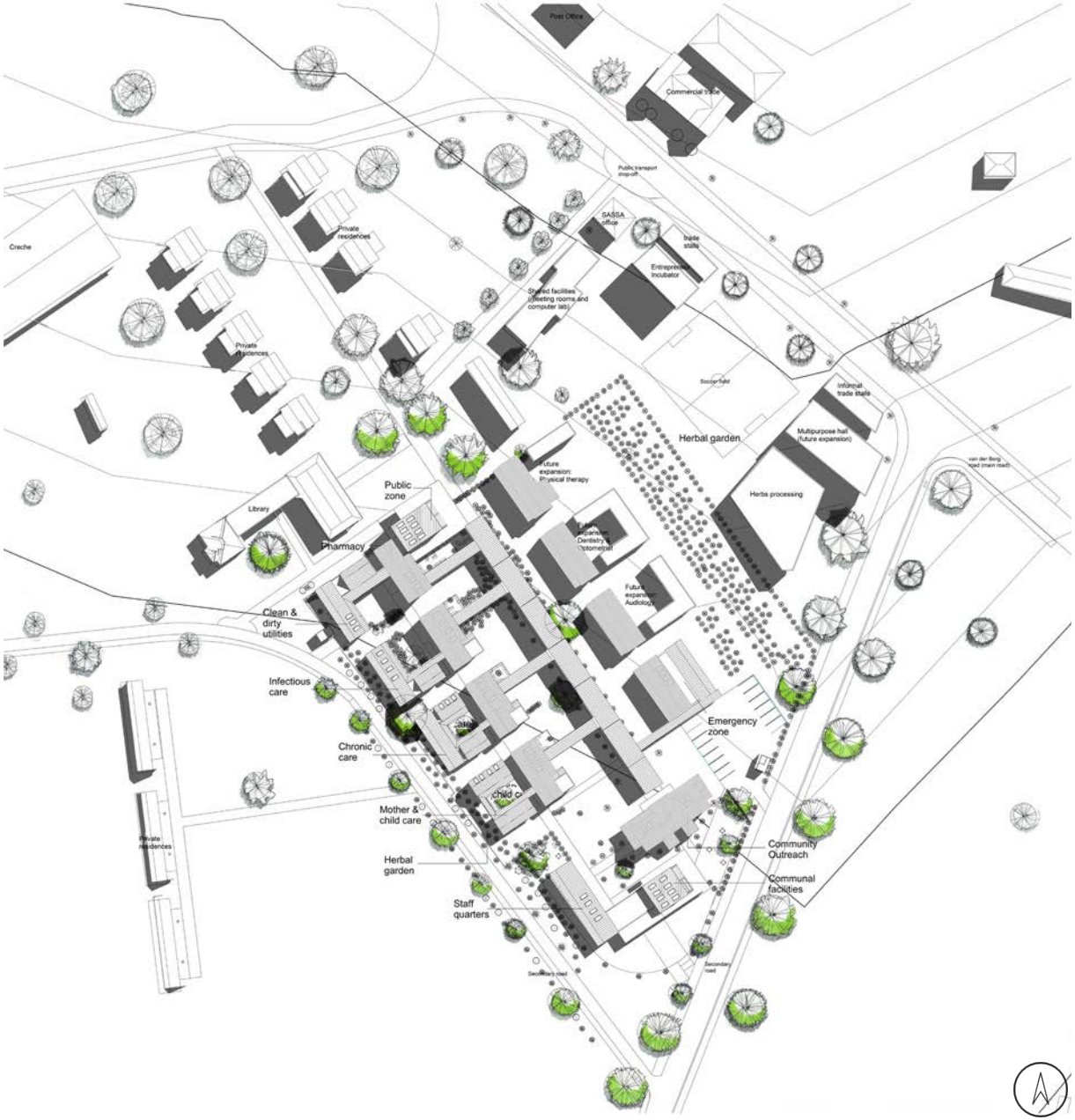


Figure 8-14: Site plan (Author 2018)

Figure 8-15: Existing floor plan (Author 2018)

Figure 8-16: Demolition plan (Author 2018)

Figure 8-17: Ground floor plan (Author 2018)

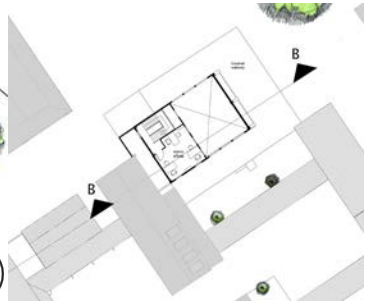


Figure 8-18: Mezzanine floor plan (Author 2018)

Figure 8-19: Exploded floor plan: Main reception (Author 2018)

Figure 8-20: Exploded floor plan: Infectious unit (Author 2018)

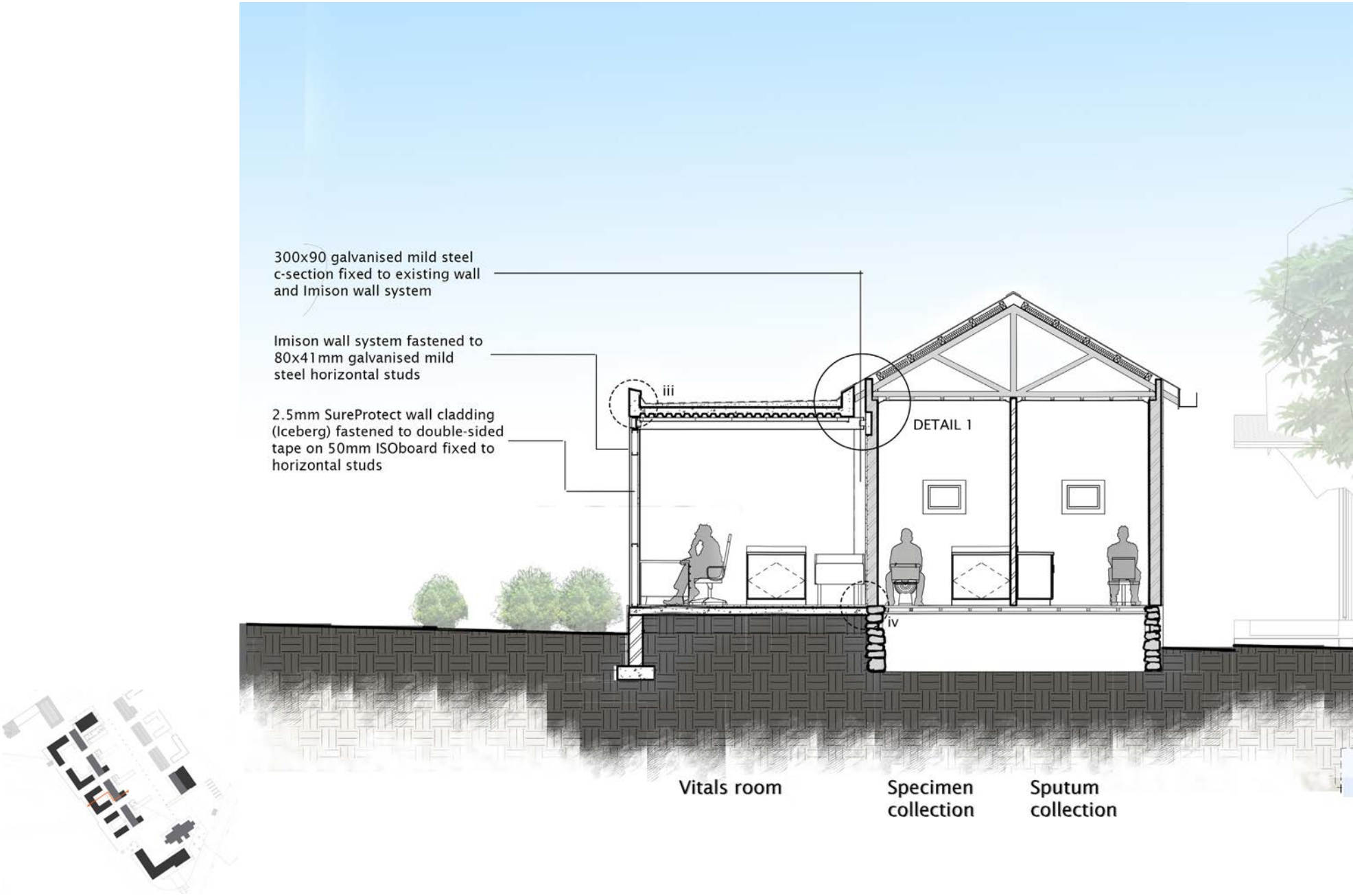
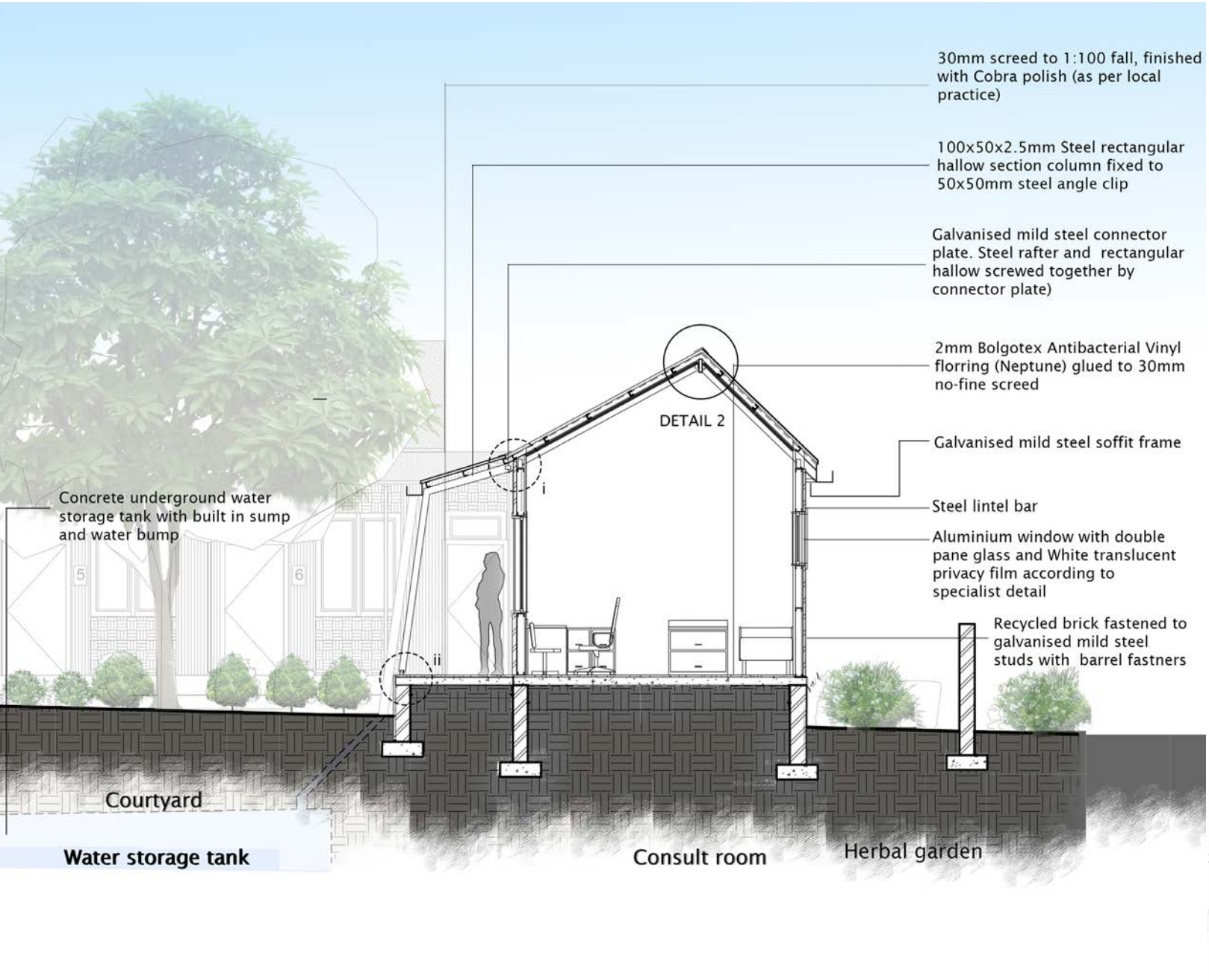
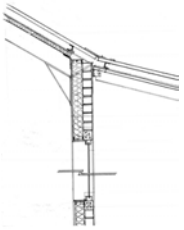


Figure 8-21: Section AA - chronic care unit (Author 2018)

