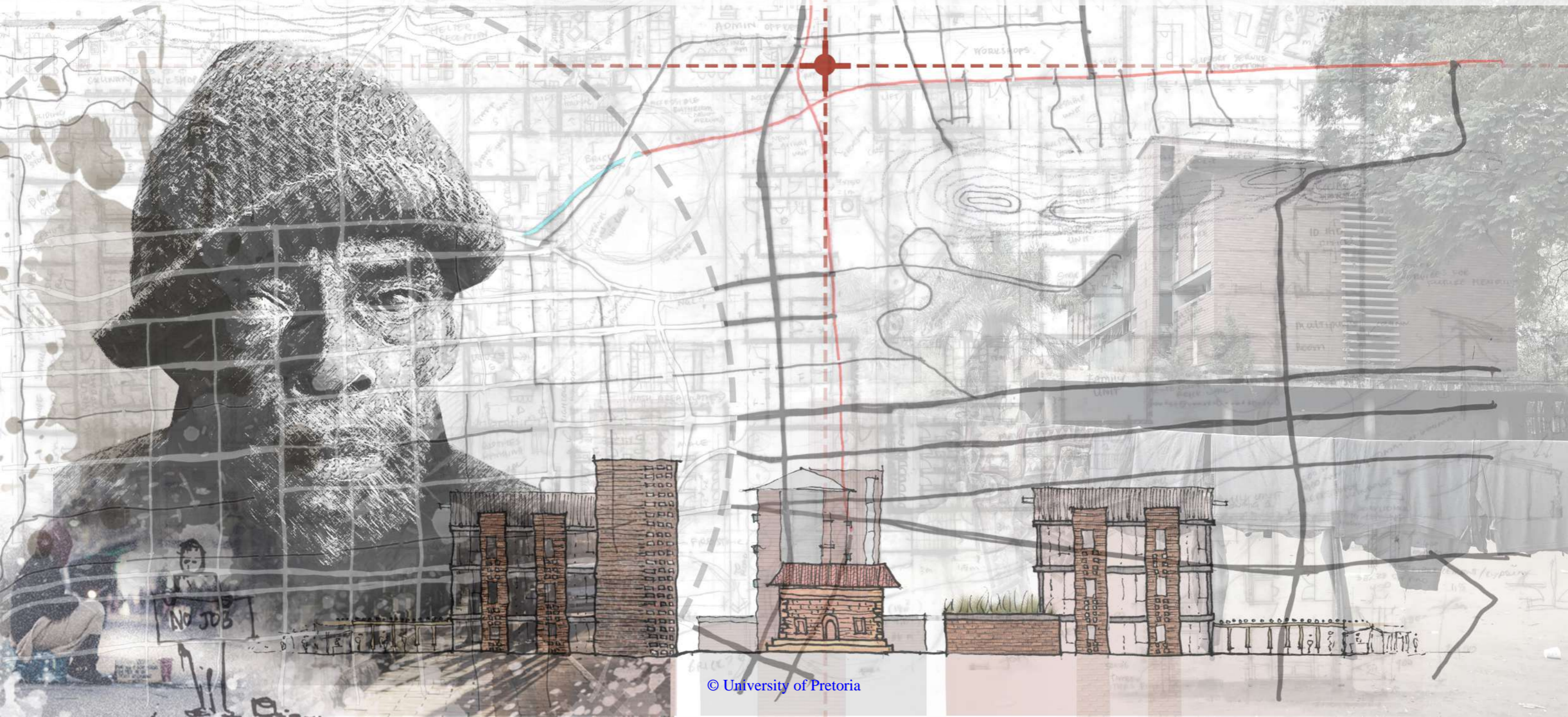


UNCOVERING THE **LATENT POTENTIAL** OF (RE)APPROPRIATED NEGLECTED SPACES:

The transformation of Melgisedek towards addressing
issues of homelessness and heritage

Heike Karberg
2021



00

preface

DECLARATION

In accordance with Regulation 4(e) of the General Regulations (G.57) for dissertations and theses, I declare that this dissertation, which I hereby submit for the degree Master of Architecture (Professional) at the University of Pretoria, is my own work and has not been previously submitted by me for a degree at this or any other institution.

I further state that no part of my dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification.

I further declare that this dissertation is substantially my own work. Where reference is made to the works of others, the extent to which the work has been used is indicated and fully acknowledged in the text and list of references.

Heike Karberg
2021

Submitted in partial fulfilment of the requirements for the degree of Master in Architecture (Professional), Department of Architecture, Faculty of Engineering, Built Environment and Information Technology.

University of Pretoria, 2021.

| Research Field |
Inhabitation of Place

| Course Coordinator |
Prof. Arthur Barker

| Study Leader |
Johan Swart

| Editor |
Athena Lysandrou



PROJECT SUMMARY

Uncovering the latent potential of (re)appropriated neglected spaces:

the transformation of Melgisedek towards addressing issues of homelessness and heritage.

Keywords:

homelessness, neglected buildings, appropriation, incrementality, palimpsest, heritage, adaptability

Research Field:

Inhabitation of Place / Heritage and cultural landscapes

Project Location:

25°44'2.41"S 28°12'17.04"E

Cnr. Annie Botha ave. & Johan Heyns dr., Prinshof 349-JR / Riviera, Pretoria

Site Programme:

Social Welfare programme: Transitional housing & support services, soup kitchen, medical Clinic, daycare.

Public Interface programme: Cultural food court, greenhouse nursery, bakery, small retail & vendors, informal trade.

Anchoring Link Programme: Communal food garden, culinary workshops & farmers markets.

Project Focus:

Social Welfare programme: Transitional housing & support services.

Client:

Tshwane Leadership Foundation partnered with:
City of Tshwane Department of Social Development
University of Pretoria Health Sciences Faculty, Family Medicine Department
Melgisedek Community Outreach

Main question:

How does the informal appropriation by occupants of the Melgisedek site affect the identity of place, and how can this guide the (re)activation, (re)integration and response to the site and its heritage buildings?



ABSTRACT

The intentions of this dissertation are to investigate the phenomenon of neglected buildings and urban spaces occupied and appropriated by the homeless, and to explore the spatial and design potential that this appropriation provides in the transformation and (re)activation of one such site – Melgisedek, Pretoria. The informal appropriation of neglected buildings is often viewed as causing a loss to heritage and identity (Doron 2000, Grunewald and Breed 2013). However, it is argued that this appropriation adds to the palimpsest of evolving identity and heritage embedded in these sites, which could guide the reimagining of these places as socially inclusive spaces (Dreifuss-Serrano 2020: 597, Shaw and Hudson 2009: 9).

Throughout the dissertation, the author explores two themes: the social condition of homelessness and informal appropriation (the primary focus) and the historical condition of the architectural heritage of the site (the secondary focus). The project attempts to overlap these often disconnected themes in an effort to honour and address both. The proposed intervention of transitional housing within a broader conceptual framework aims to uncover the site's latent potential by navigating the tensions between the social and the historical, permanence and temporality, existing and new, formal and informal, by building on existing activities of appropriation to create new layers of architecture while honouring the existing heritage.

The research on homelessness, case studies of occupied neglected buildings and the analysis of the site, its inhabitants and history guide the development of a multi-layered, incremental site vision with a three-stranded programme. This includes the social welfare programme, the public interface programme and the anchoring link of a communal garden, aimed at incorporating and reinterpreting existing activities of appropriation and addressing the needs of the homeless to reintegrate them into society. The heritage buildings are viewed as permanent anchors and the new additions as a sinew between them, both used to continue the evolving palimpsest of architectural styles and uses on site. A transitional housing development forms the focus for design development, which interweaves permanence, transience, adaptability and flexibility, while reinterpreting the spatial principles of the existing heritage architecture.

Finally, the project is intended to serve as a prototypical exploration of how current complex social issues may be approached in tandem with a respect for existing heritage on other similar sites in South Africa. It also suggests a possible architectural approach to addressing the issue of homelessness, appropriation and [occupied] neglected spaces, which are closely intertwined.

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Fig. 0.2. left: Photograph of furniture belonging to the informal occupants of the old 1927 hostel at Melgisedek, Pretoria (Author 2021).

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To my love, my rock and my number one person, Tom. Thank you for all your love, support and encouragement. For cooking many dinners, staying up late with me on many nights and telling me I'll be okay when the lack of sleep and stress got to me.

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essay one

SETTING THE SCENE



01

introduction

[a]

NORMATIVE POSITION

Although the normative position is constantly evolving and expanding, it is currently based on three strands of social and contextual values.

Firstly, architecture is the “sensitive container” in which people’s lived experiences unfold and where memories are rooted in place (Zumthor 1998: 12). Therefore, as designers, I believe we have a social responsibility to the people we design for, their experiences and the place-identities they engage. It is important to design spaces with an understanding of how people from different cultural backgrounds use and transform space, acknowledging that space is a dynamic social product that evolves far beyond the expertise of the architect (Awan, Schneider and Till 2011, Hill 2003). As designers, we should acknowledge the user’s appropriation of space as a means to take ownership and to belong. Through this user-centred approach, architecture can begin to impact and uplift society.

Secondly, architecture should be driven by a commitment to understand the particular social and site-specific needs and identity of a given context, leading to contextually appropriate designs created using local knowledge, traditions, materials and skills. Building on the concept of *tabula plena*, architecture that is “inlaid into site” with a sensitivity to the multiple layers of social, physical, cultural and historical networks is necessary to ground design in its place (Frampton 1983: 151).

Lastly, the honesty of materials contributes to a sense of place and time. Therefore, material choice and construction should express the ephemerality, contextual sensitivity, sustainability and cultural identity of a place to act as a sinew that connects the site, the people, the heritage and the surroundings.

Fig. 1.1. Previous page: Photograph taken at Melgisedek and edited by Author (2021).
Fig. 1.2. Far right, page 3: Clothing of homeless occupants of Justice College, photograph by Forder (2019) edited by Author (2020).

[b]

INTRODUCTION & PROBLEM STATEMENT



1.2.

In this dissertation, the topic of homelessness is approached through the user-centred lens of social responsibility and a palimpsestic view of socially produced space, as outlined in the normative position. The focus of this dissertation emerges from a desire to understand, empathise with and build on the way the homeless transform space and express belonging in a contested environment where legal ownership and belonging are rare.

As homelessness in the City of Tshwane swells due to social, political and economic exclusion among numerous contributors (Ntakirutimana 2015: 6, Tshwane Homelessness Forum 2015), the urban homeless often seek shelter in neglected or abandoned buildings and urban spaces, (re)appropriating them to suit their survival needs while being confronted with “public” spaces that reflect society’s exclusion of the homeless (Cross et al. 2010: 18, Ntakirutimana 2015: 5, Penfold 2012: 994).

The occupation and informal (re)appropriation of neglected buildings in South Africa is often vilified or overlooked by society and equated with illegality and the degradation of the built environment (Doron, 2000, Shaw and Hudson 2009). This spontaneous appropriation is viewed as causing a loss to heritage and identity (Doron 2000, Grunewald and Breed 2013). However, the transient heritage and identities of these places should not only be considered in terms of their official historical, political and architectural value, but also in terms of the often unrecognised social narratives related to the experiences, change in

use and appropriation by the marginalised, thus adding to the layered identities of these spaces and their urban environments (Bakker 2010, Shaw and Hudson 2009).

This study is aimed at exploring the spatial and design potential of the appropriation of derelict buildings by their informal inhabitants. It is argued that this appropriation adds to the palimpsest of evolving identity (Rende 1998: 136) embedded in scenarios such as that of Melgisedek, Pretoria, which provides the potential to re-imagine these places as socially inclusive spaces (Dreifuss-Serrano 2020: 597, Shaw and Hudson 2009: 9). In this study, the author argues for a positive and creative spatial potential latent in these condemned and forgotten sites, guided by both the informal appropriation and the architectural and historical heritage of these spaces.

In this essay, the general, urban and architectural issues are laid out to set the scene for the dissertation project. Thereafter, the framework of place and place-making theory is unpacked, forming the lens through which the theme of homeless appropriation, the research and the design are approached. The research methodology for studying the general issue is then described, followed by the documentation of observations and analyses of local case studies. A brief look at homelessness in the City of Tshwane serves as the background to local scenarios of informally occupied neglected buildings in Pretoria. Lastly, the focus case is selected and positioned, and the scenario is described by means of an overview and historical timeline.

[c]
GENERAL ISSUE

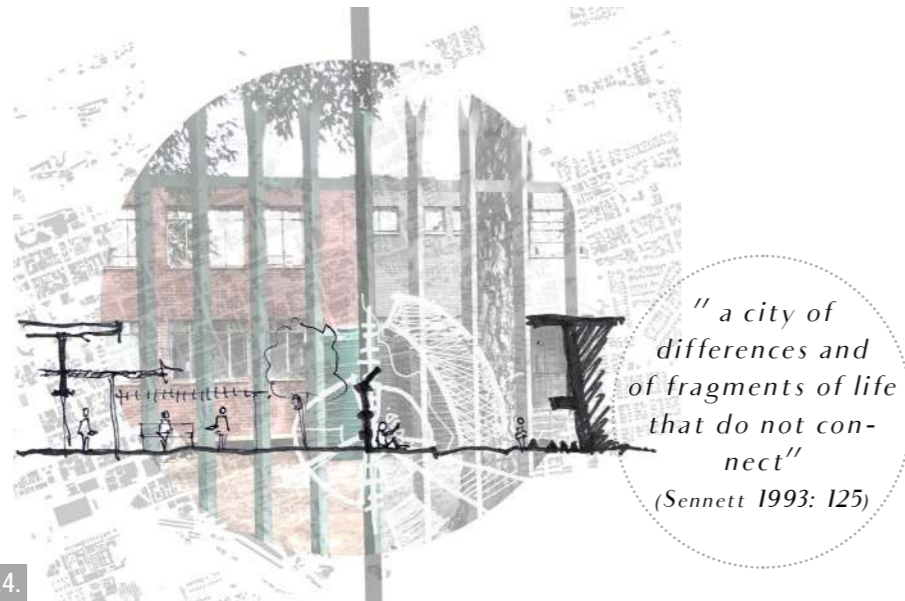


1.3.

Occupation of neglected buildings by the homeless

The phenomenon of vulnerable people occupying and appropriating neglected buildings for shelter is seen as a strategy for survival in the face of homelessness and the inability to access affordable housing (Strijdom and Viljoen 2014: 1207, Tshwane Homelessness Forum 2015: 20). This appropriation is ever-changing to suit immediate needs. These “abandoned” sites are seen as spots of urban decay and crime.

[d]
URBAN ISSUE

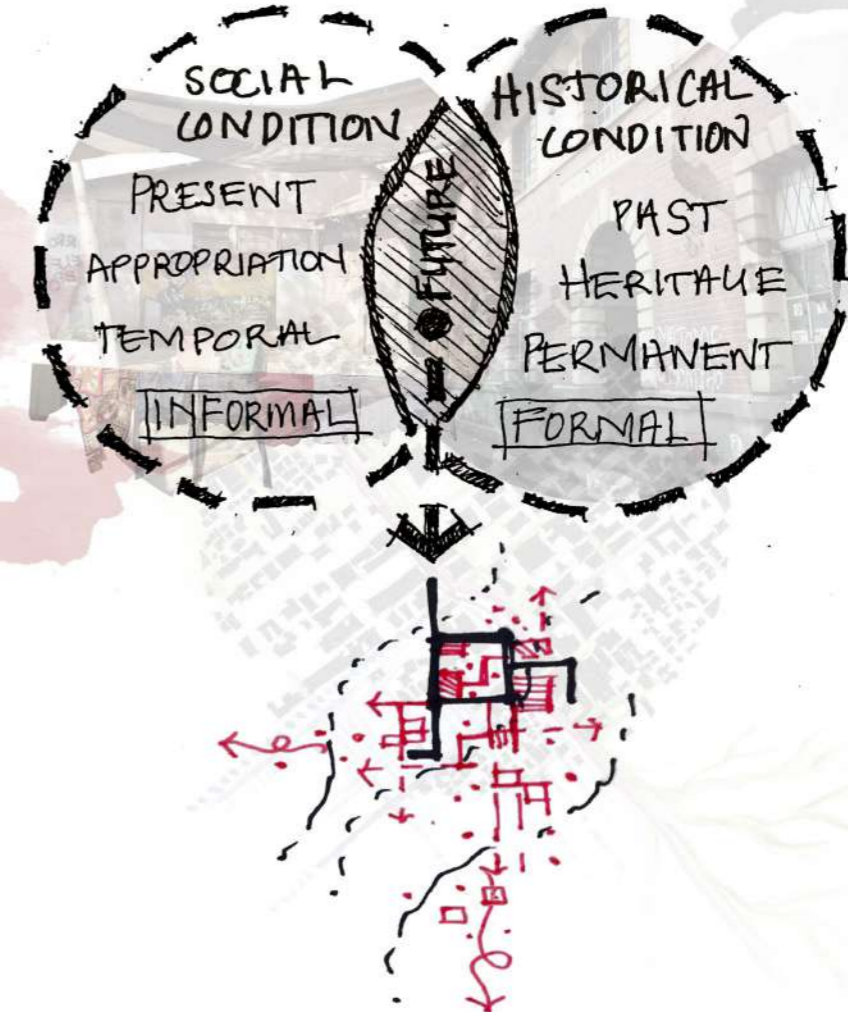


1.4.

Isolated pockets and exclusive quasi-public spaces

A fragmented, disconnected city results from a disengagement with the “other” (Sennett 1993: 147), residue of past segregated planning and continued urban exclusion of non-conforming phenomena that include these spaces of informality and decay (Tshwane Homelessness Forum 2015: 4, Penfold 2012, Shaw and Hudson 2009). These perceived “dead zones”, “wastelands” and “voids” threaten an exclusive image of urbanity (Doron 2000: 248). In response, public and surrounding spaces are increasingly privatised and barricaded, perpetuating the isolation and marginalisation of these condemned spaces and their unwanted occupants (De Kock 2014: 64-65, Penfold 2012, Shaw and Hudson 2009: 1).

[e]
ARCHITECTURAL ISSUE



1.5.

Legitimising existing activities & appropriation

How can architecture uncover the latent potential of informal appropriation of decaying urban spaces and provide a platform for future appropriation while honouring the site’s heritage?

The architectural issue involves the challenge of legitimising and building on existing activities and informal appropriation of forgotten spaces while celebrating the architectural heritage of these spaces.

By extension, the aim is to approach design in a manner that accommodates and celebrates ongoing appropriation, incrementality and changing needs while navigating the existing tensions between old and new, formal and informal, social and heritage issues, permanence and transience.

Fig. 1.3. Top left, page 4: General issue graphic illustrating derelict buildings occupied by the homeless (Author 2021).
Fig. 1.4. Bottom left, page 4: Urban issue graphic illustrating spatial segregation: isolation and exclusion of neglected spaces and people, and the privatisation of public spaces (Author 2021).
Fig. 1.5. Above: Architectural issue graphic illustrating the overlap of the formal and informal, heritage and appropriation (Author 2021).

02

theoretical framework

This section serves as the spatial theoretical lens through which the subsequent research on homelessness and appropriation is viewed and through which the design conceptualisation is approached. With a human-centred approach to place-making, the themes explored deal with the ongoing process, layered traces (palimpsest), articulation (phenomenology) and overlaying of lived experiences of the users of space. The place and place-making lenses referred to in this section position the appropriation of neglected urban spaces by the homeless within contemporary discourse on appropriation, place-making and its role in shaping dynamic spaces and place-identities. It is argued that this form of appropriation provides potential for re-imagining and reshaping urban spaces into evolving, socially engaged spaces.

[a]

APPROPRIATION

the ongoing process of lived experiences

Noschis (1978: 451) defines appropriation as the actions we take to **express belonging** (or lack thereof) and to **take ownership** of our surroundings through their transformation. The “active and creative appropriation” of space is linked to the ongoing process of a user experiencing place: using, defining, occupying, changing and moulding it to suit their needs and to take ownership (Coelho 2015: 3, Hill 2003: 148). It is the result of an inextricable relation between body and space (Da Costa and Van Rensburg 2008: 43). Thus, the experience and meaning of place emanates from the inhabitants’ appropriation of it, continually (re) defining the place-identity (Coelho 2015: 3). Similarly, the informal appropriation of space by vulnerable people, which results from an effort to “(re)claim space”, establishes a sense of belonging or **expresses identity**, and should be acknowledged as spontaneous, creative and innovative because it leads to new emerging uses and meanings of place (Shaw and Hudson 2009: 4). This spatial practice “signifies an act of resistance” and resilience that attempts to “establish identity by celebrating difference” by collaging found objects into space and redefining boundaries (Rende 1998: 141). Therefore, through appropriation, the actions and events occurring within a space define and articulate it over time, contesting fixed boundaries (Da Costa and Van Rensburg 2008: 45). When experience and appropriation are considered in the design of spaces, architecture allows for user ownership and authorship (Awan et al. 2011, Coelho 2015: 3).

[b]

PALIMPSEST

the evolving identity of place and traces of lived experiences

The processes of lived experiences, appropriation and “cultural life” leave traces or “marks, residues, or remnants” that give meaning to place (Anderson 2015: 6). These traces can be tangible, physical additions to surroundings or intangible events, activities, emotions and memories (Anderson 2015: 6, 7). Place is dynamic and transient as “new traces react with existing” or past layers, “changing the meaning and identity” of place (2015: 7). This is echoed by Shaw and Hudson (2009: 3), who state that spaces in the city are “constantly reshaped and redefined” by spontaneous and “often temporary activities”. Da Costa and Van Rensburg (2008: 45) point out that space is a “product of interrelations”, ever-changing and constantly “in the process of being made”; therefore, it is **multi-layered and temporal**.

A dynamic view of space hinges on the consideration of human experiences and

time at its core (Da Costa and Van Rensburg 2008: 47). Understanding place as a palimpsest of experiences and meaning is to acknowledge its **transience** and temporality.

[c]

PHENOMENOLOGY

the articulation of lived experience and time in architecture

A phenomenological approach to space-making not only acknowledges the spatial role of lived experiences, but also offers tools to articulate, in architecture, the traces of lived experiences and the transience and temporality of place referred to above.

Norberg-Schulz (1996: 422) describes the purpose of architecture as making “a site become a place ... to uncover the meanings potentially present” (Norberg-Schulz 1996: 422). Architecture is thus a “sensitive container” of lived experiences, a stage and catalyst for life to evolve (Coelho 2015: 1) that engages memories and manifests sensory experiences (Pallasmaa 1994: 30, Zumthor 1998: 12). Therefore, architecture has the potential to integrate form, sensory lived experiences, temporality and event (Da Costa and Van Rensburg 2008: 43) by **engaging all the senses** in space-making, using sound, light, colour, texture, material choice and finish, etc. to evoke emotions and memories (Coelho 2015: 4, 5, Da Costa and Van Rensburg 2008: 45, Norberg-Schulz 1996, Pallasmaa 1994). Norberg-Schulz (1996: 419) advocates an expression of the elements that define built space, including the “formal articulation” of junctions and thresholds to further articulate the lived experience (Norberg-Schulz 1996: 420).

Furthermore, in acknowledging the identity of place as being a “function of time” (Norberg-Schulz 1996: 420), the transience and temporality of space can be expressed by showing the **effects of time and use** through material weathering and erosion (Pallasmaa 2000: 82, Zumthor 1998). Using materials that express “age and history” and develop a “patina” enrich the sensory experience and awareness of time (Pallasmaa, 1994: 29). Thus, spaces that express the effects of time and appropriation manifest the traces of lived experiences and the transience of place to create a dynamic identity of place.

[d]

OVERLAYING DIFFERENCE

overlaying lived experiences

In addition to the architectural articulation of the traces of experiences and time, the celebration of difference, multiplicity and the “other” further defines a **dynamic identity** of place. Sennett (1993: 147) exposes the problem of homogenous, disconnected cities that result from disengagement with the “other”. He suggests an alternative where designers and society embrace differences and engage the “other” (Sennett 1993: 167, 168) to allow for spontaneous appropriation and “overlays of difference” to enact “a **sense of connection** between people on the street” (1993: 168).

Neglected urban spaces (and the appropriation thereof) can be seen as manifestations of the “other”. Shaw and Hudson (2009) identify the creative qualities of spontaneous appropriation in such spaces and suggest that they be viewed as “social breathing spaces” and platforms for political expression, creativity, belonging and “new opportunities for urbanity” (Shaw and Hudson 2009: 1, 9).

Moreover, Da Costa and Van Rensburg (2008: 48) state that the African city should reflect its “multi-faceted society” through layered, democratic space that allows the “disenfranchised to stake their claims” and accommodates “unintended and spontaneous” appropriation. Where spaces are mixed, boundaries contested and overlays of difference celebrated, “cultures of engagement, **inclusion and hybridisation**” become possible (Da Costa and Van Rensburg 2008: 49).

Lastly, when spatial differentiation is “defined by events occurring within space” and “connections rather than distinctions”, the temporal condition of place is acknowledged (Da Costa and Van Rensburg 2008: 45). This allows multiple traces of lived experiences to be superimposed and integrated (Da Costa and Van Rensburg 2008:53). Additionally, event-driven spaces accommodate variation in programmes based on user *authorship* through *flexible, adjustable edges* between public and private realms (2008: 45, 53). This *event-driven strategy* builds on, incorporates, connects and intensifies existing spontaneous activities and layers of a place by allowing these activities to determine spatiality (Da Costa and Van Rensburg 2008: 43, 48).

[e]

CONCLUSION

In conclusion, the theory unpacks appropriation as an ongoing process of lived experiences and expression of belonging, ownership and identity. These lived experiences leave traces that are superimposed over time, resulting in transient, multi-layered place-identities. While a phenomenological approach presents ways in which these traces of lived experiences and the transience of time can be expressed architecturally, the process of overlaying different lived experiences in event-driven space-making accommodates social engagement, inclusion and continued appropriation. Finally, these processes and strategies lead to the creation of a dynamic, evolving identity of place. Thus, it is argued that the spontaneous appropriation of neglected urban spaces by the homeless plays a role in this dynamic creation of space and place-identity. The dissertation research on homeless appropriation of neglected spaces is viewed through these lenses, which will also frame the intentions of the proposed design intervention.

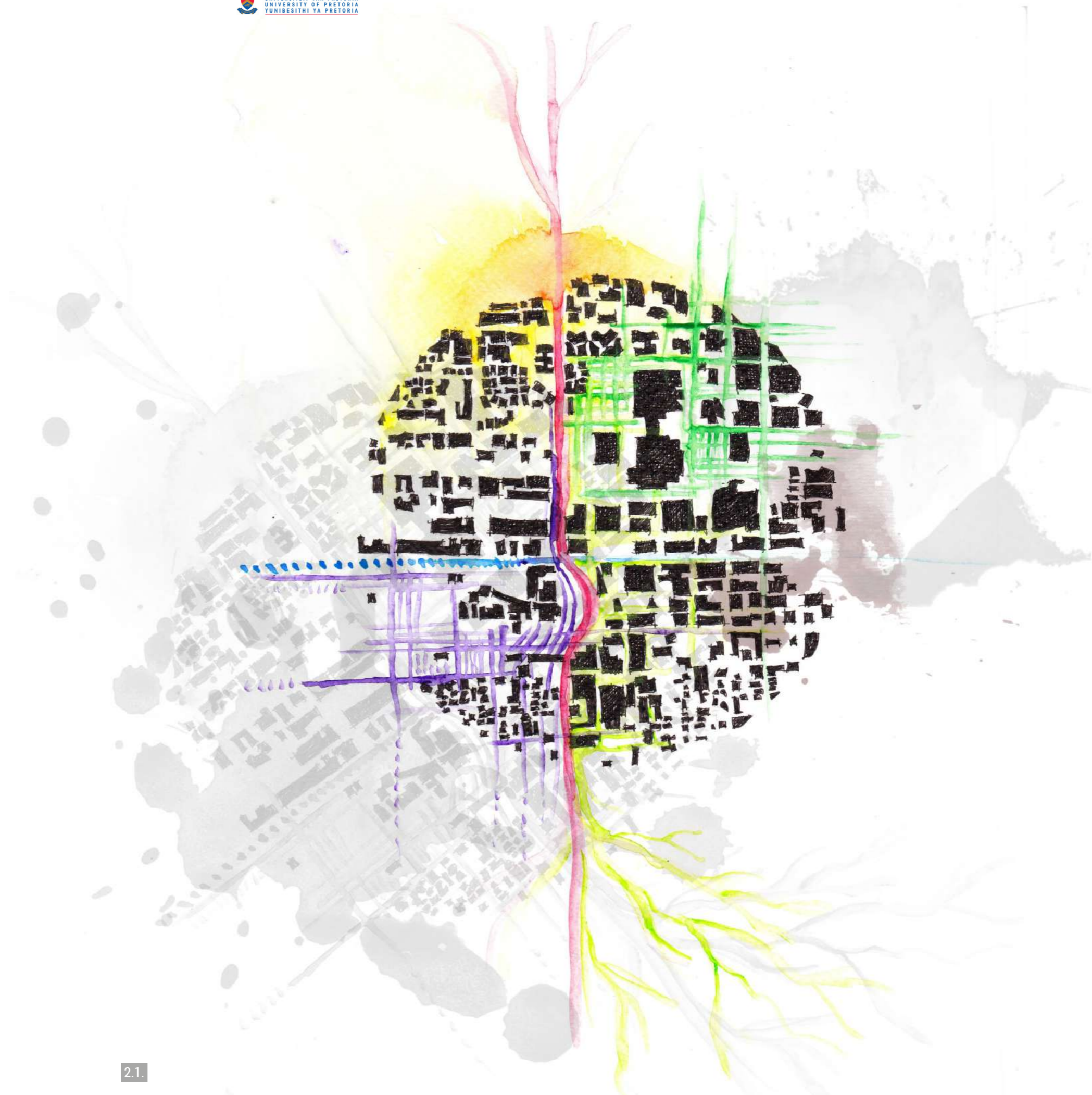


Fig. 2.1. Right: Abstract, conceptual image illustrating a combined view of the theoretical framework of appropriation, palimpsest, phenomenology and overlaying difference towards re-activating and re-integrating layered [urban] spaces. (Author 2021)

03

research methodology

[a]

RESEARCH QUESTIONS



research question

What is the impact of the occupation and nature of the appropriation by the homeless on neglected buildings in the City of Tshwane?

dissertation design question

How does the **informal appropriation** homeless by occupants of the Melgisedek site affect the identity of place, and how can this guide the a (re)activation, (re)integration and response to the site and its **heritage** buildings?

[b]

METHODOLOGY

The research is predominantly qualitative, in which primary, secondary and empirical data and observations are interpreted within the interpretivist paradigm. This paradigm calls for a consideration of various aspects, places and people to understand a phenomenon within its given context and to find meaning (Henning, 2004: 20).

methodology & data collection

The case study methodology will include the study of:

1. A set of related cases: A number of scenarios of occupied derelict buildings are studied briefly to gain a cross-sectional and contextual overview of the phenomenon of informal appropriation of neglected buildings in Pretoria.

2. A single case: A site from the set of case studies is selected for in-depth analysis. The case is studied within its specific context as an example of the aforementioned phenomenon.

(See Figure 3.1. for data collection and analysis methods.)

research design

The research is conducted as an exploratory case study (Martin and Hannington 2012: 28). A case study focuses on gaining "detailed, intensive knowledge about a single instance or a set of related instances" (2012: 28). It is useful to understand "existing phenomena for comparison, information, or inspiration", as well as to test interventions, changes in use, etc. (2012: 28). Cases are studied within their natural context by considering the physical and social settings (among others) (Johannssen 2003: 2, Martin and Hannington 2012: 28). Data collection typically involves "multiple, triangulated methods" (Martin and Hannington 2012: 28) to understand the case from various angles (Johannssen 2003: 3).

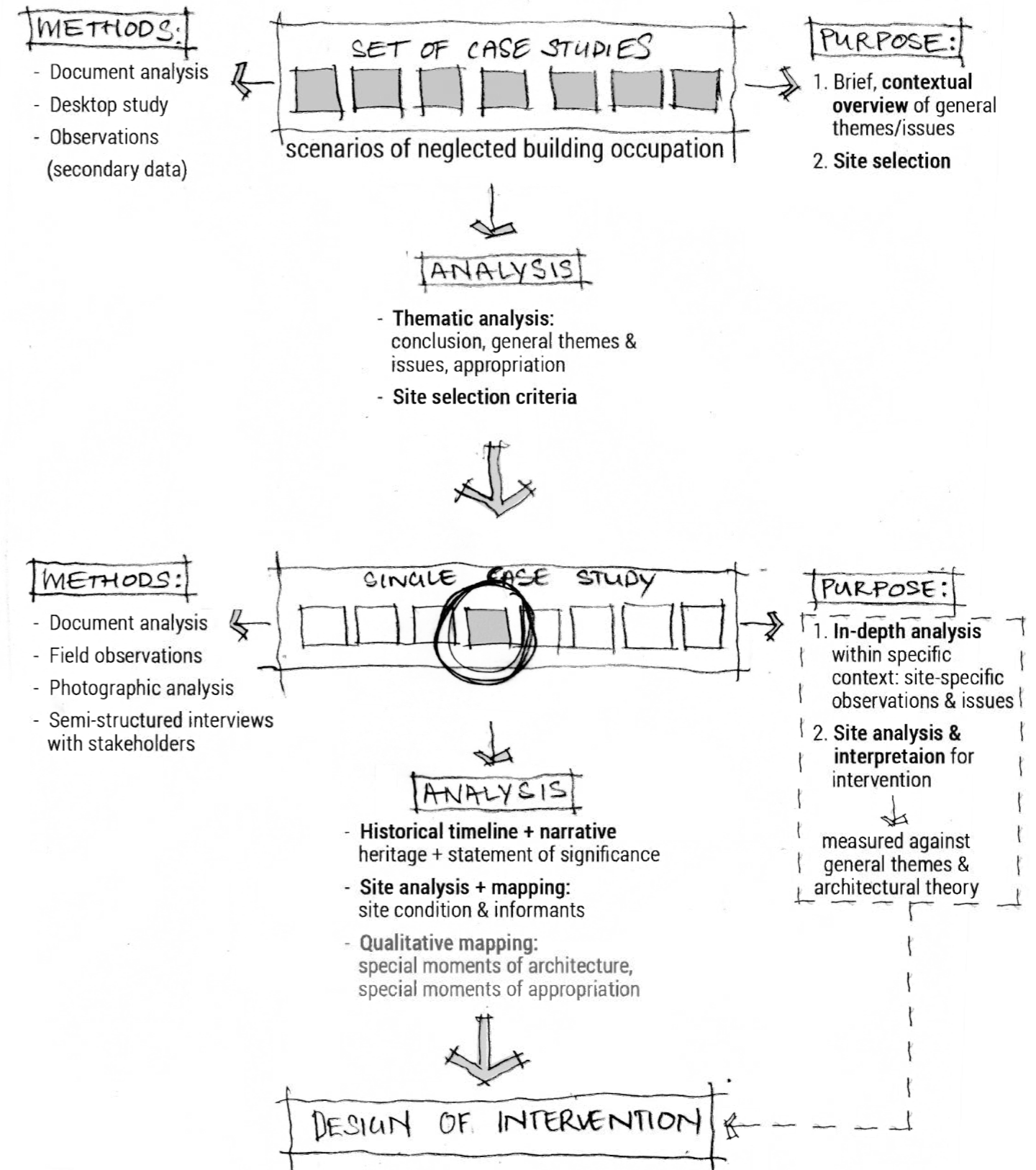
The aim of the case study research is to unpack the phenomenon of homeless occupation of neglected buildings in the City of Tshwane to draw general conclusions about the nature of appropriation and to select an appropriate site for further investigation.

Additionally, the cases are studied in the context of existing literature on homelessness and appropriation, and through the lens of the theoretical framework.

[c]

DELIMITATIONS

The location of selected cases is limited to the City of Tshwane to allow for a manageable research scope, while creating a rich contextual background of the phenomenon of occupied neglected buildings from which an appropriate example can be chosen as a focus for the intervention.



3.1. Above: Case study methodology diagram showing data collection and analyses methods (Author 2021).

04

occupation of neglected buildings

The informal appropriation of neglected buildings in the city by the vulnerable can be perceived as a creative strategy of resilience (Ngwenya 2017: 4) borne out of hardship to “(re)claim space” (Shaw and Hudson 2009: 4), express belonging and identity, and meet physical, spatial and psychological needs. As part of research on homelessness in Tshwane, a summary of the definition, categories and causes of homelessness sets the scene to understand the illegal occupation of neglected buildings and to contextualise the issues of homelessness and informal appropriation. However, general and site-specific needs related to homelessness will be unpacked in Essay Two as part of site engagement and user analysis.

[a]

HOMELESSNESS

definition, causes & categories

As the administrative capital of South Africa, the City of Tshwane attracts rural-urban migrants from across Africa who are searching, often unfruitfully, for employment (De Beer and Vally 2017(2): 387). The spatial separation of affordable housing and employment opportunities, without adequate transport to link them, contributes to urban homelessness. Two thirds of the homeless in the City of Tshwane are concentrated in Region 3 (2017(2): 388) due to the city’s many neglected or “abandoned” buildings that have become occupied by people who cannot afford housing (Tshwane Homelessness Forum 2015: 20). Such occupation scenarios include the prevalence of building “hijackers”, who assume control of such sites and exploit their illegal occupants (Ntakirutimana 2015: 99).

Homelessness is a complex phenomenon; hence, a single definition may be “inappropriate” and may exclude certain vulnerable groups. A range of definitions is needed to understand the complexities of the phenomenon (Kriel 2017: 401). Nevertheless, homelessness is generally accepted as a term meaning “not having a permanent address”, which includes “people without shelter, who were provisionally accommodated, who live in emergency shelters or on the streets, or who are at risk of losing their home” (De Beer and Vally 2017: 386). This study acknowledges this broader definition that includes those who



4.1.

“live without conventional accommodation”, those living in inadequate or “sub-standard accommodation”, those with insecure tenure and those who are unable to afford adequate housing. This includes people living on the street, temporary overnight sleepers and informal dwellers (Cross et al. 2010: 7, Ntakirutimana 2015: 14, 16). Homelessness is an extreme form of economic, political and social exclusion (Kriel 2017: 401, Ntakirutimana 2015: 6).

Hartshorn’s (1992) four categories of homelessness assist in capturing the complexities of homelessness, while Ntakirutimana (2015: 81-110) elaborates on the various causes of homelessness that correlate with Hartshorn’s (1992) categories (Tshwane Homelessness Forum 2015: 5).

Economic homelessness includes people who are homeless and unemployed, who migrate to the city in search of a livelihood, often unsuccessfully (Ntakirutimana 2015: 81, Tshwane Homelessness Forum 2015: 5). Some may have a home elsewhere in the country that they occasionally return to (Ntakirutimana 2015: 82). Although they might have a small income, these individuals are unable to access affordable, well-located housing (Tshwane Homelessness Forum 2015: 5).

Situational homelessness refers to homelessness as a result of precarious situations, including domestic violence (especially against women and children) (Ntakirutimana 2015: 104-110); family conflict and discrimination (including against one’s HIV status) (2015: 90); foreign nationals, refugees and asylum seekers; and people released from prison or mental institutions, often without legal documents and with no place to go (Ntakirutimana 2015: 94, Tshwane Homelessness Forum 2015: 5). It also includes illegal occupants of neglected buildings or land who have been evicted, often illegally, without provision of alternative accommodation (Ntakirutimana 2015: 95, 98-100). These situations also include political factors such as the failure of government to fulfil housing rights and provide affordable housing, as well as the inability for individuals to apply for legal documents without a fixed address or funding required to apply for housing, social grants, education, healthcare and jobs (Ntakirutimana 2015: 84-90).

Chronic homelessness refers to homelessness as a result of disabilities, old age, chronic mental health issues or substance abuse problems that often render people unable to work (Ntakirutimana 2015: 90-94). Therefore, lack of employment leads to a lack of access to affordable housing (Tshwane Homelessness Forum 2015: 5).

Lastly, the “near” homelessness category refers to people at severe risk of becoming homeless (Tshwane Homelessness Forum 2015: 5). This includes people in correctional or psychiatric facilities due for release, children from child-headed households, women in “sex for money” relationships, and informal dwellers living in sub-standard accommodation, including “abandoned” buildings (Ntakirutimana 2015: 98-100, Tshwane Homelessness Forum 2015: 5).

Fig. 4.1. Bottom left, page 12: Photograph of washing line at Melgisedek site (Author 2021).
Fig. 4.2.–4.5. Right: Hartshorn’s (1992) four categories of homelessness, illustrations collaged and edited by Author (2021).



4.2. Economic Homelessness



4.3. Situational Homelessness



4.4. Chronic Homelessness



4.5. “Near” Homelessness

[b]

TSHWANE: FIVE CASE STUDIES

The following cases located in the City of Tshwane were studied briefly in order to gain an overview of the phenomenon of occupied neglected buildings from a local perspective, for site selection purposes and with a focus on the nature of appropriation. Each building is currently or has previously been occupied by vulnerable persons unable to afford alternative (urban) housing. The cases were analysed through the lens of appropriation as a means of taking ownership of space and expressing belonging by making the space their “home” – albeit illegal, insecure and contested. These were understood from an observational perspective that allowed the author to interpret conclusions qualitatively. While observations and conclusions from the research are discussed below, see Appendix 1 for a brief description of the site and scenario of each case.

General conclusions and observations

After analysing the cases and their occupation scenarios, various general observations and conclusions were drawn (supported by Ntakirutimana 2015: 98-102). Firstly, it was concluded that buildings usually become derelict or abandoned due to the redundancy of their original use (Westfort Village) or mismanagement and neglect by the owner that causes gradual decay (all other cases). Additionally, all five cases are city-owned, indicating municipal failures and mismanagement. Furthermore, the occupation of these buildings is often in response to political, economic and socio-spatial shortcomings, such as affordable housing delivery failures, job unavailability, inadequate or unaffordable public transport between homes and employment, and exclusion by family and society.