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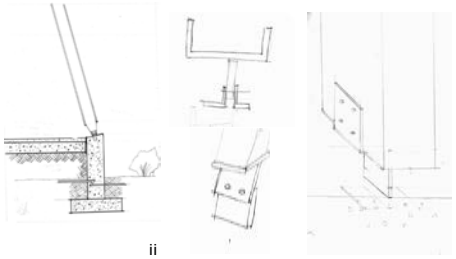
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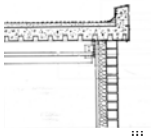
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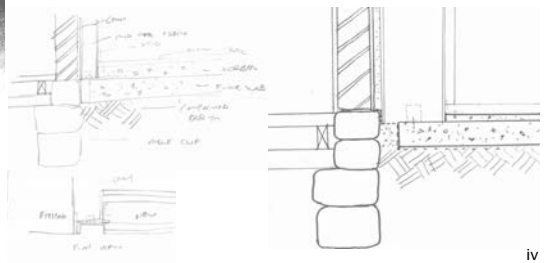
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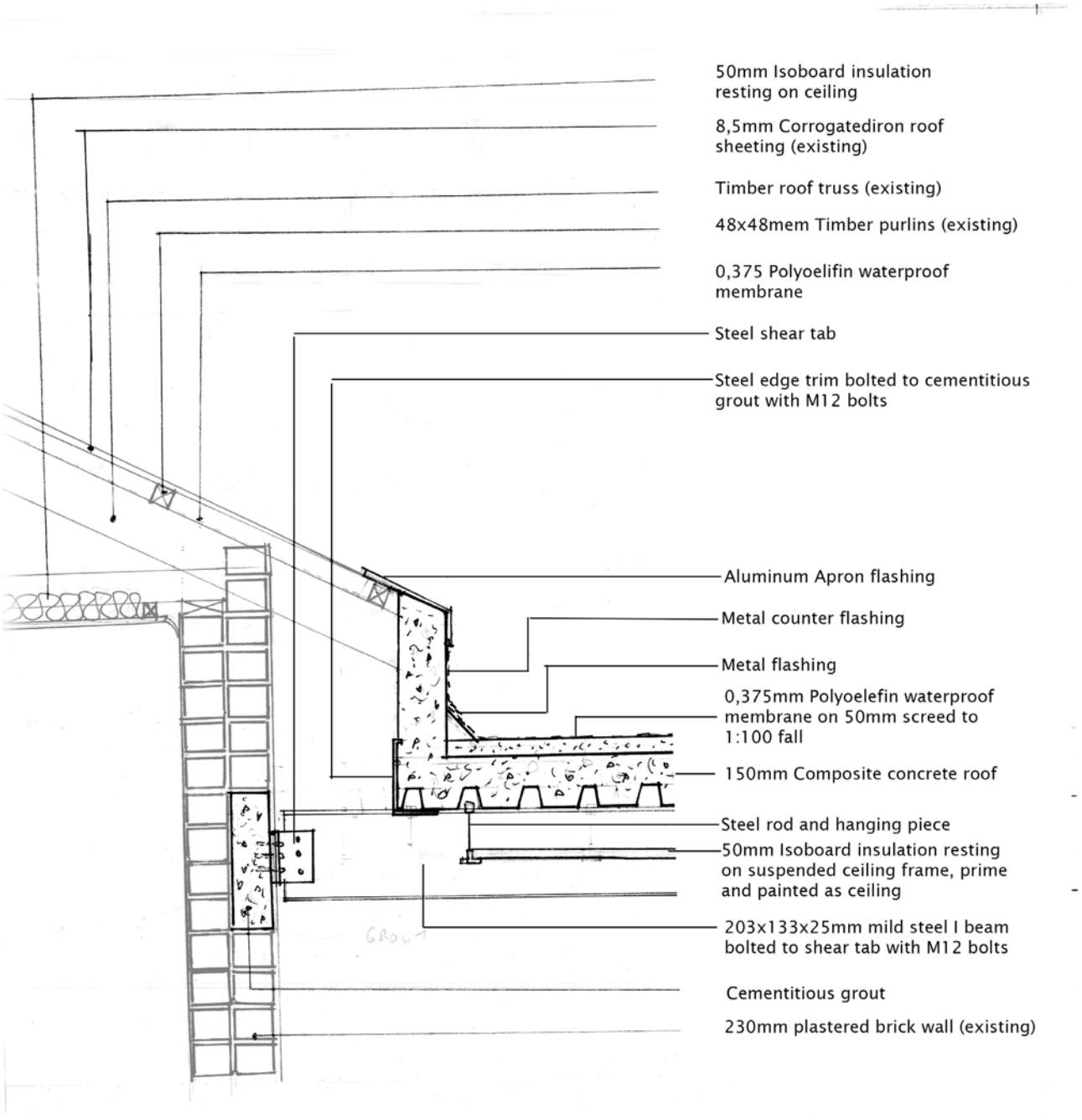


Figure 8-22: Detail 1: Existing/ new roof connection (Author 2018)

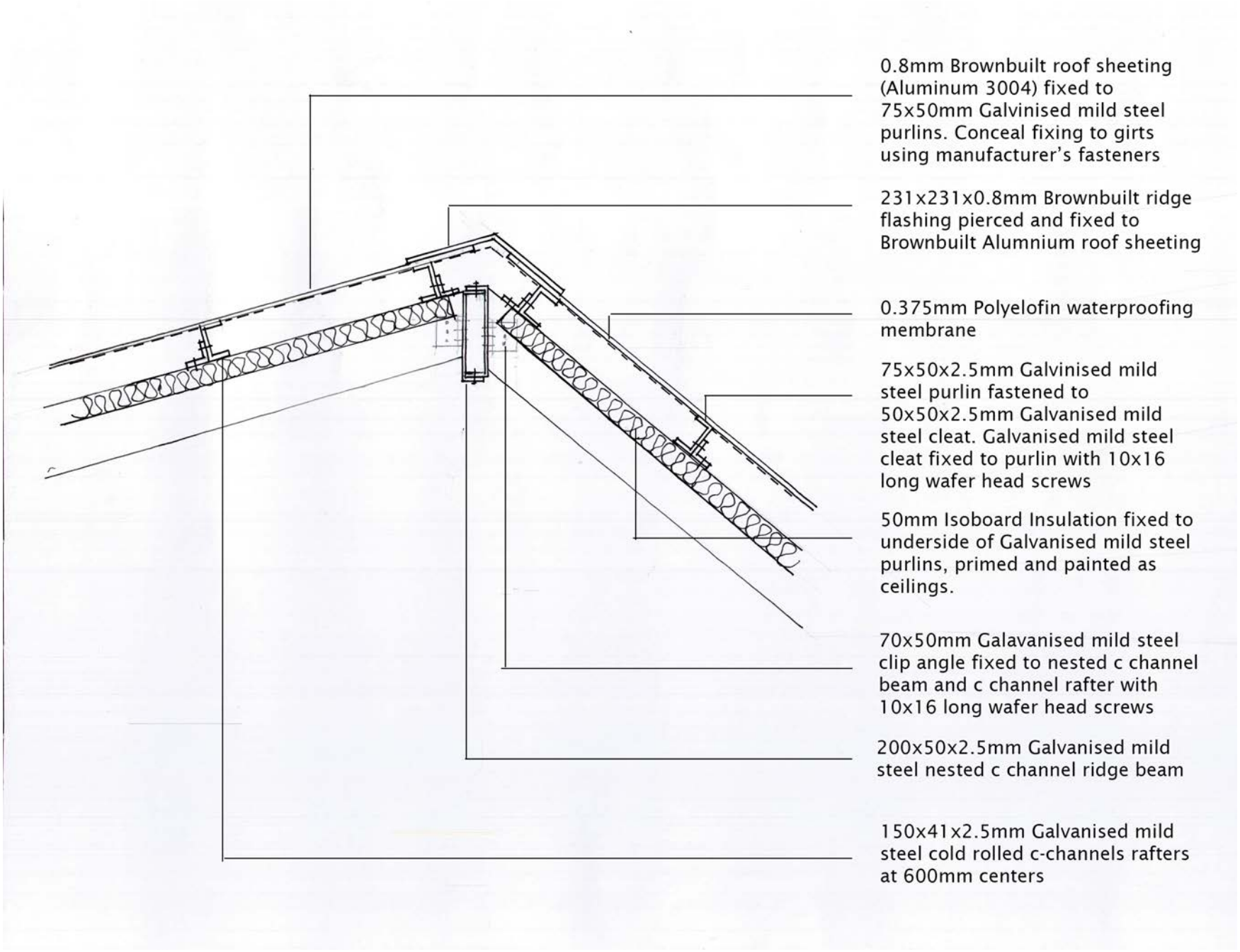


Figure 8-23: Detail 2: Nested ridge beam (Author 2018)

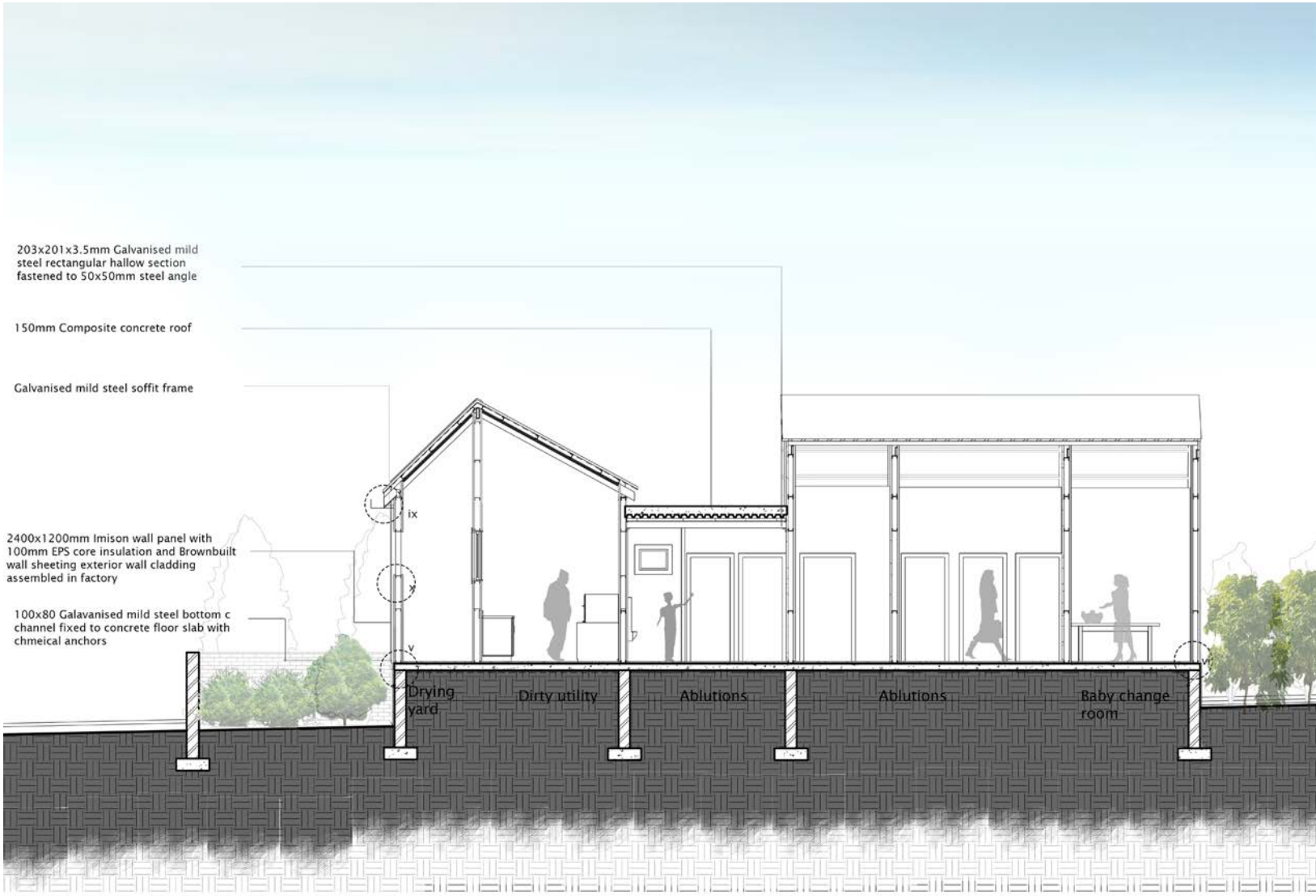
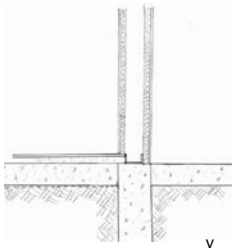


Figure 8-24: Section BB - public zone (Author 2018)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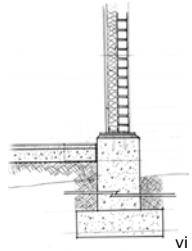
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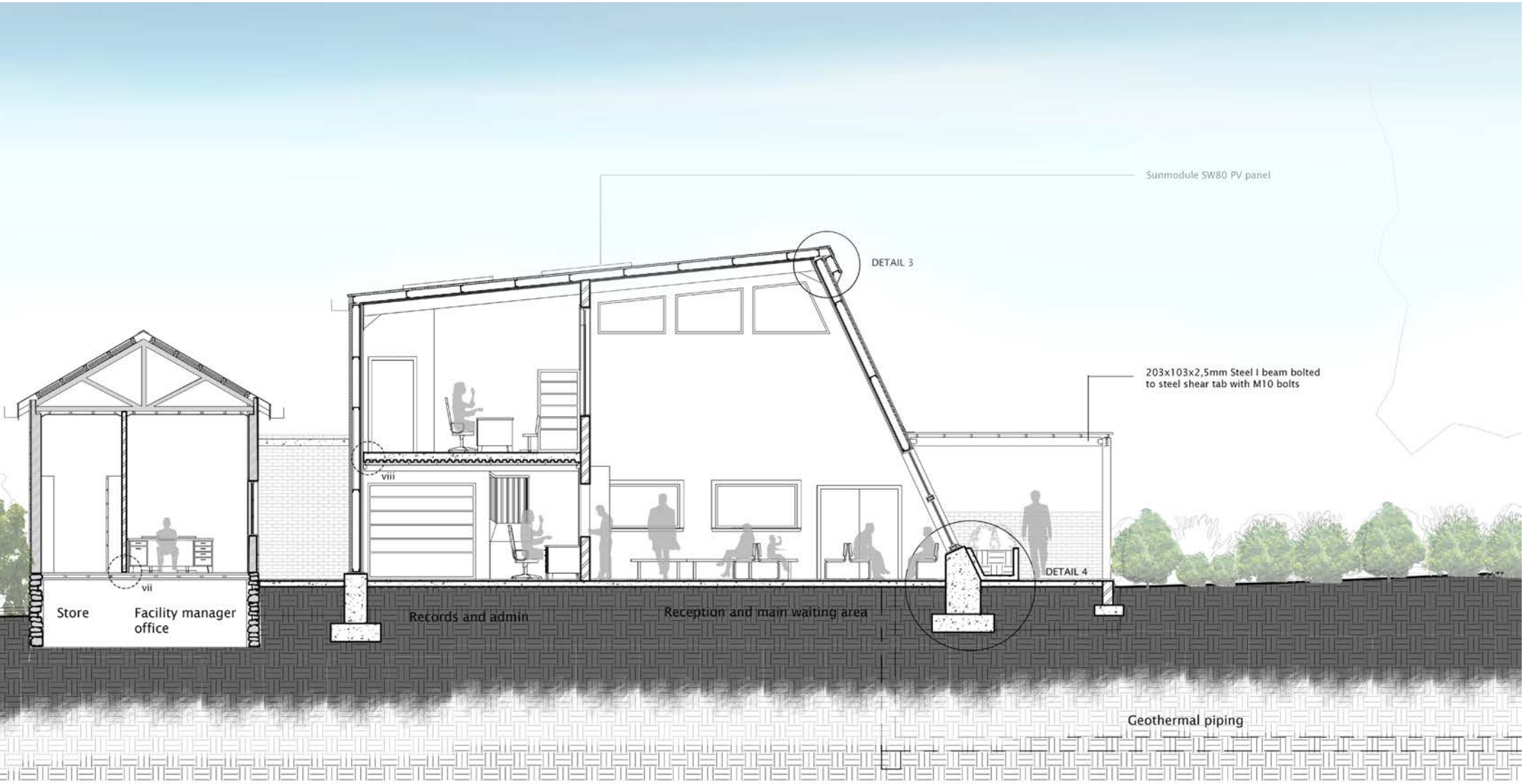

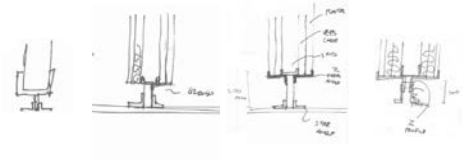

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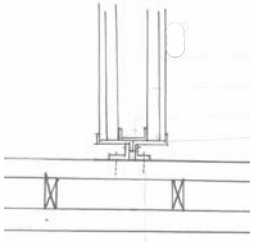

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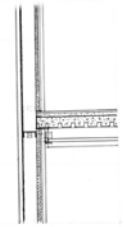

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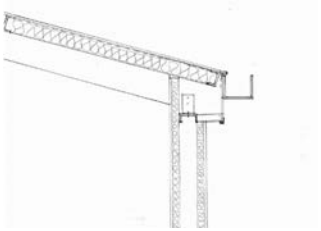

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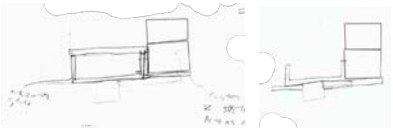


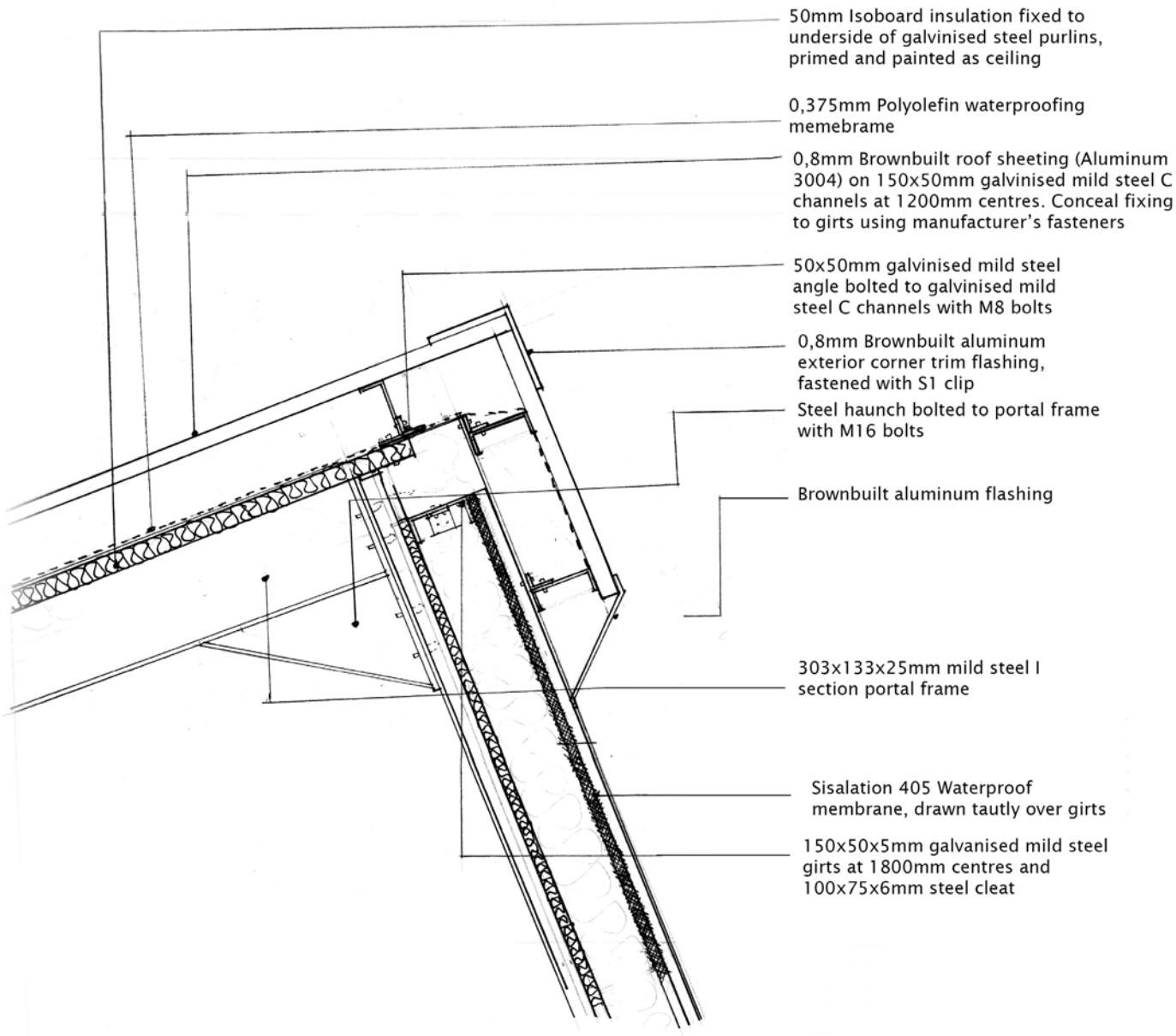


Figure 8-25: Detail 3: Roof connection (Author 2018)

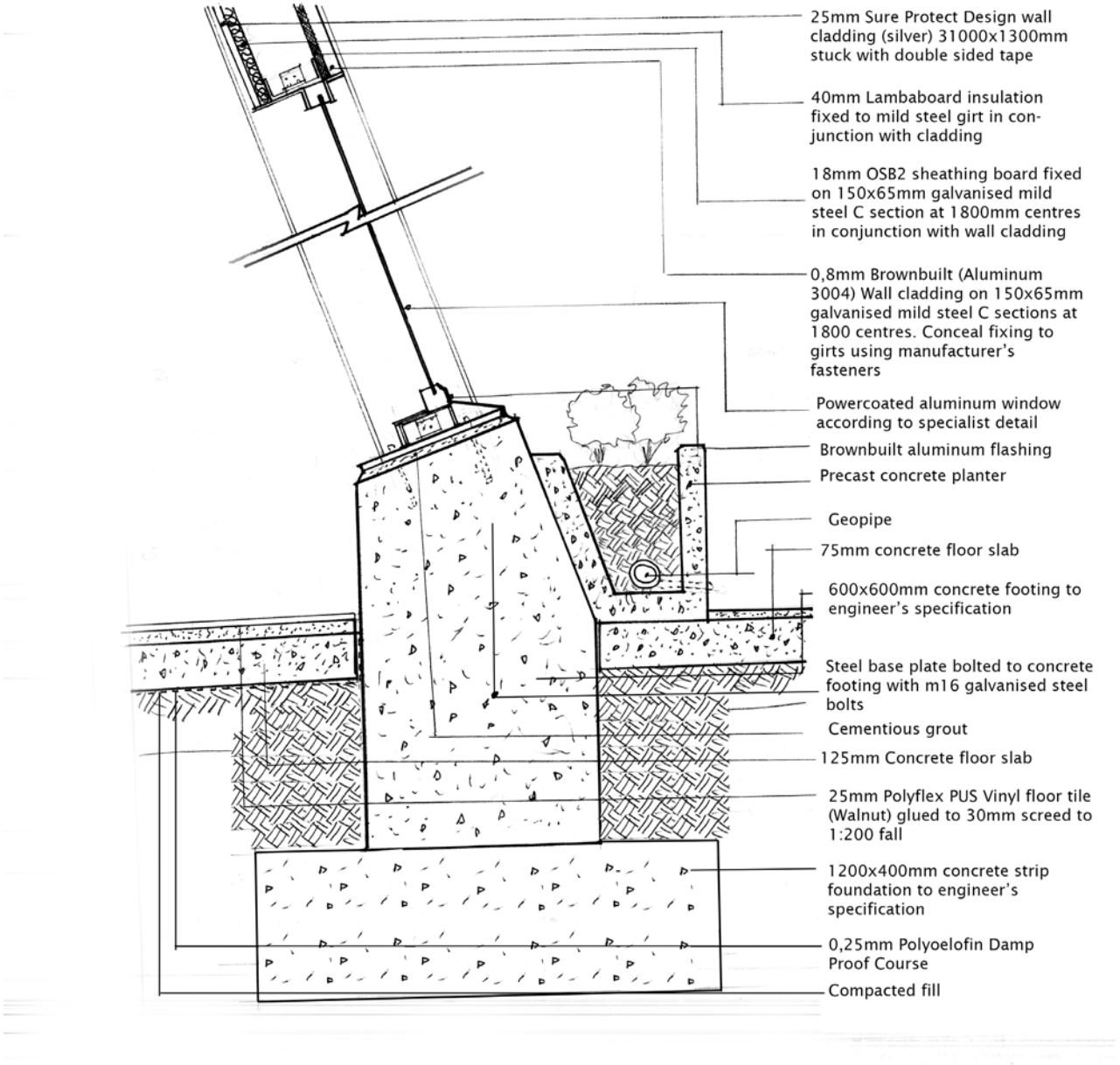


Figure 8-26: Detail 4: Planter connection (Author 2018)

Figure 8-27: Central courtyard perspectives (Author 2018)

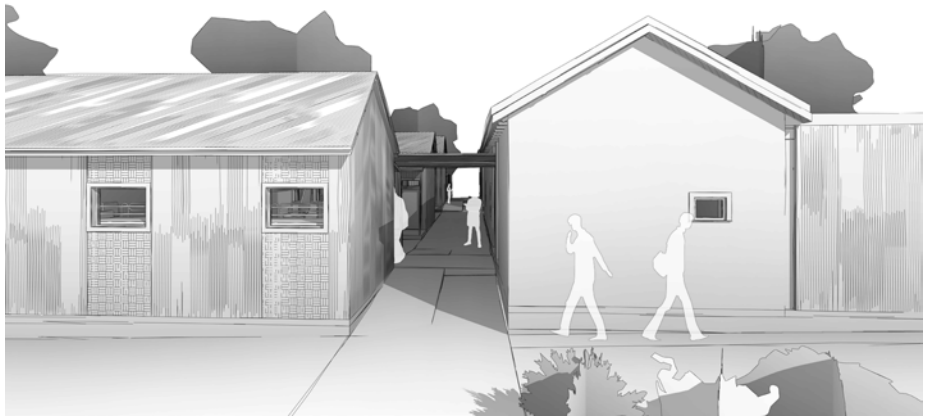


Figure 8-28: Staff circulation perspectives (Author 2018)

CHAPTER 9

CONCLUSION

The dissertation set out to investigate the adaptive reuse of heritage buildings for public amenities within the context of an illegally occupied heritage landscape. From this main intention stemmed three sub-questions relating to adaptive reuse approaches, the attainment of spatial justice and appropriate government housing models.

The dissertation provided different adaptive approaches by first reading and analysing Westfort Village through the theoretical frameworks of spatial justice and heritage stewardship. Through the theoretical framework of spatial justice, understandings of the causes for social injustice in Westfort Village were identified and solutions presented to negate the effects of social injustice. Through the theoretical framework of heritage stewardship, Westfort's heritage was assessed and the principles from the Washington Charter were applied to Westfort Village. The overlaps in application of spatial justice and heritage preservation pointed to the need for adaptive reuse approaches to be used. Through adaptive reuse approaches, the heritage of Westfort Village was preserved; a public amenity was designed (serving the residents of Westfort Village and providing an outlet for spatial justice to be achieved); and a government housing model proposed that would respond to the needs and nuances of Westfort Village.

The hypothesis is that adaptive reuse of heritage buildings in Westfort Village will lead to spatial justice as the heritage value of the buildings will be respected and the new program will contribute to the housing and public amenities need in Westfort Village (and the greater housing debate). Adaptive reuse in its nature is layered in that it builds up on what is existing and extends a buildings use. It is evident the hypothesis answered the questions arising from the problem statement. The design resolution of the primary day care clinic is sensitive, modest and economical thus making it an appropiate response for Westfort Village that could be implemented.

Heritage and cultural landscapes may indeed act as catalysts for social development.