Moreover, the conditions of these sites are usually unsuitable for habitation due to structural issues of buildings, unhygienic environments, overcrowding and criminal activities, while electrical, sanitation and maintenance services are usually cut off.

Many scenarios involve substance abuse problems and health issues among inhabitants, perpetuating their precarious circumstances. In all cases, the inhabitants and the issues they face can be categorised under at least one of the homelessness categories discussed earlier.

Lastly, it was noted that the decay of certain buildings to the point of being “hijacked” and stripped is often gradual and starts with the inhabitation of a volatile community (such as at Struben Shelter and Schubart Park).

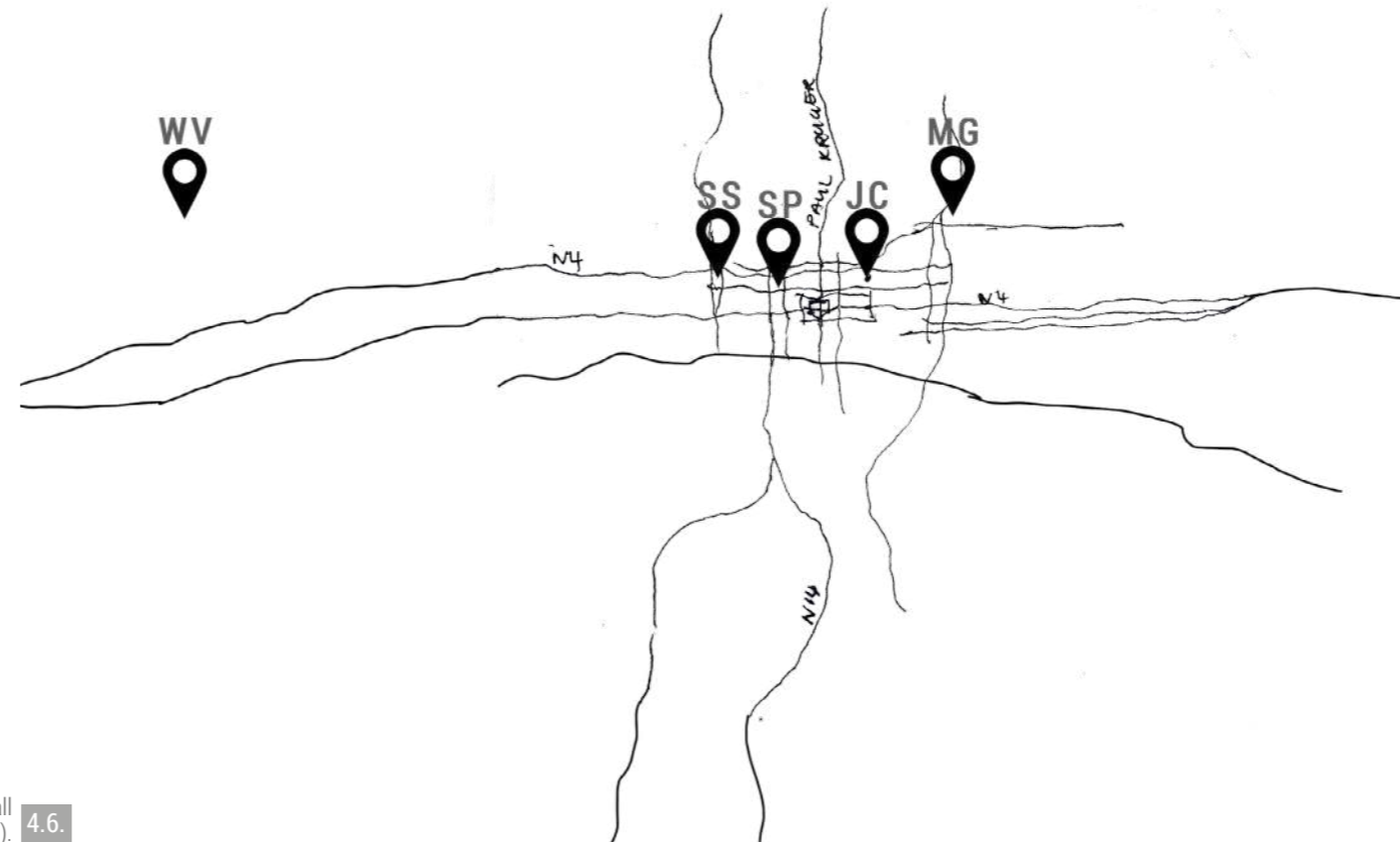
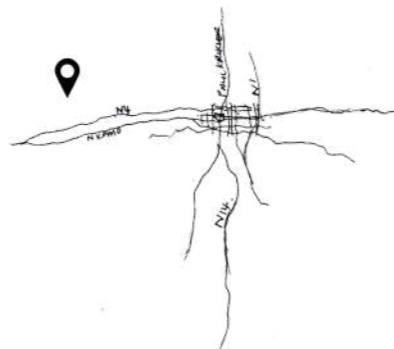


Fig. 4.6. right: Location sketch of all case studies (Author 2021). 4.6.



WESTFORT VILLAGE (WV)
former leprosy hospital

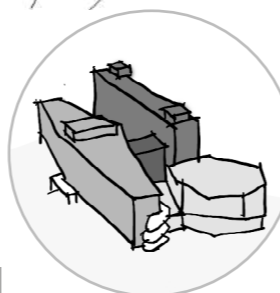


4.7.

Fig. 4.7. Top to bottom: Westfort village ID photo (Swart & Proust 2019), location sketch (Author 2021), and icon (Author 2021).



JUSTICE COLLEGE (JC)
former training centre for National School of Government (NSG) Department

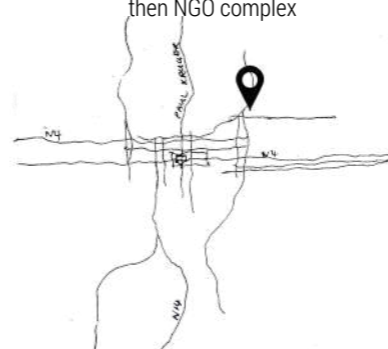


4.8.

Fig. 4.8. Top to bottom: Justice College ID photo (Google earth 2021), location sketch (Author 2021), and icon (Author 2021).



MELGISEDEK (MG)
former Pretoria Technical College hostels, then NGO complex

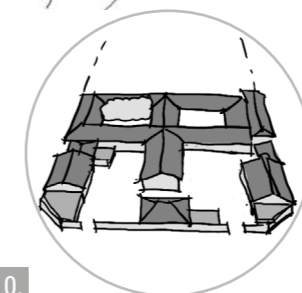


4.9.

Fig. 4.9. Top to bottom: Melgisedek ID photo (Author 2021), location sketch (Author 2021), and icon (Author 2021).



STRUBEN SHELTER (SS)
city-owned homeless shelter



4.10.

Fig. 4.10. Top to bottom: Struben Shelter ID photo (Google earth 2021), location sketch (Author 2021), and icon (Author 2021).



SCHUBART PARK (SP)
former housing development



4.11.

Fig. 4.11. Top to bottom: Schubart Park ID photo (Verwey 2014), location sketch (Author 2021), and icon (Author 2021).

Appropriation conclusions and observations

Observations and conclusions regarding appropriation in these scenarios were also drawn. The cases were also compared on various scales to identify patterns and tendencies related to the spatial aspects of the sites (see Figures 4.12.–4.15.). It became evident that different scenarios result in different types of appropriation.

Interestingly, when comparing the high-rise, central-urban buildings (Justice College and Schubart Park) with the smaller scale, peri-urban sites housing numerous buildings (Westfort Village and Melgisedek), the latter provide more outdoor interstitial spaces between buildings to allow for the development of social activities and programmes that support community life. This allows people to gather and interpret the open spaces and existing buildings freely. Such spaces are appropriated for food gardens, self-constructed tuckshops and spaces for lingering and gathering while washing and drying clothes (see Figure 4.17.). Additionally, the view of surroundings offers prospect and refuge. These buildings are also of a more human scale, which provides a sense of comfort to appropriate external spaces between buildings.

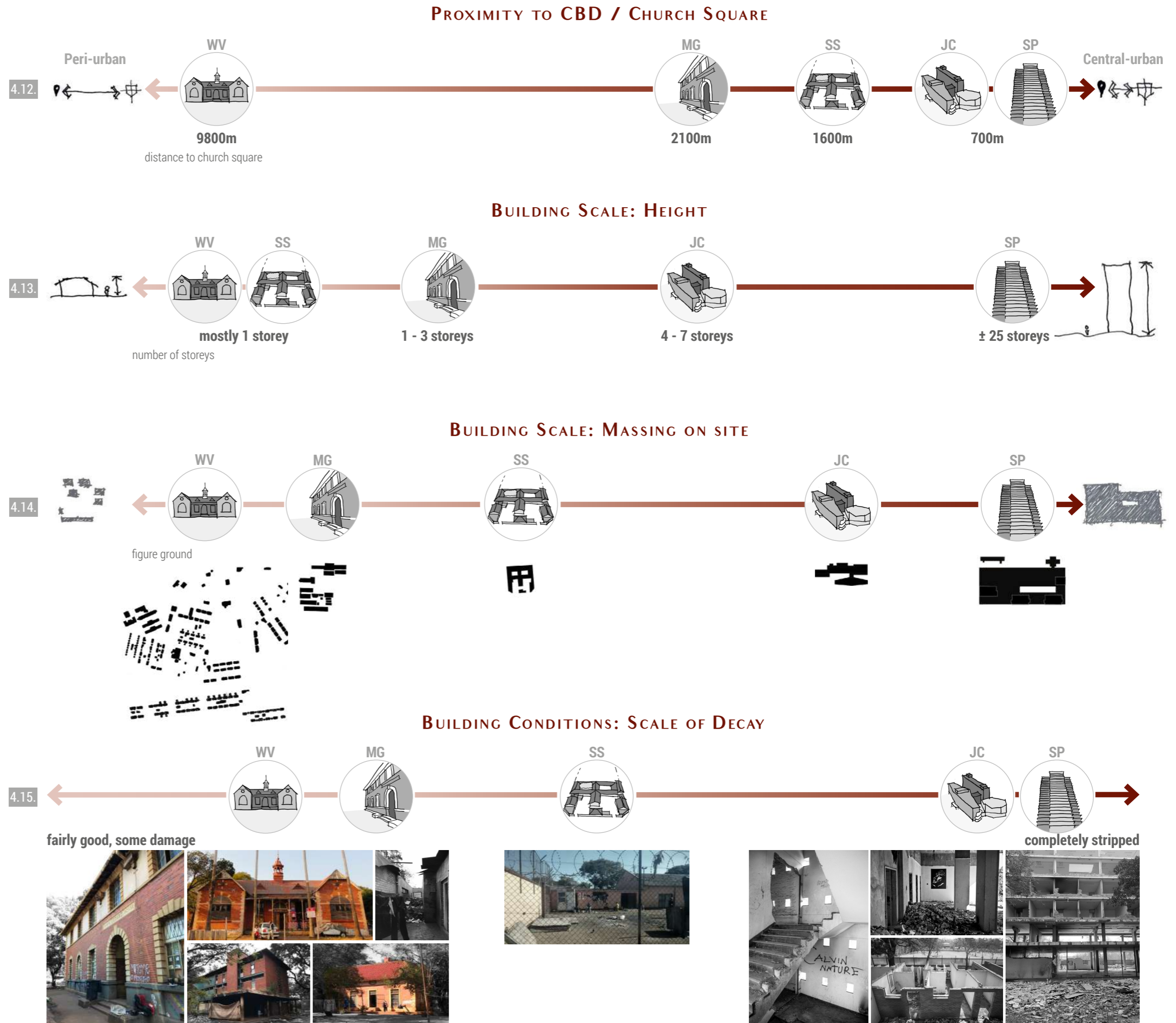
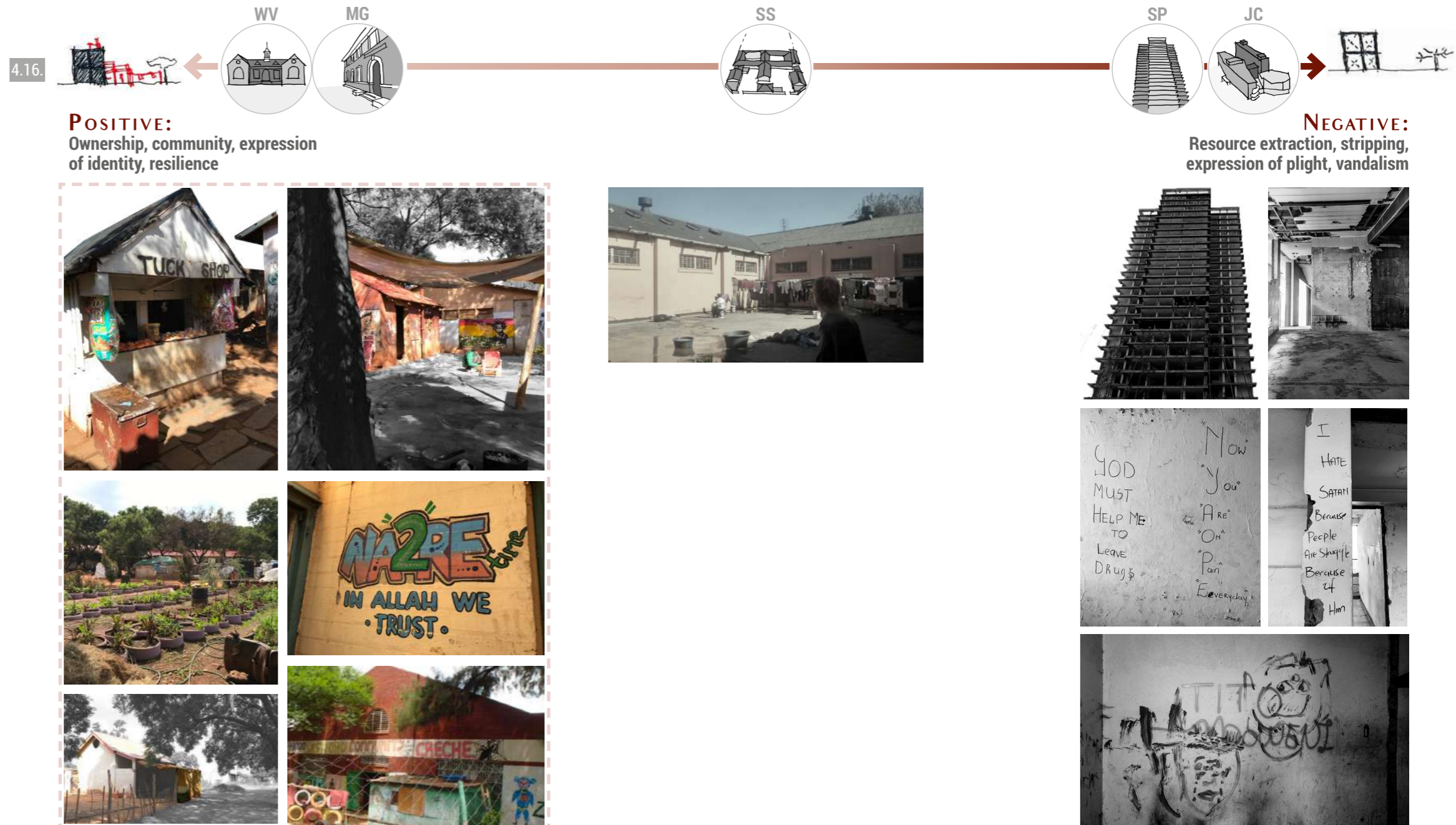


Fig. 4.12.–4.15. Top to bottom: Analyses scales comparing the cases studies according to proximity to CBD (4.12.), building height (4.13.), massing (4.14), and degree of decay (4.15.) (Author 2021). Photographs of Melgisedek by Author (2021), Struben Shelter by (Illze Wessles in Tshwane Homelessness Forum 2015: 3), Westfort Village (Mollel 2018: 1), Justice College (Forder 2019, Thomashoff 2019).

NATURE OF APPROPRIATION: POSITIVE VS NEGATIVE

In some instances, communities take ownership of their surroundings (Westfort Village and Melgisedek), while in others, the buildings are looted, vandalised and stripped (Justice College and Schubart Park), depending on the degree to which opportunities to take ownership are available. Where people are unable to take ownership of a place, the buildings are more likely to be stripped and used for resource extraction (see Figure 4.16.). Sites closer to the CBD (Justice College, Struben Shelter and Schubart Park) face higher chances of forced eviction due to more police presence, taxi associations and surrounding businesses, who all contribute to a hostility towards illegal occupants in neglected buildings. This prevents inhabitants from being able to reside in such buildings for long enough to establish it as home and take ownership, resulting in a less positive form of appropriation.

However, when a sense of community occurs and ownership is taken, the type of appropriation tends to be of a more positive nature (with informal uses that support community life), providing the potential to be built on and drawn from both programmatically and spatially. Westfort village and Melgisedek were identified as examples of such sites. The buildings there are mostly used for accommodation, sleeping and privacy. Some rooms with windows into outdoor "gathering spaces" are used as tuckshops and creches for children. However, most of the "positive" communal activities and appropriation seem to occur in between the buildings. Affordable and available materials are used innovatively to create adaptable, temporary and practical additions that continue to evolve as the occupants appropriate the spaces.



Recurring typologies of informal appropriation & uses
[at sites with some sort of community life]



1. Food gardens
2. Enclosures of "yards" and 'rooms' for privacy and demarcation of 'territory'
3. Tuckshops/informal trade
4. Cooking areas
5. Areas for washing & hanging clothes, outdoor lingering spaces for social gathering & recreation
6. Children's play area/informal creche
7. Spaces of artistic expression (graffiti) & expression of identity



Fig. 4.16. Top: Scale comparing case studies according to nature of appropriation (Author 2021). Photographs of Melgisedek by author (2021); Westfort village from Grunewald (2013), Kuipers (2015), Mollé (2018); Struben Shelter (Ilze Wessles in Tshwane Homelessness Forum 2015); Schubart Park (Verwey 2014); Justice College (Forder 2019, Thomashoff 2019).

Fig. 4.17. Bottom: Diagrams of appropriation typologies (Author 2021): food gardens, tuckshops/informal trade, clothes washing and drying, communal gathering, graffiti.

4.17.

05

melgisedek as a focus case study

[a]

SITE SELECTION

The five case studies were evaluated against ten selection criteria to select one case for further analysis as an example of the phenomenon of appropriation and where a design intervention will be proposed in response to specific requirements and aspects of the site. Some of the selection criteria were influenced by the case study observations, while others were deemed necessary in consideration of the dissertation intentions and scope.

It was deemed important to select a site that is currently occupied by a vulnerable community and where the nature of appropriation indicates potential to build on. Thus, the intention to develop a design proposal for a current and real-life occupation and heritage scenario drove the compilation of selection criteria.

After analysing the various sites, the Melgisedek complex in Prinsloof was chosen as the most suitable site, as it met all ten criteria. The site is located within 5 km of the CBD. There are buildings of heritage significance, but they are not well known, providing the opportunity to reveal the hidden, latent potential of the heritage and informal appropriation. The site is also occupied by a vulnerable, yet relatively functional community – albeit with complex dynamics – which stimulates interesting and diverse manifestations of appropriation that support community life. The site presents developmental opportunities on a complex yet manageable scale. Lastly, with access to various stakeholders who are currently involved at the site, safe site access and obtaining relevant information would be easier than some of the other cases.

site selection criteria

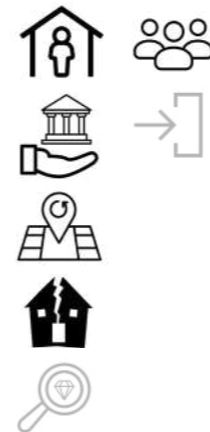
- OCCUPATION SCENARIO**
currently informally occupied by a vulnerable community
- LOCAL**
located in City of Tshwane
- URBAN PROXIMITY**
located in C.o.T. Region 3 & within 5km of the CBD
- SCALE**
appropriate scale to be manageable and resolvable, but multi-layered & complex
- HERITAGE VALUE**
some historical & heritage significance, preferably architectural
- DEVELOPMENT POTENTIAL**
open space, latent interstitial spaces, potential urban integration
- NEGLECTED/DERELICT SITE**
currently vacant / 'abandoned' / 'derelict' building(s)
- HIDDEN POTENTIAL**
not iconic/well-known for its heritage so as to reveal the latent hidden potential, with a focus on the informal appropriation
- SIGNS OF COMMUNITY**
the existence of some sort of community life among occupants (albeit complex in its dynamics)
- ACCESSIBILITY**
access to the site is safe and easy, information is obtainable, accessible

5.1.

LOCAL
All of the 5 case study sites are located in the City of Tshwane



WESTFORT VILLAGE
by Sytze Wierda, 1890s



JUSTICE COLLEGE
by Brian Sandrock, 1960



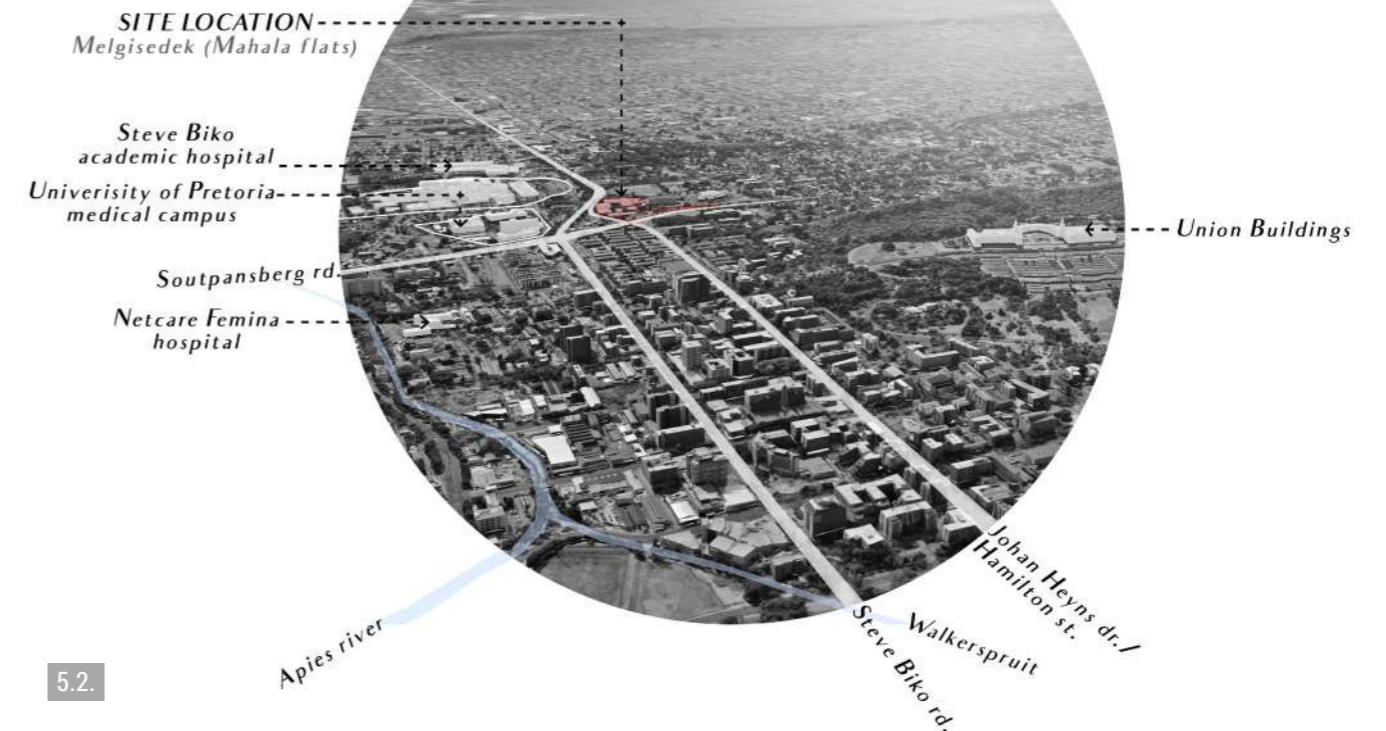
MELGISEDEK
by Gordon Leith 1927, Unknown 1960s & later



STRUBEN SHELTER
Unknown, 1950s/60s



SCHUBART PARK
Unknown, 1976



5.2.

Fig. 5.1. Right, page 20: Site selection criteria, icons from nounproject.com (2018).

Fig. 5.2. Bottom right, page 21: Site location graphic (Author 2021).

[b]

OVERVIEW OF THE SCENARIO

For a background understanding of the selected site and its occupation scenario, information was gathered from various sources, including engagements with stakeholders (De Beer 2021, Bac 2020, Bac 2021, Schmidt 2021), analysis of news articles and other available literature about the site.

The site was originally used as Pretoria Technical College hostels until 1986 (Moore 2007: 46). Thereafter, it was run by an unsuccessful NGO, Melgisedek Christian Centre, as a homeless shelter, giving the site its current name (Bac 2020). After some time, the place and its residents were left in serious debt around 2009 (City of Tshwane 2010), after which Melgisedek became gradually and increasingly informally occupied by vulnerable people. Although currently owned by the City of Tshwane's Group Property (De Beer 2021), since 2009, there has been no formal management, resulting in a current lack of water, sanitation and electrical services.

Currently, approximately 400 vulnerable people occupy the site and its buildings illegally, including families and individuals seeking income in the city (Bac 2020). Moreover, there are numerous inhabitants, including many immigrants, people without identification documents and people with abuse problems who have been ostracised by their family and are unable to find work (Bac 2020). In response to their precarious situations, the inhabitants have appropriated the spaces and have taken ownership of their environment.

Among the existing buildings on site, there are several heritage buildings, with the oldest ones designed by Gordon E. Leith and built in 1927 in a typical Baker-school classicist or "traditional" style (artefacts.co.za n.d. (2)). Additionally, there is one building estimated to be built in the 1960s – presumably in a functional regionalist style – which is likely also a heritage building based on its estimated age (NHRA 1999: 58). In addition, there are multiple prefabricated asbestos hostels that were added later. All the buildings are in various states of decay, with some more damaged than others due to lack of maintenance and fires from cooking or heating during the informal occupation.

Lastly, private and public entities – including various NGOs, non-profit companies (NPCs) and the University of Pretoria – have submitted proposals for the site's redevelopment into social or student housing, or both, following a public invitation from the City of Tshwane in 2018 (Van Petegem 2019).



1927 Heritage buildings
(older than 60 years)

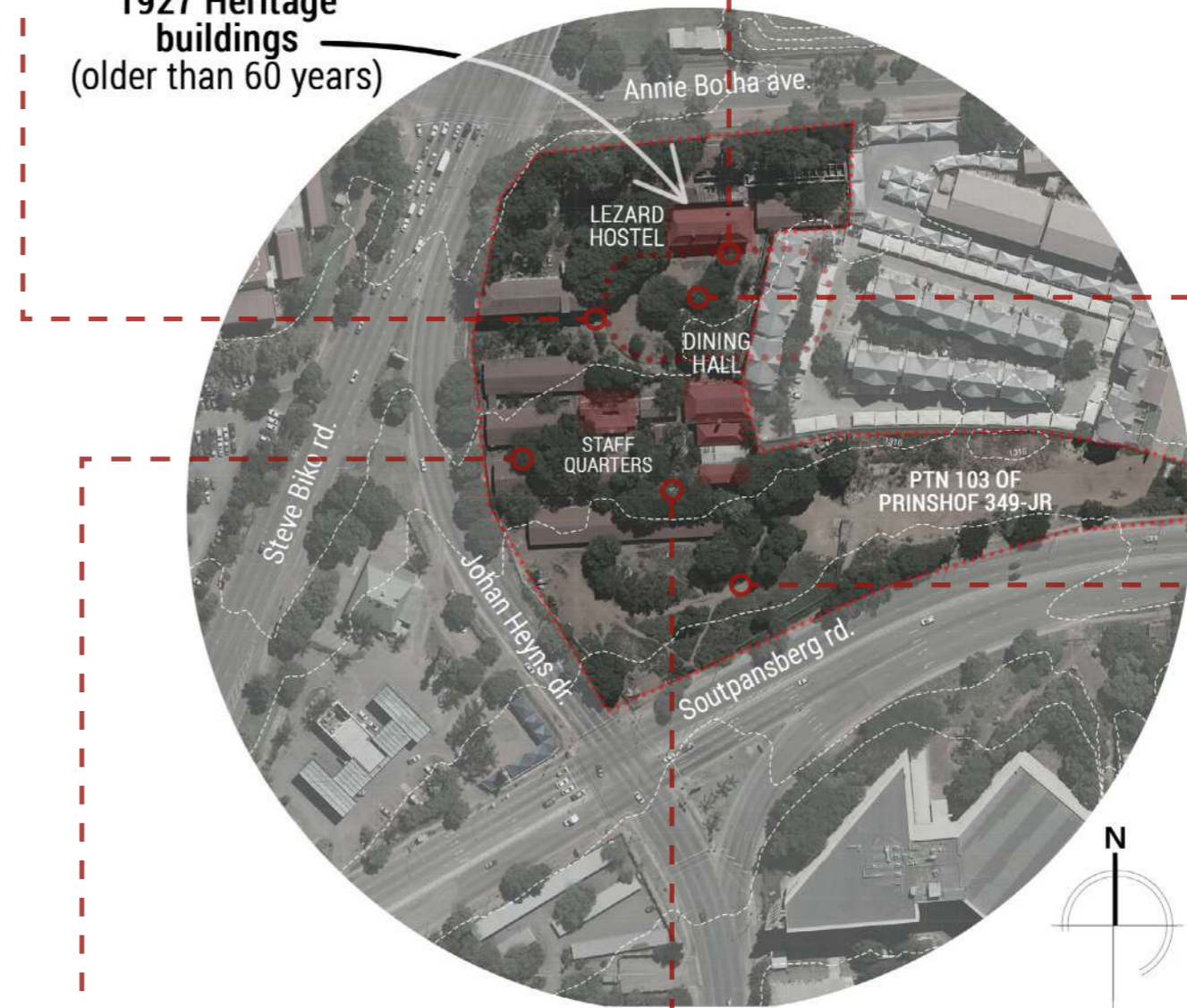


Fig. 5.3. Right: Overview of the current site scenario: site photographs by Author (2021), photograph bottom left from a PTA News article (Van Petegem 2019) and an aerial photo (City of Tshwane 2018 (2)) edited by Author (2021).

5.3.

[c]
THE STORY

historical timeline

The research regarding the history of the site has been distilled into key events to populate a timeline that gives an overview of the various institutional, architectural, social and political layers that make up the complex narrative of Melgisedek. The two themes of architectural and historical heritage and social, occupation-related issues are clearly distinguishable on the two halves of the timeline. Up until 2009, the significant events encompass institutional and architectural history, while everything after 2009 has been dominated by the social and political circumstances surrounding the occupation of the site and homelessness in Tshwane. The events of the timeline's second half are organised according to the following themes that impact the social context: electrical services, site conditions, negative interventions/events, positive interventions/events and policy-related events.



Fig. 5.4. Right: Graphic illustrating the heritage buildings and social condition of the site (Author 2021).
Fig. 5.5. Next two pages: Historical timeline of significant institutional, architectural, social and political events at Melgisedek, compiled by Author (2021).

institutional & architectural history & heritage

establishment of
PRETORIA TECHNICAL COLLEGE
main building to be built where boys hostel was at the time (Moore 2007: 46, SAB 1927: 47-49).



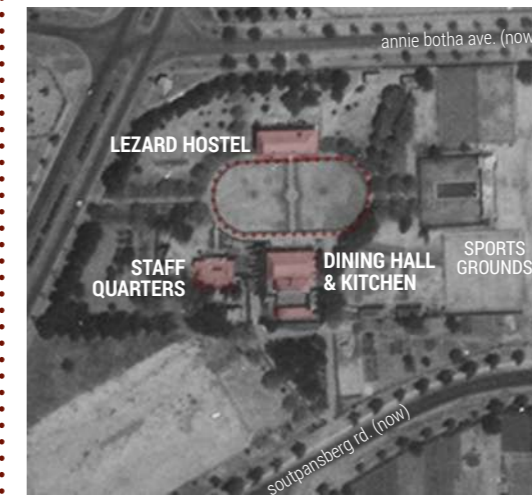
Winning competition design by Gordon Leith (Furner 1926: 95) with sketched facade (Author 2021).

PRETORIA TECHNICAL COLLEGE
main building is built on corner of Church st. & Du Toit st., designed in classical Herbert Baker style by Gordon Leith & young Norman Eaton. (Moore 2007: 46, Pearse & Howie 1946: 282)



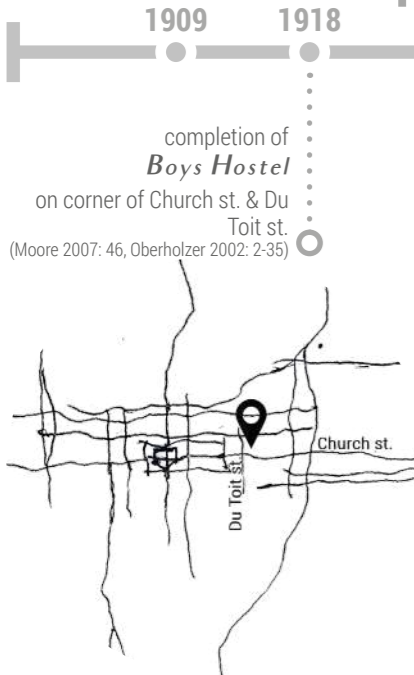
Photograph of PTA Technical College main building on c/o Church and Du Toit st. after it was built (Pearse & Howie 1946: 282).

1947 Aerial photograph of the site with the buildings by Gordon Leith (University of Pretoria 1947)



City Council sounds old Technikon main building to Technikon Pretoria. The Technical Highschool then becomes TSHWANE NORTH TVET COLLEGE Which is currently still on the site, c/o Helen Joseph st. & Du Toit st. (Moore 2007: 52)

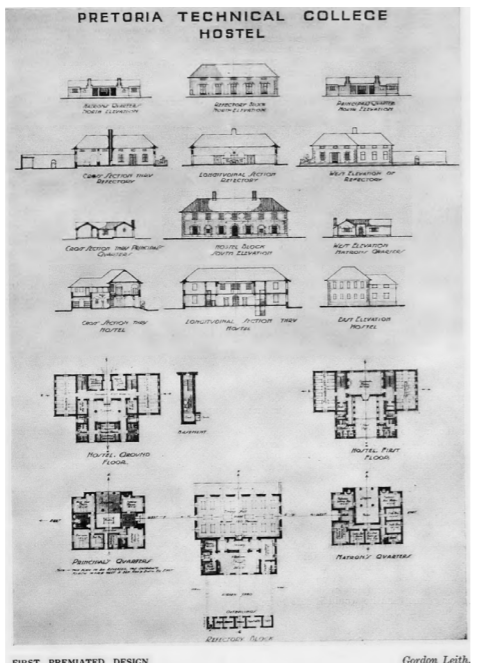
establishment of
PRETORIA TRADES SCHOOL & POLYTECHNIC



completion of
Boys Hostel
on corner of Church st. & Du Toit st. (Moore 2007: 46, Oberholzer 2002: 2-35)



JUNE: Gordon Leith's competition design for
PRETORIA TECHNICAL COLLEGE: HOSTELS
(Williamson 1927: 8).



George Esselmont Gordon Leith



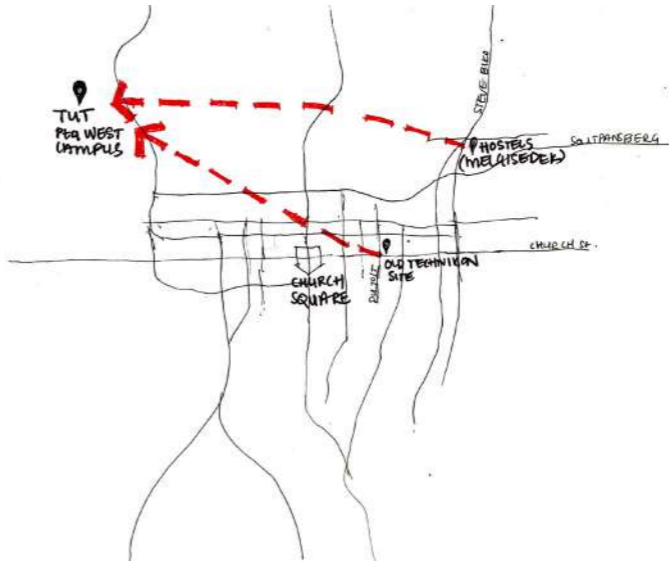
Top: portrait of Gordon Leith (artefacts n.d. (2).) Above: 1947 Aerial photo (University of Pretoria 1947) with 1927 hostel, dining hall & staff buildings by Gordon Leith in red, Left: Gordon Leith's competition entry for the Pretoria Technical College Hostel (Williamson 1927: 8).

the Technical Day School becomes a **Technical Highschool** (now Tshwane North TVET College at the Church/Helen Joseph st. site) (Moore 2007: 47).



PTA Technical college changes name to **PRETORIA TECHNIKON** (Moore 2007: 51).

TECHNIKON PRETORIA DEPARTMENTS & HOSTEL move to new campus in Pretoria West (Moore 2007: 53, Schmidt 2021).



PTA Technikon changes name to **TECHNIKON PRETORIA** (Moore 2007: 51).

Technikon Pretoria, Technikon Northern Gauteng, Technikon North West merge into **TSHWANE UNIVERSITY OF TECHNOLOGY (TUT)** (TUT 2018)



AUGUST: 'New' hostels built in Riviera (on selected site) before Pretoria Technical College main building was built (SAB 1927: 47-49).



Photograph of cornerstone of old Dining Hall at Melgisedek site (Author 2021).

MELGISEDEK CHRISTIAN CENTRE (MCC) poor management, debt, fraud, delapidation
NGO for the poor, established at old Technikon Hostel site. The site is also subdivided (Schmidt 2021).



social, political & occupation history

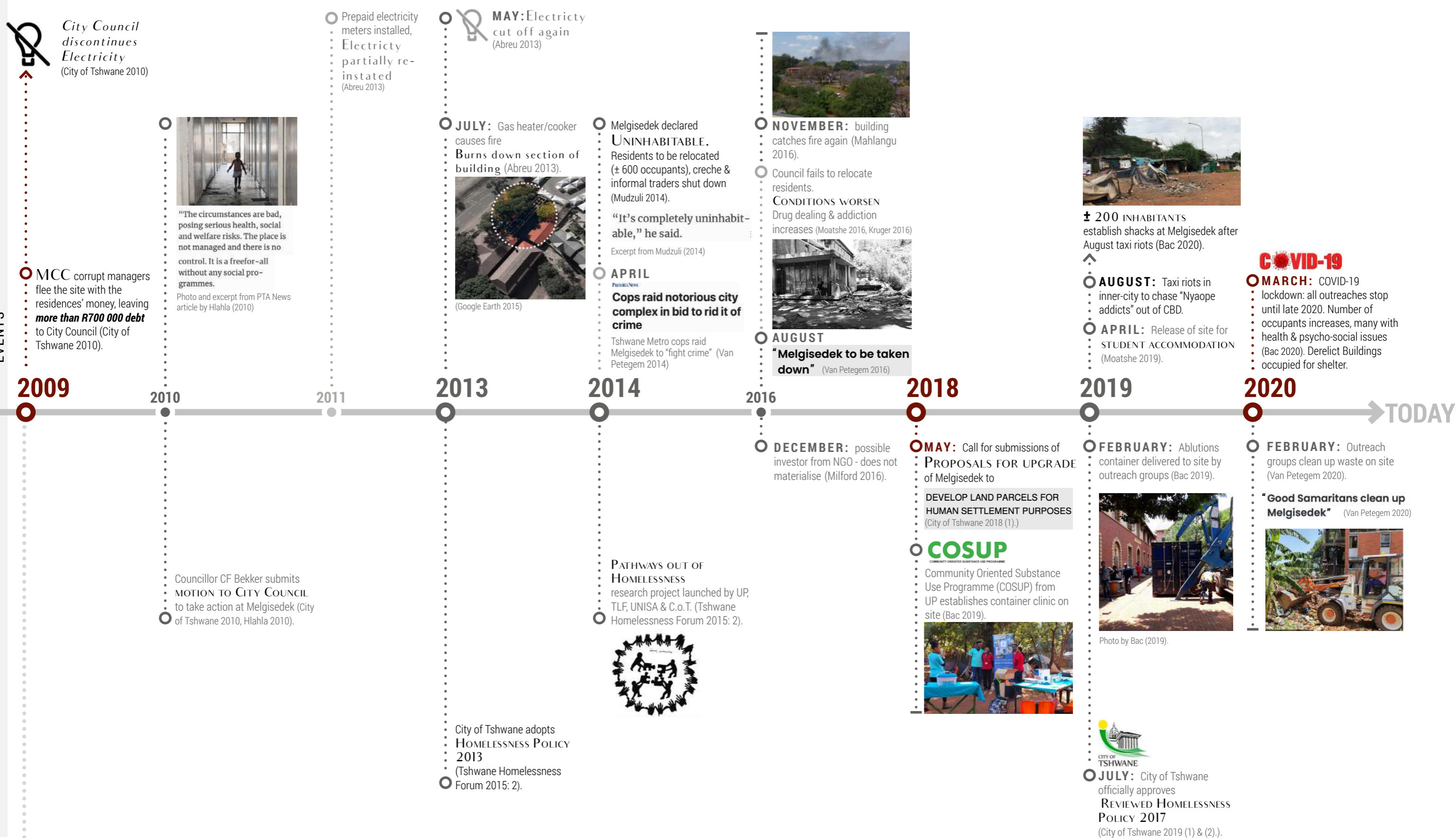
ELECTRICAL SERVICES

SITE CONDITIONS

NEGATIVE INTERVENTIONS / EVENTS

POSITIVE INTERVENTIONS / EVENTS

POLICY



continuous illegal occupation & appropriation

“Although we are needy people, we believe we still have to live in dignity,” said the residents.

Excerpt from Hlahla (2012)

06

conclusion & reflection

DESIGN INTENTIONS

The proposed intervention aims to uncover the site's latent potential by celebrating the special moments of informal appropriation and architectural heritage. It aims to reimagine the existing architecture and spaces on site from a place of social and spatial decay to a layered, reintegrated urban place.

In this essay, the phenomenon of neglected building occupation by the homeless was explored through the theoretical lens of appropriation, palimpsest, phenomenology and overlaying difference. Through this lens, the informal appropriation by vulnerable groups of neglected buildings and interstitial spaces is considered a creative strategy of resilience to meet basic needs and express belonging, ownership and identity.

By means of a case study methodology, five occupation scenarios in the City of Tshwane were analysed for a local overview of this phenomenon and to draw conclusions on the nature of appropriation in each study. The author observed that in instances where opportunities to take ownership of the spaces were available, the resulting informal appropriation tended to be more positive and supportive of community life. On the one hand, sites such as Westfort Village and Melgisedek, which are peri-urban sites with numerous smaller-scale buildings, are appropriated by a legitimate community. These spaces evolve with recurring uses and typologies that serve the community, and graffiti on the walls functions as the artistic expression of identity. On the other hand, inner-city sites like Schubart Park and Justice College, with intimidating built scales and where forceful eviction and harassment are more likely, were transformed more negatively. These spaces have been stripped, vandalised and used for resource extraction, and the graffiti on these sites tends to express the occupants' plight, struggle and desperation.

Finally, the Melgisedek case was selected to be analysed further as the site for this dissertation's proposed intervention. A brief overview of the current scenario and the events that contributed to this scenario were documented to set the scene for research into design. This study forms a rich contextual understanding of the site and its inhabitants for further analysis of the existing needs towards developing a programme and design approach that address the site's complexities (which will be unpacked in Essay Two).

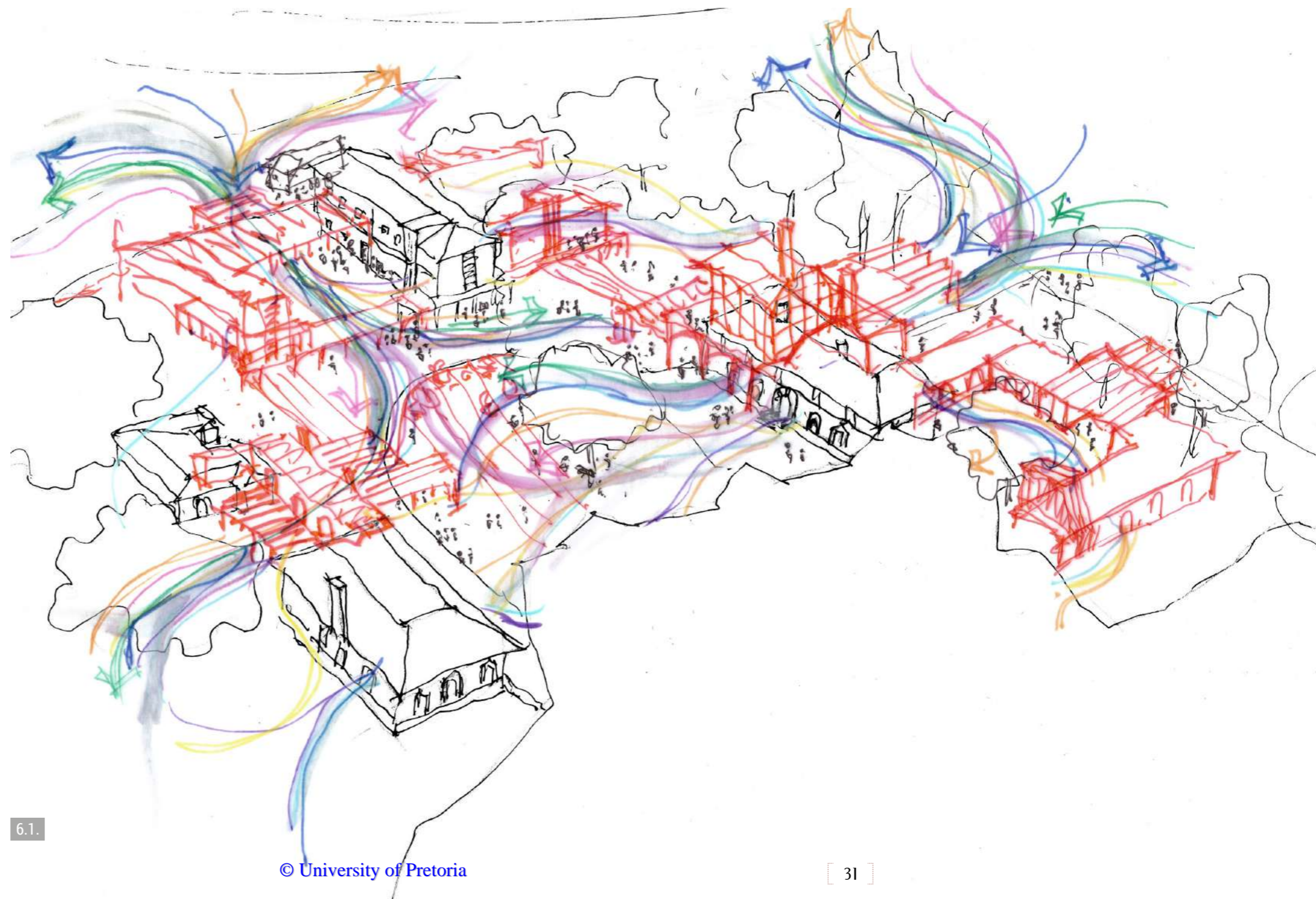
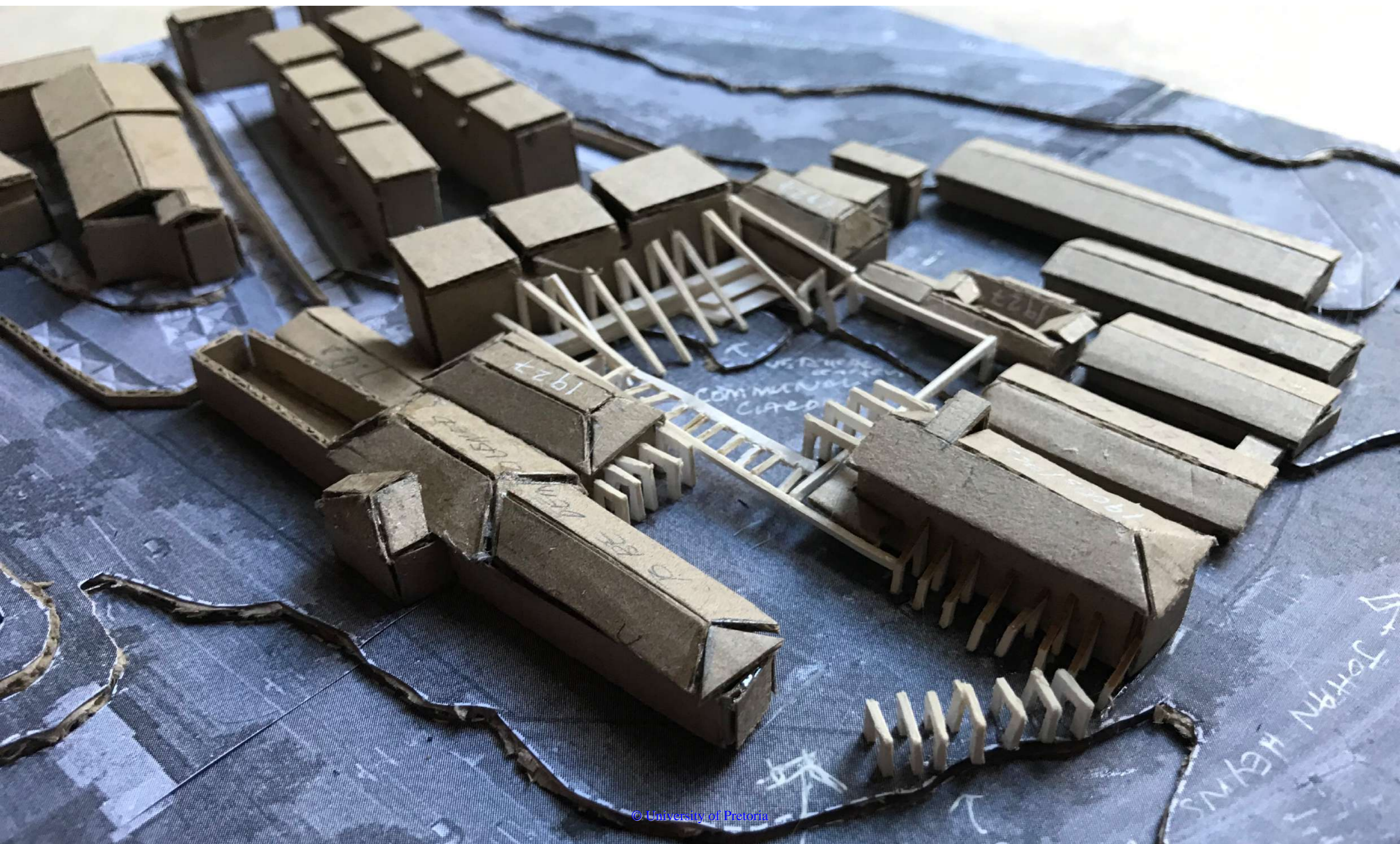


Fig 6.1. Bottom right: Design intention illustration (Author 2021)

6.1.

essay two

RESEARCH INTO DESIGN



07

introduction

In this essay, various analytical tasks have been conducted to engage the Melgisedek site, its existing inhabitants and appropriation to inform the programme and conceptual approach to intervention on the site.

Firstly, the mapping of various aspects on site is aimed at identifying moments of potential, namely the potential for integrating the site into its surrounding context, the existing significant and less significant architecture, and the existing activities and appropriation on site. These mapping exercises have then been interpreted, resulting in various design informants to be considered in the eventual site vision and later design of specific spaces.

Thereafter, through interviews and engagement with various stakeholders currently interacting with the site and its inhabitants, an analysis of the user group(s) and their needs has been conducted to identify the most pertinent needs to respond to through the programme and conceptual approach.

Lastly, various precedents have been analysed through the theoretical lenses of appropriation and agency, [communal] event-driven spaces and transient evolving spaces. The purpose of this analysis is to develop a stance on designing for appropriation and to inform a programmatic and conceptual approach that addresses the social and spatial needs of a vulnerable user group through the theoretical lenses of this dissertation.

The analytical tasks in this essay, and interpretation thereof into design strategies and principles, are aimed at developing a sensitive and well-considered programmatic approach that translates into a conceptual strategy and vision for the site as a whole, which will be discussed in the final section of this essay. This site vision will serve as a conceptual framework for a more focused design intervention to follow, where the detailed design development will centre on a particular aspect and area of the overall vision.



Fig. 7.1. Previous page: Photograph of 1:1000 initial site maquette (Author 2021).
Fig. 7.2. Right: Photograph of an old hostel room appropriated into a tuckshop (Author 2021).

08

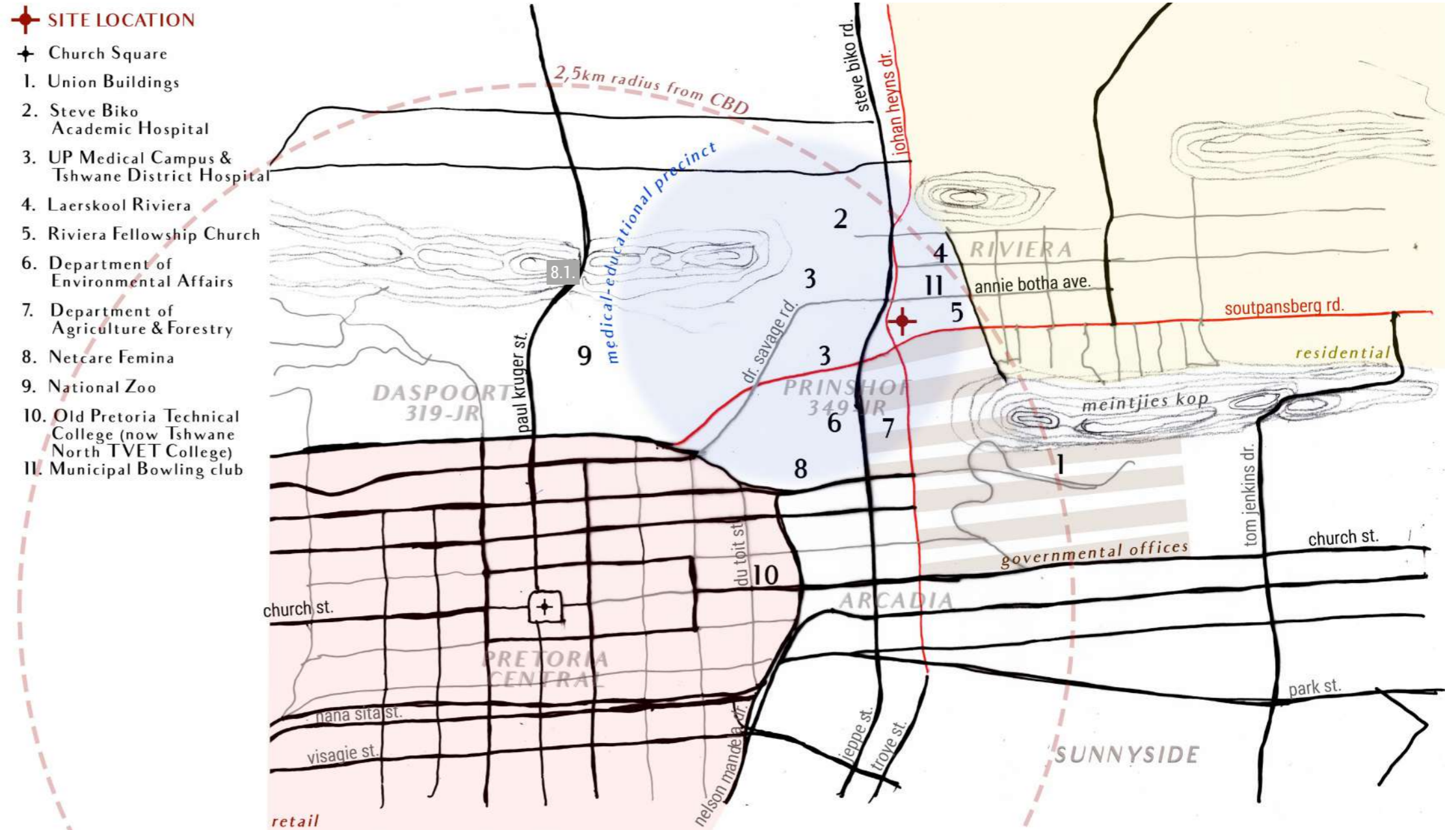
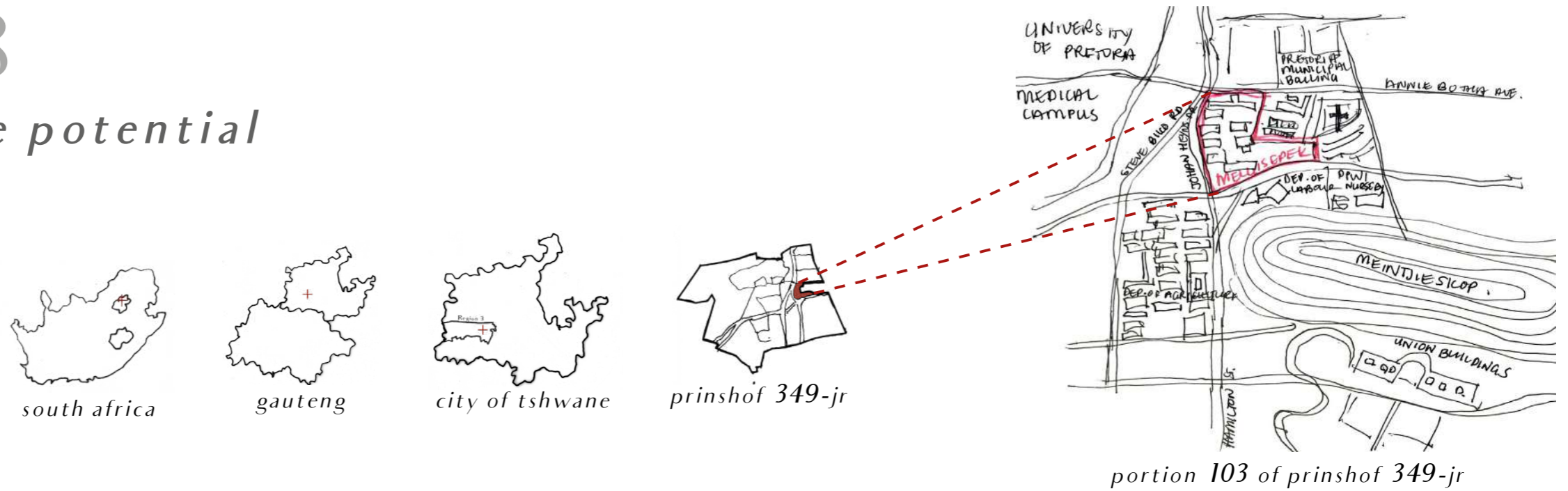
mapping the potential

[a]

SITE POSITION & MESO-CONTEXT

The site is located in the Prinshof 349-Jr farm adjacent to the predominantly residential Riviera suburb just north of Arcadia and the institutional uses of the medical-educational precinct directly west, which includes the Tshwane District Hospital, Steve Biko Hospital and the University of Pretoria Medical Campus. Under 2.5 km from the CBD, the site is in prime location considering the economic opportunities and general land value (Melgisedek Proposal 2019: 6). This would favour a development that serves a mix of users and interests, as opposed to a single, private function that might further isolate the site from its surroundings.

A brief study of the movement, activity and dead spaces of the immediate context adjacent to the site has revealed areas of suggested activation that could assist in the integration of the site and its inhabitants into its surroundings. The isolation of the site is exacerbated by the harsh boundaries of the surrounding sites, which in turn contribute to the “dead”, underused spaces. While the fast-moving vehicular traffic on the multi-lane roads, Steve Biko and Soutpansberg, also create a barrier between the site and its surroundings, the corners of the site at the intersections present the most potential for activation due to a higher presence of pedestrian activity in these areas. The intersection of Steve Biko Road and Annie Botha Avenue is of particular importance for a public interface and offers potential to integrate the site into its surroundings due to the pedestrian presence to and from the hospitals and medical campus, as well as slower vehicular movement on Annie Botha Avenue. Intervention on the corner of the underused sports fields across from the site would further activate the intersection and create a dialogue with the site, catalysing activity across Annie Botha and Steve Biko.

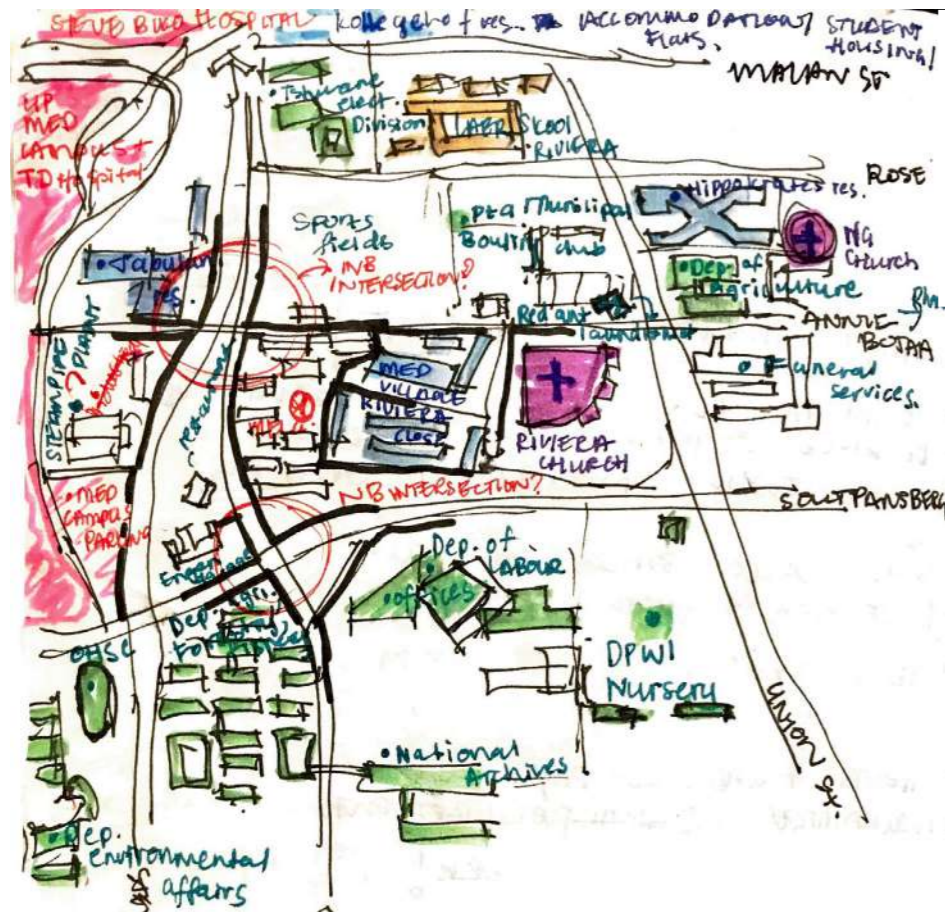


✦ SITE LOCATION

- ✦ Church Square
- 1. Union Buildings
- 2. Steve Biko Academic Hospital
- 3. UP Medical Campus & Tshwane District Hospital
- 4. Laerskool Riviera
- 5. Riviera Fellowship Church
- 6. Department of Environmental Affairs
- 7. Department of Agriculture & Forestry
- 8. Netcare Femina
- 9. National Zoo
- 10. Old Pretoria Technical College (now Tshwane North TVET College)
- 11. Municipal Bowling club

8.2. points of interest, general land uses and relation to CBD

Fig. 8.1. Top right: Location of the site (Author 2021).
Fig. 8.2. Bottom right: Map indicating the site in relation to points of interest and landmarks, general land uses and distance to the CBD (Author 2021).

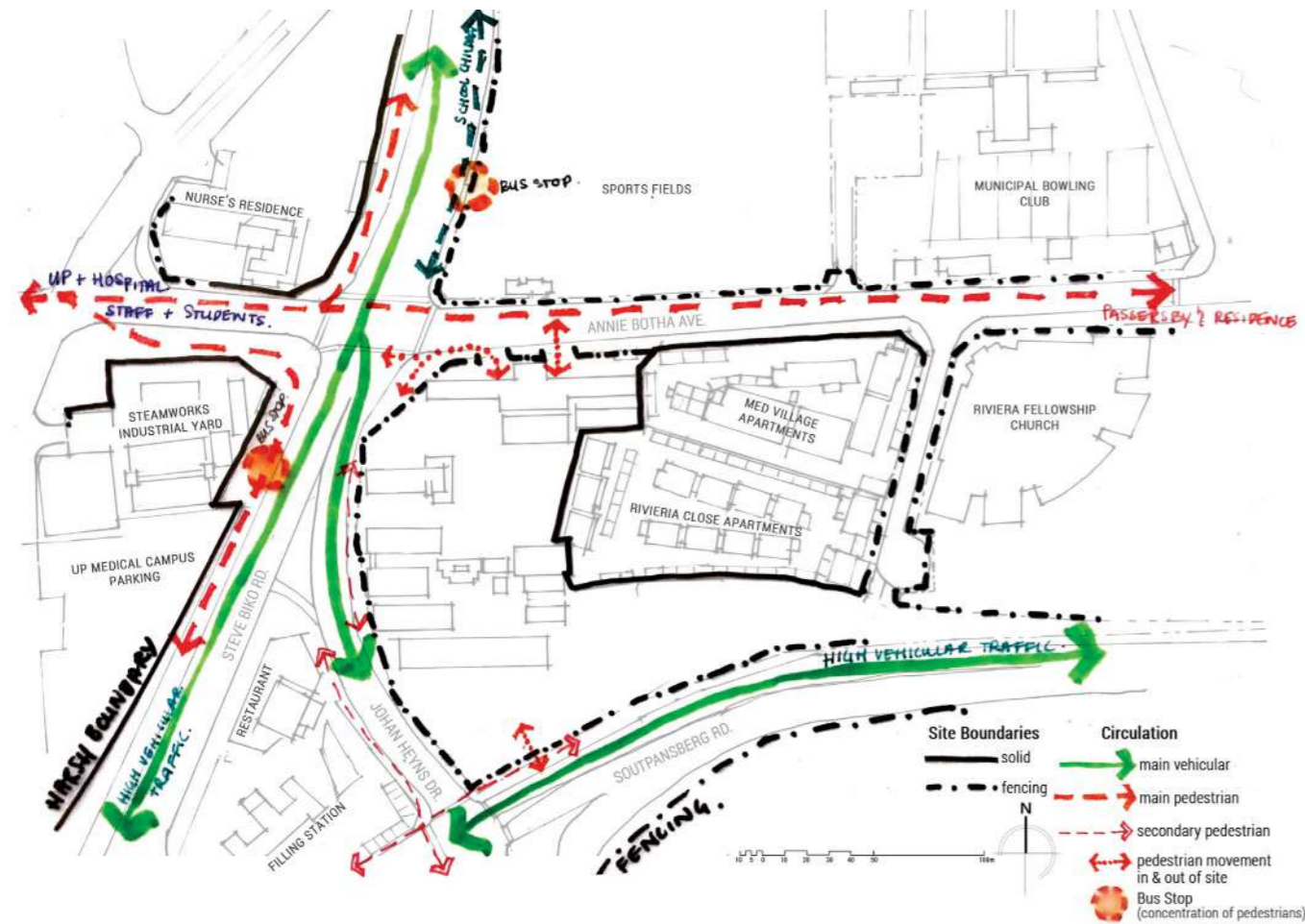


8.3. adjacent uses

- Gov. OFFICES
- Accommodation / flats / UP res.
- MEDICAL UP MEDICAL CAMPUS. / HOSPITAL
- CHURCH
- SCHOOL



8.5. dead spaces & opportunities for activation



8.4. circulation & boundaries

Fig. 8.3. Below: Sketch of the site in relation to the uses in the adjacent context (Author 2021).

Fig. 8.4. Top right: Pedestrian and vehicular circulation; and harsh boundaries (solid and fencing) around adjacent sites (Author 2021).

Fig. 8.5. Bottom right: Dead and underused spaces, correlating with harsh boundaries and singular functions. Also shown are areas of opportunities for activation in order to counter the dead spaces and maximise on pedestrian activity (Author 2021).

(See Appendix 2 for enlarged maps.)

[b]

IDENTIFYING EXISTING ARCHITECTURE

general statement of significance: site overview

This section deals with an overview of the site's existing buildings and their significance to determine the sensitivity towards each in developing a programmatic and conceptual strategy for the site. The significance of the existing buildings on site (see Figure 8.6) is measured according to their heritage significance based on age (NHRA Act 25 of 1999: 58), current physical condition, craftsmanship and contribution to an architectural style or period (Orbasli 2008: 40). It could be argued that each of the buildings, regardless of their historic or architectural value, hold a certain amount of communal and social value due to the meaning that the inhabiting community may ascribe to them as their appropriated homes (Orbasli 2008: 45). This should be considered in the approach to programme, site strategy and the displacement of occupants if the less significant buildings are to be demolished and significant buildings adapted.

After a brief evaluation of each building and the qualitative mapping of special architectural moments on site (Figure 8.7), it is concluded that the three buildings – the 1927 hostel, dining hall and the 1960s/70s hostel building – are of highest significance and should be retained and possibly adapted in the proposed site vision and design. The qualitative mapping (Figure 8.7.) also identifies interesting material and textural queues that could guide specific approaches to the heritage buildings and materiality of proposed additions.



1960s/70s Building:

Moderate-high significance
(Possibly a heritage building, exemplary of a functional regionalist style)

Architect: Unknown

Date: Unknown, assumed to be 1960s/70s (likely 60 years old or just below - possibly protected by NHRA (1999: 58) if older than 60).

Original Use: Hostel accommodation

Condition: Fair. Some surface damage and vandalism. In relatively good condition compared to other non-heritage buildings on site. Occupants have seemed to take ownership.

Materiality: Face brick, concrete frame structure and metal roof sheeting.

Other: Three storeys. Exemplary of a functional regionalist style as a variant of the Modern Movement, with evidence of climate considerations and material articulation.

Proposed Action: To be retained, adapted and treated with similar sensitivity as a heritage building.



Pre-fabricated asbestos structures:

Lowest significance

Architect: Unknown

Date: Unknown, probably added between 1986 and 2009 (under MCC shelter management).

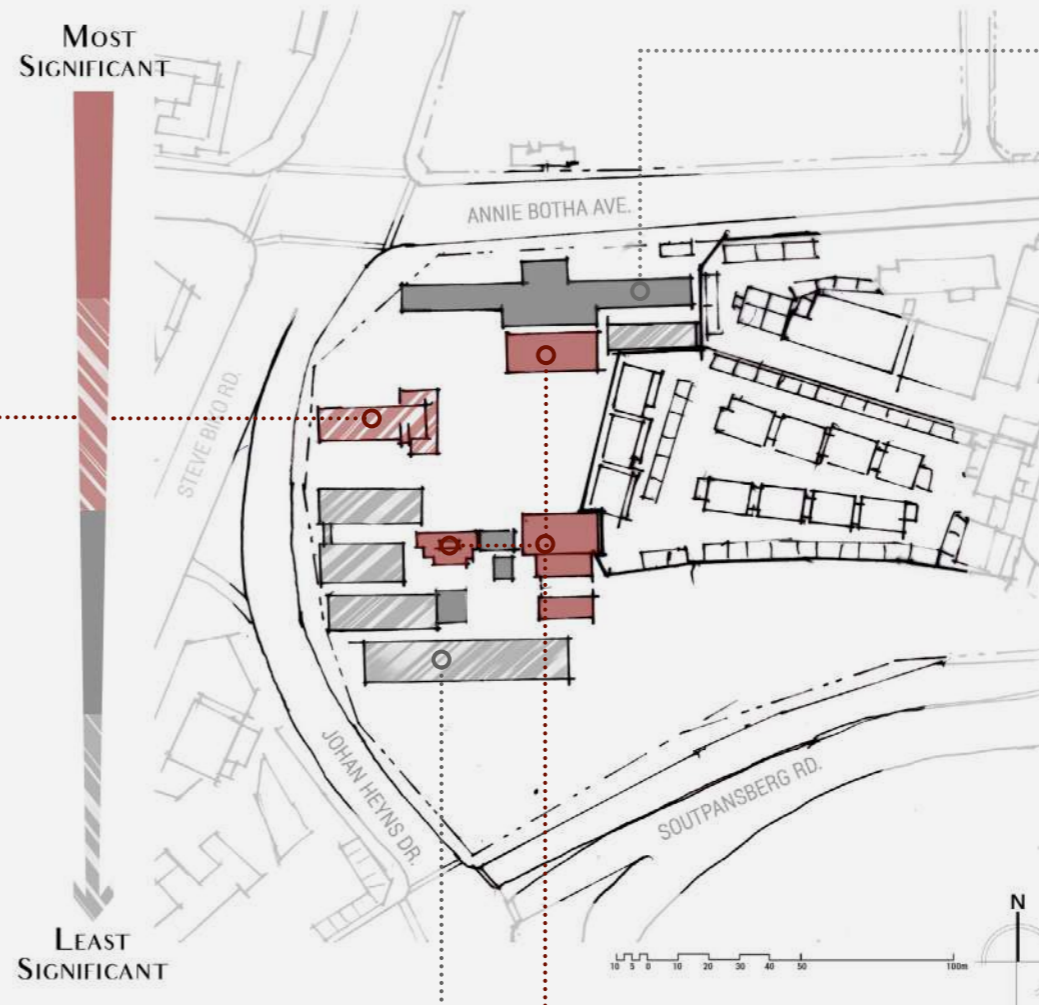
Original Use: Dormitories for shelter accommodation

Condition: Very poor. Damaged asbestos – hazardous and uninhabitable.

Materiality: Asbestos and steel structure and metal roof sheeting.

Other: One storey. These five structures are all placed on the site with little consideration of the overall site layout. Their elongated “dead” facades provide little to no interaction with the spaces adjacent, especially the narrow leftover spaces between the structures to the south, which are predominantly used as dumping sites. The asbestos presents health risks and the exteriors provide little thermal comfort to the narrow interiors.

Proposed Action: To be removed/demolished.



North Brick Building:

Low significance

Architect: Unknown.

Date: Unknown, probably after 1986 establishment of MCC shelter.

Original Use: Shelter reception and accommodation

Condition: Very poor. Severe structural and surface damage caused by neglect and fires. Sanitation equipment and piping removed. Parts of the building are used for housing by occupants.

Materiality: Face brick, suspended timber floors and metal roof sheeting

Other: Two storeys. Impermeable, elongated form cuts site off from surroundings. Minimal architectural contribution in terms of style, craftsmanship and architectural value. Positioned extremely close to 1927 Hostel, creating a narrow, dead passage between the two buildings.

Proposed Action: To be demolished.

“Lezard” Hostel, Dining Hall & Staff Quarters:

Highest significance
(Heritage buildings by a significant architect)

Architect: Gordon E. Leith

Date: 1927 (94 years old – older than 60 years therefore protected by NHRA No. 25 section 34(1) (1999: 58)).

Original Use: Student hostel, dining hall and staff quarters for Pretoria Technical College

Condition: Fair. Some surface damage and graffiti. In relatively good condition. Occupants have seemed to take ownership of the buildings by cleaning and appropriating them for housing.

Materiality: Red (presumably Kirkness) face brick in English bond with sandstone accents and rustication; parquet and vinyl floor finishes; pressed steel and asbestos ceilings; and clay roof tiles.

Other: Hostel – two storeys; dining hall and staff quarters – one storey. Exemplary of Gordon E. Leith's

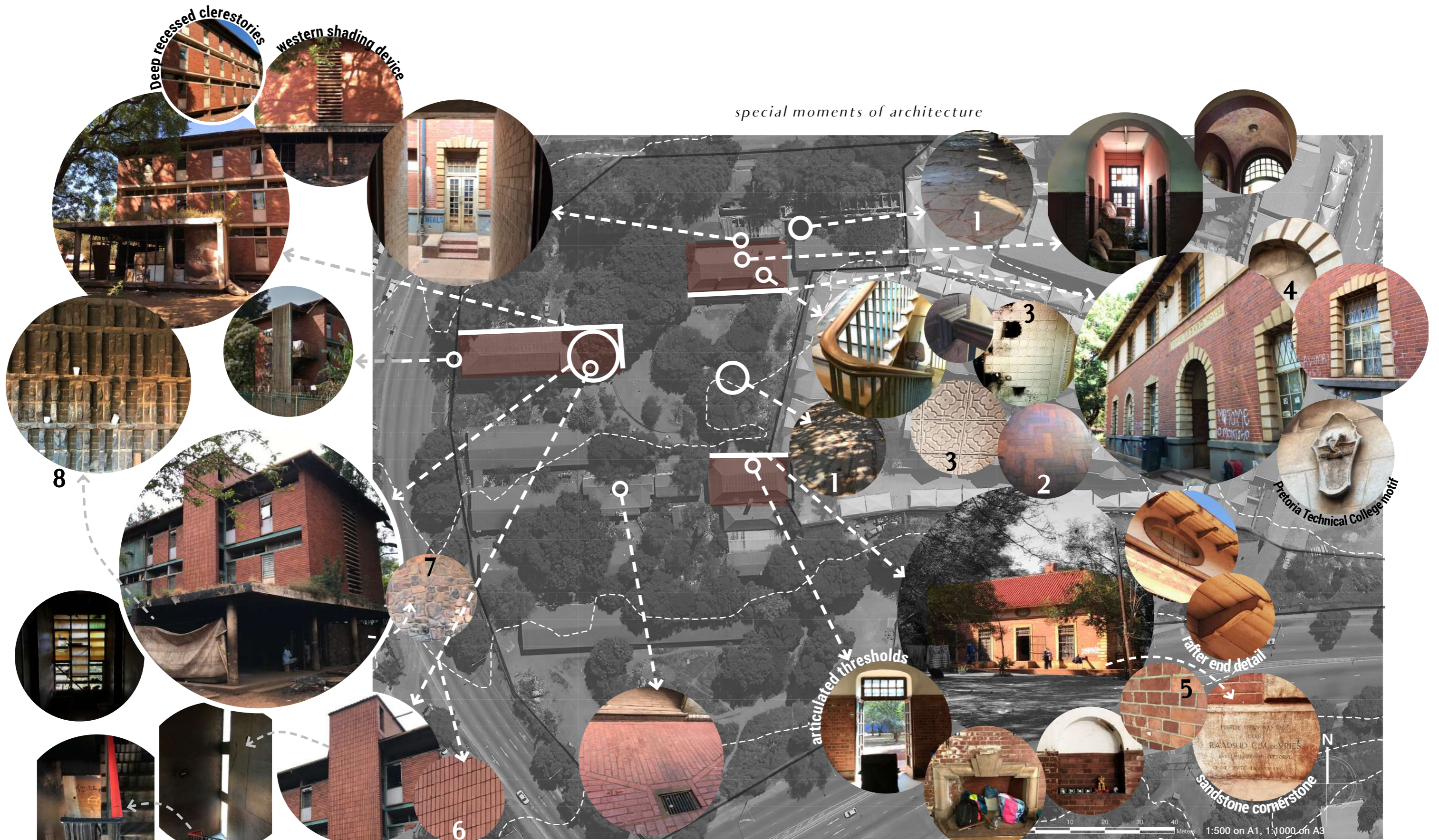


classicist “traditional style” (Artefacts.co.za n.d. (2)) with its symmetry, vaulted foyer and arched openings. Showcases an important architectural contribution and craftsmanship attributed to Gordon Leith's works.

Proposed Action: To be retained and adapted with sensitivity (specifically the hostel and dining hall).

Fig. 8.6.: General statement of significance – site plan indicating significance of existing buildings (Author 2021), brief descriptions of each building and proposed action, photographs of buildings by Author (2021).

8.6.



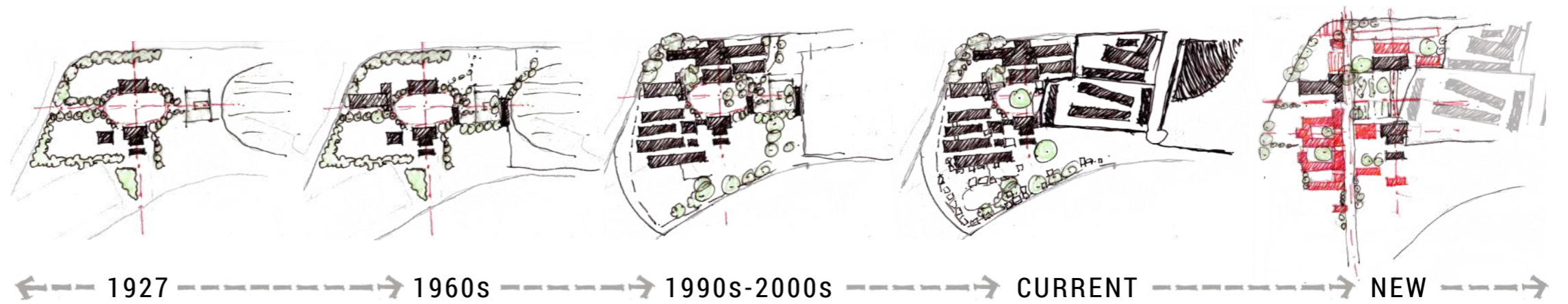
- 1. Slate paving
- 2. Parquet flooring
- 3. Steel pressed ceilings
- 4. Sandstone details
- 5. Red facebrick dutch bond
- 6. Red facebrick vertical stack-bond feature wall
- 7. Rough-coursed natural stone wall
- 8. Rough-textured brick wall

Collage of photographs taken on site of special moments of architecture to capture the material and textural qualities of existing buildings and spaces. The three most significant buildings are highlighted (Author 2021). 8.7.