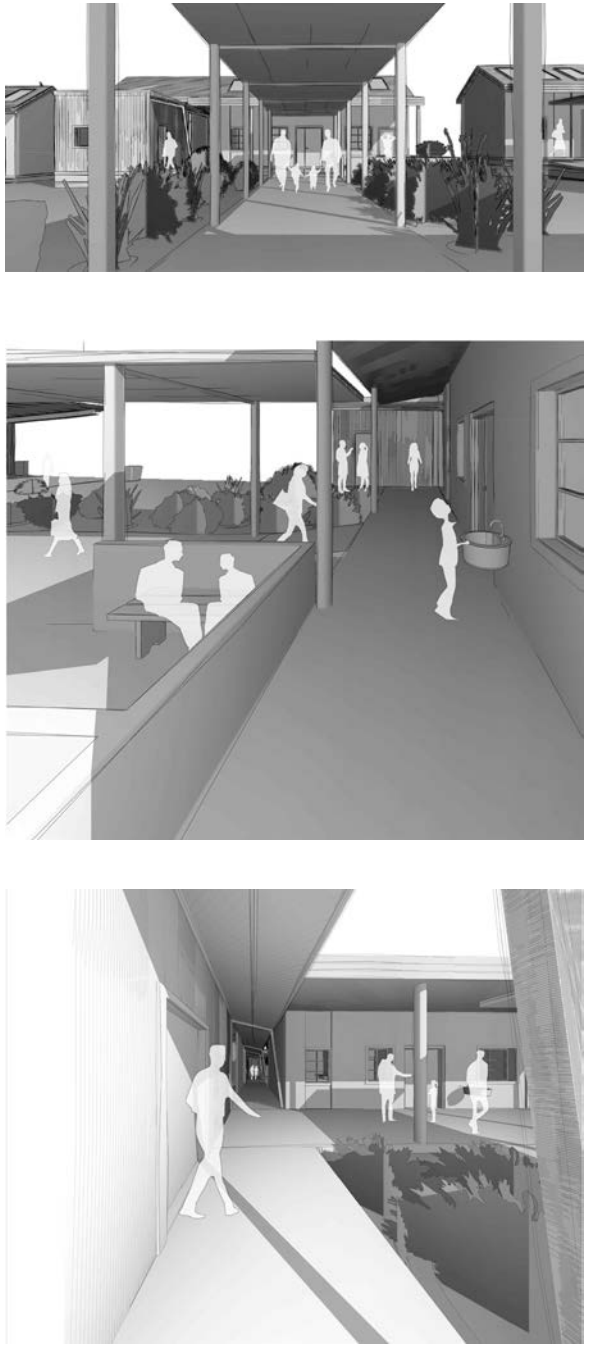
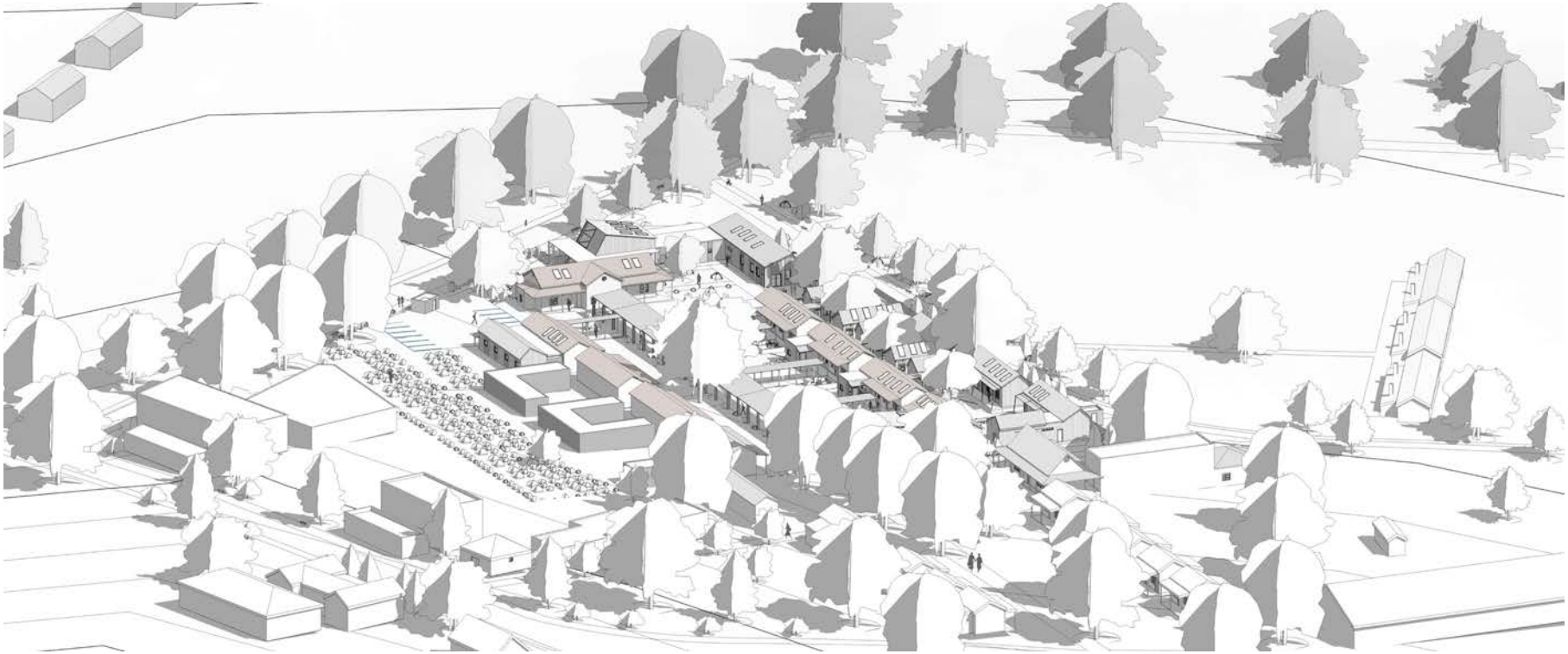


Figure 9-1: Patient circulation (Author 2018)



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Appendices

11.1. Appendix A : International Leprosy Asylums

11.2. Appendix B : Typological influences on Westfort Village

11.3. Appendix C : Degradation of Westfort Village over time due to negative effects of urbanisation (Google Earth 2018)

1930

1947

1956

1968

2004

2011

2013

2015

2017

11.4. Appendix D : Westfort Conservation Plan (DARD 2011:69)

11.5. Appendix E : Social desciption of Westfort Village residents

Figure 10-1 gives a description of the residents of Westfort Village in terms of their origin (before they resided in Westfort Village), reasons for staying in Westfort Village and their current occupation. The musical precedents were a means with which to connect and relate to the residents of Westfort Village. The different themes in the songs relate to the residents of Wesfort Village in terms of culture(s) and resilience. These songs were used as inspiration for the author while he was designing. The songs were a summary of the motivations for engaging with Westfort Village.

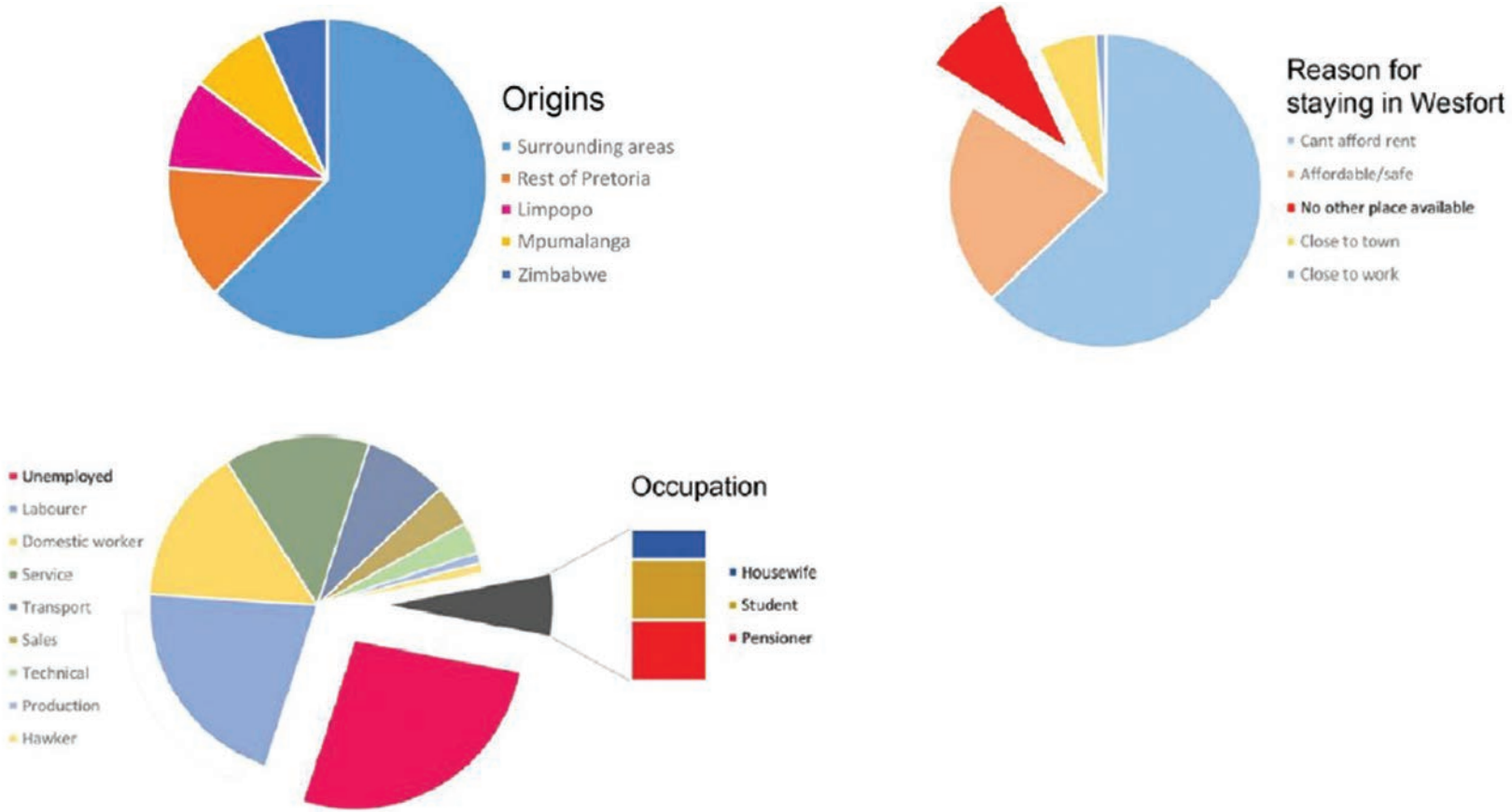


Figure 10-1: Westfort Village resident's information (Langeveld 2016: 40)

11.5.1. Musical precedents

Collaboration

Christian Scott aTunde Adjuah – Diaspora (feat. Elena Pinderhughes)
Album: Diaspora
Year: 2017
Genre: Fusion Jazz [known as Stretch Music]

Figure 10-2: Diaspora album art (Bandcamp 2017)

This song highlights the similarities between different cultures in their affiliations in making music and the experiences music leads us to. The song draws on the vast musical heritage of Jazz in the making of this song and infuses it with other musical elements associated with the African diaspora (hip hop percussions, soulful elements, and different instruments).

Similarities exist between the residents of Westfort Village (as being part of a diaspora) and the African American diaspora (which is song is devoted to). Furthermore similarities exist between the convergence of elements within Westfort (landscape, heritage buildings, meanings and new appropriations) and the song (as noted earlier).

This song inspires one to contribute towards positive change (for others particularly those in the African diaspora) and this dissertation hopes to contribute positively to Westfort Village.

Choice

Sho Baraka – Here, 2016 (feat. Lecrae)
Album: The Narrative
Year: 2016
Genre: [Christian] Hip Hop

The album centres on the need to change *the* narrative (be it plight of African Americans in their American experience). How do we take control of our own narratives and change it so as to tell a complete, more accurate narrative. The sentiment is the same for Westfort Village – changing the narrative from one of isolation and stigma to one of hope and aspiration.

The song explores the social and spiritual themes (justice) from time's past to the present. This song encourages that we ought to change *the* narrative for the better. We need to be here for the good and bad and we ought narrate truth and faith.

This song inspires one to be present (in Westfort for this dissertation), to listen to the needs of others and to respond to those needs so that *the* narrative may change.

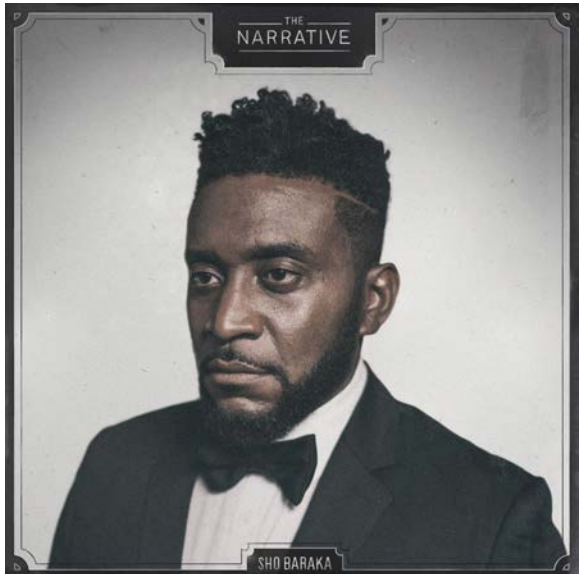


Figure 10-3: The Narrative album art (Humble Besst 2016)

I just do it for the love, I do it for the love (I do it)
I do it for the broke and poor
Those often ignored, I'm here for that
Tell 'em we woke and we alert now
I promise there's healing for your hurt
Yeah, tell 'em we came to put in work now
Yeah, can I get a "amen" from the church now?

Conscience

Common – Black America Again (feat. Stevie Wonder)
Album: Black America Again
Year: 2016
Genre: [Conscience] Hip Hop

This song is a call for African Americans to take up and change their narrative. It is a call for society to acknowledge, African Americans (in the dissertation, for Westfort Village to be acknowledged) It is a song that combines socially conscience lyrics with jazz-infused instrumentals.

African Americans live and acknowledge their past and its accompanying issues but also seek to write a new story 'again'.

This song echoes the sense of resilience that the residents of Westfort Village have for their settlement and how they seek to write their own narrative.

Figure 10-4: Black America Again album art (Def Jam 2016)

11.6. Appendix F : Significance criteria in terms of Section 3(3) of the National Heritage Resources Act (Naude 2012:13-15)

	Criteria	Significance rating
1.	**The importance of the cultural heritage in the community or pattern of South Africa's history (Historic and political significance)** The site is associated with the history of medical services by the South African Government in the history of South Africa. The site is associated with the history of Robben Island and the history of the fight against leprosy in South Africa. As the site is isolated from the principal town and later the city of Pretoria, the village and hospital are not closely related to the history of the city itself. It is a significant site in terms of the medical fraternity but not to the people of Pretoria.	High
2.	**Possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage (Scientific significance).** As the leprosy hospital has been closed since the end of the 1990s and the entire village has become redundant. No new leprosy hospital has since been built and no individual hospital has been identified for serving leprosy patients in particular. Since its closure, the Westfort hospital has become the last of its kind in the history of medical services in South Africa. This makes the hospital and current village a rare site.	High
3.	**Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage (research/scientific significance**) The site, the village and the institution were established, designed and constructed to be a hospital, but also a village that had the potential to be self-sufficient and to a high degree 'sustainable'. As the village expanded, new precincts were added to the original core area.These were not added according to a master plan based on urban principles and logic but were done based on the assumption that the ill individuals had to be isolated from other patients, races, gender and other illnesses. This has resulted in the creation of various precincts and clusters of different types of dwelling units without a common urban framework and spatial layout plan.	High

4.	**Importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects (scientific significance)** The village was designed to be a hospital and not a normal residential village guided by the norms of socialisation, a social structure based on and focusing on the family as core social unit. It was laid out according to the preferences and choices of the medical profession, the decisions of medical doctors, hospital superintendents at the time and not by urban planners and designers.	High
5.	**Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group (aesthetic significance)** The only elements and manmade features considered to be of any aesthetic values are the individual buildings that were designed by architects and that have reflected the specifications and preferences of public architects.	High
6.	**Importance in demonstrating a high degree of creative or technical achievement at a particular period (scientific significance)** Since the village represents various historical layers as reflected in the number and types of buildings of various building traditions and styles the village and its built fabric relates to different periods. It is this variety that is of significance in the assessment of the village, but also the quality of a selected number of buildings that are still in tact that adds value to the architectural heritage inherent in the village.	High
7.	**Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (social significance)** The hospital is not associated with the Pretoria city node or any of the urban communities in Pretoria. Westfort is and must be evaluated according to the significance it once had and may still have for those individuals who worked and lived in the Village. However, these groups or families have not been identified and this significance could not be determined.	Medium
8	**Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa (historic significance)** The site and its history must have a special significance to the medical staff and former superintendents who established and managed the hospital over the years.	Medium

9.	**The significance of the site relating to the history of slavery in South Africa.** Neither the site nor any of the buildings have any association with the history of slavery in South Africa.	None

11.7. Appendix G: Significance criteria in terms of historical, architectural and spatial significance for cluster (Naude 2012:16-22)

	Criteria	Signifiance rating
	Historical significance	
1.	**Is the site or buildings associated with a historical event?** The cluster is not associated with one outstanding historical event. Each phase of its development could be considered an 'event'. (Naude 2012: 17) For this reason, the cluster has gone through two 'events' -its intial development from 1890s to 1900s followed by additions made during the mid-2000s.	Low
2.	**Is the site or buildings associated with a religious, economic, social or political activity?** The cluster was established as a hospital to serve laprosy patients and function as an independant village. It was the first part of Westfort Village to be established. As a result the cluster contained other related social and religious activities (such as the Dutch Reformed Church, Post Office and Administration building).	High
3.	Is the site or building of archaeological significance? According to the National Heritage Resources Act, if a site or building or manmade structure is older than 100 years, it is considered a site of archaeological signifiance (Naude 2012: 17). Since a number of buildings on the cluster are older than a 100 years, they are of archaeological significance. The greater context of Westfort contains a Late Stone Age settlement, which is of archaeological significance.	High
4.	**Are any of the buildings or structures on the site older than 60 years?** The hitorical buildings on the site are older than 60 years.	High

Architectural significance		
1.	**Are any of the buildings or structures an important example of a building type?** The demolished Dutch Reformed Church was a special building, due to its octagonal shape and use of red brick. Various buildings in the cluster were constructed of plastered brick and others face bricks The climatic adaptation of all the heritage buildings for their small scale is significance	 High Medium High
2.	**Are any of the buildings an outstanding example of a particular style or period?** As the hospital was originally established at the end of the 19th century various styles of architecture occur on site particularly eclectic Wilhelmiens style (Naude 2012:18).	High
3.	**Do any of the buildings contain fine architectural details and reflect exceptional craftsmanship?** Yes, there is extensive use of stonemasonry as foundations and plinths while the use and of facebricks and unplastered brick.	High
4.	**What is the state of the architectural and structural integrity of the buildings?** The architectural integrity of most of the buildings has undergone damage (Naude 2012:19) since the closure of the leprosy institution. However the original intent of the deisgn of various buildings can still be appreciated if restored or renovated. The structural integrity of the buildings in the cluster still remains intact, due to the strict specifications of the Department of Public Works (Naude 2012:19).	High
5.	**Is the building's current of future use in sympathy with its orginial use?** None of the buildings on site have retained their original use due to the closure of the leprosy institution.	Low

6.	**Were the additions and extensions done in sympathy with the original design?** Some of the additions and extensions were not done in sympathy with the original design	Low
	Spatial significance	
1.	**Can any of the buildings be considered a landmark in the town or city?** None of the buildings can be considered a landmark in terms of the city of Pretoria (Naude 2012:21). However, the Administration building could be considered a landmark in the context of the cluster.	Medium
2.	**Do any of the buildings contribute to the character if the neighbourhood?** The Administration building, St Marys' Hospital and Recretaion room all contribute to the spatial character of the cluster. Furthermore, the initial leprosy barracks contribute to the spatial character due their symmetry and repitition.	High
3.	**Do any of the buildings contribute to the character of the square or streetscape?** The cluster was designed and layedout with open spaces that served as a buffer zones and public open spaces between the various clusters (Naude 2012:21). Only the Administration building and Post Office are orientated to the street.	High
4.	**Do any of the buildings form part of an important group of buildings?** The Adminitration and Post Office buildings formed an important civic cluster.	High

11.8. Appendix H: Rainwater harvesting budget

Roof area yield (1932.1m²)		
Month	**Average rainfall (m)**	**Yield (m³)**
January	0.136	446.7
February	0.075	246.3
March	0.082	269.3
April	0.051	167.5
May	0.013	42.7
June	0.007	23
July	0.003	9.9
August	0.006	19.7
September	0.022	72.3
October	0.071	233.2
November	0.098	321.9
December	0.11	361.3

Irrigation demand			Ablution demand (110 persons using 16 litres per day)	Total demand (m³/month)
Month	**Area (m²)**	**Irrigation demand (m³/month)**	**Ablution demand (m³/month)**	
January	595	95.2	54.56	149.8
February	595	95.2	49.28	144.5
March	595	95.2	54.56	149.8
April	595	95.2	52.8	148.0
May	595	74.375	54.56	128.9
June	595	74.375	52.8	127.2
July	595	74.375	54.56	128.9
August	595	74.375	54.56	128.9
September	595	95.2	52.8	148.0
October	595	95.2	54.56	149.8
November	595	95.2	52.8	148.0
December	595	95.2	54.56	149.8

Water budget				
Month	**Yield (m³)**	**Demand (m³)**	**Monthly balance**	**Volume water in tank (m³)**
January	446.7	149.8	296.9	682.4
February	246.3	144.5	101.9	784.2
March	269.3	149.8	119.6	903.8
April	167.5	148.0	19.5	923.3
May	42.7	128.9	-86.2	837.1
June	23.0	127.2	-104.2	732.9
July	9.9	128.9	-119.1	613.8
August	19.7	128.9	-109.2	504.6
September	72.3	148.0	-75.7	428.9
October	233.2	149.8	83.4	0.0
November	321.9	148.0	173.9	173.9
December	361.3	149.8	211.5	385.4

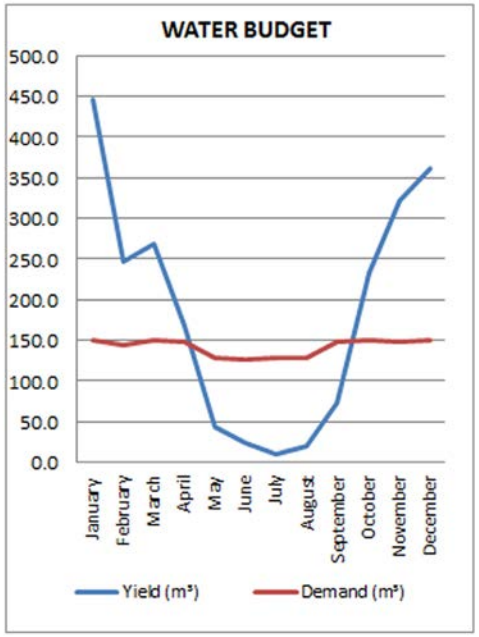


Figure 10-5: Water budget (Author 2018)

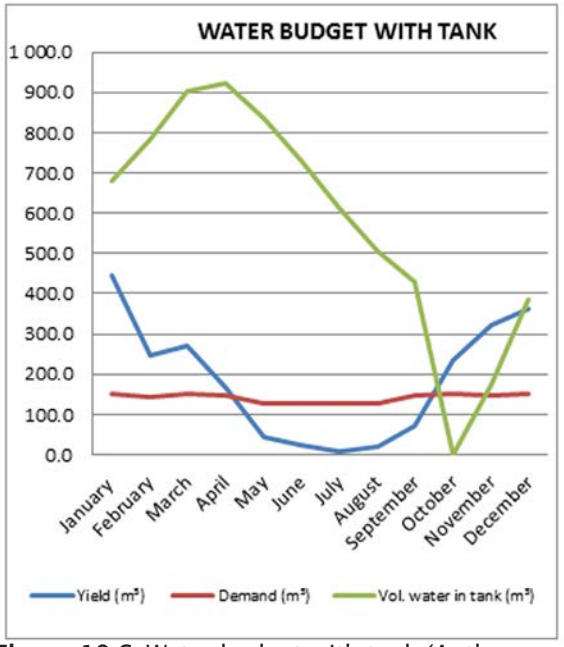


Figure 10-6: Water budget with tank (Author 2018)

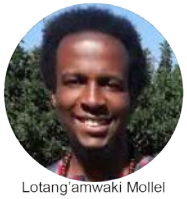
11.9. Appendix I: Energy demand for clinic

Appliance	Kilowatt rating	Quantity	Peak loads (W)	Hours item is used in 24 hrs	Energy used in 24hrs (W)
LED lights	5	89,0	445	10	4450
Energy saver light bulbs	11	25	275	10	2750
Small floodlight	100	20	200	12	2400
Large television (LED)	60	3	180	10	1800
Hi-Fi system	100	1	100	10	1000
Office computer	120	12	1440	8	11520
Community room Computer	120	11	1320	5	6600
Laptop	70	15	1050	5	5250
Modem	6	7	42	10	420
Network router	15	2	30	10	300
File server	500	1	500	10	5000
Laser printer	300	4	1200	10	12000
Alarm system	25	1	25	24	600
Extractor fan	30	29	870	1	870
Wall heater	260	42	10920	2	21840
Small Fridge	110	1	110	10	1100
Kettle	1500	1	1500	1	1500
Coffee Machine	800	1	800	2	1600
Microwave	1000	1	1000	1	1000
Washing Machine	900	4	3600	2	7200
Tumble Dryer	2500	2	5000	2	10000
Dish Washer	1200	1	1200	1	1200
Power sockets	10	49	490	3	1470
X Ray	2000	1	2000	2	4000

Water Pump	750	5	3750	1	3750
Totals[26]		**Peak power = 38047 W**		**Daily consumption = 109620 W**	
		Plus 20% losses = energy needed: 131544 W			

26. The Calculator gives maximum/peak load needed in watts, and daily power needed to power everything you want to use, plus 20% fixed/ system power losses. Final figure has to be generated by the solar system every day.

11.10. Appendix J: Article - Reading Cultural Landscapes



Lotang'amwaki Mollel

Reading Cultural Landscapes

Navigating the complexities of a cultural landscape by using the framework of heritage and social (in)justices as a lense to intrepret a site.

This article will explore the themes of spatial (in)justice and heritage stewardship in order to read and intepret a site. It will investigate urban development in the context of South Africa, specifically looking at the various housing policies. Within the context of urban development, the notion of social (in)justice will be explored in terms of its spatial manifestation. Social (in)justice provides an alternative lens to the (un) intended consequences of urban development and possible clues to rectify social injustices so that justice may prevail. From there an exploration of heritage stewardship will be done looking at the ICOMOS Washington Charter of 1987. The overlap of spatial justice and heritage stewardship will yield principles which can then be ued to read and intepret a site.

The theoretical investigation will then ground its application in Westfort Village - a heritage and cultural landscape experiencing urban development and social injustices. A reading of the site will be done using the spatial justice and heritage stewardship frameworks resulting in principles and possiblities for Westfort Village.

1. CONDITION OF SOUTH AFRICAN

1.1 Urban development

Metropolitan urbanisation is the outward expansion of cities towards the urban periphery (Qvistrom 2017:239), due to government urban policies, urban-rural migration and economic opportunities. Isolated (cultural) landscapes that were once rural are absorbed into the urban fabric and heritage landscapes are likewise affected by urbanisation. Urban policy is concerned with the welfare of local residents in an urban area. It involves the planning and delivering of public services in support of the development of the local economy (Blackman, 1996:5). Unimplemented urban policies encourages urban sprawl because urban policies would govern where and how fast urban sprawl occurs. As this occurs cities are strained to provide housing, public amenities and associated facilities. Furthermore, unimplemented housing policies lead to the establishment of more informal settlements (and the illegal occupation of land). Urban development is a wider phenomenon in South Africa resulting in the abovementioned outcomes and a myriad of associated issues.