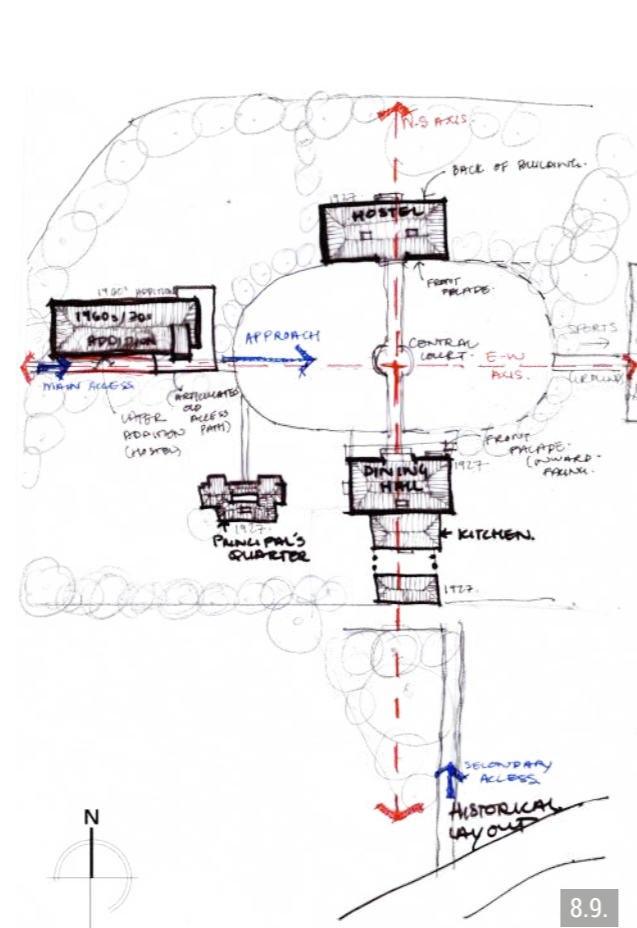
heritage approach

The site displays a palimpsest of uses and architectural styles that have been added over time. They are “layered in time and living” (Fisher 2014: 360), representing the past but contributing to the present. Drawing from the theoretical framework that recognises these traces as layers expressing human experience over time, the proposed heritage approach is based on the intention to continue this palimpsest of the site. Fisher (2014: 360) supports projects that respect heritage, but add a new “narrative which embodies something of our own time”. The proposed approach thus considers the site as a whole: a continuously evolving palimpsest of architectural and historical layers. Therefore the new additions should be a continuation of this palimpsest, where significant existing buildings anchor new programmes that are appropriate for the current social and urban context. The new should act as a sinew between the old – respecting and acknowledging its architectural heritage – while adding a new layer that reinterprets underlying spatial principles and materiality of the old, suggests new principles, ideas and materials and is guided by the current social context as an important driver. The functions and programmes of the existing should be re-interpreted and contested where necessary, to contribute meaningfully to the evolved social context and future of the site.

As opposed to a stylistic and aesthetic approach, emphasis of historical axes, the prevailing central courtyard, proportions and geometry of the existing both honours the old and binds it together with the new, so that new additions are considered as an integral part of the site’s composition without dominating the existing heritage.

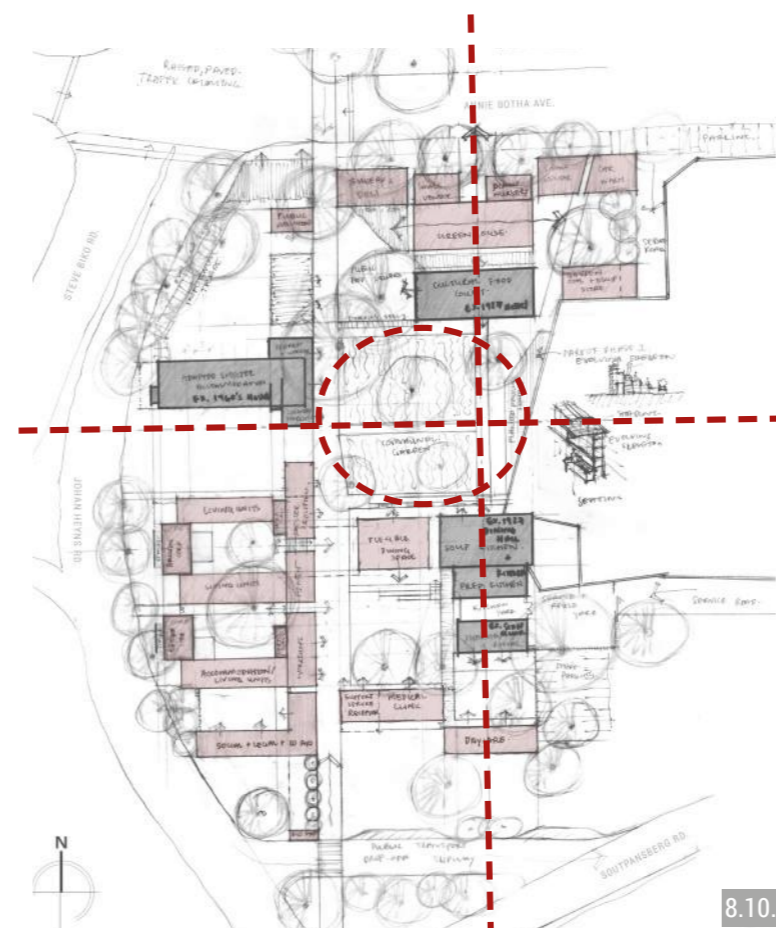


8.8.



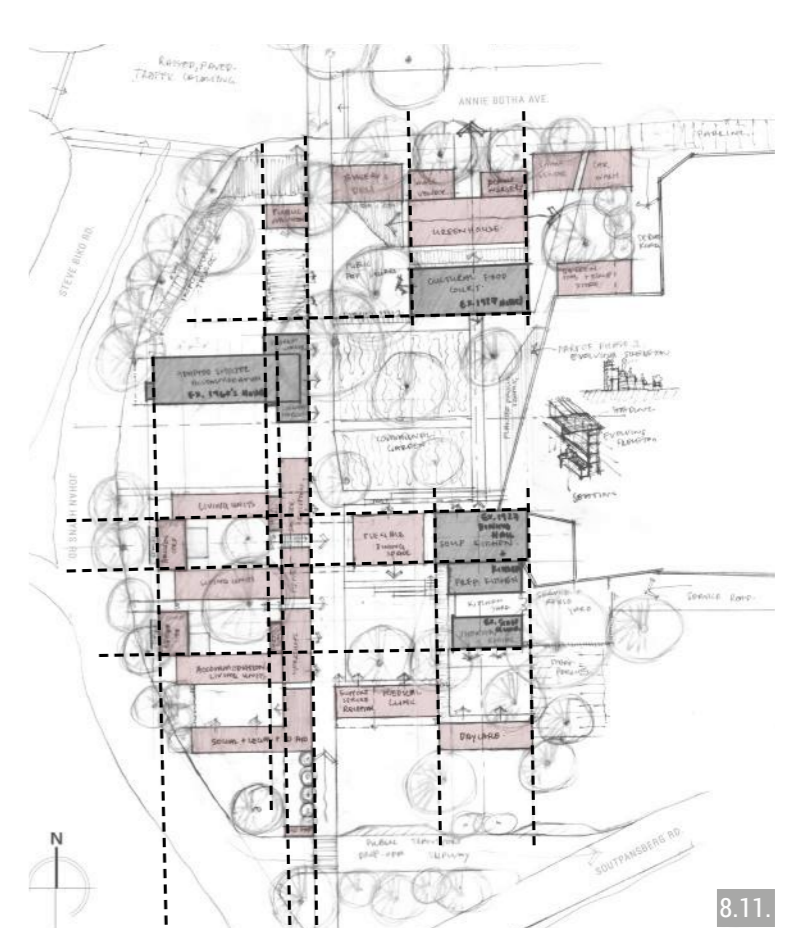
8.9.

historical layout (ca. 1965)



8.10.

historical axes, and courtyard



8.11.

existing geometry, proportions and grid

Fig. 8.8. Top: Morphology of the site and approach of continued palimpsest (Author 2021).

Fig. 8.9. Bottom left: Sketch of the assumed site layout around 1965 (Author 2021).

Fig. 8.10 & 8.11. Bottom middle and bottom right: Iteration 5 site plan defining historical axes, courtyards and relating to existing proportions and geometry (Author 2021).

Of the three most significant buildings identified previously, there are seemingly two distinct manifestations of recognisable architectural styles/periods. The 1927 Leith buildings represent the Baker-school classicist "traditional style" (Artefacts.co.za n.d. (2)) – with its formal axes, order, symmetry and discipline, stylistic treatment of the facade, direct relationship to adjacent open gathering spaces and formalised landscapes – while the 1960s hostel building represents a later interpretation of the international style and Pretoria regionalist style (Fisher 1998: 123-125) – with its grid structure, expression of structure and function in form and elevation, climatic control through western shading devices and northern overhangs, and local natural stone, face brick and corrugated iron roof sheeting. Both these styles have their own spatial and design principles that in some ways contrast each other. This provides a unique opportunity to respond to the existing in a way that combines, reinterprets and juxtaposes certain principles from each manifestation (see Figure 8.12.).

In order to respect and celebrate the existing heritage buildings as their own unique layers, the new interventions must be sensitive to the existing; not overpowering or enveloping it, but complementing it. Throughout the gradual development of the site, the various heritage buildings would be repaired, restored and sensitively adapted, involving minor alterations, additions and retrofitting of existing spaces to suit the new proposed programmes. The new must be clearly distinguishable from the old, yet still relate to it, creating a balance that unifies the past, present and future layers.

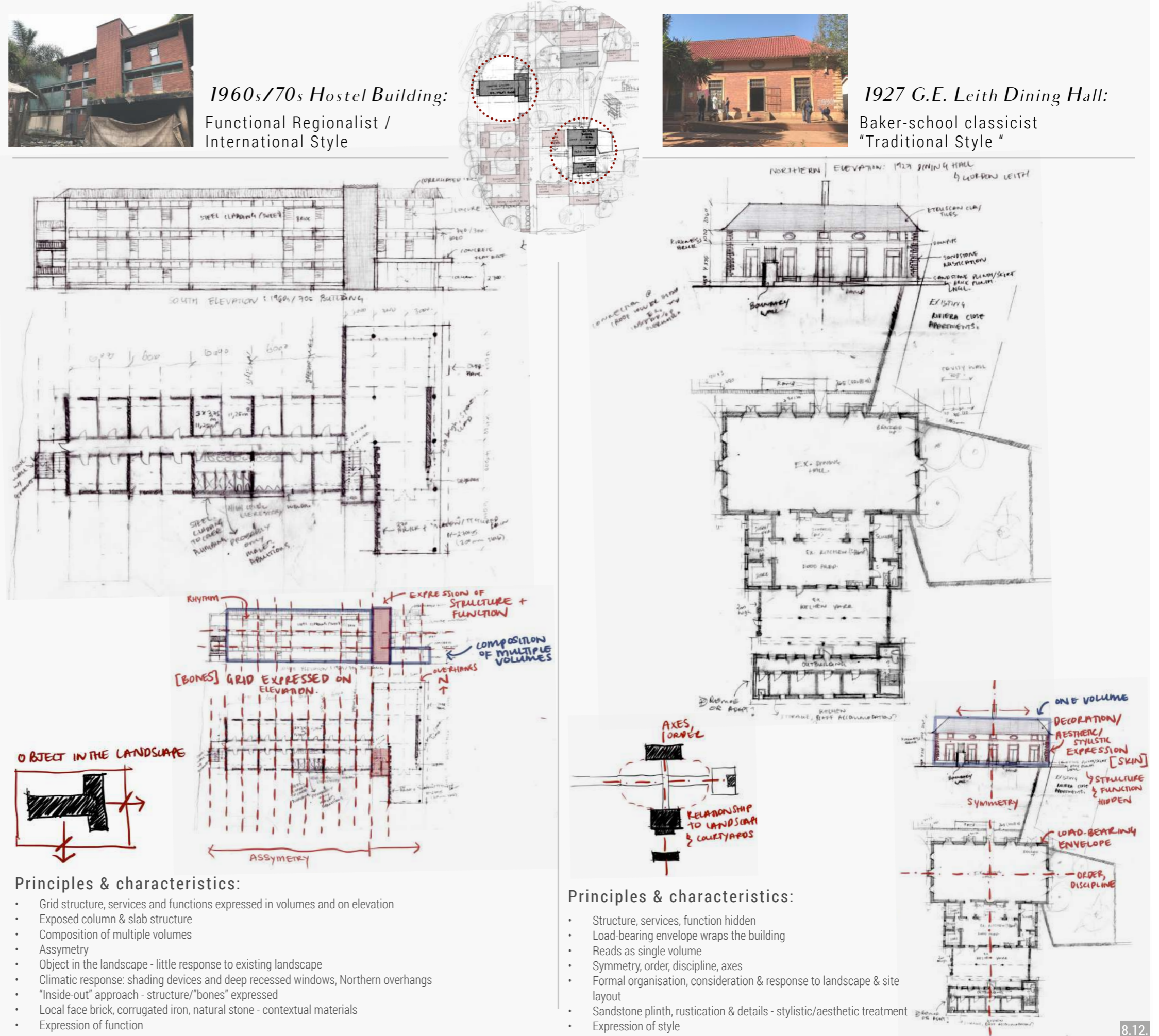


Fig. 8.12. Comparison between the existing 1960s Hostel building and the 1927 Gordon Leith Dining Hall, and their styles, principles and characteristics. Photographs and sketches by Author (2021). Plan and elevation drawings drawn from interpretation of aerial and site photos by Author (1927).

See Appendix 3 for enlarged sketch plans from Figure 8.12.

[c]

INTERPRETING EXISTING ACTIVITIES & APPROPRIATION



1 Gathering, Linging & lounging
GATHER, LINGER



2 Communal washing
WASH



3 Food gardens
GROW



4 Tuck shops & informal trade
SELL



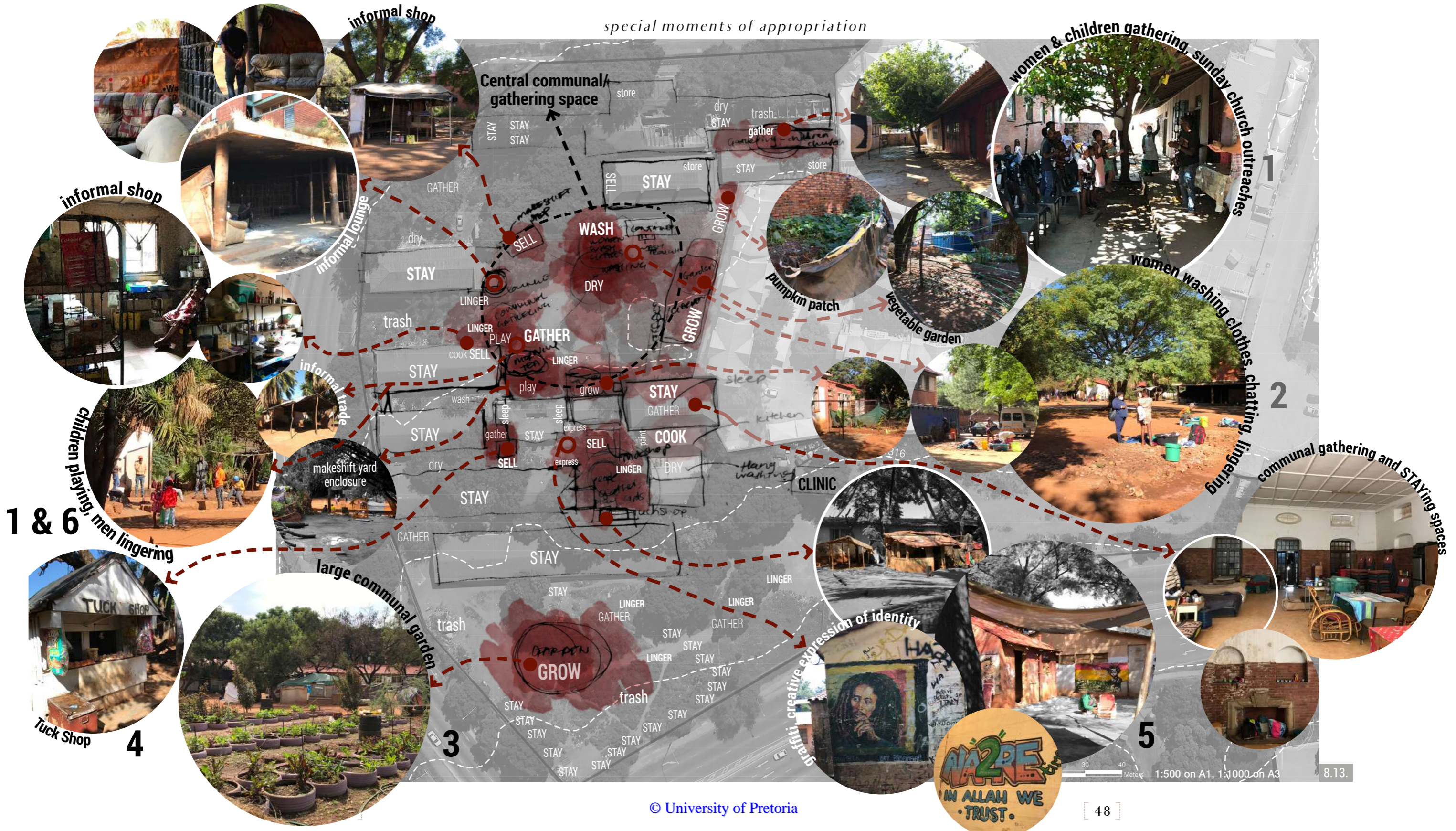
5 Creative expression
EXPRESS



6 Children playing
PLAY



7 Sleeping & living spaces
STAY



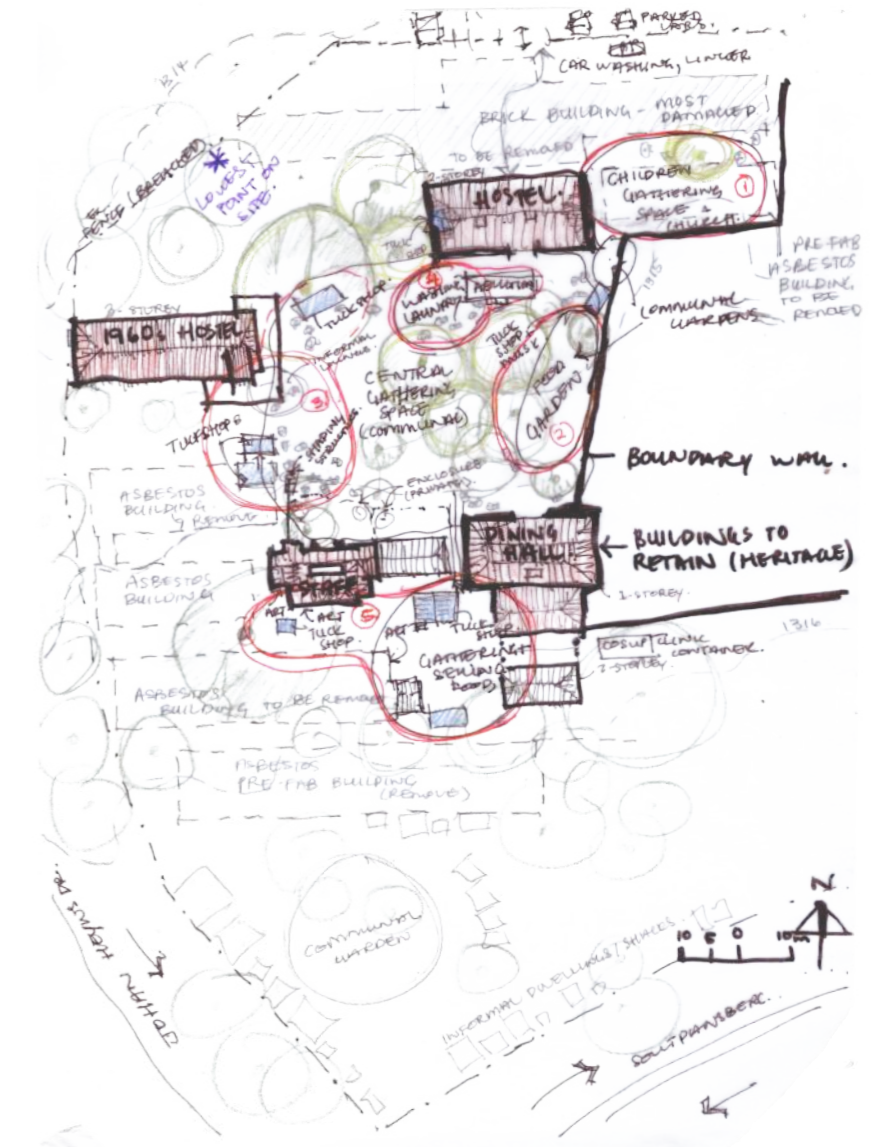
While the existing architecture and its materiality represent a permanence and mostly stereotomic presence of the past, the spontaneous, ongoing informality of the appropriation in and around the existing structures represents a more tectonic transience made up of a collage of found objects and materials. The activities that have emerged over time in the communities' processes of taking ownership of their circumstances and the site provide the potential to be built on and drawn from programmatically and spatially. The qualitative mapping exercise not only revealed a distinct and vibrant sense of place, but also uncovered recurring activities and forms of appropriation. As mentioned previously, many of the identified existing activities emerge out of the inhabitants' resilience and response to basic and communal needs. Through the photographic and mapping exercise on site, various quotidian activities have been identified and mapped.

The existing buildings on site are mostly used for accommodation as a somewhat private place to sleep, stay, cook and in some cases conduct unlawful activities, such as drug dealing and prostitution (Interviewee A 2021, MCO 2021). However, most of the activities in the interstitial and open spaces are expressions of daily communal life, such as women gathering to wash clothes; children playing; people (mostly men) lingering and gathering around music or food; people selling food at makeshift "tuckshops" or from rooms with windows; and people tending to vegetable gardens.

Fig. 8.13. Previous page: Collage of photographs taken on site of special moments of appropriation to capture the sense of place and existing activities (Author 2021).

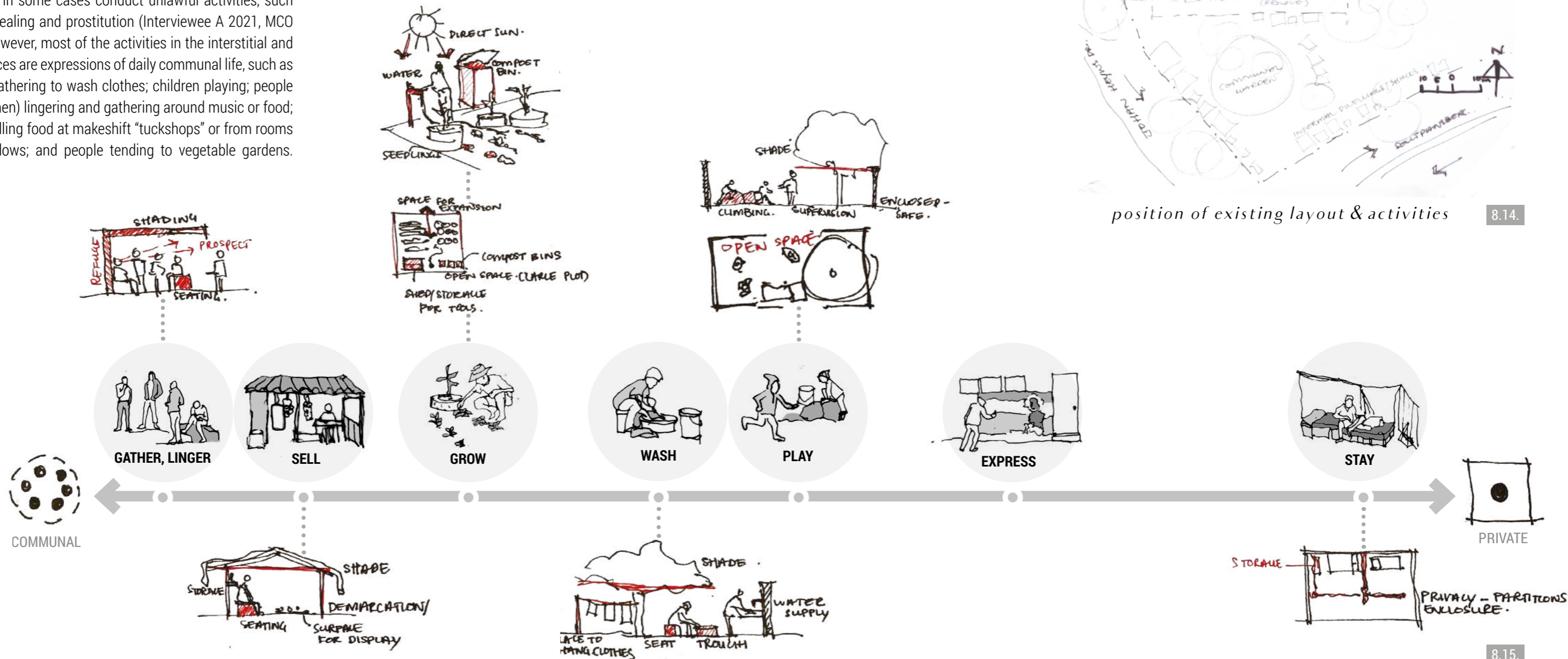
Fig. 8.14. Right: Site sketch indicating significant buildings and the main activities of appropriation surrounding them (Author 2021).

Fig. 8.15. Below: Identified activities are unpacked briefly in terms of their spatial, physical and functional requirements. Most of the activities happening between buildings and in the outdoor spaces are communal in nature (Author 2021).



position of existing layout & activities

8.14.

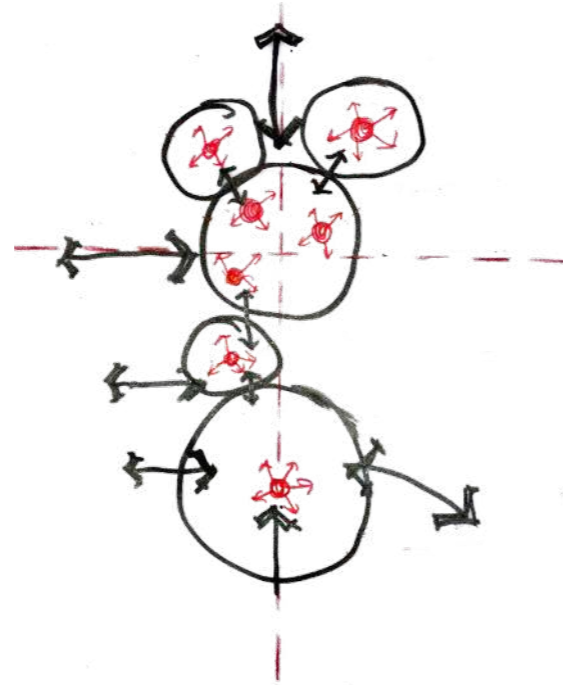


8.15.

[d]

RESULTANT DESIGN & PROGRAMMATIC INFORMANTS

The identified activities are viewed as anchor points and programmatic catalysts in the development of interlinking event-driven spaces for the programme and intervention strategy to follow (see Figure 8.16.). The evolving, transient nature and the tectonic, adaptable materiality of the “makeshift” structures, room partitions and enclosures that inhabitants have added over time inform an incremental, flexible and adaptable approach to programme, design and even materiality that accommodates, acknowledges and celebrates this ongoing process of appropriation (see Figures 8.17.–8.20.). The existing appropriation and activities also indicate the “bare minimum” or essence of what is required practically and spatially for certain quotidian rituals (see Figure 8.15.). This flexibility and transience should, however, also be balanced by aspects of permanence that anchor the programme and materiality and reference the presence of past layers. Thus, the conceptual approach should negotiate between the existing tensions on site between old and new; informal and formal; social and heritage issues; solid and void; communal and private space; permanence and transience (see Figure 8.21.).



programmatic informant

8.16.



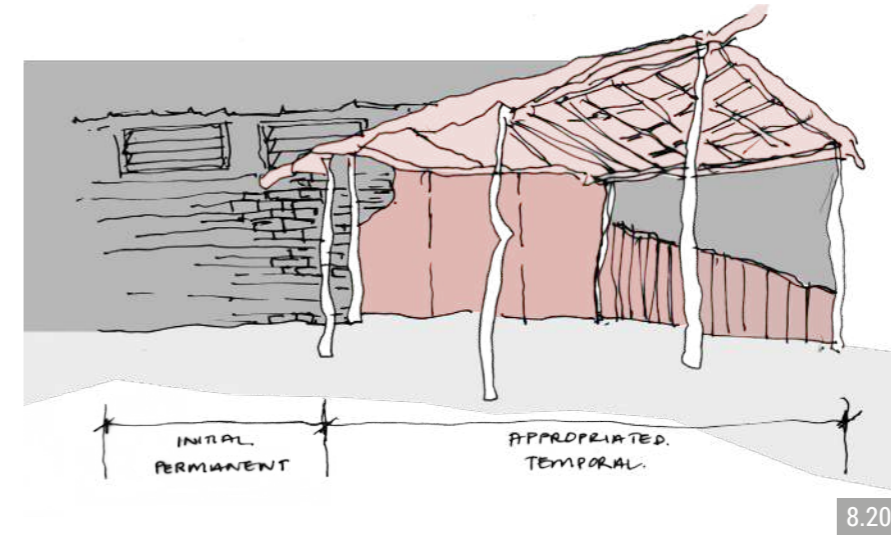
8.17.



8.18.



8.19.



8.20.



FORMAL



HERITAGE



SOLID



PERMANENT



COMMUNAL



TANGIBLE



FIXED



INFORMAL



SOCIAL



VOID



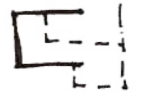
TEMPORAL



PRIVATE



INTANGIBLE



FLEXIBLE

Fig. 8.16. Far left: Conceptual diagram indicating existing activities seen as anchor points and catalysts for interlinking event-driven spaces (Author 2021).

Fig. 8.17.–8.19. Bottom left: Photographs of structures and materials of appropriation on site, revealing the temporal and collaged materiality of the additions.

Fig. 8.20. Directly left: Sketch showing the permanent initial condition and the temporality and transience of the additions by inhabitants.

8.21. Existing tensions observed during site and scenario engagement (Author 2021). Representation of similar themes influenced by Cochrane (2018).

09

user analysis

This section unpacks the needs and profile of the existing inhabitants on site as the focus group for the users of the proposed intervention, to guide a needs-driven programmatic approach. The public programmes will aim to integrate various user groups, including the existing inhabitants, staff and students from the nearby university medical campus and hospitals, residents from adjacent areas, and parents and children from surrounding schools. However, the focus will be to address the needs of the existing inhabitants as a point of departure. Findings from research done in 2020 has also been included due to its relevance to the topic of homelessness in Tshwane and associated basic needs. In addition, these sources have been referred to for contextual research for this dissertation. However, to understand the nuances of the specific user group at Melgisedek, various stakeholders currently involved with the inhabitants have been interviewed. Due to their direct and frequent engagement over the years with the Melgisedek inhabitants, these stakeholders provide invaluable insight into their lives and circumstances. The stakeholders interviewed also include members of Melgisedek Community Outreach (MCO) – a self-organised group of local community members, health care workers from UP Health Sciences and a social worker from COSUP (Community Oriented Substance Use Programme).

[a]

TANGIBLE & INTANGIBLE NEEDS

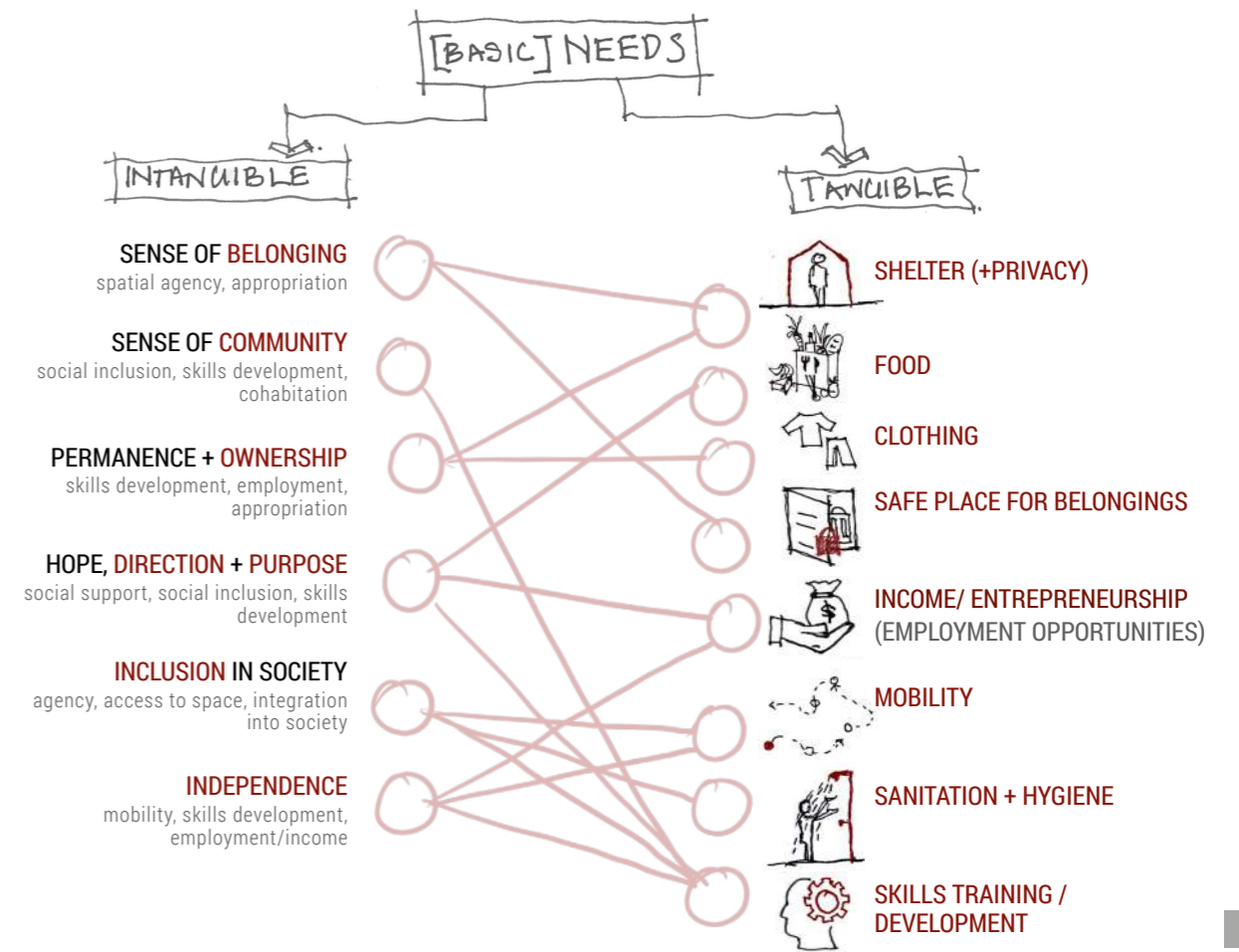
According to the literature (Cross et al. 2010: 11, De Beer & Vally 2017(2), Kriel, Tembe & Mashava 2017: 431-437, Ntakirutimana 2015, Tshwane Homelessness Forum 2015), the basic needs of the homeless can be summarised to consist of various interlinking tangible and intangible needs. Some of the most pertinent intangible needs include a sense of belonging, permanence, stability and ownership; a sense of safety, security and privacy; a sense of community and inclusion/participation in society; direction, hope and purpose; and independence to support oneself financially. These are linked to the tangible needs of access to shelter, food, clothing, mobility, sanitation and hygiene, health care, and skills training and development for income generation and opportunities for employment.

Throughout the interviews, various recurring themes arose regarding the inhabitants at Melgisedek and their needs, such as the existing cultural diversity, the length of stay at Melgisedek, forms of income, the most pertinent needs and issues, and the demographics of the inhabitants, relating to the previously mentioned homelessness categories (Hartshorn 1992).

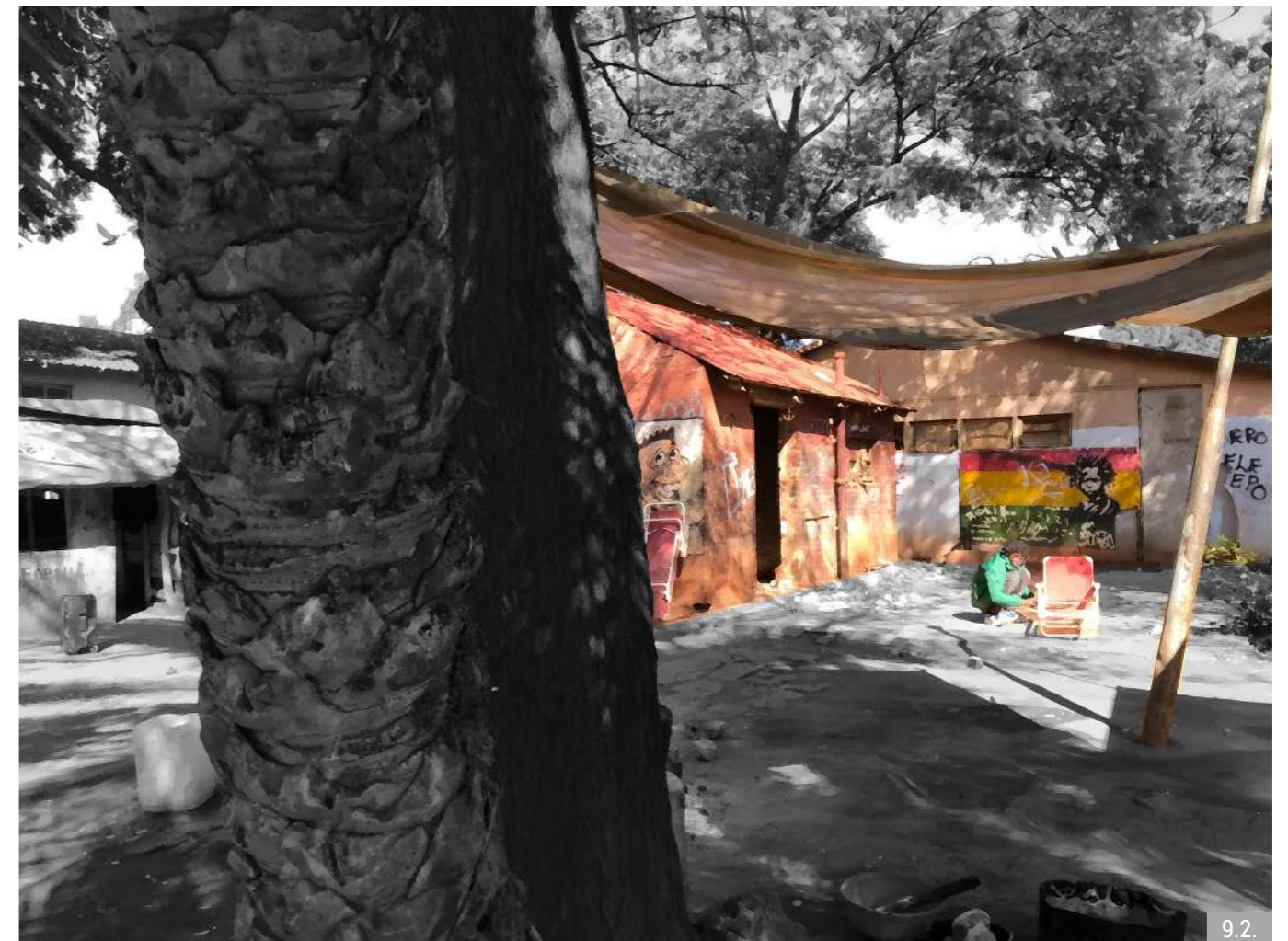
[b]

COMMUNITY STRUCTURE & HABITATION

According to all interviewees (Interviewee A, Interviewee B, MCO 2021), there are currently approximately 400 inhabitants on site. However, instead of forming one cohesive community, Melgisedek boards many smaller sub-communities dispersed across various “zones” (Interviewee A, MCO 2021). Most of these communities are formed according to culture and nationality. Therefore, Melgisedek exhibits rich cultural diversity, but most inhabitants prefer to remain within the “bounds” of their own cultural group (MCO 2021). On site, inhabitants belong to a mix of African cultures, including Tanzanians, Nigerians, Kenyans, Ghanaians, Burundians, Congolese, Zimbabweans and South Africans (Interviewee A, Interviewee B, MCO 2021).



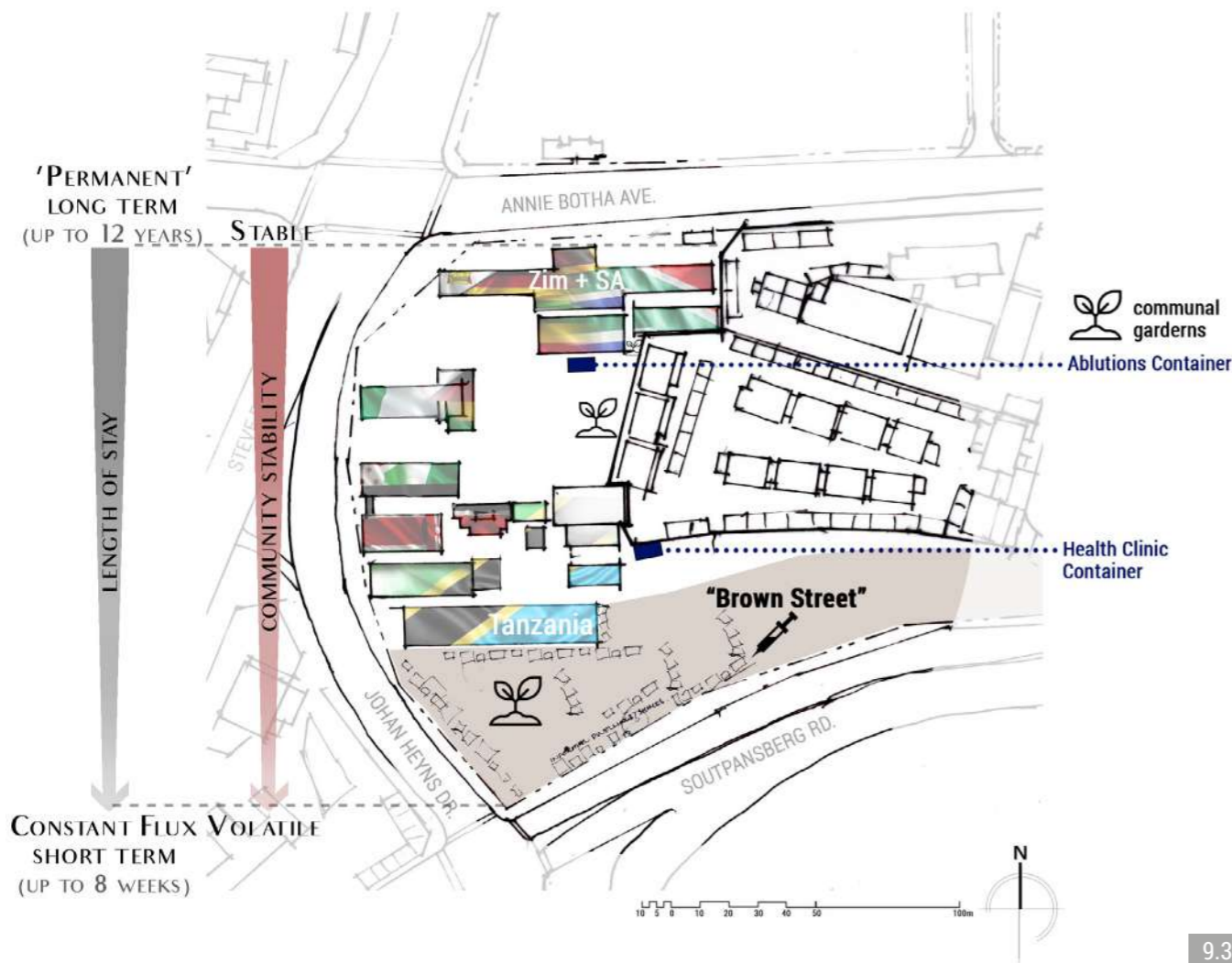
9.1.



9.2.

Fig. 9.1. Top right: Basic intangible and tangible needs and how they are intertwined. Diagrams by author (2020), Honours 2020 Q4, based on local research on homelessness (Cross et al. 2010:11, De Beer & Vally 2017, Tshwane Homelessness Forum 2015).

Fig. 9.2. Bottom right: Photograph of 'Ghanian and Tanzanian' area on site taken by Author (2021)



9.3.

Map of site indicating distribution of inhabitants according to community stability, length of stay and sub-communities of various African cultures. Also shown are the positions of communal gardens and the area with informal shacks known as “Brown Street” (Author 2021).

Another unique aspect of the site’s distribution of inhabitants is the varied length of stay. Moving from the northern buildings, which house more “stable communities” of residents who have lived there for up to 12 years (Interviewee A 2021), to the southern part of site, the volatility of community increases while the length of stay decreases (Interviewee A 2021, MCO 2021). Among the “permanent” residents, there is a room ownership system that is respected by the various communities (MCO 2021). The rooms are “purchased” for about R1000 from residents wanting to move out, and once someone has bought the room “legitimately”, this ownership is recognised and respected by the other inhabitants (MCO 2021). On the southern-most section of the site, a separate community of predominantly substance users have established informal dwelling structures or “shacks” since the 2018 taxi conflict, when many informal dwellers were chased out of Bloed Street and Brown Street in the inner-city (Interviewee A, Interviewee B, MCO 2021). This area on site is referred to by inhabitants and stakeholders as “Brown Street”, referencing the street they used to reside in previously, as well as the characteristic plains of brown dirt surrounding the shacks in



9.4.

Photograph of informal dwellings at “Brown Street” (Author 2021).

this area (MCO 2021). According to MCO (2021), Melgisedek is “like a train station” – aside from those who reside there “permanently”, there is a constant flux of inhabitants. Some reside there during the week for work and go home (outside of the city) on weekends (Interviewee B 2021, MCO 2021). Some stay for a few weeks and leave once they have secured a job. Others visit the site in the day to buy food, cigarettes and alcohol sold at the “spaza shops” or to purchase drugs from dealers who reside on site. Therefore, any social support or intervention introduced at Melgisedek will likely also affect other users who frequently visit the site but don’t

necessarily live there.

Among these various sub-communities, there is a varied demographic of men, women, elderly, families and individuals, all of whom correlate with the aforementioned categories of homelessness (Hartshorn 1992, Tshwane Homelessness Forum 2015). Among these are individuals who seek work in the city and have distant homes to which they return on weekends. Similarly, some couples and small families reside at Melgisedek in search for income or employment in the city but are unable to access affordable housing (Interviewee A and B 2021). Both of these groups fall under the economic homelessness category. Additionally, there are inhabitants who are substance users addicted to various opioids or “pensioners” (elderly folk) struggling with health issues that render them unemployed or are unable to work. These individuals are categorised under chronic homelessness (Interviewee A 2021, Tshwane Homelessness Forum 2015: 5). The site also houses single mothers and their children, who have fled abusive relationships or have been abandoned by their partners/fathers (Interviewee A 2021). These women are often unable to find a stable income due to their responsibility to look after their children during the day. Many immigrants, refugees and asylum seekers reside on site as they are often unable to access the required legal permits to access alternative housing, shelters, formal employment, etc. (MCO 2021). These two groups fall under the situational homelessness category. Finally, because all these inhabitants seek shelter in the existing buildings or informal dwellings at Melgisedek, they would be considered as “near homeless” due to their unstable housing and tenure (Ntakirutimana 2015: 14).

[c]

IMMEDIATE & MOST PERTINENT NEEDS

According to the interviewees (Interviewee A, Interviewee B, MCO 2021), the most pertinent needs of the Melgisedek inhabitants are related to immediate, basic and daily amenities, such as sanitation, hygiene and food security. Many people spend their days in search for means to meet these daily needs, unable to focus on longer term steps to improve their circumstances (Interviewee B). Interviewee B (2021) states that these needs must be addressed first as they are likely to affect other psychosocial and physical needs. “The people need something now” (Interviewee B 2021), therefore longer-term solutions, although necessary, should be considered as subsequent interventions.



Economic Homelessness



Chronic Homelessness



Situational Homelessness



“Near” Homelessness

According to Interviewee B (2021), the container of ablutions that was donated to the site in 2019 was very well received by the community, although these are not nearly enough for the number of inhabitants.

The ability to practise daily personal hygiene affects not only the health of the occupants but also their dignity, self-confidence and empowerment to take ownership of the steps towards social inclusion, independence and employment (Interviewee B 2021). The inhabitants feel that if they were able to practise personal hygiene more easily, they would have more self-confidence to approach prospective employers and social service facilities who might otherwise discriminate against them (Interviewee B 2021).

Another basic, immediate need is food security. There have been many cases of malnutrition in the past few years at Melgisedek (Bac 2020, Interviewee A 2021). In response, a number of communal vegetable gardens have emerged on site, mostly with the help of seedling and equipment donations from the local community and churches (Interviewee A). A number of keen inhabitants tend to these gardens and their growing success, enjoying produce like spinach, tomatoes, onions, maize, carrots, etc. (MCO 2021).

For many, primary health care is an immediate need. In 2018, COSUP from UP established a health clinic on site to address immediate, smaller health issues and refer more serious emergency cases to the nearby hospitals (Interviewee A 2021). The substance users are able to access methadone treatment for opioid withdrawal and other addiction-related health issues; however, there is a need for more consistent psychological counselling and family reintegration services for these and other inhabitants (Interviewee A and B 2021).

The lack of and inability to access legal documentation is a far-reaching issue at Melgisedek (Interviewee A 2021, MCO 2021). According to Interviewee A and MCO (2021), the majority of the inhabitants do not have legal documentation such as IDs and permits. Many of the South African citizens' IDs have either been lost or stolen, and most of the non-South African inhabitants have either never had legal permits or their permits have expired. Without an ID or work permit, the inhabitants are unable to access most support services such as social housing, primary health care, education, social grants, shelters, formal employment and bank services (Ntakirutimana 2015: 88). The inhabitants are mostly unable to renew these legal documents due to the inability to afford the application fees or transport to the relevant facilities, as well as an inability to take leave stand

in queues at the relevant municipal departments (MCO 2021). Furthermore, many struggle to apply for the reissue of documentation due to the lack of a legal physical address (MCO 2021, Ntakirutimana 2015: 88).apply for the reissue of documentation due to the lack of a legal physical address (MCO 2021, Ntakirutimana 2015: 88).

Lastly, due to many of them being unable to access formal income without legal documents, the inhabitants often resort to informal, and sometimes illegal, forms of income (MCO 2021). While the main source of income on site is from the informal trade between inhabitants and "outsiders" (Interviewee B 2021), most inhabitants complete piecework or work as recyclers ("trolley pushers"), car guards, security guards, cleaners and gardeners for the nearby hospitals and residential areas (Interviewee A, Interviewee B, MCO 2021). Most of the illegal forms of income come from drug dealing and prostitution, which take place predominantly on the southern part of the site in the less stable communities (Interviewee B 2021, MCO 2021).

In conclusion, the key information gathered from the interactions with stakeholders are: the various sub-communities on site; the immediate daily needs that are crucial to address as a first step; the various psychosocial and physical support services that are needed; and the lack of and inability to access legal documentation that has a ripple effect on securing other steps towards improved circumstances. It is also clear that the circumstances and needs of the inhabitants at Melgisedek are interlinked, varied and complex. Thus, a multi-scalar and integrated psychosocial, physical and economic approach that is sensitive to these complexities is required.



9.5.

The ablution container on site donated by local community members and churches in 2019 (Author 2021).



9.6.

The largest of the three communal gardens on site (Author 2021).



9.7.

The COSUP (Community Oriented Substance Use Programme) Health clinic on site (Author 2021).

10

precedent analysis

[a]

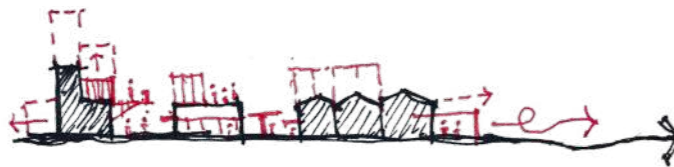
DESIGNING & PROGRAMMING FOR APPROPRIATION

Selected precedents were analysed to inform an appropriate programmatic and design approach to the site that addresses and embraces the varied complexities of the site and its current users. Although there is a myriad of architectural and programmatic precedents around the world that address the issue of homelessness, vulnerable people and public-social integration, the following precedents were chosen through the following lenses extracted from the theoretical framework in Essay One:



1. User appropriation and agency

(Coelho 2015, Hill 2003, Awan, Schneider & Till 2011)



2. Evolving and transient space

(Anderson 2015, Da Costa & van Rensburg 2008)



3. [Communal] Event-driven spaces

(Da Costa & van Rensburg 2008)

Showcasing various examples of project types and programmes, each precedent stems from a social or communal well-being agenda. The programmatic responses to user needs have been considered while the precedents have been compared to each other in terms of scale, permanence/temporality, user agency and approach to the ongoing process of appropriation. For the purpose of this study, only the most important principles and conclusions from each precedent are shown, serving as insight into the overall principles deduced from the exercise.

A-Kamp 47



10.1. Photograph of A-Kamp47 vertical camp in use (Malka n.d.).

Architect/Designer: Stephane Malka

Date: 2013

Location: Marseilles, France

Programme: Temporary emergency shelter, "vertical camp" (Malka n.d.)

User: Street homeless people

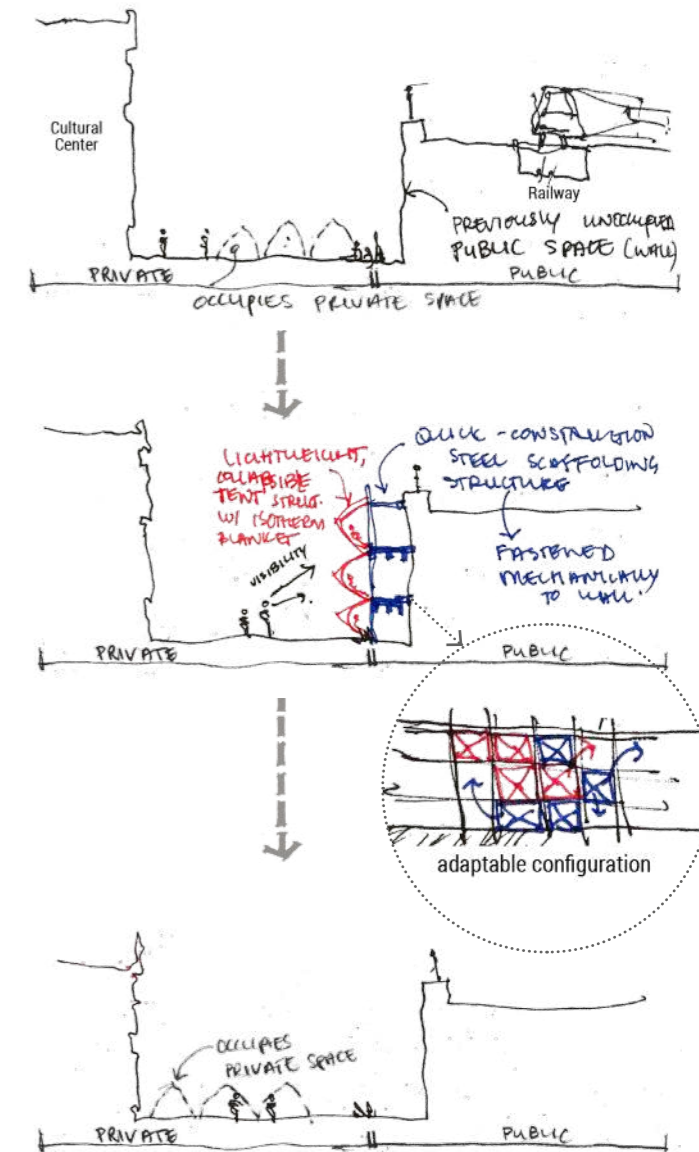
As a form of activism, Malka designed an "installation" of 23 protruding tent pods attached to a steel scaffolding frame, fixed temporarily to a railway viaduct wall. The project aims to provide temporary, "quick-to-install" emergency shelter for street homeless wanderers to address their immediate need in the cold, as well as to offer a visual statement to spark debate around the housing crisis and a critique on the tendency of architecture to respond to homelessness with "long and very expensive answers" (Medina 2013).

The flexible "vertical camp" is positioned in an interstitial space of legal ambiguity, challenging the private property of the adjacent cultural centre, but qualifying as public space due to its vertical parasitic attachment on the public wall (Brownstone 2013, Malka n.d.).

The quick, modular and simple construction of the mobile tent and scaffolding creates a temporal, flexible, lightweight activation of interstitial space, symbolising the nomadic lifestyle of the homeless and adding to the constantly evolving public space.

Main lessons learnt:

This project shows how the temporality and adaptability of materiality can serve a symbolic purpose to catalyse public awareness, and expose the transience of homelessness. Although it is only a temporary solution, it advocates for addressing an immediate basic need first, before engaging long-term responses. In reality, the tents were mostly occupied by young travellers as a novelty, emphasising the limit of control an architect has over the way spaces are inevitably appropriated by users.



10.2. Temporary occupation of interstitial space (Author 2021).



10.3. Transient, evolving space due to quick assembly and disassembly (Author 2021).

Passage 56



10.4. Photograph of Passage 56 entrance (AAA n.d.).

Architect / Designer: Atelier d'Architecture Autogerée (AAA)

Date: 2006–2009

Location: Paris, France

Programme: Communal garden and event space

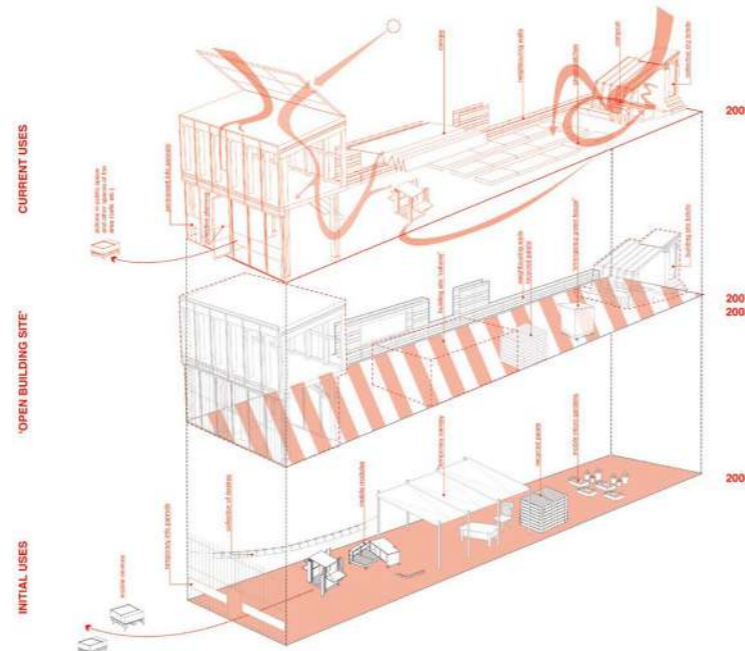
User (and participants): Local community including student interns from eco-construction organisation etc.

In collaboration with various local participants, Atelier d'Architecture Auogerée designed an incremental, semi-permanent space to activate a disused passageway (Awan et al. 2011: 106). With user appropriation as the catalyst and by embracing the transience of this process, they envisioned the project to “eventually evolve with the future users of the site” (AAA n.d.), creating materially and functionally temporal, adaptable structures and spaces from recycled materials. The space is also programmed around an anchoring communal event/activity – the communal garden – yet allows for multiple and variable everyday uses as a social-gathering and event space.

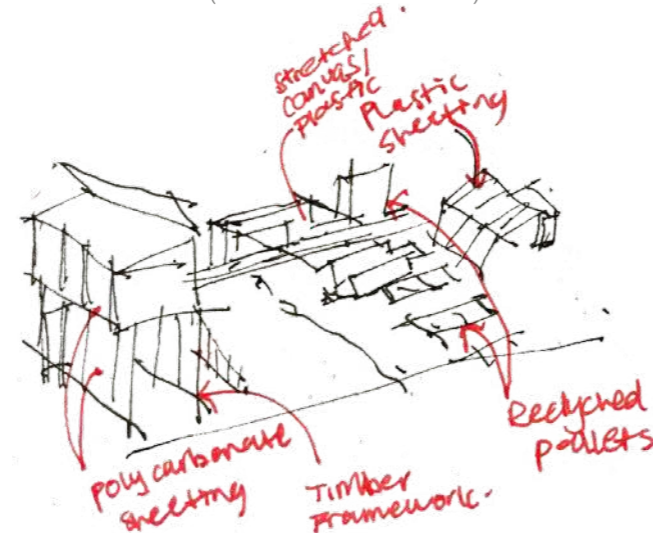
Viewing their role as “curators and enablers”, AAA designed the spaces so as to leave enough room for the inhabitants to take over responsibility and agency (Awan et al. 2011: 105,106). The site continues to evolve with use, constant adaptations and additions by the community. The semi-permanent, lightweight and tectonic construction of the structures and mobility of smaller “modules” lend itself to the flexible appropriation thereof.

Main lessons learnt:

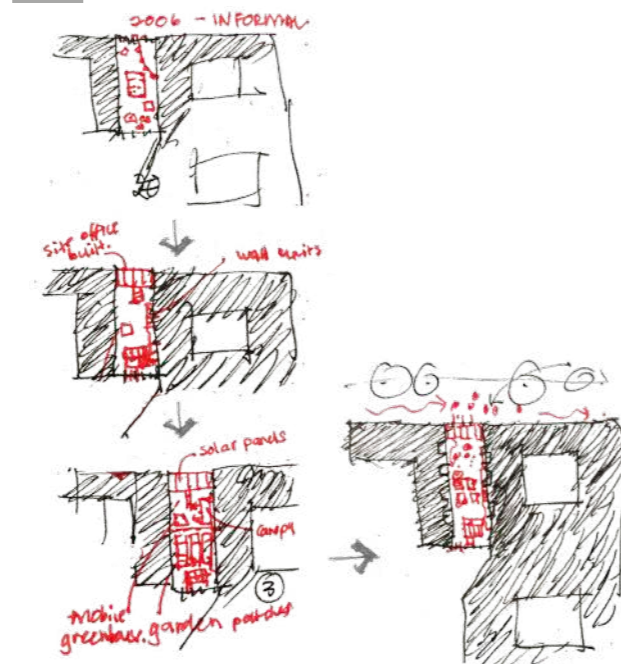
This precedent gives a clear direction for a way to design for and with appropriation through a flexible, incremental approach. The space is anchored by a daily, communal activity/programme but leaves enough room to allow multiple programmes to emerge. The material and design approach are centred on flexibility and adaptability, using lightweight, temporal materials that can be changed, disassembled and reconfigured. The temporal insertion is also sensitive to adjacent existing buildings.



10.5. Evolution of the site over time from initial appropriation to current uses (Petcou and Petrescu 2013: 1).



10.6. Temporal, recycled materiality (Author 2021).



10.7. Evolution of site with use and appropriation (Author 2021).

St. Joseph Rebuild Center



10.8. Photo of St. Joseph Rebuild Centre (Farbstein et al. 2009).

Architect/Designer: Wayne Troyer Architects and Detroit Collaborative Design Center (DCDC)

Date: 2007

Location: New Orleans, USA

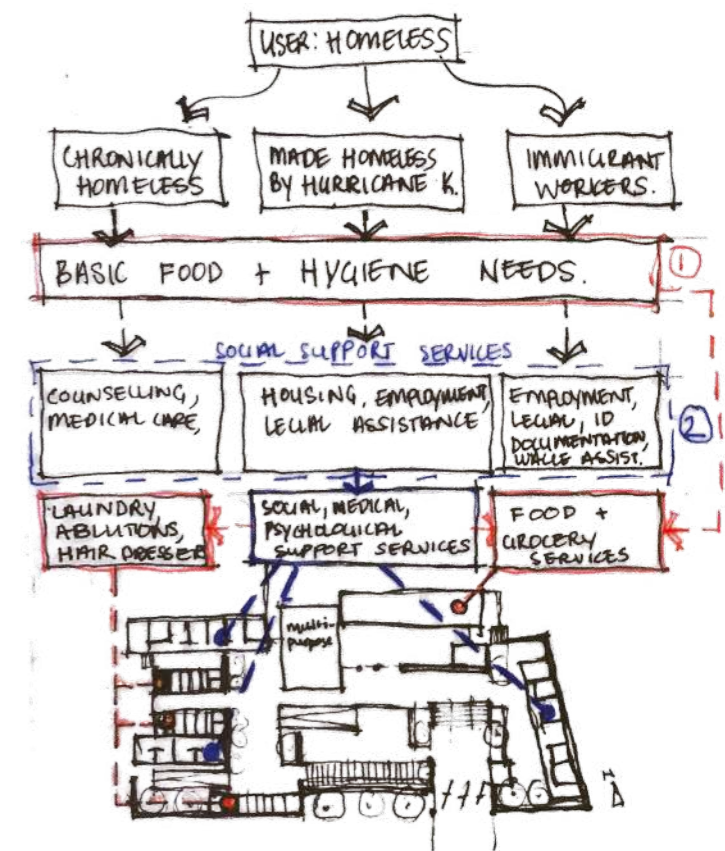
Programme: Day Center for homeless

User (and participants): homeless persons

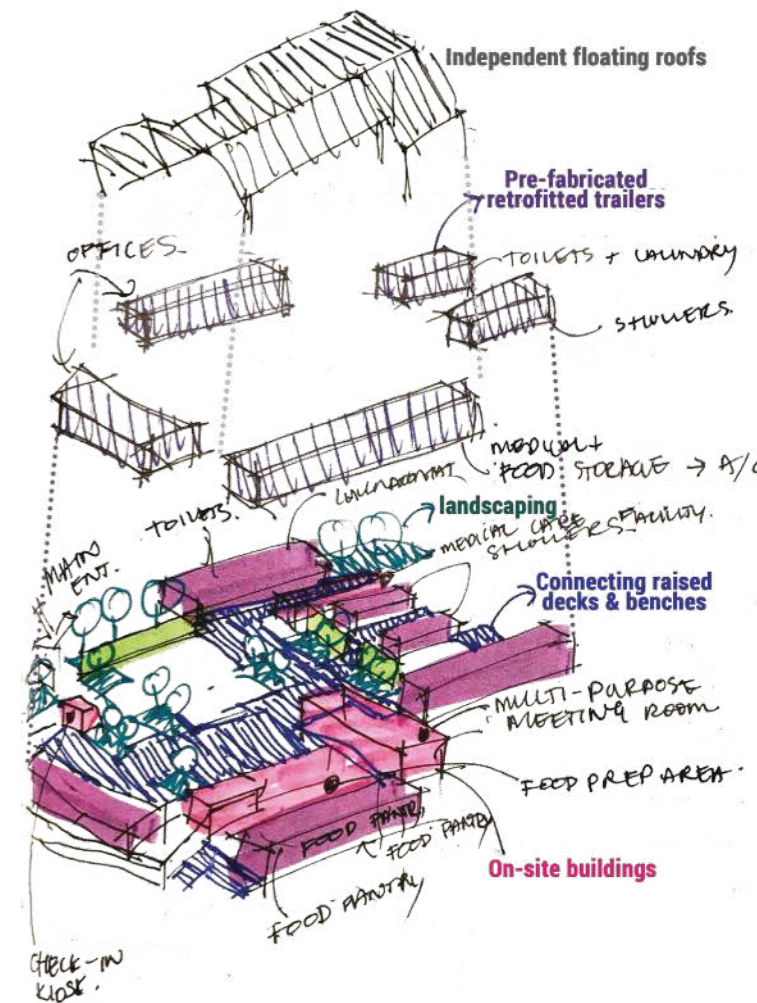
After Hurricane Katrina, the architects designed a semi-permanent multi-use facility to address immediate and social support needs of the chronically homeless, those made homeless by the hurricane and homeless immigrant workers in the area (Fabstein et al. 2009: 89-91). The aim of the centre is to provide multiple support services in one location (rudebruneraward.org 2009). The programme is driven by the varied needs of the homeless users, and the design approach is in turn driven by the programme and the need for rapid construction. Additionally, the possibility of future disassembly led to a temporal, adaptable design that touches the site lightly. Six mobile prefabricated trailers containing service intensive functions (HVAC, plumbing, etc.) are connected with a series of raised decks, benches, interstitial timber buildings and a unifying floating roof structure (Wayne Troyer Architects 2008). Due to the modularity of the trailers, the ability to easily disassemble the adjacent structures, and the independence from the roof structure, the process of reconfiguration, addition and removal of the plan is made possible. Therefore, the notion of flexibility and temporality also informs the materiality and mechanical fixings of the centre (Fabstein et al. 2009: 101-102).

Main lessons learnt:

In terms of the design approach, temporality and transience are expressed through the adaptability of the design. Flexibility is expressed in the materiality and assembly (standard elements, lightweight materials, mechanical fixing) and in modularity (trailer units). In terms of programme, the various needs of the homeless users are addressed by a multi-use support service programme, serving the basic immediate needs of food and hygiene, and longer-term psychosocial and physical needs.



10.9. Programme informed by users' basic and support needs (Author 2021).



10.10. The flexible design is made up of various adaptable elements (Author 2021).

Elangeni Green Zone



10.11. Google Earth (2021) photograph of Elangeni Green Zone.

Architect/Designer: Users of the COVID-19 homeless shelter

Date: 2020

Location: Durban, South Africa

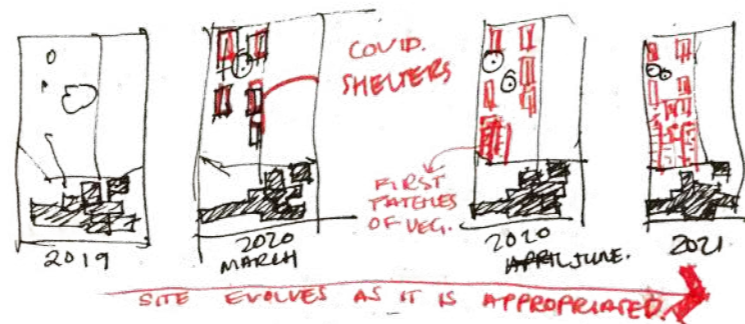
Programme: Self-organised urban farm

User (and participants): Homeless persons & local community

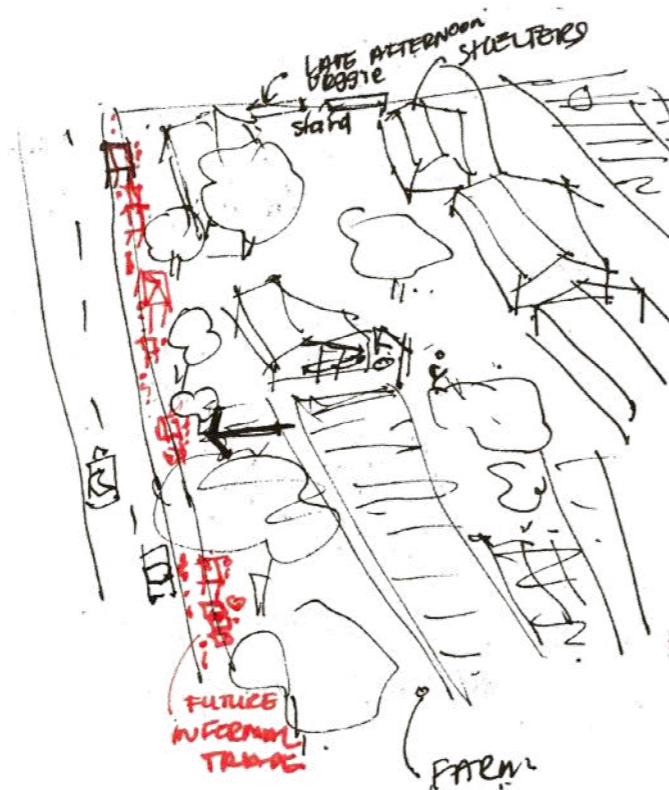
This project was studied as a case study of user appropriation and self-organisation with certain general lessons to be learnt towards conceptualisation, rather than as an architectural precedent. Elangeni Green Zone is an urban farm initiated by a number of homeless occupants of a temporary COVID-19 homeless shelter, adjacent to the Durban Jewish Centre in North Beach. The urban farm grew from a small informal food garden to a large “formal” farm with continuous appropriation and cultivation by the group of homeless men, causing the vacant plot to be activated and evolve over time. The “farmers” first used the food to merely sustain themselves, but eventually began selling the produce to visitors from the local community. Now, the farm supplies produce to the users’ families, the shelter and soup kitchen, a local supermarket and the local community at a weekly on-site farmers market. Informal trade of fresh produce and food products have begun to emerge on the edges of the site. Thus, the project catalysed numerous activities and has gradually assisted in the integration of the shelter occupants into the local community (Duma 2020).

Main lessons learnt:

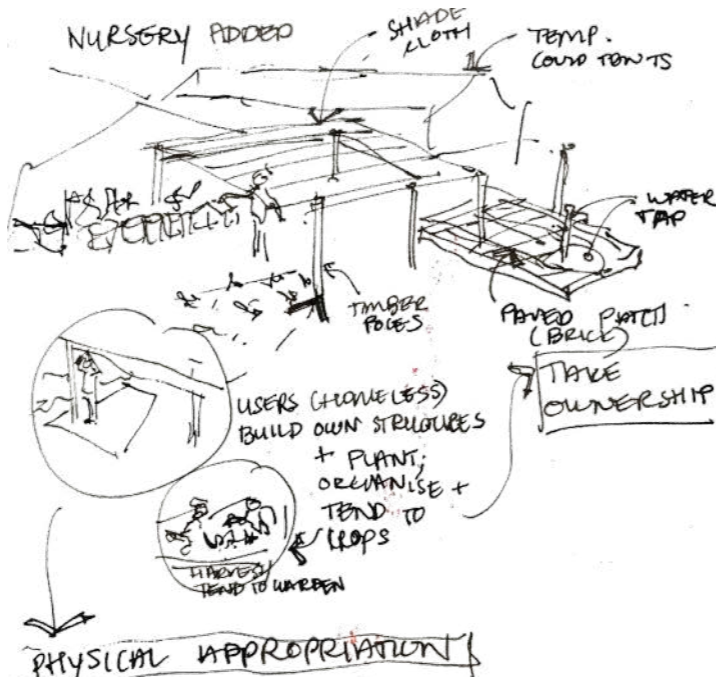
One can interpret from this scenario that when basic needs of the homeless (basic amenities, shelter, food and social support) are met, they are able to take ownership of their own pathways to independence. This case also shows that appropriation and social inclusion is a gradual and incremental process, which often happens naturally when users are able to take ownership. The lack of architectural intervention in this project also shows that an intervention does not always need to take place first, but instead can build on existing activities and appropriation as part of the incremental process.



10.12. Evolution of the site as it is appropriated (Author 2021).



10.13. Future appropriation and activation of edges (Author 2021).



10.14. Temporary nursery structure added by users (Author 2021).

[b]

CONCLUSIONS TOWARDS A CONCEPTUAL APPROACH

Flexible, adaptable and incremental design:

From these precedents, it is concluded that a flexible, adaptable and incremental design approach seems most appropriate in celebrating and building on the ongoing, gradual process of appropriation, which affords spatial agency to the inhabitants of the spaces (Awan et al. 2011).

This approach to design allows users to take ownership of place-making, adding and changing the spaces over time to suit their changing needs (Awan et al. 2011: 58, Nakib 2010).

“In addressing the realities of the changing needs and desires of users, spatial agency tends towards multi-use spaces, structures that are adaptable, and projects that privilege the passage of time.”

(Awan et al. 2011: 58)

Expression of adaptability:

Following these precedents, and according to Nakib (2010), adaptability is expressed through multi-functional spaces; mobility (including lightweight, demountable materiality and assembly); modularity, which allows easy reconfiguration and addition; integration into surroundings; and phased intervention to meet changing needs and uses. The temporal materiality and assembly in the precedents serve a functional purpose of adaptability and appropriation but can also be used to reference the transient nature of a nomadic lifestyle and informal structures such as the “tuckshops” on site.

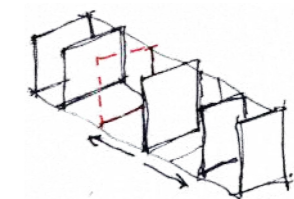
This flexible, temporal and adaptable approach also has the potential to engage with existing buildings sensitively.

A mixed, incremental event-driven programme:

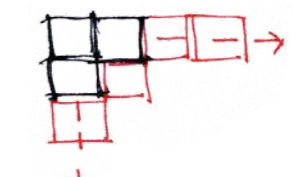
An incremental programme embraces and builds on the transient incrementality of user appropriation and has the potential to meet a multiplicity of uses and changing needs (Awan et al. 2011). Through this approach, space becomes informed by everyday activities/events that further catalyse new emerging uses. Moreover, when an everyday activity is used to anchor a programme, it stimulates future appropriation and emergence of new activities (Petcou & Petrescu 2013). Da Costa and van Rensburg (2008) suggest an event-anchored strategy that builds on and intensifies existing activities in the context.

Additionally, a mixed and multi-use programme provides a platform for social integration of various user groups, while addressing multiple immediate and long-term needs of the focus group of vulnerable people.

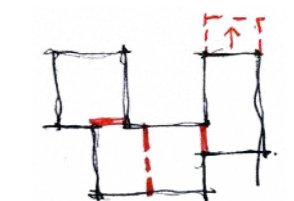
In each of the precedents dealing with the homeless, there is an approach of addressing the immediate quotidian needs as a first step, then providing various support services to enable the users to take ownership of their own independence and well-being. This multi-scalar, needs-driven approach to programme provides a sensitivity to the complexities of homelessness.



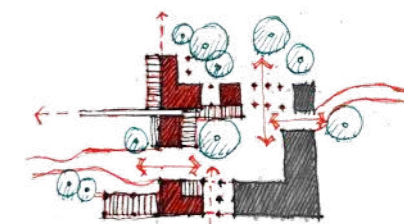
MOBILITY
(demountable, recyclable)



MODULARITY
(adaptable, repeatable)



DIVISIBILITY / ELASTICITY
(adaptable)



INTEGRATED
(permeability, accessibility)

10.15. Principles of adaptability according to Nakib (2010). Diagrams by Author (2020), Honours 2020 Q4.

11 programmatic & conceptual approach

[a]

INITIAL INTUITIVE RESPONSE

The initial conceptual and programmatic response is based on the approach to existing activities as anchor points for intervention on the site. While the positions of the activities could change over time or as the site is developed and future programmes are added, the activities themselves serve as the starting points for possible incremental development aimed at addressing the needs of the inhabitants and integrating the site and community into its surroundings. This premise is taken through to subsequent iterations of the site vision.

A mixed-use, multi-layered approach to programme is suggested to integrate multiple groups of users – drawing in users from the surrounding educational, commercial and residential areas adjacent to the site – and to address multiple needs of the current inhabitants.

In order to mediate the various public and private programmes suggested, a progression of interlinking courtyards and gathering spaces is suggested, where thresholds between them are articulated to define the various spaces. These courtyard spaces are anchored by various existing and legitimised activities, as well as proposed new uses that further activate the spaces and address identified needs. A “drop-off” loop or slipway to the southern corner of the site is suggested to allow for pop-up events and a public transport drop-off point between the very busy roads.

Critique on the initial intuitive response:

The social and student housing programme does not necessarily serve the current inhabitants as they are unlikely to access these due to income limitations and their inability to meet other requirements such as legal documentation (Ntakirutimana 2015: 84-85). This would therefore result in the displacement of most of the current users of the site.

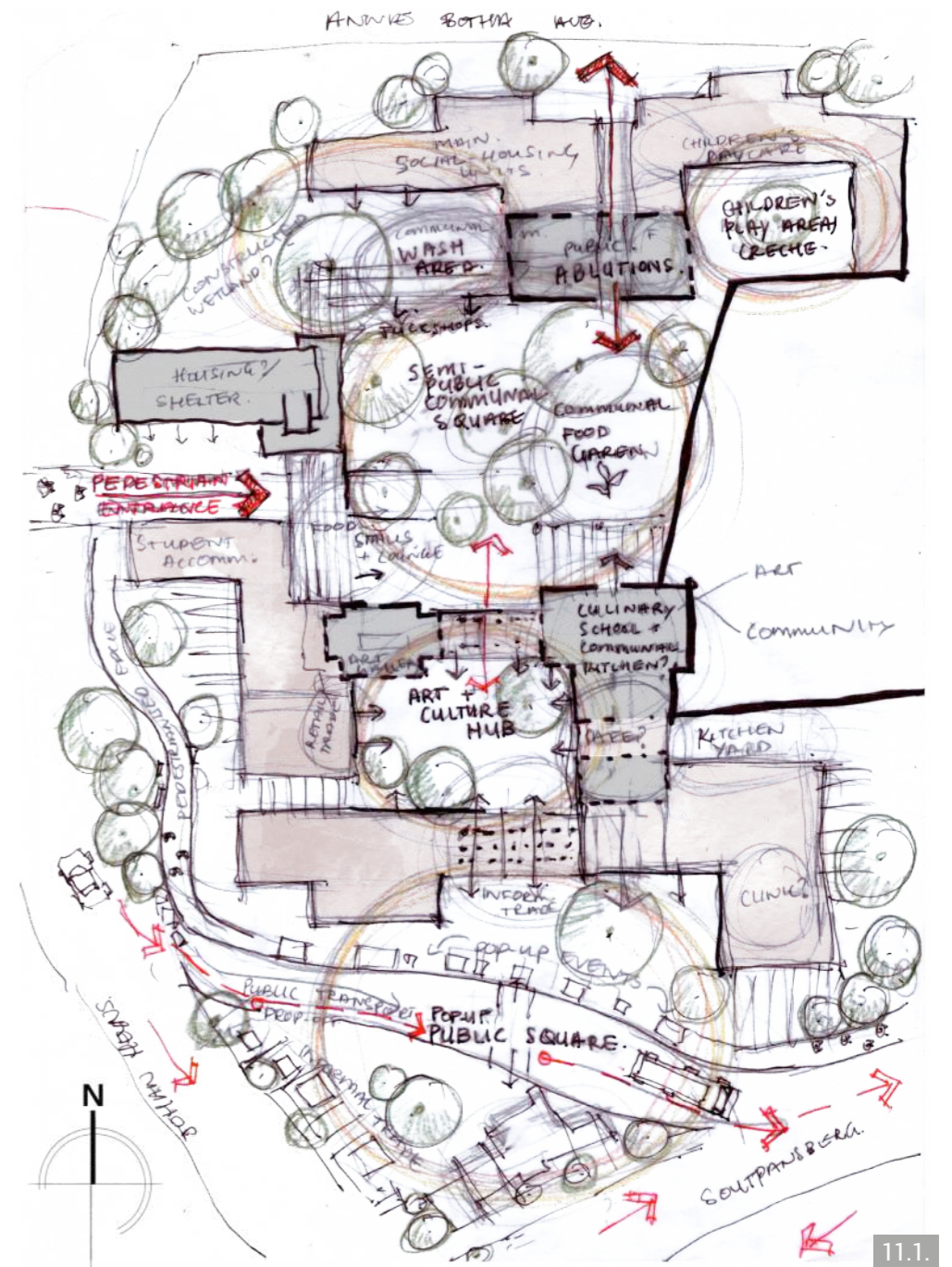
The various proposed programmes on site, although directly influenced by the existing informal appropriation and activities, lack an anchor programme and strategy. Furthermore, this exploration takes the form of a large permanent development, which is likely to require

a large public or private investor to develop the entire site at once. This would mean that all current inhabitants would be displaced for a majority of the development and construction. Not only is this approach less sensitive to the immediate needs and appropriation of the current inhabitants, but it is also unlikely that they would ever benefit from this type of intervention once removed from the site.