1.2 Effects of urban development on cultural landscapes

Urban development that is not governed by government urban policies has a number of negative effects on cities in general. These effects are exacerbated in cultural landscapes that are of heritage value.

Firstly, ungoverned urban development results in new developments on cultural landscapes (Bridge & Watson 2011:386).This is due to cultural landscapes being perceived as open land for development (Qvistrom 2017:259) leading to a loss of coherent heritage landscape. These new developments often neglect the history and multiple nuances of that cultural landscape.

Secondly, ungoverned urban development leads to increased environmental pressure on a landscape (Cui et al 2011:480) to provide for the increasing population. This increased population results in increased pollution and degradation of that landscape.

1.3 Housing in South African cities

Housing is a contested issue due to unimplemented urban policies and the socio-spatial inequalities of the past. South African is faced with a housing crisis. That means many people live on land that is not theirs and erecting buildings that may be demolished at any given time. Access to housing is synonymous with access to land. Furthermore, in South Africa housing has been explicitly linked to attaining social justice (Culwick 2018). The attaining of housing is also linked to poverty reduction (by reforming the economy), food sovereignty (through access to land that could be cultivated) and service delivery. It is evident that housing (and by implication land) have attained a high social and economic value. This highlights the urgency to address the provision of adequate housing for all (and the justice that will occur as a result).

1.3.1 Housing policy

Following the democratisation of South Africa in 1994, the Constitution of South Africa states that everyone has the right to adequate housing and it is the government's responsibility to ensure that it takes legislative and other

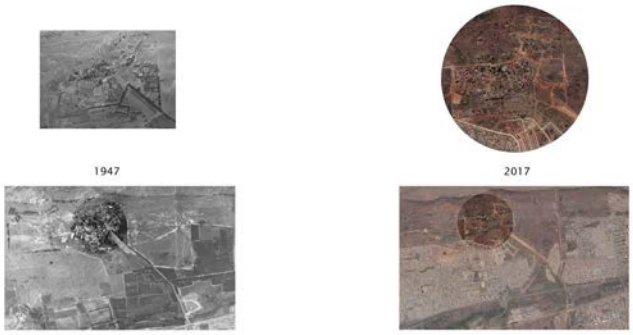


Fig. 01. Below; Change of Westfort Village over time (Mollel, 2018)

measures to ensure that this right is fulfilled (DHS 2010:1). Therefore the government introduced the New Housing Policy for South Africa, White Paper 1994 and the Housing Act 1997 (DHS 2010:38) which sought to provide previously disadvantages people with adequate housing (and secure tenure) and basic services (DHS 2010:2). After 10 years (in 2004), the government reviewed the housing act and other related policies resulting in the Breaking New Ground policy (Provision of Housing Establishment for Sustainable Human Settlements). This policy sought to shift the emphasis of the housing policy from strictly housing provision to integrated communities (DHS 2010:2) which would provide a range of social and economic facilities. The National Housing Act of 1997, Breaking New Ground 2004 and White Paper 1994 all form part of the National Housing Policy and its associated programmes to implement provision of housing.

1.3.2 Housing policy in practice

Government is faced with ever-increasing population that requires adequate housing and services. However, there are insufficient funds for this and the limited funds that are available are competing with other budgetary needs in health and education (Du Preez 2009:61). It is unfortunate that in the quest to address the housing need, new housings continue to be located on the urban periphery without access to public amenities (DHS 2010:41) thereby perpetuating the injustices of the past. This is due to lack of affordable well-located land close to the city (DHS 2010:45). New housing developments are not integrated with the city due to lack of funding and integrated planning. Furthermore, the government's response to addressing housing needs would be to uplift whole communities and move them to new locations rather than deal with the existing conditions (DHS 2010:4). To add to the list of problems, the housing backlog continues to increase thereby perpetuating the housing crisis.

1.3.3 Breaking New Ground

To combat some of the failures of the National Housing Act, the Breaking New Ground (BNG) Policy was introduced to address the housing need (as stated in the White Paper 1994) in the context of broader socio-economic needs (DHS 2010:44), see figure 2. Hence the focus on sustainable human settlements (which are spatially just). The BNG Policy stipulates that housing should integrated into spatial planning so that housing is located close to areas of opportunities (DHS 2010:51). The BNG may be summarised as follows:

- Seeking to improve the location of new housing
- Develop social and economic infrastructure (public amenities)
- Improve existing housing stock

Such a view of housing in the context of sustainable human settlements leads to the realisation that housing provision may alleviate poverty (figure 3). By providing a fixed asset (a building and land), which may be used to leverage finance (thus earn an income) and services and opportunities may be accessed from the house (DHS 2010:50).

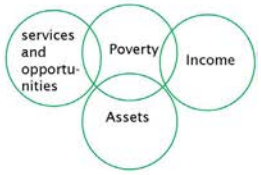
In order to address the BNG, a number of programmes were introduced.

1.3.3.1 Upgrading Informal Settlement Programme

This programme seeks to upgrade the living conditions of people living in informal settlements by securing tenure and access to basic services and housing (DHS 2010:6). The programme centres of the participation of the community to identify needs to be addressed and is an in-situ upgrade of the settlement (DHS 2010:7). It is the only programme that focusses on in-situ upgrading of basic services and housing.

1.3.3.2 Provision of Social and Economic Facilities Programme

Due to the backlog in existing settlements and need for new housing, the provision of public amenities[2] has been neglected (DHS 2010:7). This programme seeks to provide public amenities within existing, new housing settlements and informal settlements.



1.3.3.3 Community Residential Unites Programme

The programme seeks to provide affordable rental housing and/or the upgrading of government-owned communal rental accommodation (DHS 2010:13).

1.3.3.4 Integrated Residential Development Programme

This programme seeks to provide develop integrated housing settlements in well-located areas with convenient access to public amenities and places of employment (DHS 2010:4). The programme centres on the provision and servicing of stands on new land. These stands will accommodate a variety of residential, commercial and social uses.

The policy and programmes of the National Housing Policy attest that cities may become just through the provision of housing and public amenities. These policies promote the cause of spatial justice but the implementation of the policies remains a hindrance to achieve spatial justice.

1.4 Heritage landscapes in South African cities

Heritage[3] encompasses the long process of historical development of a site (Du Preez 2009:51). Heritage is a dynamic reference point and a positive instrument for growth and change. Urban development has expedited the engagement with heritage landscapes.

The debate of heritage in South Africa has been a continuous, evolving conversation. Heritage is a contested issue due to the multiple heritages of the country and the manner in which these heritages are interpreted and represented (Bakker 2011:5). Questions pertaining to the significance, representation and management of our inherited heritage are pertinent. Historically, certain heritages were misrepresented and often suppressed in the broader narrative of the country (Bakker 2011:48).

Since 1994, the government has sought to rectify this but in the process of rectification certain heritages that do not fit into the current political narrative are neglected (such is the case in Westfort Village[1]). On the one hand, the National Heritage Resources Act (NHRA) states that heritage resources have lasting value and this must be preserved for the heritage artefact to survive; on the other hand, heritage must serve to reconcile the past, heal divisions, and advance the interest of social change and cultural restitution (South Africa 1999:4). It is evident that the NHRA recognises the need for change (of heritage where appropriate) but also the need to protect our heritage.

Furthermore in light of the current issues associated South African cities, how may heritage landscapes positively contribute South African cities? This raises the issue of an appropriate response to such heritage sites.

South African cities are faced with with a number of issues related to urban development (such as the negative effects of urbanisation, the housing crisis and adequate response to our heritage). The two prevelent issues addressed are the housing crisis and adequate responses to our heritage. The housing crisis raises questions partaining to social justice (which is of current debate in our political climate). The response to heritage raises questions partaininng to the stewardship and reintepretation of our heritage. The next section will explore the themes of social justice and heritage stewardship. This will then give us an integrated framework from which to read and intepret a site.

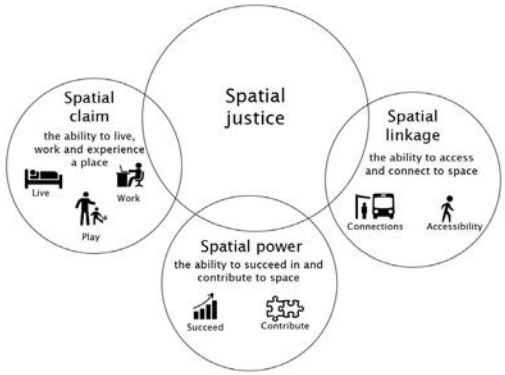
2. THEORETICAL FRAMEWORK

This section will explore the theoretical frameworks of spatial justice and the Washington Charter of 1987. From there, any overlaps between these theoretical frameworks will be discussed. The emphasis of these frameworks will be in relation to the effects of urban development.

2.1 Spatial justice

Spatial justice is the physical (spatial) manifestation of social justice. Social justice refers to the ability of an

Fig. 02. Below; Gap in the housing policy (Mollel, 2018)
Fig. 03. Left; Spheres of influence on poverty (DHS 2010:50)
Fig. 04. Bottom; Spatial justice framework (Mollel, 2018)



individual for self-actualisation, self-expression and self-direction within a society (Rosenthal 2013:21). All of these are related to rights[4] in terms of access to and expression of (Themba et al 2011:3). These rights are socially constructed and occur spatially. As such, a relationship exists between the social realm and physical spatial realm. Therefore spatial justice is a manifestation and relationship between social justice and its spatial dimensions. This relationship can be visible or invisible in a society. An inability for an individual to access or express any of their rights would constitute an injustice and therefore have spatial manifestations. These injustices are influenced by politics, market forces and urban planning which affect the allocation of resources (Bridge & Watson 2011:387).

Spatial justice was first theorised by Henri Lefebvre (1991) who identified the relationship between space and social beings, which he termed social space. Social space is how social beings affect their physical spatial realm (space). Spatial justice in architectural terms was theorised by Edward Soja in his book Seeking Spatial Justice (2010). Edward Soja continued the work of Henri Lefebvre. According to Edward Soja, the principles of spatial justice are as follows:

- Space is socially produced, therefore space can be socially challenged and changed,
- The spatial qualities of everyday life have an ability to shape social circumstances and how these social circumstances change our spatial environment.

Thus it is evident that social (in)justice is embedded in our social and physical infrastructure, that have formed through uneven urban development (Basset 2013:1).

Furthermore, the University of California (UCLA) Critical Planning Group developed a framework for recognising spatial (in)justice (Brown et al 2007:15-16), see figure 4. This framework comprises of spatial claim, spatial power and spatial linkage. Through this framework we may understand the spatial indicators from our social and physical environment that contribute to just/unjust spaces. This framework can be used to identify and understand the spatial (in)justices of a given space.

2.1.1 Spatial claim

Spatial claim is an individual's right and ability to live, work and experience a place (Themba et al 2011:15). It is a person's right to live in a community, to work within a community and to enjoy and experience the various social platforms within that community. If an individual lacks the ability to live, work or experience a place then that individual has no spatial claim over that space.

To help determine if individuals have spatial claim over a space the following questions may be asked:

- Who has taken ownership of the place?
- What is the relationship between the history of the place and the current community?
- How is the space currently being used?
- What work is an individual able to do in the space?
- What does an individual do for recreation in this space?

2.1.2. Spatial power

Spatial power is availability of opportunities for an individual to succeed and contribute to a space (Themba et al 2011:15). It is the right for an individual to have success within a community and the individual's responsibility to contribute back to that community using their skills (Basset 2013:5). If an individual lacks the opportunity to succeed and contribute to a space then they have no spatial power over that space.

To help determine if individuals have spatial power over a space the following questions may be asked:

- What qualities would be used to describe this space?
- Is the community able to practice freely and contribute to space?
- What special skills do the people of this space have?
- Is there any preventative barriers limiting the community from participating fully in public life?

2.1.3. Spatial linkage

Spatial linkage is the ability for an individual to access and connect to/with other spaces (Basset 2013:5). It is the right for an individual to connect to other spaces and services around a community (Themba et al 2011:16). It also refers to the ability accessibility of people to enter and leave a space. If an individual is unable to connect and access a space then they have no spatial linkage in that space.

To help determine if individuals have spatial linkage over (and within) a space the following questions may be asked:

- Are there any physical barriers in the space?
- What are the invisible barriers that divide that space (either social, political or cultural barrier)?
- Whose history and heritage belong in this space?
- Is this space physically or social connected to other spaces?

Having discussed the overview of the framework for identifying and categorising spatial (in)justice. The next step would be to uncover the spatial (in) justices through a series of questions and answers to be applied to a given space. This will be elaborated in the application section.

2.1.4 Social architecture

Connected to the framework of spatial justice (as defined by UCLA Critical Planning Group) is social architecture. The notion of a space being just is not only applicable to an individual's use and experience of a space but also to the processes that came about to make the space in which an individual uses and experiences. Social architecture is architecture praxis that is concerned with collective process (comprising of professionals and end-users) which generates spaces that are just for all (Rosenthal 2013:5). As Dana Luff states social architecture is 'the everyday world of work where architecture takes

Fig. 05. Left; Cluster patterns in Westfort Village (Langeveld 2016:50)

place' (Rosenthal 2013:4). There are three types of social architecture: inclusive architecture, participatory architecture and proactive architecture.

Inclusive architecture intentionally engages with the people traditionally excluded from the architectural profession (Rosenthal 2013:5). The end-user would make their needs known and as professionals work with the end-users the local economy is growing due to the use of local skills (Rosenthal 2013:7).

Participatory architecture involves local end-users in the design process (Rosenthal 2013:10). The knowledge of the end-user is needed as they are the local experts of their space. This participatory practice is an empowering process for the end-users. It fosters ownership, stewardship and equals the power relations between end-users and the professional team. Participatory practice builds capacity for end-users to use the skills gained after a project has been completed. Hussem states 'building capacity of community members goes hand-in-hand with shaping their built environment' (Rosenthal 2013:12).