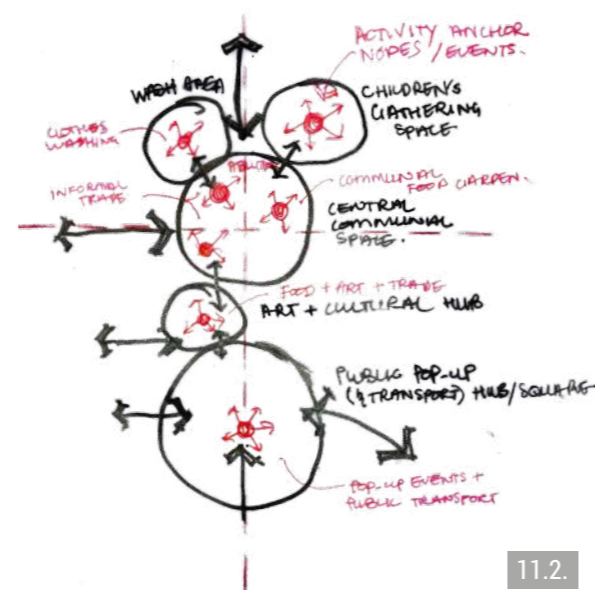
The proposed entrance and main public space are currently positioned at a “dead” intersection of high vehicular traffic and lower pedestrian activity. Therefore, this would likely not be successful in activating the edges and integrating the site into its context as intended. The goal of activating this intersection hinges on completely changing the surrounding sites’ edges, pedestrianisation and activation, which is unlikely to succeed. Thus, it might be more successful to suggest the activation of the intersection further north for a public “square” where there is more existing pedestrian activity and permeability towards the western medical campus.

Fig. 11.1. Top right: Site plan iteration 1: the initial site vision sketch and suggested programmes (Author 2021).

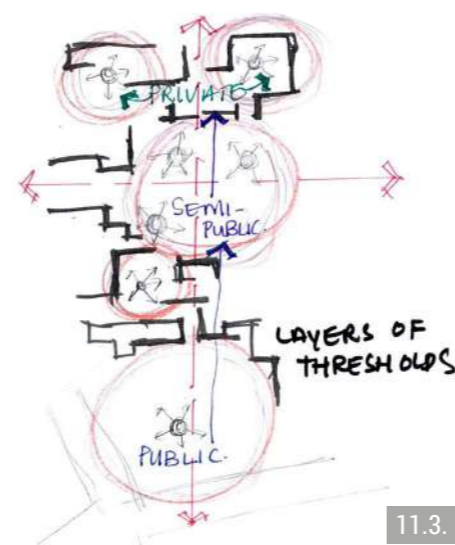
Fig. 11.2–11.4. Bottom, left to right: Conceptual diagrams indicating the activity nodes as anchor points; progression of public to private spaces and layering thresholds; and the initial proposed site vision diagram (Author 2021).



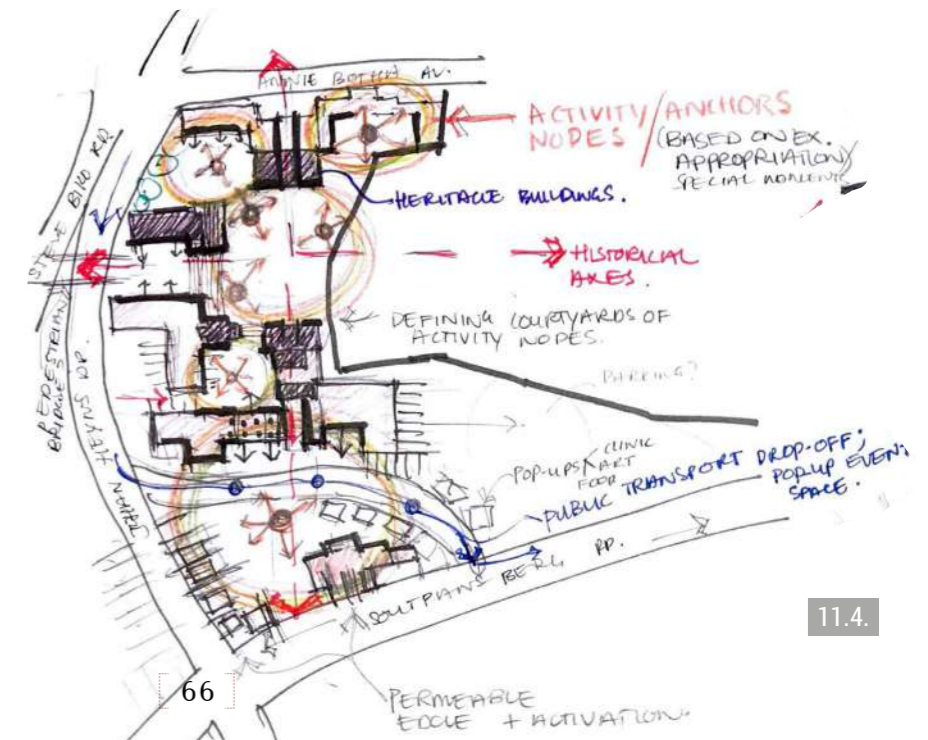
11.1.



11.2.



11.3.



11.4.

[b]

SITE PROGRAMME & CLIENT

In response to the additional informants from the precedent analysis and stakeholder engagement, a mixed programme is suggested for this site with a focus on addressing multiple immediate and long-term needs of the inhabitants and other homeless people in the future, including basic daily needs, psychosocial, physical and economic support, and future employment and housing opportunities.

The mixed programme on the site consists of three programme strands: a social welfare programme, a public interface programme and an anchoring link between the two.

The social welfare programme is aimed at assisting and uplifting to the existing inhabitants and other homeless, vulnerable people in the area. This programme consists of transitional housing for the undocumented homeless (at first with a focus on accommodating the current inhabitants), including various social support services, such as social work, psychological counselling rooms, a medical clinic, pharmacy, legal aid, legal documentation assistance, a soup kitchen with flexible dining spaces (extending the function of the 1927 existing dining hall), flexible skills development workshop, and a children's day care also open to the public. The various support services will also be open to the public and walk-ins, thereby creating a secondary public interface, with a focus on social welfare functions. The transitional housing is focused on accommodating the undocumented homeless inhabitants who are in the process of obtaining legal documentation, employment and other related aspects in order to secure alternative permanent housing. As part of the transitional housing, communal wash areas will build on the existing "wash" activity on site. Furthermore, the day care builds on the "play" activity, while the accommodation units of the shelter build on and extend the "stay" activity.

The public interface programme aims to draw users from the surroundings into the site and integrate the existing inhabitants and previously marginalised groups into the surrounding communities. This programme consists of informal trading spaces, building on the existing tuck shops and "sell" activities – small retail spaces and vendors at the northern intersection and Annie Botha Avenue edge. As an anchor for this programme, an eatery or restaurant is proposed in the existing 1927 Lezard hostel, linked to a new greenhouse and nursery where various herbs and plants cultivated on site can be sold.

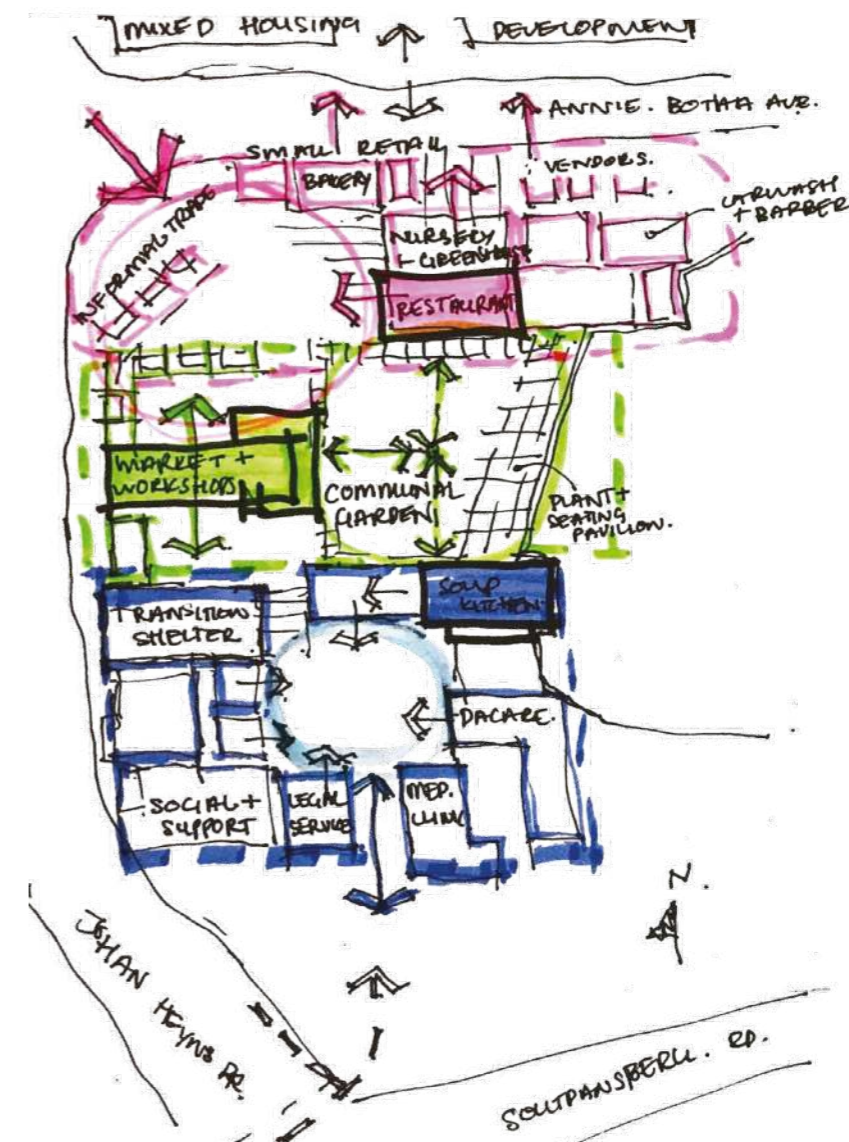
Additionally, a bakery and other small vendors such as a barbershop and car wash are envisioned to populate the public edge over time. All of these functions also offer additional income opportunities for the current inhabitants and the occupants of the transitional housing.

The linking programme builds on the existing "grow" activity of the communal gardens. As part of this programme and an anchoring activity/event for the site, the proposal is to consolidate the spaces and various functions through a central communal garden courtyard as a catalyst activity that links the social welfare and public interface programmes and stimulates future programmes. Various communal workshop spaces, sporadic farmers markets, informal trade, and public gathering and resting spaces will form part of this linking programme. The communal workshop spaces and an indoor market/exhibition space will occupy and open up the ground floor of the existing 1960s/70s building. The garden is envisioned to first serve the current inhabitants and stimulate informal trade of fresh produce and food products. As it grows and additional programmes are added incrementally, the garden will serve the soup kitchen, transitional housing, day care, workshops and farmers market. Finally, the garden will be extended by the greenhouse and nursery, serving the public and commercial functions of the restaurant, bakery and retail as part of the public interface.

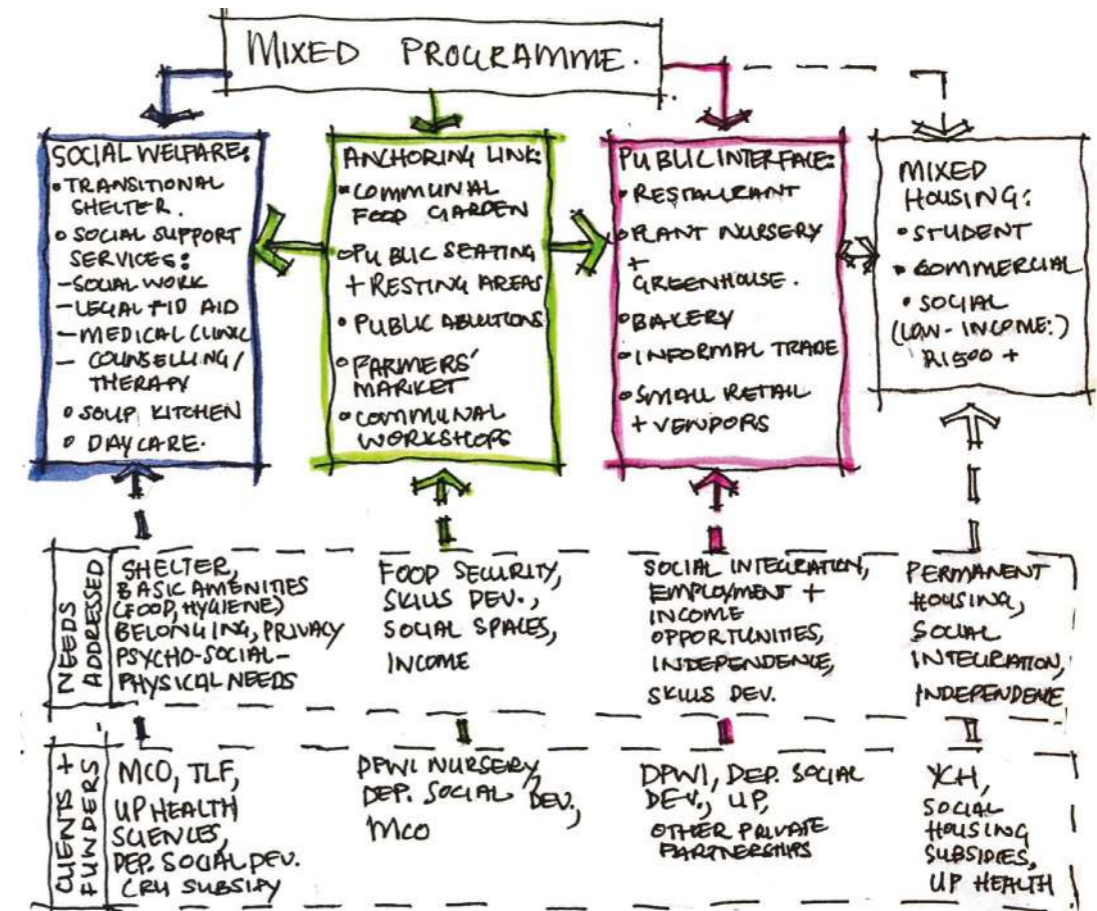
Lastly, the addition of a mixed housing development is proposed across the road on the currently empty plot of sports fields, as part of a larger urban vision to further activate the urban edge and intersection and to strengthen the dialogue between the programmes on the site and the surrounding sites. The goal for this housing is to include mixed student and commercial housing for UP medical students and staff from the nearby UP medical campus, hospitals and surrounding areas; and low-income social housing, which will also accommodate those from the transitional housing who have since obtained the necessary documentation and income through the support services to qualify for social housing. This development will, however, not be explored further in this dissertation.

Fig. 11.5. Top right: Site programme sketch (Author 2021).

Fig. 11.6. Bottom right: Diagram unpacking the site programme in relation to identified user needs and proposed clients and funders (Author 2021).



11.5.



11.6.

Client and funding

The project is envisioned as a phased, incremental intervention to be adapted as needs change and new functions are stimulated. The mixed programme calls for multiple clients and funders forming a public-private partnership (MCO 2020). The public funding and client will include the nearby Department of Public Works nursery (funding the communal garden, nursery and greenhouse functions), the Department of Social Development and the University of Pretoria's Faculty of Health Sciences, who is currently a stakeholder engaging with the site and will assist in the operations of the social and medical clinics with other relevant partners.

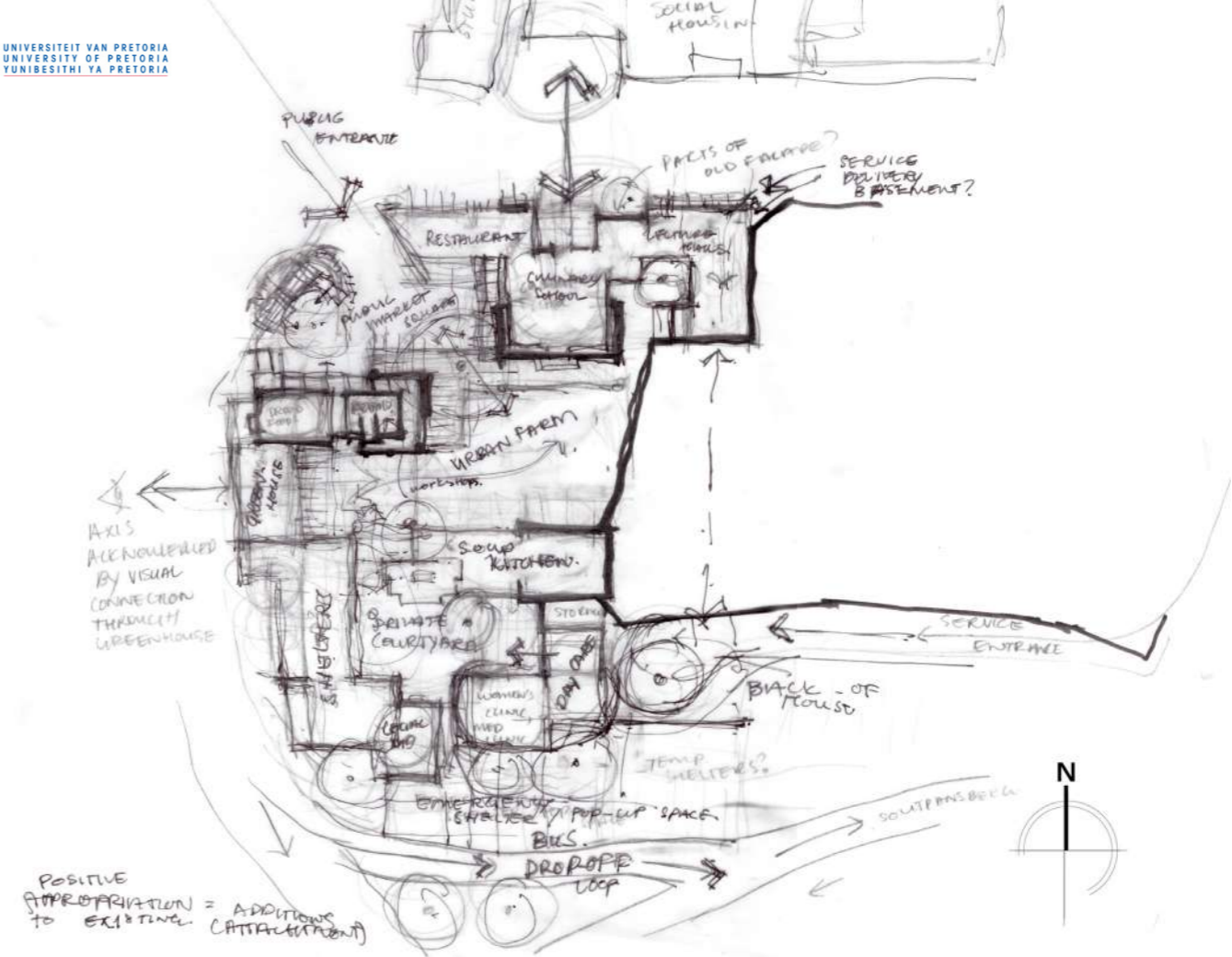
Additional funding could be applied for from the provisional government for an institutional housing subsidy and the CRU (Community Residential Units) subsidy to cover the transitional housing and support service funding (City of Johannesburg 2012: 54, Melgisedek Proposal 2019: 1). Private entities that will help fund and run various parts of the mixed programme include MCO and TLF (Tshwane Leadership Foundation). Finally, the mixed housing development proposed on the adjacent site will be funded by various social housing subsidies, grants and the UP Faculty of Health Sciences (Melgisedek Proposal 2019: 1) and will be run by Yeast City Housing.

[c]

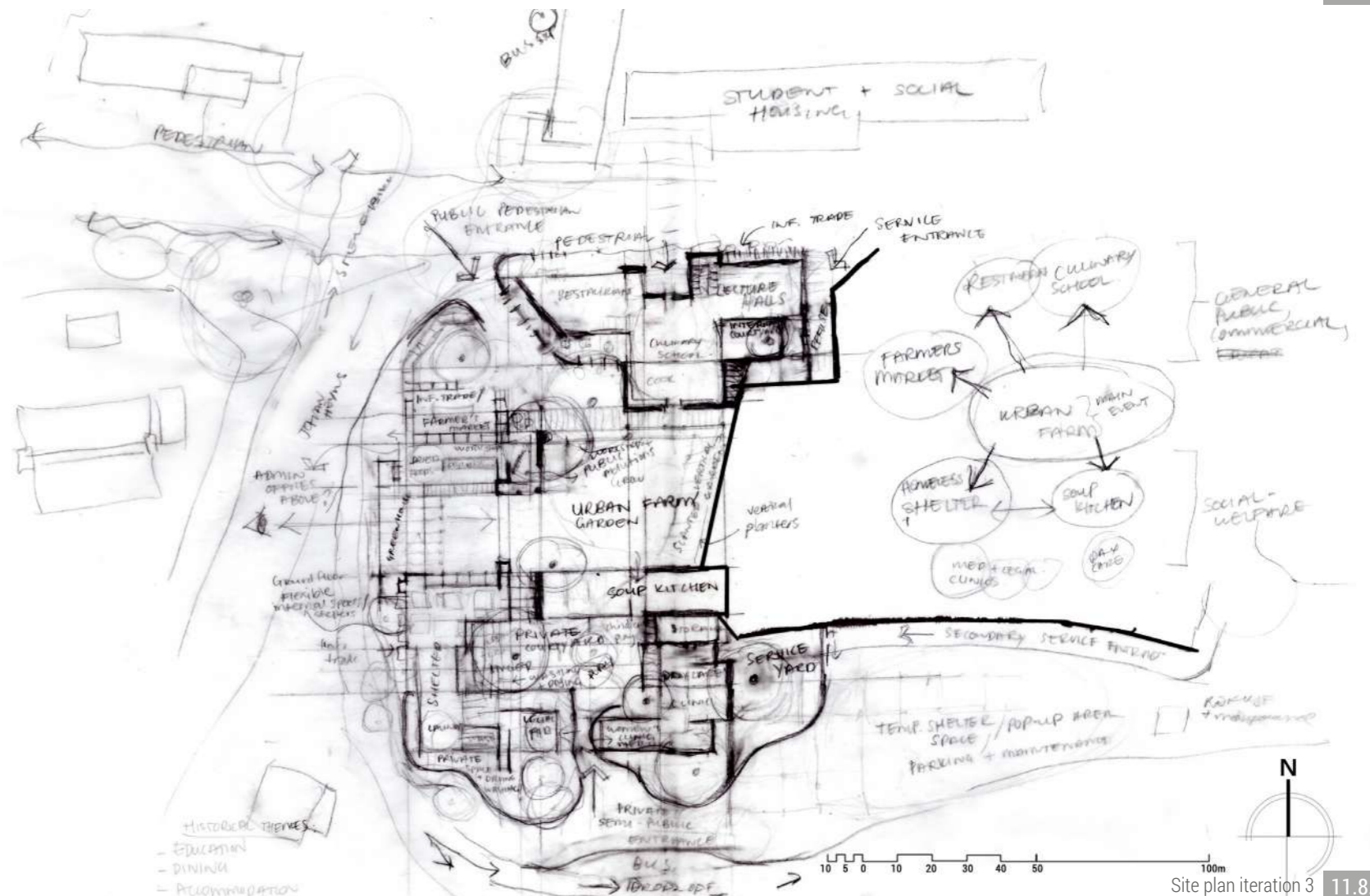
CONCEPTUAL STRATEGY: SITE VISION

Various parts of the mixed programme are implemented in an incremental, phased intervention strategy or site vision in order to approach the existing conditions of inhabitation and appropriation with sensitivity and to address various immediate and long-term needs appropriately. This strategy views the existing conditions, appropriation and activities as catalysts for the subsequent steps of intervention and development. Building on and guided by the ongoing processes of appropriation, this strategy acknowledges and embraces the inevitable transience and evolution of the site. Therefore, it serves as a possible conceptual prediction and framework within which the site can be developed. It must remain resilient and should be re-evaluated and adjusted throughout the design process and at the completion of each phase.

It will start with legitimising existing site activities and addressing basic quotidian and immediate needs of the inhabitants with small and adaptable interventions. Then,



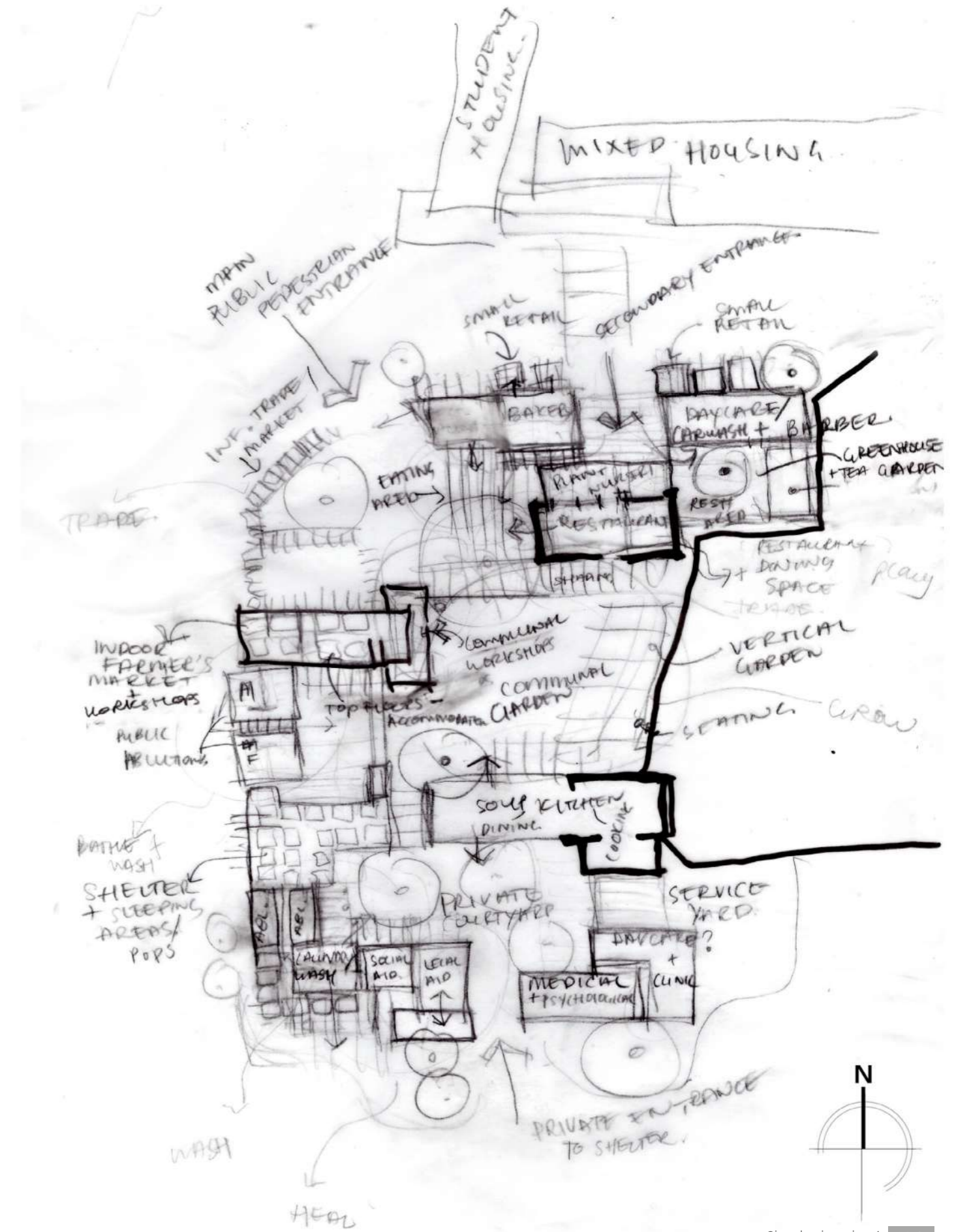
Site plan iteration 2 11.7.



Site plan iteration 3 11.8.

gradually, the following phases will focus on longer-term needs (formalising some of the previous interventions) and the integration with surrounding communities through additional programmes and development. The intensity and permanence of the interventions start with lighter, more temporal and sensitive insertions and gradually increase to more permanent, intensive interventions, but all balanced by a golden thread of flexibility and adaptability, giving the users agency to appropriate spaces over time.

Another consideration of the incremental strategy is the minimal displacement of current inhabitants, especially those who are unable to secure alternative means of income and housing. Carrying the project out in phases ensures that inhabitants remain housed in their current "homes" on site until the time comes for various existing buildings to be adapted or removed. At this point, some inhabitants may already have secured alternative income and improved housing through social support assistance and minor economic activities introduced in the first phases. During the first phase, an integrated approach supported by the Department of Social Development and TLF is suggested to assist in a minimal displacement plan (Melgisedek Proposal 2019: 5-6). From this point, gradually some of the existing inhabitants may be assisted in finding income and employment opportunities on and off site; be found to qualify for various social grants and alternative housing; or be offered placement in appropriate facilities. Those who are undocumented, unemployed and do not qualify for other forms of housing will be the first to receive accommodation in the transitional housing. Here, they can begin the process of obtaining legal status through the social, legal and documentation assistance on site until they qualify for alternative housing, such as the future proposed social housing units across Annie Botha Avenue.



Site plan iteration 4 11.9.

The three phases of the site strategy are conceptualised as follows:

Phase one: Temporal insertions

The purpose of this phase is to legitimise existing activities and address immediate needs on site with sensitive, acupuncture interventions. This phase is made up of three overlapping strategies:

The communal garden and courtyard (1):

The role of this aspect is to consolidate the existing communal gardens into one central garden, anchoring the site and central courtyard space. Minimal architectural intervention is required, save for the seating and shading elements of the next strategy, which further define the courtyard space.



The evolving spine (2):

An adaptable, lightweight structure, connecting and defining various spaces on site, is intended to morph throughout the site and over time. The role of this element is to accommodate, enable and facilitate the “sell”, “play”, “linger” and “grow” activities with adaptable spaces for informal trade, storage, seating, shading and climbing attachments for play areas. At the central courtyard, the evolving spine provides seating and planting space as part of a tectonic pavilion, as well as shading for circulation routes. Inhabitants can attach various materials, surfaces and inserts to further appropriate and define activities along the spine.

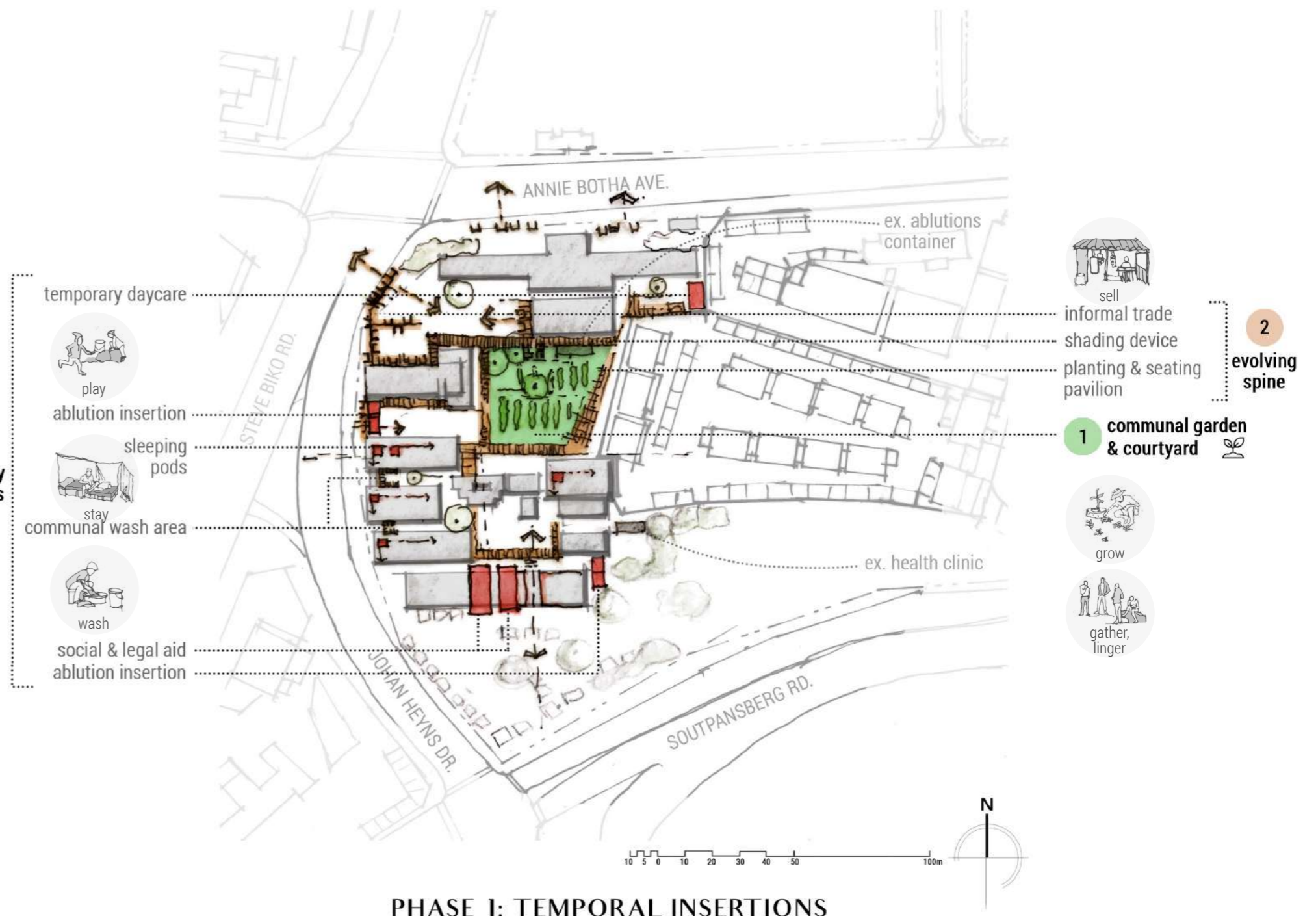


Temporary Insertions (3):

This strategy involves small insertions with the purpose to support and intervene, providing functions that address some of the immediate needs. Adding to the existing ablutions and medical clinic containers on site, the insertions include communal wash areas with water supply, additional ablutions, a social aid pod and a legal aid pod. Partitioned sleeping pods are also proposed to provide privacy in some of the occupied buildings. All of these insertions are envisioned as temporal additions that can be disassembled, expanded or repositioned on the site as the subsequent phases unfold.



3
temporary insertions



Phase two: Social welfare pocket

This phase further legitimises and crystallises some of the previous temporal insertions, as well as provides alternative shelter and support services for some of the inhabitants.

New soup kitchen (1):

The existing 1927 dining hall will be reprogrammed, adapted and extended into a soup kitchen and flexible dining hall. Food from the adjacent communal garden will be used in the soup kitchen to provide food for the vulnerable.



New transitional housing and support services (2):

This phase will form the focus area of further design development. With a focus on the undocumented homeless, a new transitional housing development is proposed as an anchor for the social welfare programme.



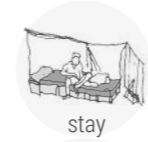
The transitional housing provides accommodation for those in the process of securing documentation, income and permanent housing. In transitional housing, more private and longer-term accommodation (6 months to 3 years) is provided than with standard homeless shelters, with emphasis on the various support services provided in conjunction (Ntakirutimana 2015: 144). The conceptual approach of flexible and adaptable spaces will guide the design of the residential units to allow for expansion and alteration over time. Various communal washing spaces will anchor intimate courtyards around which the residential units are arranged. Ablutions and the social aid, legal aid and medical clinic insertions will be expanded and formalised as part of the transitional housing. Moreover, the addition of a day care will expand on the "play" activity and will offer inhabitants and users from the surrounding areas a safe place to leave their children while they work during the day.

Adaptation of the 1960s/70s building (3):

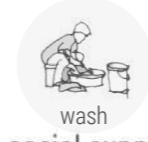
Lastly, the ground floor of the existing 1960s/70s building will be opened up and adapted to accommodate flexible spaces for communal workshops, informal trade and sporadic farmers markets that spill out either side of the building.



3 communal workshops & farmers market space



living units



communal wash areas

social support services:
social, legal, ID aid

health clinic



daycare

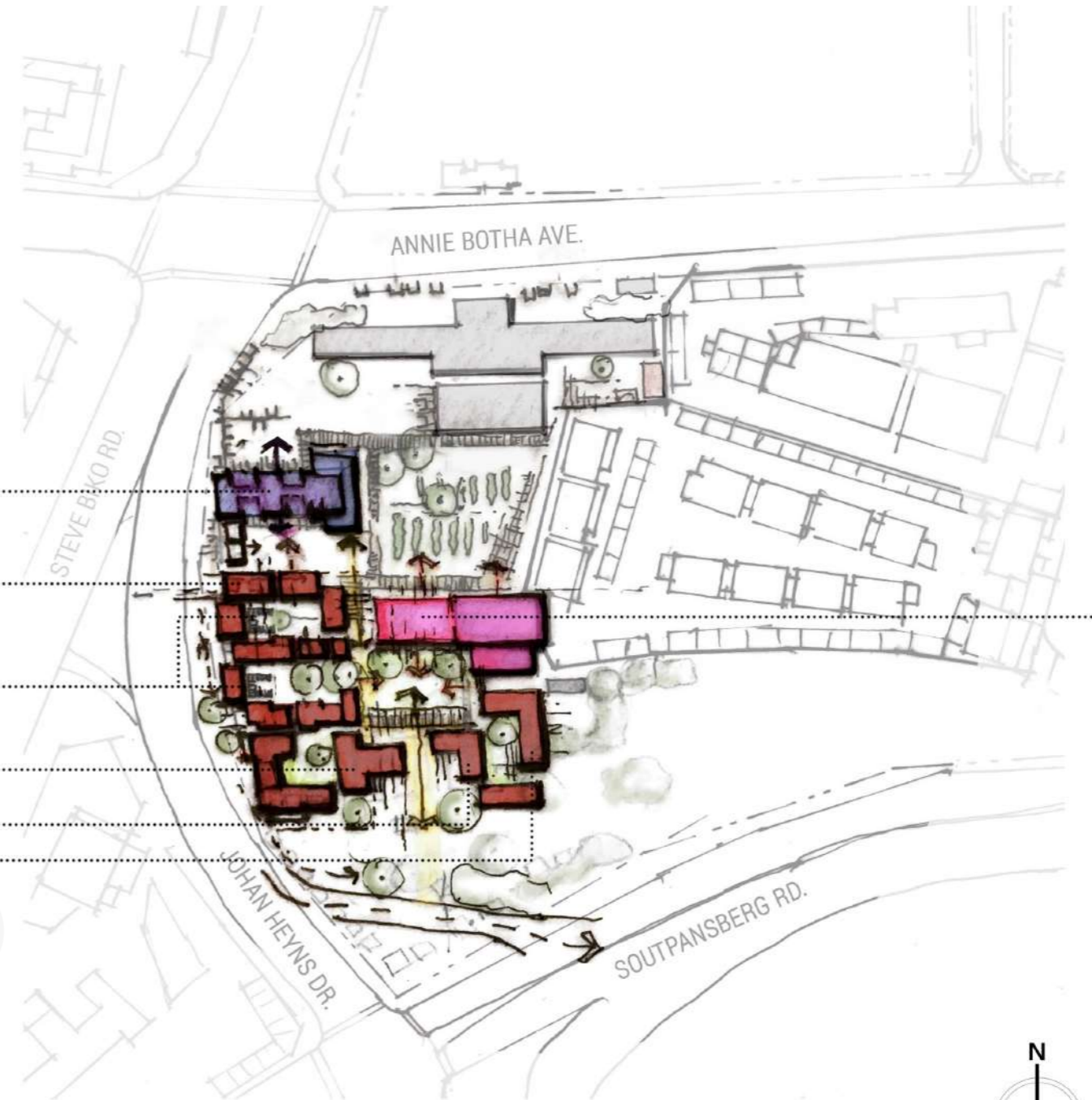
play

2 transitional housing

1 soup kitchen & flexible dining space



gather,
linger



PHASE 2: SOCIAL WELFARE POCKET

Phase three: Public interface

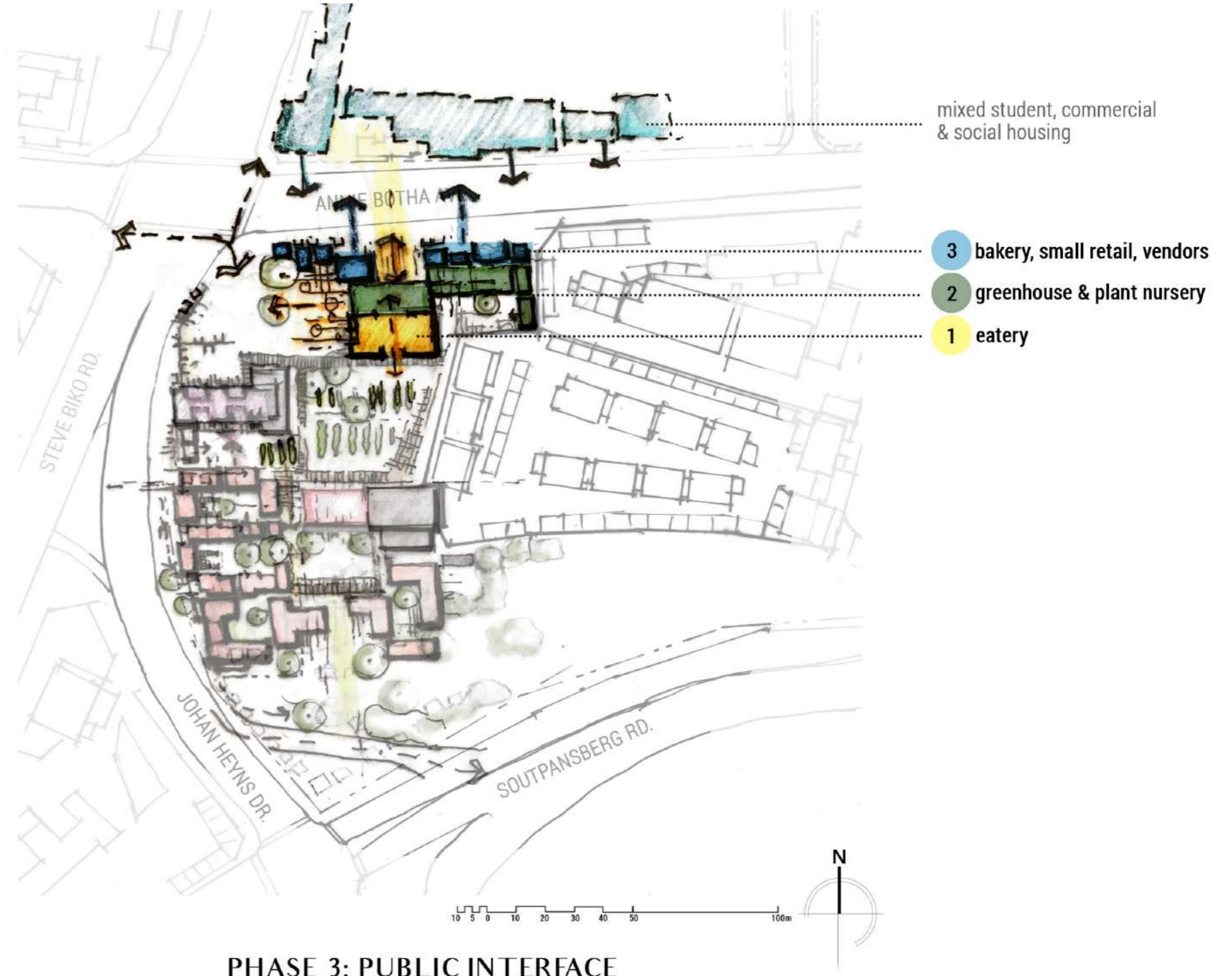
The aim of this phase is to (re)integrate the inhabitants and the site into the surrounding communities and spaces, while providing further long-term employment opportunities.