Lastly, proactive architecture offers design solutions that go beyond the building (Rosenthal 2013:17). It is seeking out the public welfare of the end-user (Rosenthal 2013:18).

Social architecture as praxis is a way in which spatial justice may be archieved not only in the end product (the space/building designed) but in the process of making space.

2.2 Conservation

This section will discuss the ICOMOS Charter for Conservation of Historic Towns and Urban Areas (Washington Charter 1987) and draw principles which can guide heritage responses.

The ICOMOS Charter for the Conservation of Historic Towns and Urban Areas otherwise known as the Washington Charter of 1987 was adopted as a complement to the Venice Charter with respect to urban areas. This charter acknowledges the heritage value of an area and the challenges[5] that historic towns/ urban areas face (ICOMOS 1987:1). With these challenges in mind, the charter seeks to protect, conserve, restore and allow for development and a harmonious adaptation (adaptive re-use) for contemporary life. The charter highlights principles and methods which should guide the preservation of historic towns/urban areas.

2.2.1 Principles

1. Preservation of historic towns should be an integral part of coherent polices and urban planning encompassing economic and social development (ICOMOS 1987:1).
2. Qualities of the historic town should be preserved such as (ICOMOS 1987:1-2):
   a. Urban patterns (trees and building sizes), see figure 5;
   b. Relationship between buildings and green spaces;
   c. Formal appearance of buildings defined by scale, size, style, construction, material, colour and decoration;
   d. Various functions the town has acquired over time.
   Any threat to these qualities compromises the authenticity of the historic town.
3. Community participation from the local residents is essential for the preservation of the historic town (ICOMOS 1987:2). This is because the residents will be most affected by any preservation efforts in the town. This principle relates to social architecture discussed earlier.
4. Preservation demands a systemic approach (ICOMOS 1987:2). Therefore a fluid policy and conservation management plan are needed for historic towns/ urban areas.

2.2.2 Methods

1. Continuing maintenance is critical for effective conservation (ICOMOS 1987:2).
2. New functions should be compatible with the character of the historic town (ICOMOS 1987:2). The adaptation of a historic town for contemporary living requires careful installation and improvement of basic services and public amenities (ICOMOS 1987:2).
3. Improvement of housing should be one of the basic objectives of preserving a historic town (ICOMOS 1987:2).
4. When constructing new buildings and adapting existing buildings, the existing spatial layout should be respected (ICOMOS 1987:2).
5. To encourage participation and involvement of the community, general information programs should be set up (ICOMOS 1987:3). These information programs attempt to inform the community of the significance and importance of the historic town and methods to

preserve it.

The charter can be defined as an integrated strategy as a variety of factors are considered in the preservation of a historic town. The charter advocates not only for preservation of the historic town but also spatial justice by allowing current residents a level of spatial claim and power through their involvement in preserving the historic town. Lastly the charter stipulates that change of historic towns is inevitable; in order to preserve such towns adaptations is needed. This introduces adaptive re-use of buildings within a historic town.

2.3 Overlaps in theoretical framework

The theoretical frameworks of spatial justice and the Washington Charter of 1987 have some overlaps. These overlaps will be discussed in the following section.

2.3.1 Urban renewal

Firstly, these overlaps are evident in adaptive reuse. Buildings have always been re-used in the past (Plevoets & Cleempoel 2012:1). Eugene Viollet Le Duc argued for the restoration (and reuse) of buildings (Plevoets & Cleempoel 2012:1). Over time, this approach to reusing buildings has been developed resulting in three distinct approaches: typological, technical and strategic. The article will discuss the strategic approach in which process and strategies are employed to reuse a building (Plevoets & van Cleempoel 2011:159), the idea of palimpsest is applicable in this instance. Phillipe Robert sets seven design strategies for an approach to adaptive re-use in his book Adaptations: New uses for old buildings, figure 6. The seven design strategies are: building over, building within, recycling materials, building in the style of, building alongside, adapting to a new function and building around.
Adaptive reuse has economic, environmental and social benefits (Fisher-Gewirtzman 2016:172). Through adaptive reuse a new layer and meaning is added to the historic context of a building and/or landscape. Thus retaining and acknowledging the heritage while responding to a contemporary need. Through adaptive reuse the potential to extend a building's lifespan is present because the historic qualities of that building are maintained. There is an opportunity to design better spaces within and around the historic building(s) thus respecting the heritage while also designing spaces that are spatially just. The intoduction of a function that is compatible with that character of that building (both formally and spatially) is another possibility. This new function adds to the functions that that building has aquired over time. There is a possiblity to enable an individual to exert spatial claim by extending the buildings lifespan and enable an individual to exert spatial power through the new function that is introduced to that building.

Adaptive re-use falls within the ethos of the Washington Charter. Adaptive re-use will be used to preserve the heritage of space while seeking to address its current needs thus ensuring that the space achieves spatial justice.

These overlaps are evident in the new functions and programs that may be introduced to a space. There are a number of programs and functions that may make a space more just such as a public amenity[2] These programs have a variety of functions that associated with them but are not directly linked to them (such as a health care facility that is supported by a transportation facility and an informal trading space). When a new function and program is introduced to a historic town (or building), some principles from the Washington Charter will then be adherred to (as discussed previously). These programs and their associated functions allow for spatial claim, power and linkage to occur at a variety of scales and for a variety of people. This may be illustrated in the following example: a healthcare facility enables spatial claim for the community (as a whole) in that the healthcare facility is a platform that improves how one lives and experiences a place. A transportation facility enables spatial linkage to occur in that the facility links the community and healthcare facility with others as well as provide linkages within the community. The informal trading space enables spatial power to occur for the individual traders as are able to improve their own livliehood while simultanously increaing spending power within their own community which in turn benefits the community as a whole.

2.3.1 Community

Secondly, both spatial justice and the Washington Charter advocate for community participation, which is best expressed thorugh social architecture (or agency). In the spatial justice framework, community participation is inevitable since individuals (and a community) are the ones who experience that space and thus muct be enabled able to change it. In the Washington Charter community participation is necessary as it is stipulated in the charter due

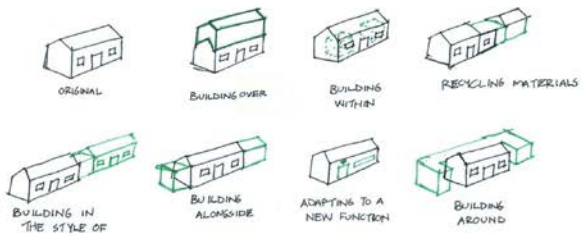


Fig. 06.Bottom; Adaptive reuse strategies (Mollel, 2018)

to the communities' knowledge of the historic town, their current needs in the context of the historic town and their continued use of the historic town after conservation management plans have been drafted and implemented.

3. APPLICATION

For most of the history of Pretoria, the west was seen as its 'forgotten' part. Various industries and 'undesirable' institutions are located in Pretoria West (including Westfort Village). However this notion of the west has changed in recent years - there has been concentrated effort to provide residential development in Pretoria West, due to its proximity to the CBD as well as government's efforts to address past inequalities through the provision of housing (Tissington 2011:8).
Westfort Village a cultural landscape surrounding by urban development (see figure 01), may act as a catalyst for social development (which supports urban development) and simultanously facilitate community participation in this development.

3.1 Westfort Village

The Westfort Leper Institution was established in 1897 by the Zuid-Afrikaansche Republiek (ZAR) Departement Publieke Werken[6] (Department of Public Works) (Kuipers 2015:8). Westfort was originally built as an extension to the Daspoort Hospital to serve as the New Leprosy Asylum (Kuipers 2015:8). The initial buildings of Westfort were design by Sytze Wierda[7] and later additions were designed by Klaas van Rijsse[8] (, Clarke & Fisher 2014:7). The leprosy asylum developed organically (in distinct precincts) as the number of patients being admitted increased. The development of Westfort was influenced by the medical and race theories of the time (Wolbers 2015:9).

Leprosy was thought to have been a contagious and incurable disease; therefore patients with leprosy were to be separated from society (Kuipers 2015:8). Furthermore, leprosy was perceived as a disease stemming from and perpetuated by the native Africans[9] (Horwitz 2006:282). In due time it became the only leprosy institution in South Africa after Robben Island was converted to a prison in 1930 (De Beer 2014:4). This institution was designed to be a self-sustaining village[10] (consisting of unique precincts) through facilities that catered for this multi-ethnic Leprosy community.

Advances in medical technology soon rendered the need for an isolated leprosy institution useless[11] in 1977. Soon after, Westfort Village served as an overflow facility for Weskoppies Psychiatric Hospital (De Beer 2014:4). By 1996 – almost a 100 years after it was established – Westfort has passed its useful operation. Westfort Village was abandoned, all services (including water and electricity) were terminated and the village was locked and secured.

By the mid-2000s, Westfort Village took on a new role, which was primarily residential (see figure 7). The current residents of Westfort Village are considered as vulnerable people - single women with their children needing a 'safe' haven; unemployed individuals seeking employment and illegal immigrants - who do not have housing and thus illegally occupied Westfort Village and made it into their homes (Linstra 2016:12). It is now an illegally-occupied settlement in a historic site with the residents acting as the custodians of Westfort Village. This highlights the a necessarity for the provision of social needs - such as access to basic services[12], public amenities[13], job creation, improved housing and government social services.

Westfort represents a microcosm of the socio-economic and socio-political scene of South Africa. This includes factors such as institutional urban planning, lack of integrated government structures, (lack of) provision of basic services, political lobbying of vulnerable people, access and tenureship of land, human rights and the continuing debate of social justice.

3.2 Spatial injustice in Westfort

This section will discuss the injustices uncovered in Westfort Village through a series of questions and will investigate how these injustices have manifested spatially in Westfort Village. These questions will be answered through direct observation of Westfort Village, interviews with residents of Westfort Village and previous research in Westfort Village. The outcome will be an understanding of the (un)just spaces in the focus area that will be a guide to the future design of the focus area.

3.2.1 Spatial claim

To help determine if an individual has spatial claim over a space, a number of guiding questions are posed[14] (Basset 2013:5), followed by answers as it pertains to Westfort Village.

Who has taken ownership of the place? The current residents have taken ownership of Westfort Village. Westfort Village is neglected by the provincial government. The residents have taken ownership of their individual buildings but not the entire village as a whole.

Fig. 07. Left; Westfort Village then vs now (Mollel, 2018)

What is the relationship between the history of the place and the current community?
There is no relationship between the history of Westfort Village and the current residents. However there is commonality in that both previous and current residents were marginalised and isolated.

How is the space currently being used?It is mostly used for residential use with some buildings used for commercial us. This was done through re-appropriating the abandoned heritage buildings.

What work is an individual able to do in the space?
No formal work is done in Westfort Village. Some of the residents started their own business to cater for some needs within the village while others go to Pretoria Central for work. The rest of the residents are unemployed (for a variety of reasons).

What does an individual do for recreation in this space?
There are no formal recreation spaces in Westfort Village. The open landscape between the different cluster of buildings functions as recreation space, this mainly consists of children playing soccer.

Spatial claim is manifested in Westfort Village through **re-appropiated living** (figure 8). A majority of the heritage buildings in the focus area have been re-appropriated for residential use. Rooms that were designed for one person now accommodate entire families. The residents have laid spatial claim on their private spaces and formed social networks. However, due to limited resources some residents have left the heritage buildings in a deteriorating condition.

What is evident is that the re-appropriation only occurred in private spaces (interior of the buildings and the

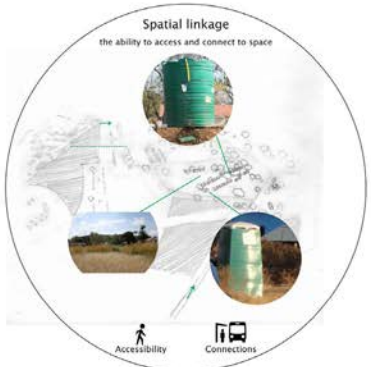


Fig. 08. Top Right; Spatial claim in Westfort Village (Mollel, 2018)
Fig. 09. Middel Right; Spatial power (Mollel, 2018)
Fig. 10. Bottom Right; Spatial linkage (Mollel, 2018)

backyard of the buildings). The public realm does not show signs of spatial claim.

3.2.2 Spatial power

To help determine if an individual has spatial power over a space, a number of guiding questions are posed[14] (Basset 2013:5), followed by answers as it pertains to Westfort Village.

What qualities would be used to describe this space?
Juxtaposition, tranquil, neglected and secluded.

Is the community able to practice freely and contribute to space?
Yes, the residents are able to practice freely (as seen by the re-appropriation of and additions to the heritage buildings for residential and commercial use). However this re-appropriation has not been done with lawful consent.

What special skills do the people of this space have?
None, however an entrepreneur spirit is present amoung some residents in Westfort Village.

Is there any preventative barriers limiting the community from participating fully in public life?
There is not access to resources and the distance from resources is far. Furthermore, there is no infrastructure in place to allow for public life to occur.

Spatial power is manifested in Westfort Village through informal trade and cultural expression (figure 9).

A number of informal trades exist in Westfort Village. The trade is small scale and is focussed on daily consumer goods and services.

In order for a community to exert their social power on a space, they need to have the ability to grow and succeed in that space. There is evidence of this occurring as residents re-appropriate existing heritage buildings for trade as well as erect new buildings. However, the exertion of spatial power is limited to availability of resources, types of trade offered and physical barriers.

Westfort Village has two forms of cultural expression: recreation and gatherings. The recreation is sports which are played mostly by the children and young adults. The gatherings are church services and communal meetings. The church services occur in the landscape and the communal meetings used to happen in the Dutch Reformed Church (which is now demolished). Smaller gatherings occur at the water tanks as chance-encounters.

3.2.3 Spatial linkage

To help determine if an individual has spatial power over a space, a number of guiding questions are posed[14] (Basset 2013:5), followed by answers as it pertains to Westfort Village.