A new eatery (1) to occupy and adapt the existing 1927 Lezard hostel building and spill out onto the public exchange and gathering space at the north-western corner of the site.

A new greenhouse and plant nursery (2) adjacent to and as an extension of the eatery towards the street edge, where plants can be sold and visitors can linger.

Additional small retail (3) shops, vendors and emerging uses along the northern street edge to further activate the public edge.

Finally, as mentioned previously, the mixed housing development on the site opposite Annie Botha Avenue is proposed as an additional phase in a larger vision of the area to further activate the public interface and dialogue between the two sites and the surrounding areas.



PHASE 3: PUBLIC INTERFACE

12

conclusion

In this essay, various analytical tasks were undertaken to better understand the site, its users and their needs in terms of both the historical and social condition. This, along with the precedent studies, guided an approach of incrementality, adaptability, flexibility and multiplicity to programme and design. The existing activities of appropriation on site, multiple tangible and intangible tensions, and the in-depth study of the site and user groups has led to a multi-layered mixed programme with three strands: a social welfare component, a public [commercial] interface component and an anchoring link between the two. This programme is envisioned to develop on site within a conceptual phased framework that remains sensitive to the social condition and heritage buildings, and also remains resilient in that it in itself should be re-evaluated and adjusted according to changing needs and discoveries moving forward. The conceptual strategy/framework lays the foundation for a sensitive approach to the site and users, where the transitional housing programme in the “social welfare pocket” forms the focus for further research and design resolution in Essay Three.

**Transitional Housing:
focus for further
development**



Phase 1: Temporal Insertions



Phase 2: Social Welfare Pocket

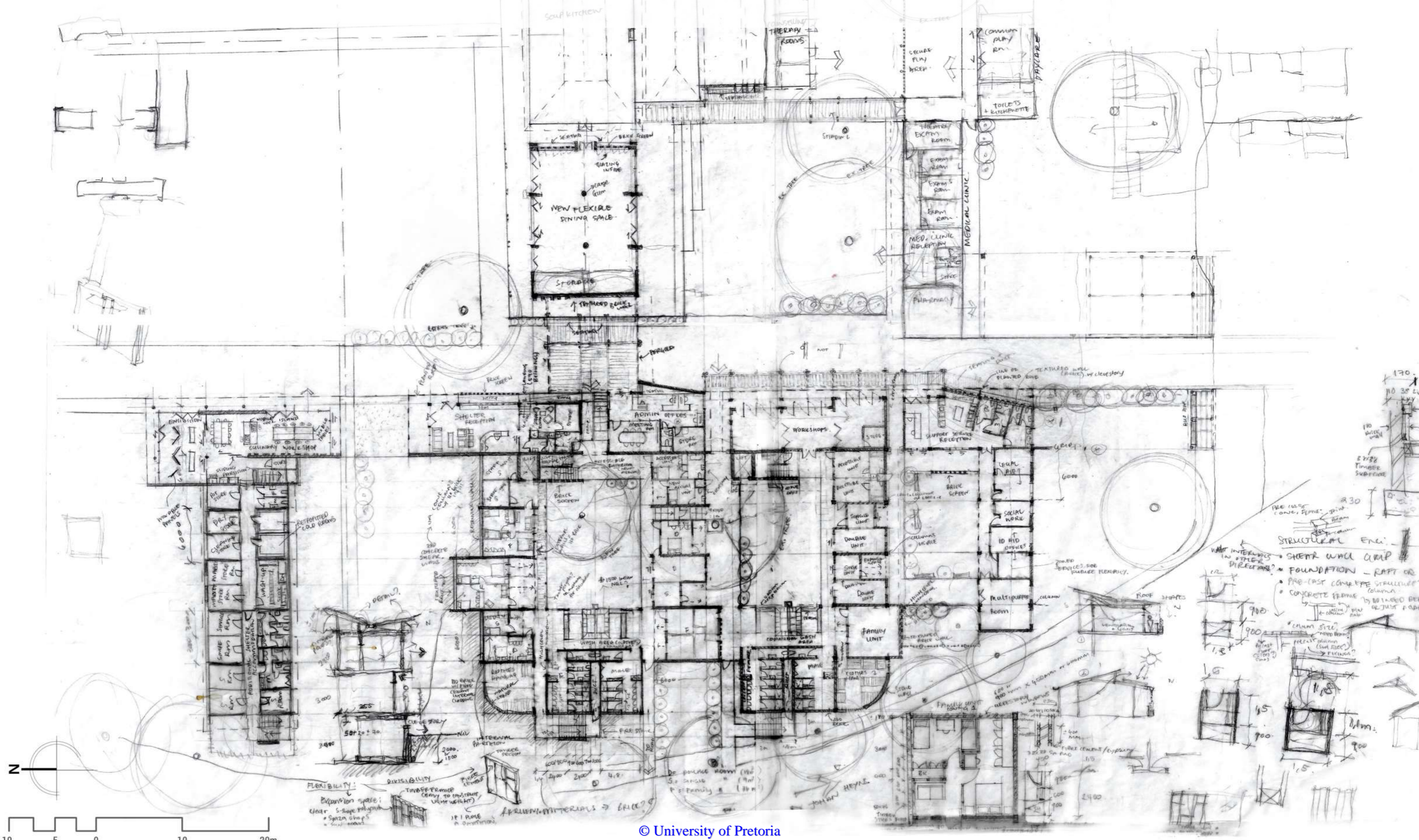


Phase 3: Public Interface

Site strategy/vision shown as consecutive phase of development, with the transitional housing component as the focus for further development (Author 2021). 12.1.

essay three

DESIGN & TECHNICAL DEVELOPMENT



13

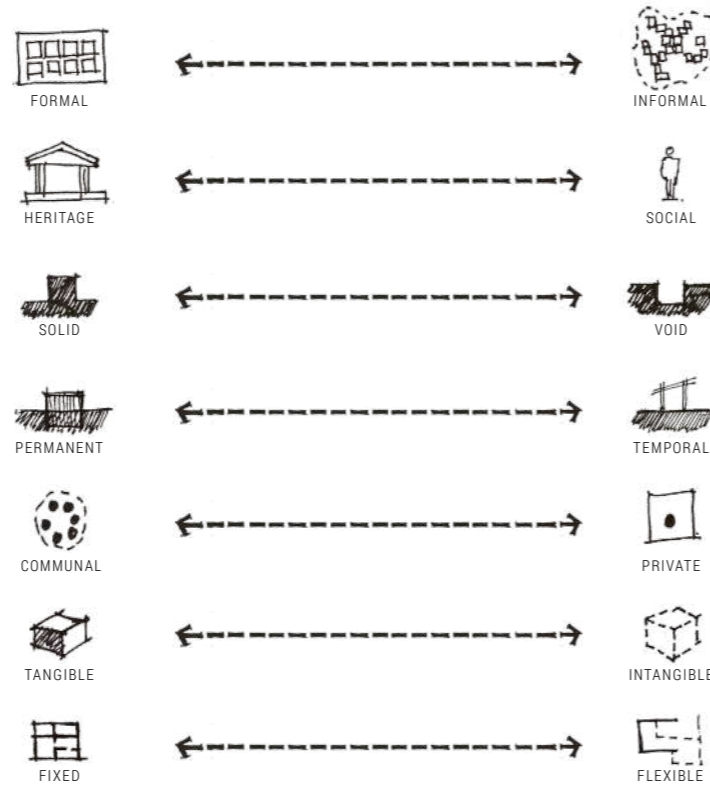
introduction

In order to navigate the tensions on site referred to in Essay Two (see Figure 8.21.) and to manifest the conceptual intention of a design that negotiates these tensions successfully (see Figure 13.2.), a strategy was developed to define various levels and progressions of permanence, flexibility, solidity, void, etc. This is because not all spaces should be represented as either fully permanent, solid and fixed or fully temporal, open-ended and flexible, but rather as a progression of these characteristics. This conceptual strategy is explored in terms of the degree of flexibility/frequency of change over time as well as other design aspects unpacked in the various chapters. This is shown on a "scale of permanence" and temporality/transience (see Figures 13.3. and 13.4.), where the permanent (at the centre of the scale) is represented by the existing historical condition and anchoring heritage buildings, and the temporal (on the ends of the scale) is represented by the continuous appropriation and transience of the social condition on site. This scale serves as a conceptual driver, a sort of manual or guideline by which various aspects of the project are explored and manifested to continue the palimpsestic development of the site.

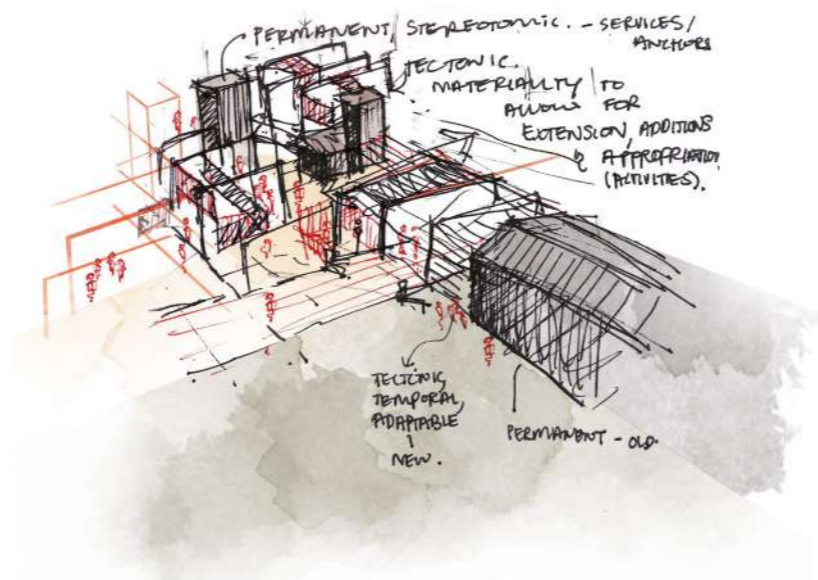
With the transitional housing programme being the focus for design resolution, Part 01 of this essay investigates the programme and typology of transitional housing and the precedents representative of this typology or similar typologies that guide the programmatic resolution of the site, accommodation schedule and the development of plan iterations and the flexible unit modules. The various functions and spaces are then related back to the scale of permanence in terms of programme and architectural language.

Part 02 considers the materiality and material layering of the design and the choice of materials, as well as how these manifest in the technical exploration and how this relates to the scale of permanence.

Lastly, Part 03 unpacks the environmental aspects of the project, the climatic and environmental informants and performance of the project; including the exploration of the roof form in terms of shading, solar angles and radiation, light and rainwater distribution (for collection); and the constructed wetland and grey water recycling system.

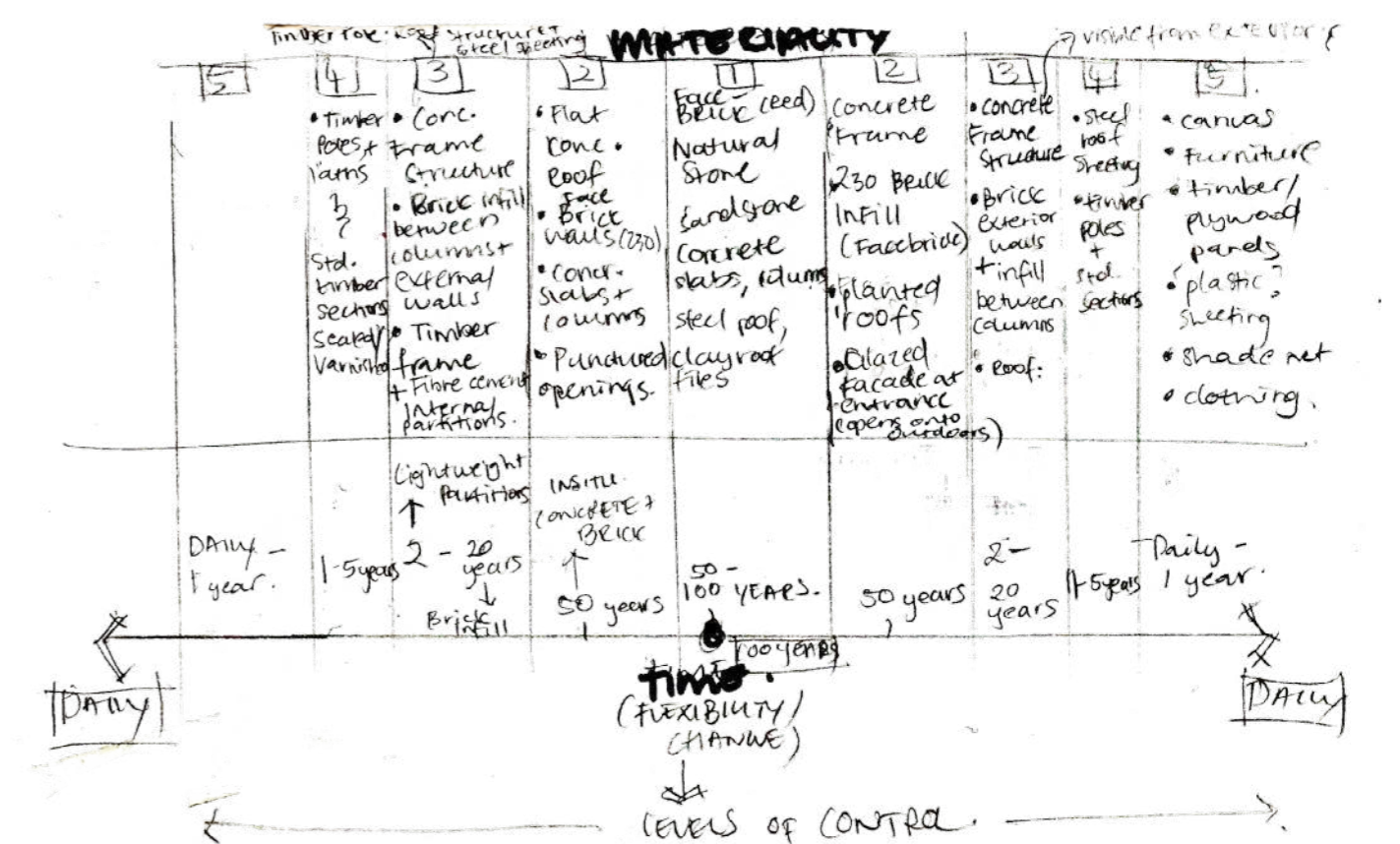
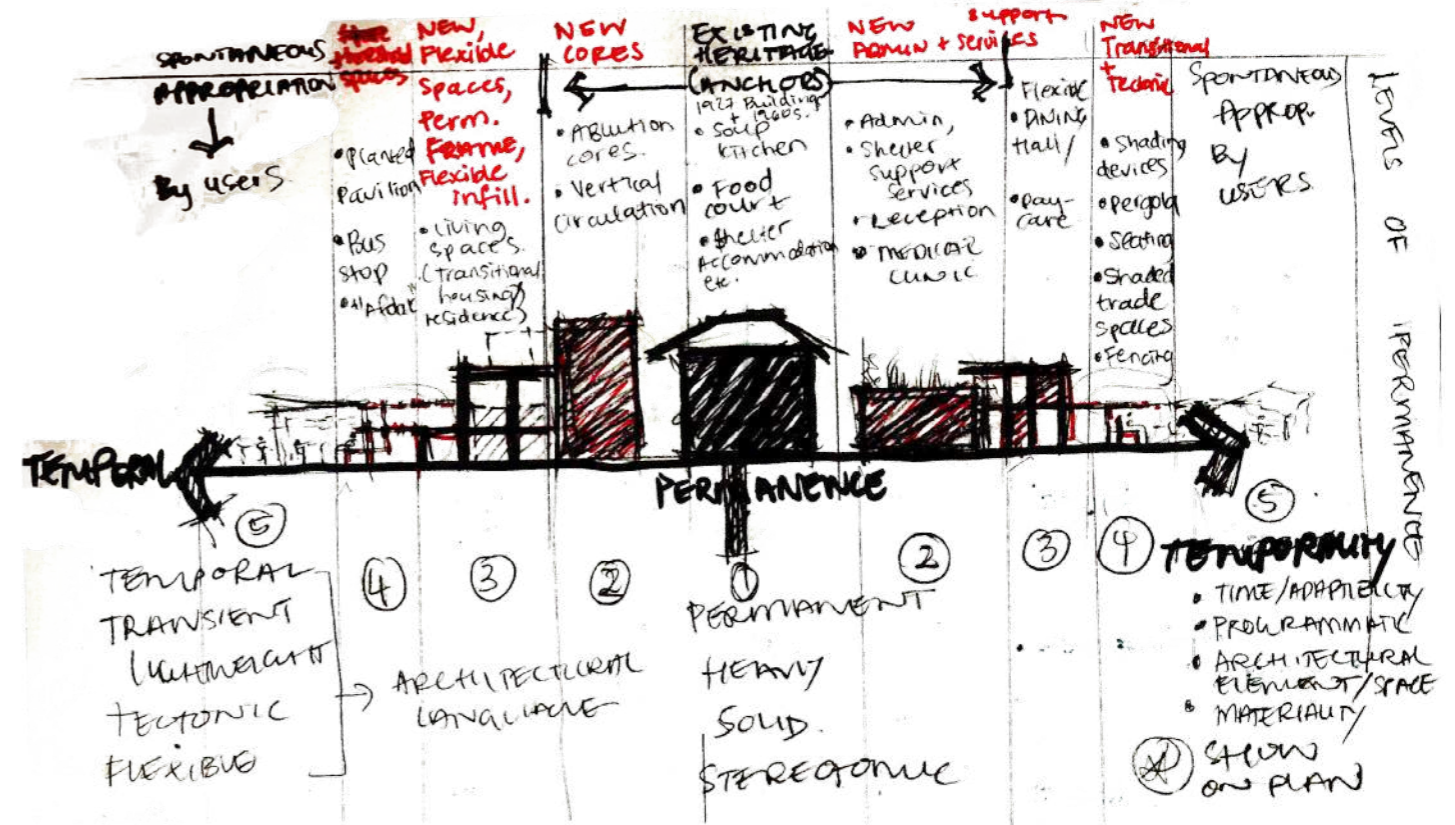


8.21. Existing tensions observed during site and scenario engagement (Author 2021). Representation of similar themes influenced by Cochrane (2018).

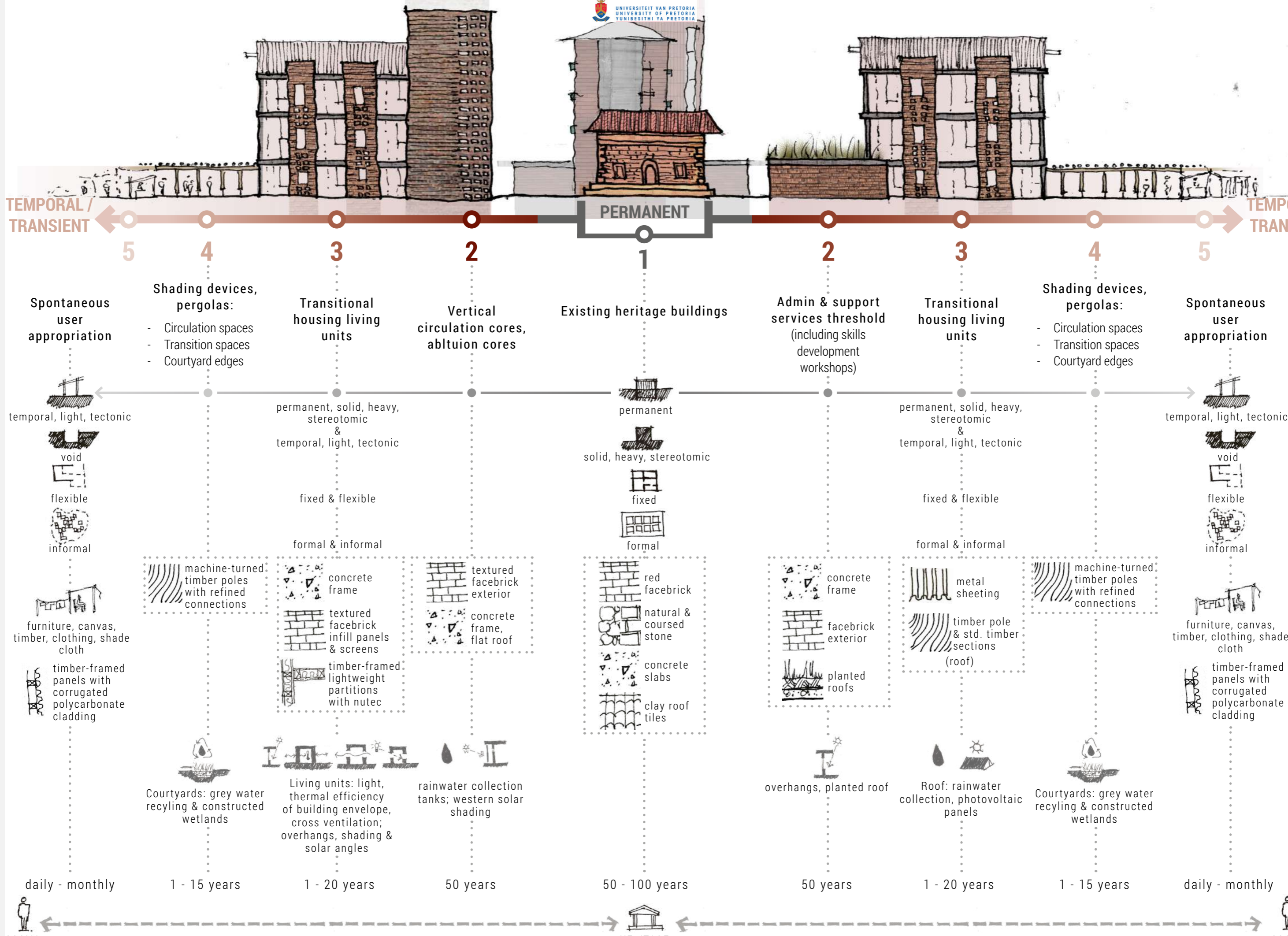


13.2. Concept sketch for transitional housing (Author 2021).

Fig. 13.1. Previous page: Iteration 2 of transitional housing plan (Author 2021)



13.3. Process sketch of "Scale of permanence" (Author 2021).



LEVEL
PROGRAMME / FUNCTION PART 01
ARCHITECTURAL LANGUAGE PART 01
MATERIALITY PART 02
ENVIRONMENTAL CONSIDERATIONS PART 03
FREQUENCY OF CHANGE

14

programme & typology

[a]

TRANSITIONAL HOUSING PROGRAMME

Transitional housing is a type of temporary, supportive housing for the homeless that serves as an intermediate step towards independent living, reintegration into society and permanent housing (Gaetz 2014: 86). It provides accommodation to those who “require a stable housing solution for a period of time before moving on to more permanent options” (Ukwazi 2017: 39). An important aspect of transitional housing is the provision of onsite psychosocial, physical and economic support and skills development services aimed to assist the residents on their move towards stability by addressing certain issues and challenges that have caused or perpetuated their homelessness (Gaetz 2014: 86, Ntakirutimana 2015: 144). Transitional housing is “more long-term, service intensive and private” than emergency housing and traditional homeless shelters (Gaetz 2014: 86). A mix of single and family rooms are provided for lengths of stay ranging from 3 months to 3 years (2014: 86).

Ukwazi (2017: 44-45) describes eight principles of transitional housing, which support the choice of this programme for Melgisedek and guide the design thereof. The five most applicable principles to the programme and design process include (2017: 44-45):

1. Dignified and of a good standard: To provide accommodation for single residents and families that respects their right to dignity and privacy. There should be a balance of shared and private spaces and facilities, contributing to a sense of safety, ownership and community.
2. A proactive holistic response in well-located areas: It should be located in urban nodes close to public services, transport and employment opportunities, and where development may lead to evictions.
3. Fair and affordable rent: Residents should pay an affordable rent that is proportional to their available income and not necessarily a fixed amount.
4. Assistance and social services: It should be clustered with social support services that assist tenants towards independence and accessing permanent housing.
5. Time bound: It should be provided for a limited time. However, this should allow tenants to move on to alternative housing through appropriate support, coordination and availability of well-located affordable housing.

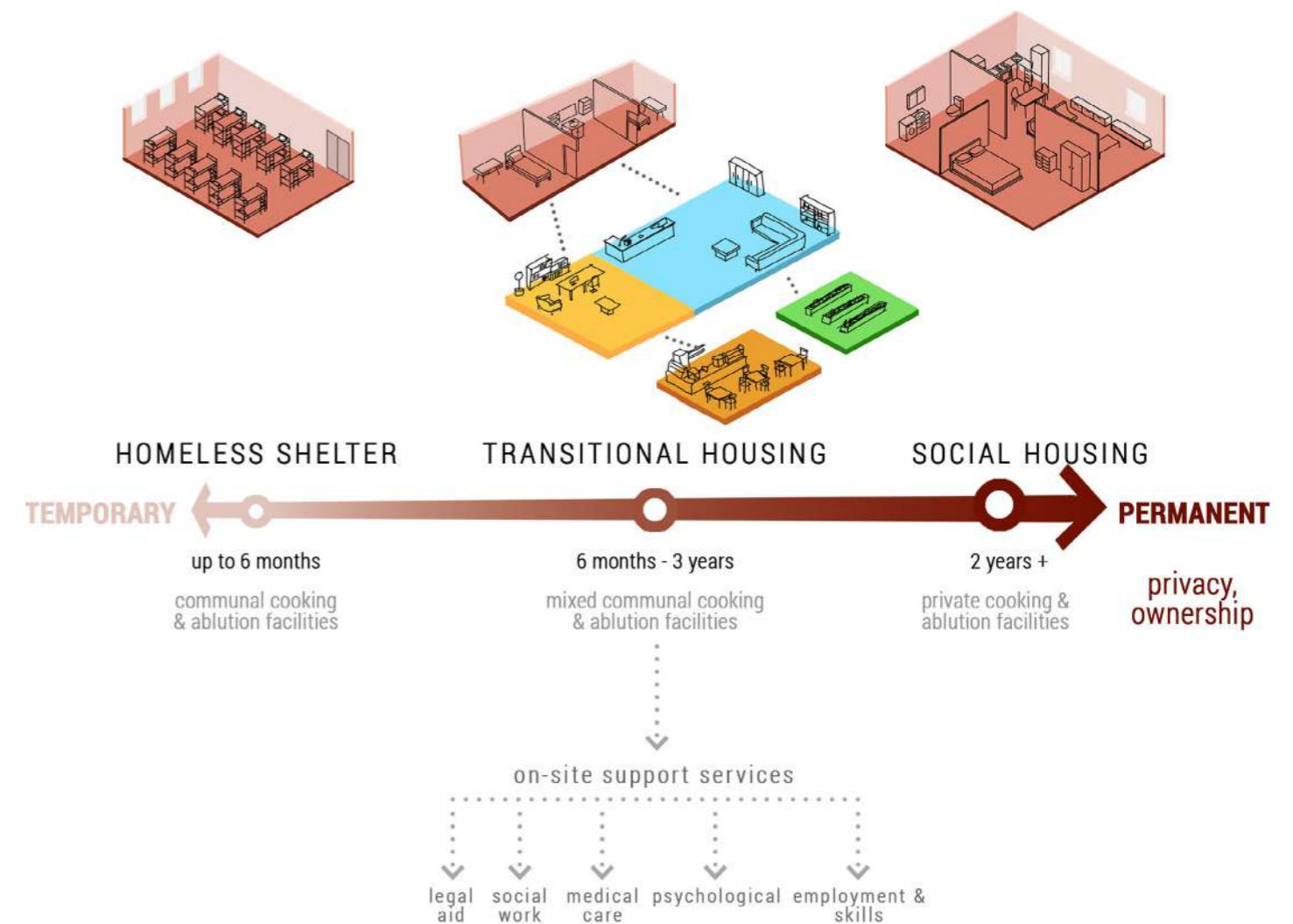
Lastly, Figure 14.1. compares transitional housing to homeless shelters and social housing in terms of length of stay (level of permanence); privacy and ownership; and provision of support services (Halverstadt 2019).

Homeless shelters tend to offer short-term stays (up to 6 months) in the form of shared dormitory-type accommodation with communal dining and ablution facilities. The goal is to provide immediate emergency shelter and possibly to link occupants with other support service partners (Halverstadt 2019). Rent is usually R0–R8 per night, per bed (Ntakirutimana 2015: 168).

Transitional housing provides a range of rooms from private to shared units with pockets of communal spaces and shared cooking and ablution facilities, offering more privacy and longer-term stay (up to 3 years) than homeless shelters. Therefore, there is more opportunity for appropriation and a sense

of ownership, and more time to engage with onsite support services (including social, medical, psychological, educational and financial services) (Halverstadt 2019). Rent is usually between R150–R300 per room, per month (Ntakirutimana 2015: 168) per month (Ntakirutima 2015: 168).

Social housing is usually government-subsidised, permanent, affordable housing where residents live independently and rent their own apartments (with private kitchens and bathrooms), usually for many years. Some social housing developments include student and commercial units, as well as certain public and social services (Halverstadt 2019). Rent is usually R1500–R3500 per apartment, per month (Ntakirutimana 2015: 168). In order to qualify for social housing, applicants must have valid IDs, earn a monthly income of above R1500, and may not have previously benefited from government housing subsidies (Ntakirutimana 2015: 84-85), therefore disqualifying many homeless persons.



14.1. Comparison between homeless shelters, transitional housing and social housing (Author 2021) adapted from Halverstadt (2019).

Fig. 13.4. Previous pages 84–85: “Scale of Permanence” as conceptual and design driver (Author 2021).

[b]

PROGRAMMATIC & TYPOLOGICAL PRECEDENTS

The following precedents have guided the spatial application of the transitional housing programme/typology, informing the functions and types of spaces, sizes, positioning and configurations required by this programme and its users.

Precedent 1 | Rainbow Apartments by Michael Maltzan

Location: Skid Row, Los Angeles, USA

Typology/Programme: 89 single-room units of permanent supportive housing

Status: Completed 2006

This project is an example of permanent supportive housing, which is a housing typology more common in the USA, aimed at providing fully subsidised, equipped and permanent accommodation, with onsite support services (social, medical and psychological care, education and job training, etc.) for chronically homeless persons living with disabilities (Halverstadt 2019, NAEH 2021). When considering the economy, it is unlikely that this exact typology would be feasible in South Africa. However, the types and configurations of spaces are still relevant to the transitional housing typology when considering the balance between privacy, ownership and shared community life.

One of the successes of the plan and programme is the balance between communal living spaces and personal privacy and using the supportive services as a buffer and transition between the ground floor public interface and the semi-public communal courtyard and private units on the first floor (Maltzan 2020)(Figure 14.4.). Additionally, communal interaction is encouraged while respecting the need for privacy through the semi-public courtyard surrounded by outdoor circulation, which allows residents to participate in the community simply by going to and from their private rooms (Matlzan 2020) (Figure 14.5.).



14.2. Photograph of courtyard and circulation (mmaltzan.com n.d.)



14.3. Photograph of southern (street) elevation (Maltzan 2020).



14.4. Groundfloor plan (Maltzan 2020) edited by Author (2021).



14.4. First floor plan (Maltzan 2020) edited by Author (2021).

Precedent 2 | University of Mpumalanga Student Residence by Cohen & Garson Architects

Location: Mbombela, Mpumalanga, South Africa

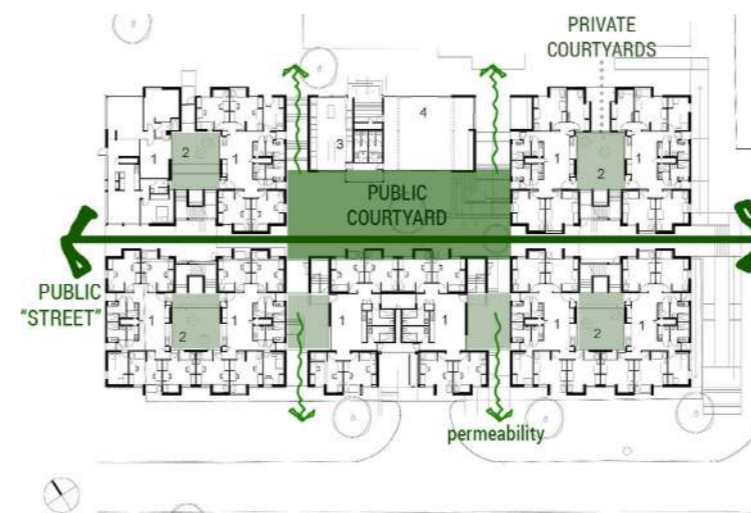
Typology/Programme: Student residence

Status: Completed 2015

This student residence typology functions similarly to transitional housing in that it accommodates residents temporarily in private rooms, with shared ablution and kitchen facilities, rendering the design and layout relevant

The most influential aspect of this precedent is the courtyard typology that creates “public and private common outdoor spaces” and intimate semi-public transitions between public spaces and the modular private rooms (Cohen and Garson 2016). These courtyard spaces encourage social interaction while respecting personal privacy. The courtyard typology also responds to the hot climate by allowing cross ventilation in all the rooms (Cohen and Garson 2016). The repeated modular rooms form modular cluster blocks separated by internal streets, creating permeability from the public realm and further encouraging communal interaction. There is also a sensitive progression from public to private spaces: from the public street edge, to the internal streets and public courtyard, to the intimate cluster courtyards and their common rooms, and finally to the private rooms (Figure 14.6.). The common room and kitchen spaces act as a threshold to the ablution cores, creating a sense of surveillance and safety around the ablution facilities (Figure 14.10.).

However, universal accessibility was not considered here, which is an important additional consideration for transitional housing for the homeless. Furthermore, the courtyards are quite small in proportion to the cluster blocks, limiting direct access to the courtyard and possibly the desire to linger.



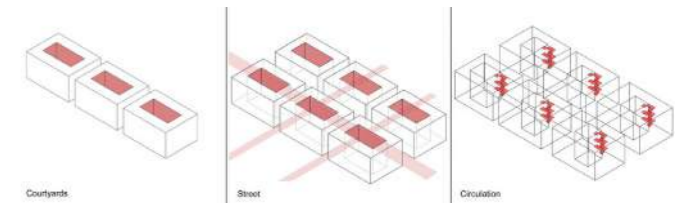
14.6. Upper ground floor plan (Cohen and Garson 2016) edited by Author (2021).



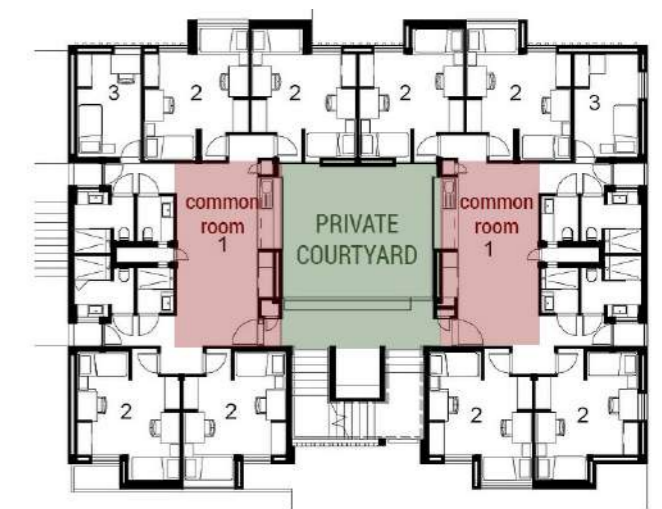
14.7. Photograph of UMP residence exterior (Cohen and Garson 2016).



14.8. Photograph of private courtyard (Cohen and Garson 2016).



14.9. Courtyards, street and circulation graphic (Cohen and Garson 2016).



Block Plan
1:200

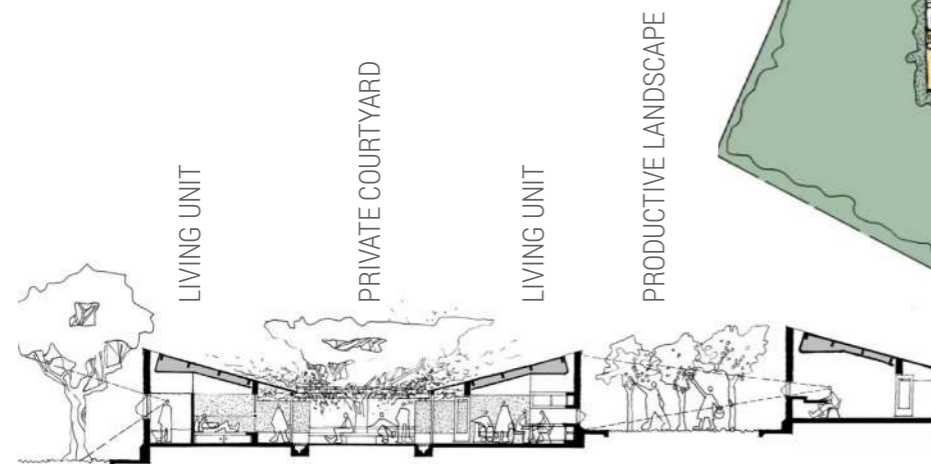
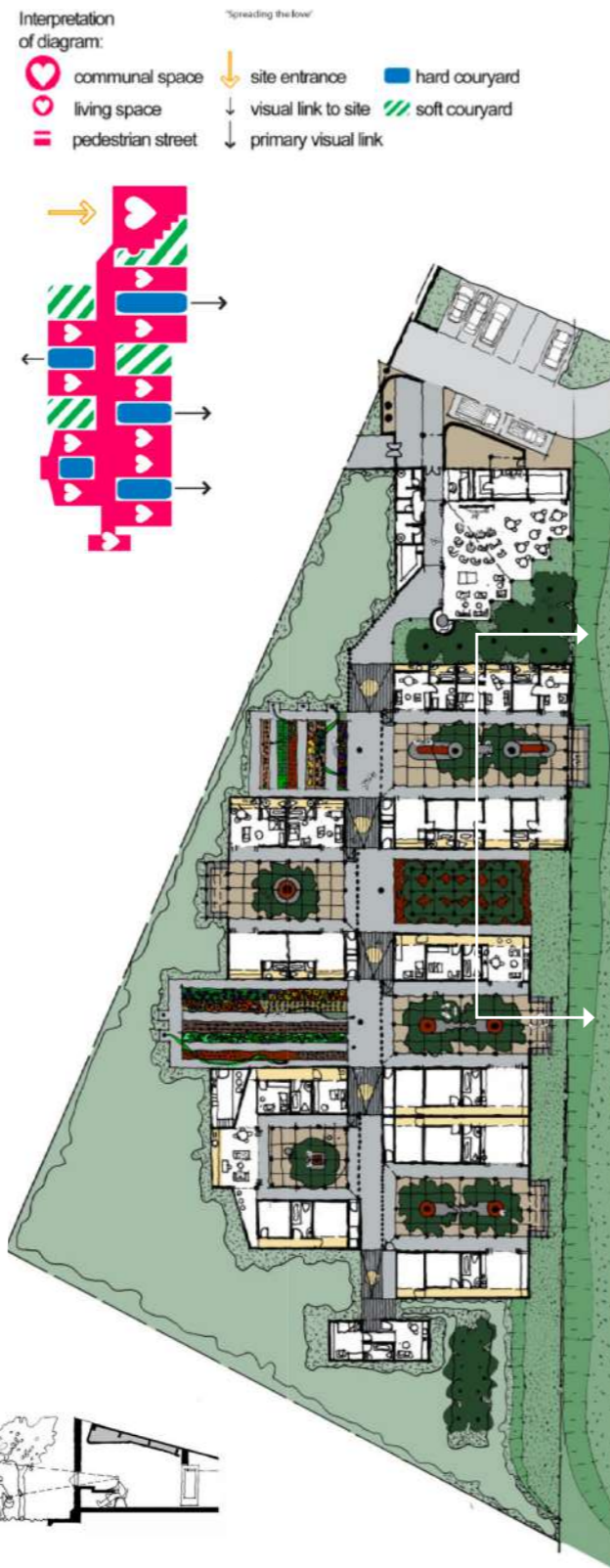
- 1 Student Common Room
- 2 Double Bedroom
- 3 Single Bedroom

14.10. Residential block floor plan (Cohen and Garson 2016) edited by Author (2021).

Precedent 3 | Transitional Living Centre by Noero Architects

Location: Pietermaritzburg, KwaZulu-Natal, South Africa
Typology/Programme: Transitional housing for people with disabilities
Status: Not built

Although never built, this is a local example of transitional housing that serves as a stepping stone for people with disabilities towards more independent living, with assistance in social, employment and life skills development and certain medical and psychological services (Climb Any Mountain 2013). The centre is aimed at providing dignity and independence, balanced by communal dependence and interaction (Noero Architects 2013). The residential clusters also follow an intimate courtyard typology with private courtyards surrounded by universally accessible accommodation and alternating communal productive courtyards between clusters. The courtyards act as communal spaces encouraging social interaction and communal activities.