Are there any physical barriers in the space?
Yes, there open landscape between Westfort Village and Lotus Gardens and Fort West Housing acts as a barrier

What are the invisible barriers that divide that space (either social, political or cultural barrier)?
There is a political barrier through the lack of access to basic services and social barrier through the lack of public amenities in Westfort Village. Historically, Westfort Village was an isolated space associated with the stigma's of leprosy. The patients in Westfort Village were also separated in the Village according to race. A stigma is still associated with Westfort Village – as an abandoned, 'dangerous' space (although the stigma is not related to leprosy).

Whose history and heritage belong in this space?
The history of the leprosy patients who stayed and were buried on Westfort Village; the Dutch civil servants who designed the various buildings in Westfort Village and the ZAR era which relates to the political climate which the institution was designed in. However the current residents of Westfort Village have embraced this heritage and desire to protect it.

Is this space physically or social connected to other spaces?
Westfort Village is not well-connected physically as there is only two vehicle roads leading to Westfort Village, there are no formal bus routes to Westfort Village and only one taxi route exists in Westfort Village. Socially it is not well connected because the residents are considered the mar ginalised people (jobless, vulnerable, immigrants) of Pretoria.

Spatial linkage (and disconnection) is manifested in Westfort Village through the landscape, mobility and access to services (figure 10).

Figure 10 illustrates the open landscape between Westfort Village and Lotus Garden. While the open landscapes were intended to separate the village from the rest of Pretoria, this separation still persists today. The new RDP developments (Fort West Housing) are separate from Westfort Village by an open landscape.

There are only two vehicle entry points into Westfort Village. Furthermore, there is limited public transportation within Westfort Village. Lastly the taxi stops (being the only public transportation available within the village) are not defined.

The residents of Westfort Village do not have access to water, electricity and sanitation (since these services were disconnected when the village was abandoned). This highlights the disconnection of basic infrastructure from the rest of Pretoria. Water tanks and portable toilets/ pit toilets have been installed in the village. This is far from ideal. Lastly, there are very few public amenities in Westfort Village (only a crèche).

With this in mind, Westfort Village has been unjust since its inception (it was isolated and segregated from society due to leprosy and its associations). Westfort Village is still unjust in that the current residents who are vulnerable individuals are isolated and segregated from economic opportunities and provision of public amenities even though they have housing.

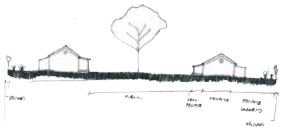
This isolation and segregation is a location disadvantage for the residents of Westfort Village. Location disadvantage is defined as 'where a person lives affecting their opportunities, which contributes to their wellbeing and difficulty' (Bridge & Watson 2011:410). To rectify this location disadvantage spatial justice has to occur through the redistribution of resources (Bridge & Watson 2011:410) particularly the provision of public amenities in Westfort Village. Additional infrastructure (and public

amenities) is needed to support the housing. This will ensure that the residents of Westfort Village will have a better quality of life, access to employment and live in decent homes (Bridge & Watson 2011:408) - thus creating spatial justice.

3.3 Heritage in Westfort Village

The principles and methods discussed in the Washington Charter will be applied to Westfort Village. This will give an indication of which principles and models have been adherred to and which ones will need to be addressed so that the Washington Charter in its entirety may be applied to Westfort Village.

Firstly, Westfort Village does not appear to be integrated into urban planning policies or economic or social development. Government policies on social, economic and urban development do exist (as highlighted in the housing policy), however these policies are not applied in Westfort Village. Westfort Village seems to be abandoned by the government authorities - there are no basic services linked to Westfort Village, the goverment housing developments occur on the periphery of Westfort Village and do not engage with the historic village and there is no enforcement of the National Heritage Resources Act within Westfort Village. A conservation management plan for Westfort Village will have to be developed in future. This conservation management plan has to incorporate



the economic and social needs of the residens of Westfort Village and factor in the urban development that is occuring on the periphery of the historic village.

Secondly, Westfort Village has a number of qualities that need to be preserved. The urban pattern of Westfort Village consists of clusters of buildings within a landscape (figure 11). These buildings are residential in scale and an axis is used as an organising device. Trees were used to define a space as well as direct movement (tree-lined avenues). The relationship between buildings and landscape is that of buildings situated within a landscape. The prominent buildings are often perceived as objects in the landscape. The front of the buildings (primary elevations) were often public, facing unto an axis (which was a landscape), the rear of the buildings were private and opened unto a private garden (figure 12). Some of the buildings are in the ZA Wilhelmiens architectural style. Westfort Village has changed in function from a leprosy asylum to a residential village.

Thirdly, since no conservation management plan has been made for Westfort Village, little community participation has occured between the local residents and the government authorities. Furthermore, do to the lack of a conservation management plan, there is no systemic approach to the preservation of Westfort Village. Therefore the principle of community participation and systemic approach are not adherred to in Westfort Village. This can only be achieved once a conservation management plan is drafted for Westfort Village.

Fourthly, there is no continuing maintenace of Westfort Village both from goverment authorities and from the residents who occupy Westfort Village. This is linked to the lack of a conservation management plan. The lack of continuing maintenace further hampers the efforts to preserve Westfort Village. A maintenance will have to be included in the conservation management plan as well as training the residents of Westfort Village to maintain the buildings that they occupy.

Fifthly, the new function that Westfort Village has acquired has been compatible with its previous function. Westfort Village used to be a leprosy asylum which housed leprosy patients, it is now a residential village which houses individuals who do not have access to housing. Any new functions that are introduced to Westfort Village should complement the residential village.

Lastly, the improvement of housing in Westfort Village has occurred

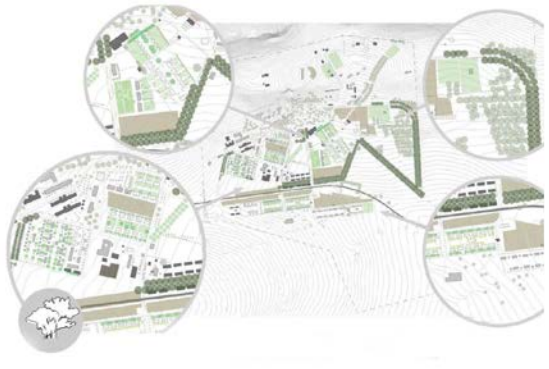


Fig. 11. Bottom; urban patterns of Westfort Village (Langeveld 2016:50)
Fig. 12. Top; Relationship between building and landscape (Mollel, 2018)

informally by the residents who have made interior and exterior additions to the houses that they occupy (such as closing off an open verander). These sort of improvements will have to be formalised and systemic. Since Westfort Village is now a residential village, the improvement of housing becomes paramount.

Based off the discussion on the housing policy, Westfort Village may be seen as a housing model since existing building stock that is suitable for residential use is available; basic services infrastructure is present (though not functioning) and public amenities are not present but could be designed for. These issues could be addressed using the various BNG programmes. In Westfort Village, the upgrading of housing stock through preservation/ restoration and the provision of basic services are needed, which the Upgrading Informal Settlement Programme could address. Westfort Village is in need of public amenities, therefore the Provision of Social and Economic Amenities programme would be used to address this. Some of the residents in Westfort Village would not seek permanent tenure of their respective buildings. Therefore the Community Residential Units programme could be used to upgrade buildings that would be used as rental housing. Although the Integrated Residential Development programme is not directly related to Westfort Village (due to Westfort Village being an existing settlement), the future developments on the periphery of Westfort Village may implement this programme.

Some aspects of the Washington Charter are present in Westfort Village while others are not. In Westfort Village it is evident that the heritage landscape has experienced change but the heritage is not protected. In order to achieve this, the Washington Charter in its entirety will need to be implemented. Through the implementation of the Washington Charter, spatial justice may be achieved in Westfort Village.

3.4 Overlaps in theoretical framework in Westfort Village

This section will discuss the overlaps in the application of spatial justice and the Washington Charter in Westfort Village.

Firstly, the could be applied to the provision of housing in Westfort Village. Since Westfort Village has changed in function to a residential village, the residents of Westfort Village must remain in the houses that they occupy. This would ease the housing crisis (as some individuals already have access to housing in the form of heritage buildings). These heritage buildings would need to be improved (thus addressing the improvement of housing principle in the Washington Charter) and these improvements would be done through the various programmes offered by the Breaking New Ground Policy (which is part of the housing policy). The improvement of housing would aid in preserving Westfort Village as a historic town through the adaptive reuse of the heritage buildings. Furthermore, improvement of housing would enable spatial claim to occur for the residents as their living environment is improved.

Secondly, there is an overlap in the use of space. Although the function of Westfort Village has changed over time, the way in which some spaces are used has remained the same. For example public landscaped space has continued to be used as a public space (either for gathering or recreation or agriculture) and private garden space continues to be used as private garden space. This highlights a continutity of use which the Washington Charter alludes to. This also highlights the spatial power and spatial claim that residents have over their space. This presents design opportunities to improve these spaces.

Thirdly, there is an overlap in the entrepreneurial spirit of the current residents of Westfort Village. This is evidenced by the number of small scale businesses operating within the village (from local tuck-shop, to a scrapyard to a pig's farm). This shows that residents of Westfort Village exercise a certain level of spatial power over their space. It would be beneficial to harness this entrepreneurial spirit by empowering the existing entrepreneurs as well as develop new entrepreneurs. This presents possibilities for new programs to be introduced in Westfort Village. These programs would increase the level of spatial power exerted on Westfort Village (increased spending power), which would increase the spatial claim on Westfort Village (better working envrionment), which would lead to increased development.

Fourthly, there is an overlap in the conservation management planning of Westfort Village. The planning for Westfort Village should incorporate aspects of the BNG programmes (for the provision of housing) as well as the NHRA (for the protection of heritage assests). The conservation management plan should be preceded by a multidisciplinary studies which would give indication on how to address current issues within Westfort Village. The multidisciplinary studies could lead to further studies (in interrelated fields) that could contribute to the knowledge base of Westfort Village. There is the possibility of the conservation management plan incorporating the residents of Westfort Village in the maintenance of the heritage buildings thus enabling spatial power.

Fifthly, there is an overlap in serving the public. Westfort Village initially served patients with leprosy, it now serves people without access to housing. This highlights a continuity in themes of the historic town which the Washington Charter alludes to. This continuity presents opportunities for the introduction of programs that are a public amenity. These amenities would enable Westfort Village to be more spatially just (by linking other amenities in the city to Westfort Village and improving the living environment of Westfort Village) and provide a continuity of serving the public (which relates to the historic nature of Westfort Village).

Lastly, there is an overlap in the architecture that could be manifested. This architecture could need to the response to the existing context - in terms of the spatial injustices that occur as well as the historic urban character of Westfort Village. Opportunities are present to explore old verses new

in terms of the existing heritage fabric (old) and the new additions (new). Opportunities are present to explore the different ways in which different adaptive reuse strategies may be used within a precinct of buildings to create a unified whole. These adaptive reuse strategies allow for different spatial explorations to occur, thus illustrating different ways to engage with heritage buildings.

The resultant architecture should seek to make just spaces (that allow for spatial claim, spatial power and spatial linkage) while adding value to the existing heritage.

4. Conclusion

Westfort Village is a unique heritage precinct that is of value to Pretoria and the rest of South Africa. Since its inception it could be viewed as spatially unjust, this injustice continues to this day. In order to address the existing issues and respect the heritage of Westfort Village a merger of theoretical frameworks (spatial justice and the Washington Charter) was needed. The overlap in frameworks gave guidance in how to read and intepret the site. These mergers then guided the development of a statement of significance, an urban vision and programmatic intentions within which architecture may be created to address these issues. The architecture created should be guided by adaptive reuse strategies (which was informed by the overlaps in theoretical frameworks).

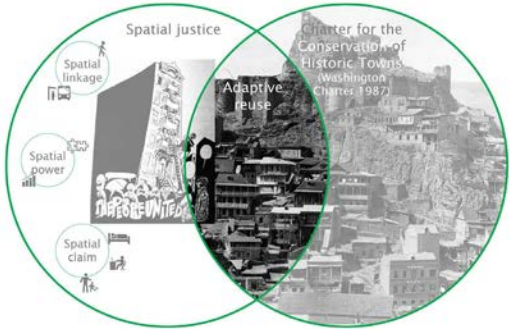


Fig. 13. Right; Merger of spatial justice and Washington Charter culminating in adaptive reuse(Mollel, 2018)

Endnotes

1. The political narrative of the emancipation of non-whites from the Apartheid regime. The emanicipation leading to the formation of a democratic South Africa.
2. Such as schools, clinic, community halls, recreational facilities and trading facilities.
3. Heritage is a broad concept that includes natural and man-made environment. Heritage encompasses the landscape; historical places, sites and built environment; biodiversity; collections of past and present; cultural practices, knowledge and living experiences (ICOMOS 1999).
4. Rights in the broad sense relating to human rights, housing rights, cultural rights, economic rights, right to health care and rights to public space.
5. These challenges include degradation, damage and demolition due to urban development.
6. The name of the Department of Public Works during the ZAR in which Paul Kruger was the president.
7. Sytze Wierda was the chief architect of the Department of Public Works from 1887 to 1900.
8. Klaas van Rijsse was one of the architects for the Department of Public Works, he temporarily acted as chief architect before Sytze Wierda filled in that position.
9. Due to the 'unhygienic' living conditions of native Africans in the ZAR.
10. These facilities included churchs, pharmacy, police station, post office, milk depot, carpentry shop, smith and bookbinding workshop (Naude 2012:11-12).
11. Since leprosy could be treated at a local clinic. The Leprosy Segregation Law was repelled in 1979.
12. Such as access to water, electricity and sanitation. Portable toilets and water tanks have been provided to alleviate this problem.
13. Public amenities includes health care facilities, educational facilities, economic facilities and recreational facilities.
14. These questions were derived from Basset's research on spatial justice (Basset 2013).

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