14.11. Section through private courtyard and living units (Noero Architects 2013).

14.12. Plan of the TLC in relation to the concept of communal and living spaces, hard and soft courtyards and visual links to the surroundings (Climb Any Mountain 2013).

All precedents incorporate courtyards that serve as semi-public social spaces, act as transitional spaces between public and private realms, and balance the need for communal interaction with the need for privacy and independence. This is also navigated by the balance of communal spaces and facilities with private living units. Additionally, designing modular units that can be repeated allows for various configurations while still creating a unified identity. Lastly, onsite support services can be used as spatial and programmatic thresholds between public interfaces and private living spaces, while serving residents and the public.

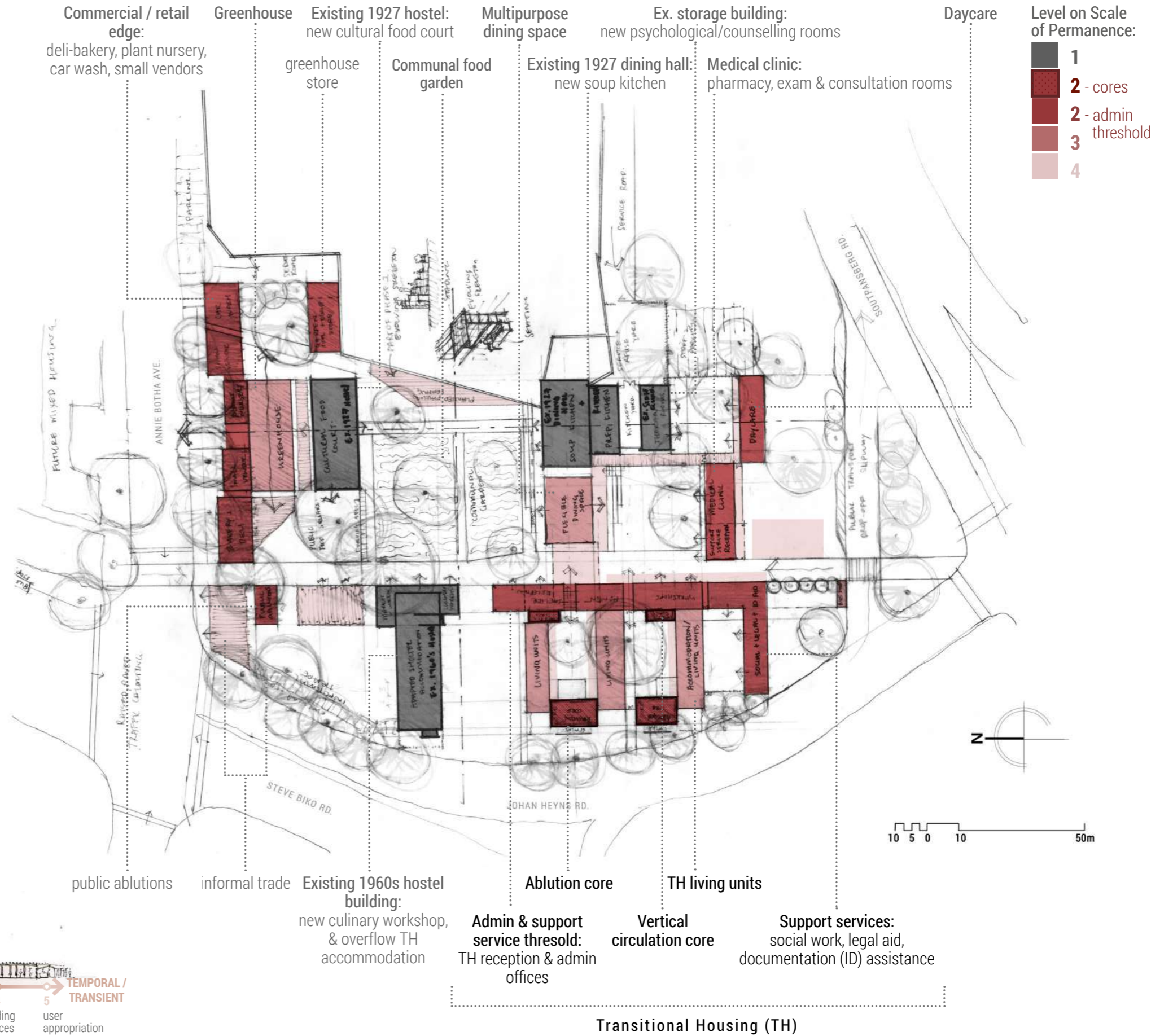
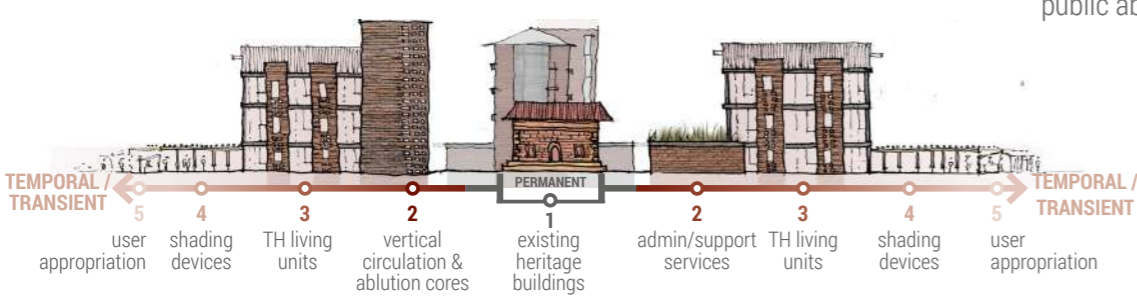
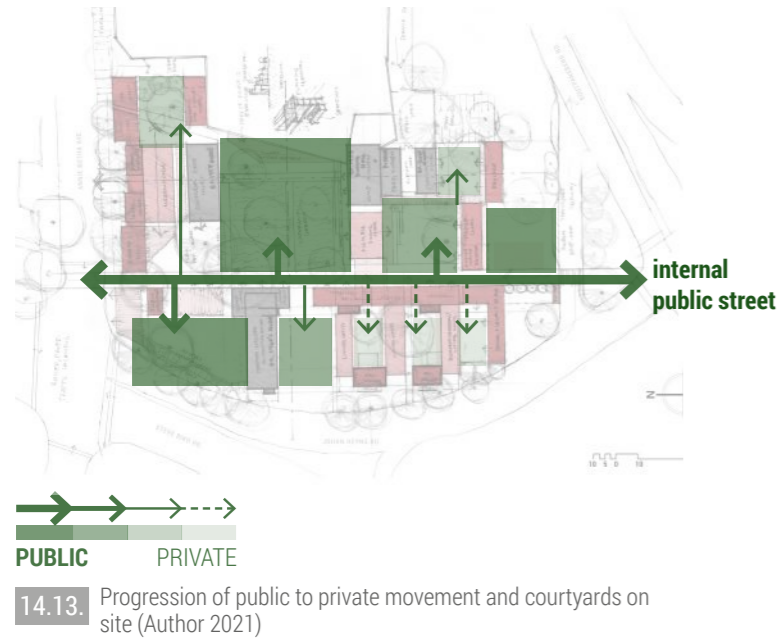
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[c]

RESULTANT PRODUCTS & ITERATIONS

The research on transitional housing and precedents guided the positioning of the various functions on the site, considering the hierarchy and progression of public to private spaces. The programmatic organisation also relates to the conceptual strategy of the scale of permanence, with certain spaces manifesting architecturally as more permanent, anchoring spaces and others as more flexible or tectonic spaces.

The programme was also compiled into an accommodation schedule (see Appendix 4) to guide the development of the plan. The various functions, sizes and programmatic requirements were interpreted and adapted from the research on transitional housing (Gaetz 2014, Halverstadt 2019, Ukwazi 2017), precedents, national building regulations (SANS2011) and shelter design guidelines (BCHousing 2017).



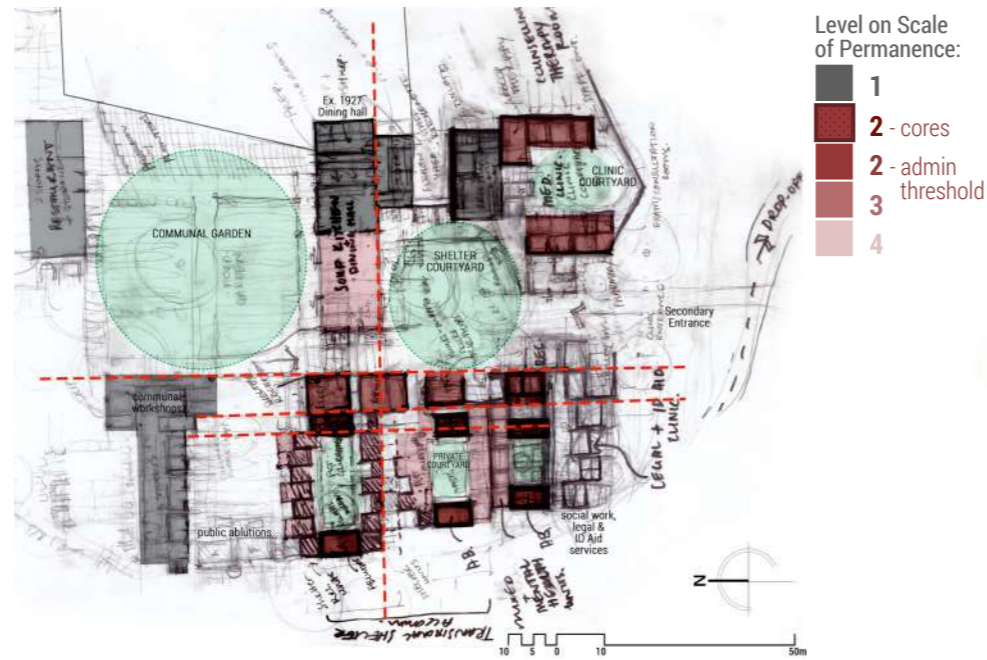
Iteration 1:

In developing the first plan iteration, the organisation and site layout of the various social welfare programmes were considered to define the interlinked courtyards of varying privacy as transitions between public and private functions (Figure 14.16.). At the transitional housing, stereotomic cores anchor the flanking living unit “legs”.

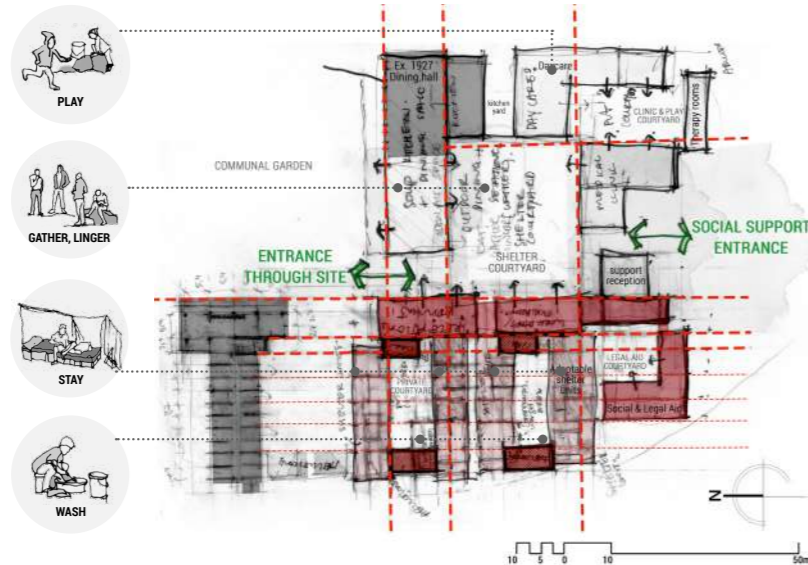
The spaces were then further defined according to their functions, levels of permanence and identified existing activities (such as communal wash spaces), and then ordered according to the grid and proportions of the existing buildings (Figure 14.17.).

Modular living units were then staggered along the grid to create flexible niches of privacy and permeability around the private courtyard (Figure 14.18.).

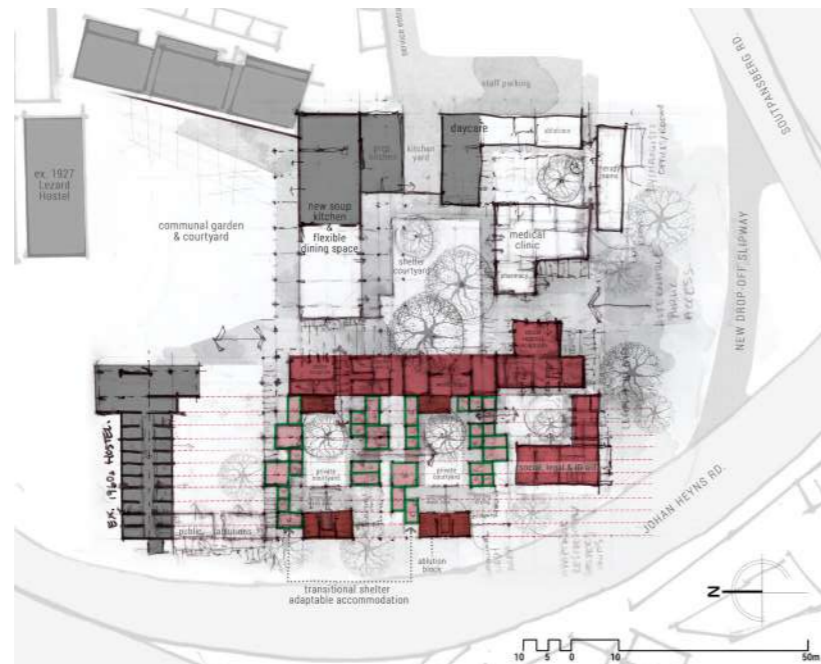
The first iteration shows more detailed layouts of the transitional housing units and courtyards, based on three living unit modules placed on the 3m by 3m grid (Figures 14.19. and 14.20.).



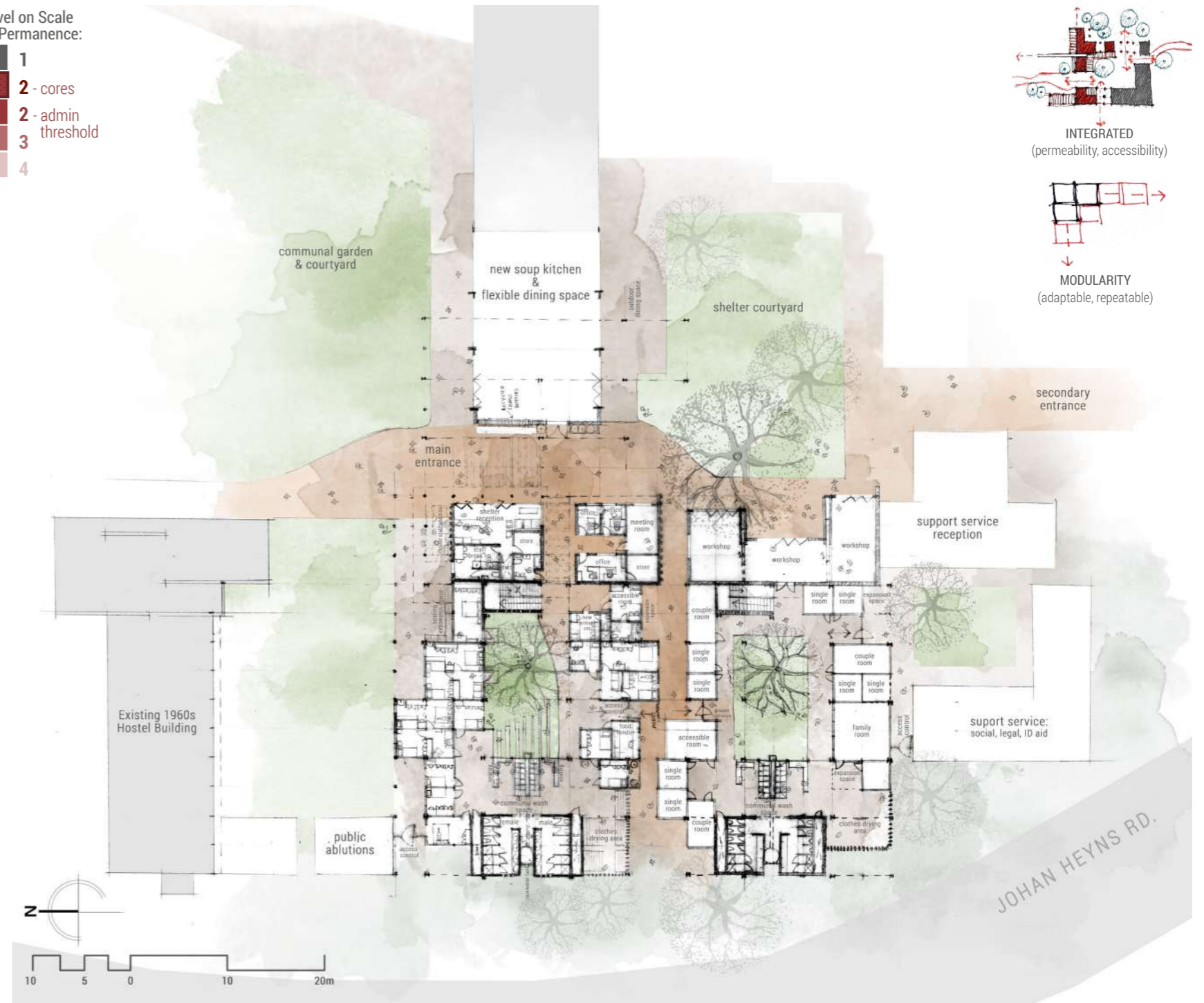
14.16. Process sketch 1 of Phase 2: Social Welfare Pocket (Author 2021).



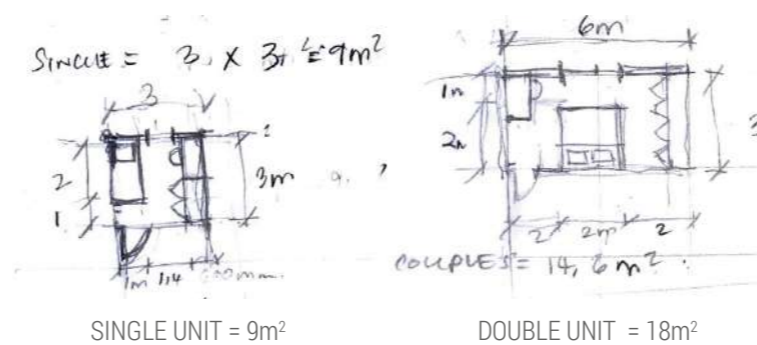
14.17. Process sketch 2 of Phase 2: Social Welfare Pocket (Author 2021).



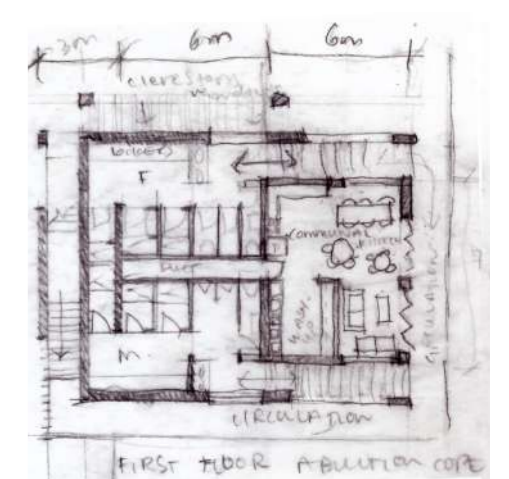
14.18. Process sketch 3 of Phase 2: Social Welfare Pocket (Author 2021).



14.19. Ground floor plan of iteration 1 (Author 2021).



14.20. Single, double and family living unit modules (Author 2021).



14.21. Common room above communal wash area (Author 2021).



Photographs of Iteration 1 maquette (Author 2021). 14.22.

Iteration 2:

In the second iteration, courtyards are defined more successfully, and the transitional housing admin and support service functions are defined as a threshold to the more private living spaces and articulated as a continuous band that wraps around the housing, picking up on spatial and formal cues of the existing 1960s building's entrance space.

This iteration also shows a more direct response and consideration of the existing heritage buildings, respecting their proportions, axes and response to open spaces. The living unit modules are placed so that each unit receives northern light and cross ventilation, and to create more order to the overall form. A structural grid of 6m by 6m was chosen (as opposed to the previous 3m by 3m), liberating the interiors of spaces and allowing for more flexible "bays" of living units. The author began to explore materiality, roof form and spatial qualities (see Section A-A, Figure 4.24.), and then started to resolve the layouts of the spaces in more detail, in relation to the five levels of permanence.

The existing building interiors are adapted with sensitivity (changing the structure minimally), which represents the more permanent level (level 1) on the scale of permanence. The new circulation and ablution cores represent level 2, reading as stereotomic, vertically anchoring elements, while the admin/support service threshold (level 2) reads as a horizontally anchoring element. The transitional housing accommodation (level 3) is more flexible with lightweight partitions and modularity. The tectonic, lightweight pergolas and shading structures (level 4) bind the spaces together and articulate transition and circulation spaces. Lastly, expansion/slack space is provided at certain living unit modules to accommodate the most temporal spaces of user appropriation (level 5).

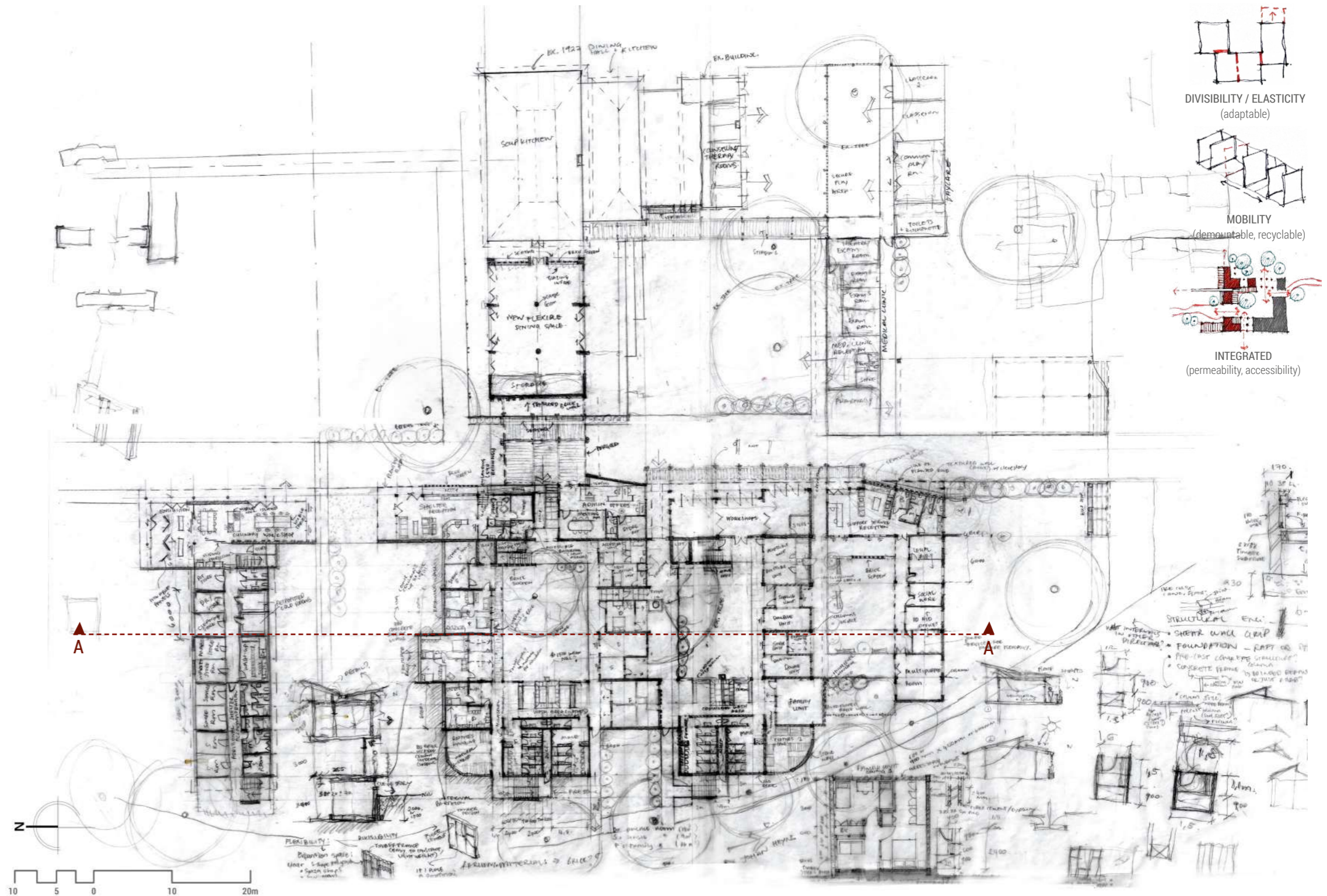
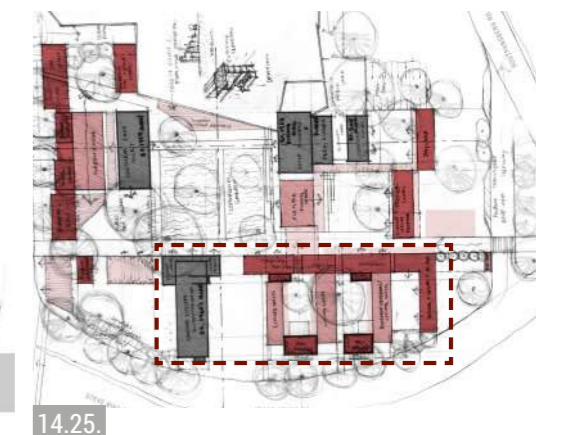
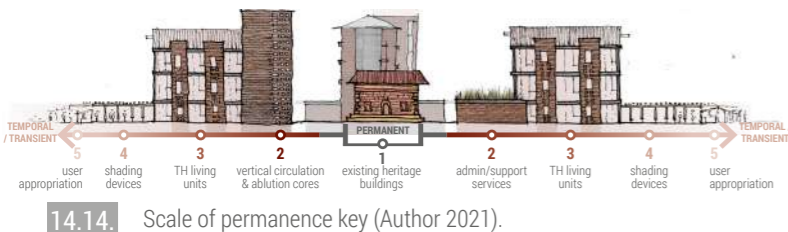
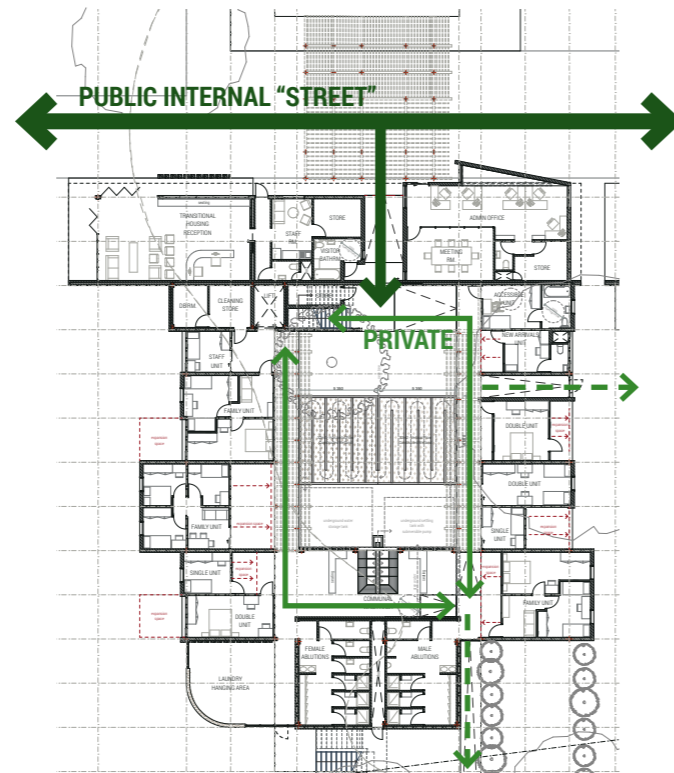
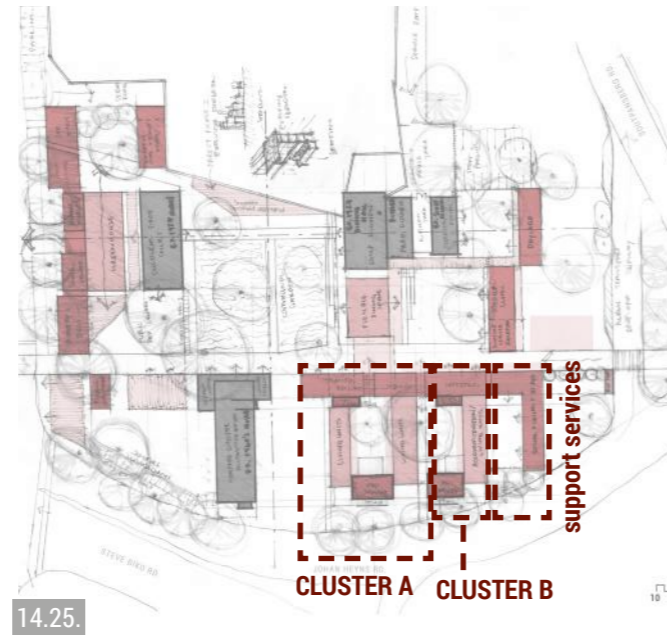


Fig. 14.23. Top: Ground floor plan of iteration 2 (Author 2021).
Fig. 14.24. Bottom middle: Section A-A with "scale of permanence" colour shades (Author 2021).
Fig. 14.25. Bottom right: Site plan key (Author 2021).

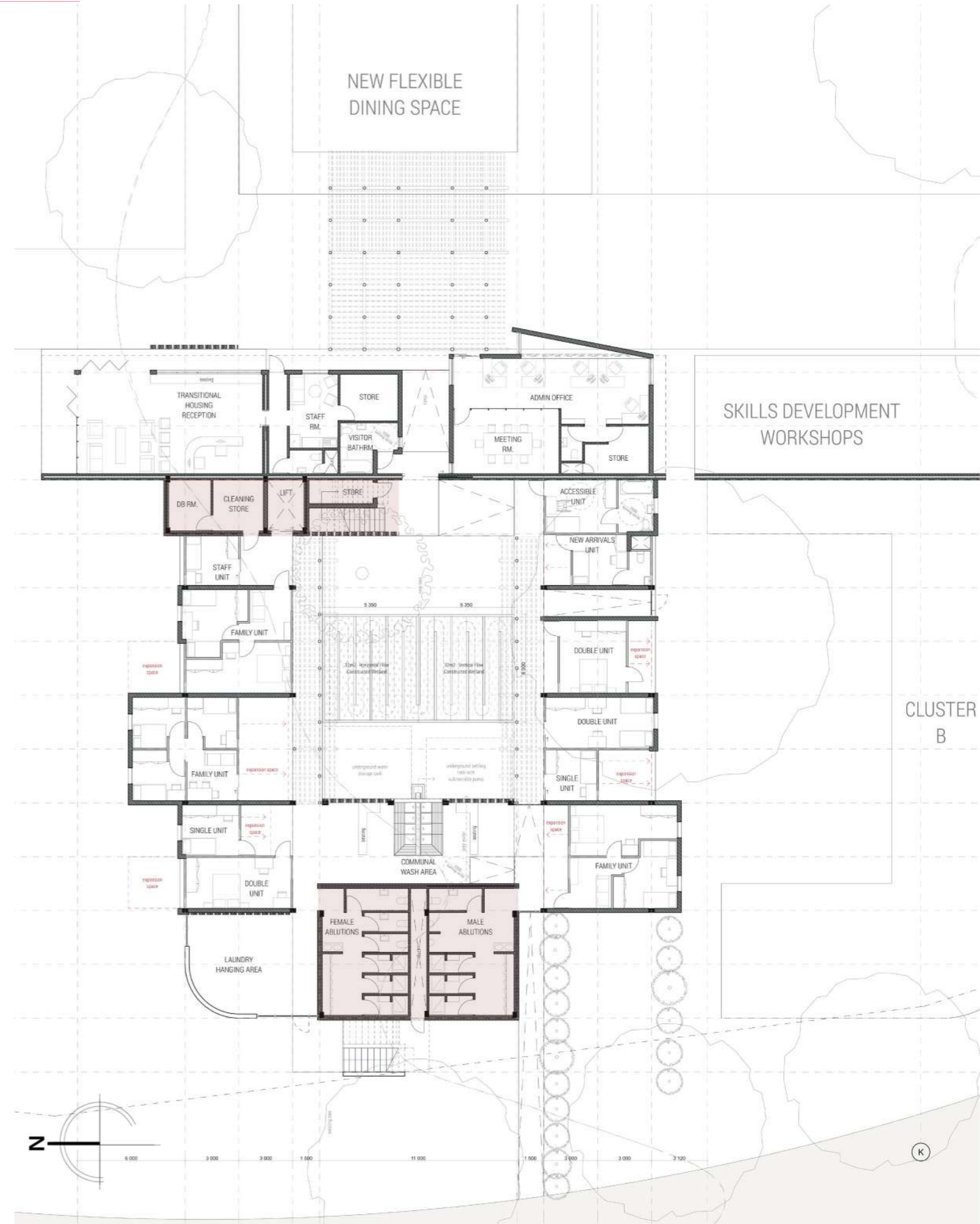


Iteration 3:

The third iteration shows further development and resolution of cluster A of the transitional housing, indicating wall materiality and thicknesses; detailed layouts and living unit configurations; the pergola/shading devices articulating transition and circulation spaces; and the proposed constructed wetland system in the private courtyard. Universal accessibility was considered in the design of ramped circulation routes, turning circles, accessible living units and the incorporation of an elevator in the anchoring vertical circulation core. The use of a thick cavity masonry wall as a spine that separates the reception and administration functions from the private courtyard and accommodation emphasises the admin/support service “band” as a buffer and threshold from the public street to the private courtyard and residential spaces.



14.26. Public and private circulation routes (Author 2021).



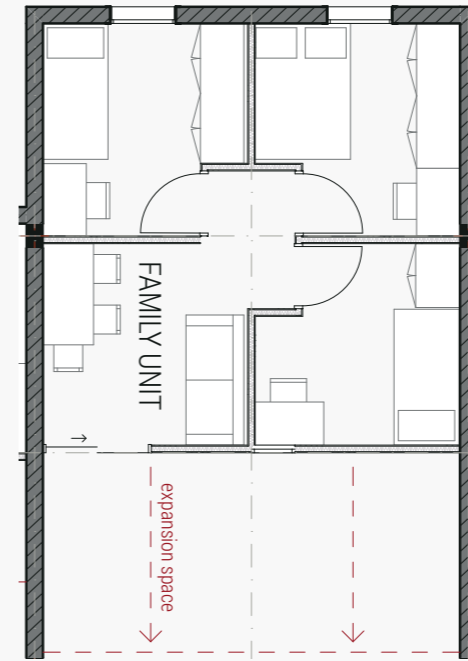
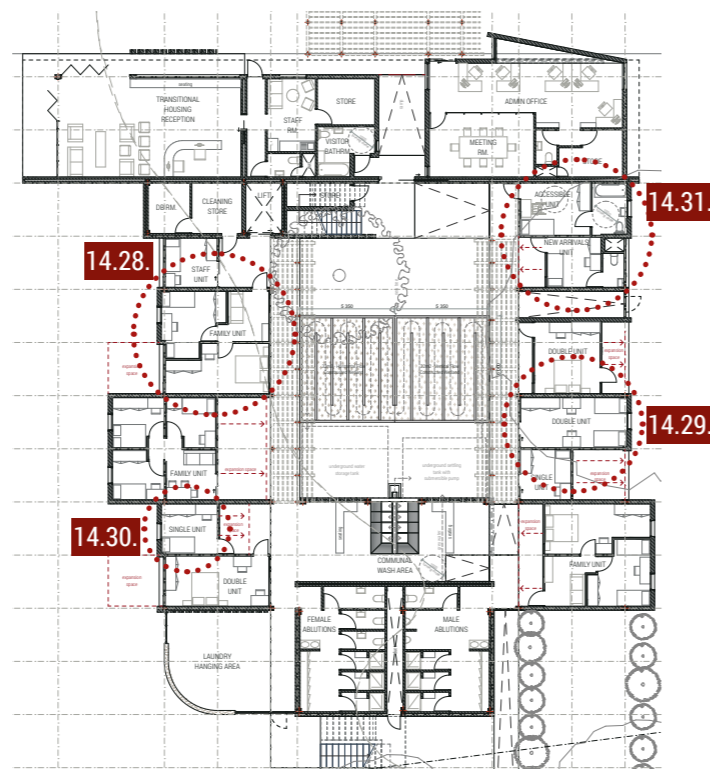
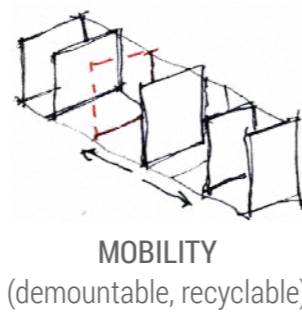
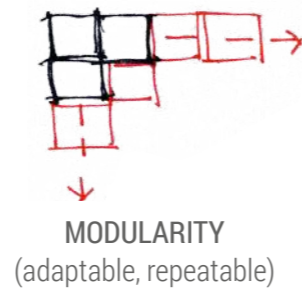
Ground floor plan of iteration 3 – Cluster A of transitional housing (Author 2021). 14.27.

[d]

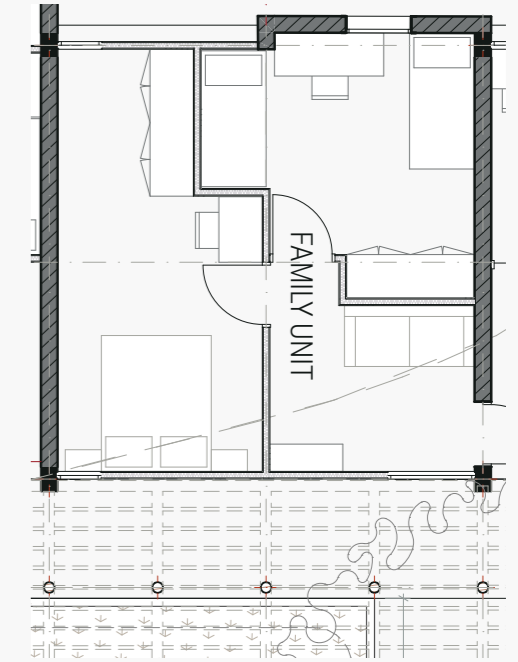
FLEXIBLE & USER-CENTRED SPACES: LIVING UNITS & THE COMMUNAL WASH AREA

The transitional housing living unit modules are designed to allow for various configurations. On the northern and southern external facades, 3-metre brick exterior walls are alternated with exterior lightweight infill panels to allow for flexibility. The living unit external walls facing the internal courtyard as well as the internal walls are lightweight partitions to allow for future additions or alterations. The brick infill between the columns provides a sense of permanence and stability, demarcating the 6-metre bays between which spaces are more flexible and temporal. The living unit modules include a 9m² single unit; a 18m² double unit for couples or two roommates; a 36m² family or four-person shared unit; a new arrival's unit with its own toilet; and a wheelchair accessible unit with accessible bathroom. The last two units are both positioned close to the cluster entrance.

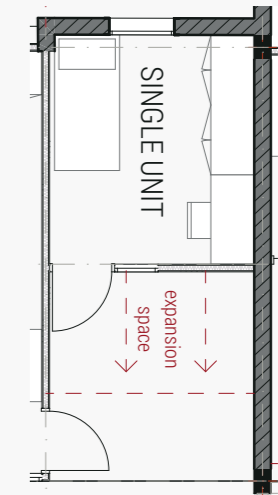
The communal wash area elevates the existing quotidian "wash" activity to an architecturally celebrated communal ritual and social gathering space. It anchors the courtyard and provides a sense of safety and surveillance as a threshold to the communal ablutions. This space acknowledges this existing activity as an important communal ritual, especially for woman, and references precedents from India and Morocco where the act of washing laundry is celebrated as ritual and a gathering space in historic architecture (Figures 14.35. - 14.36.).



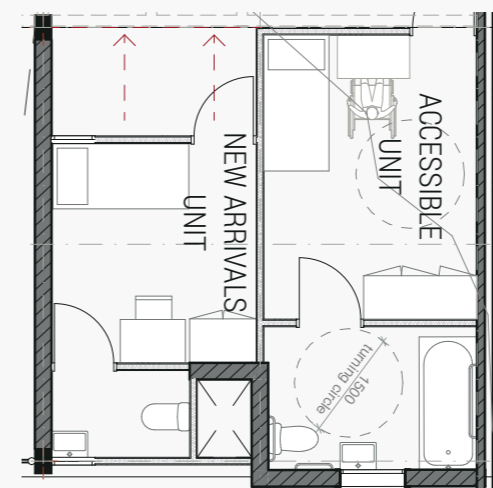
14.28. Various configurations of family/four-person shared unit (36m²) (Author 2021).



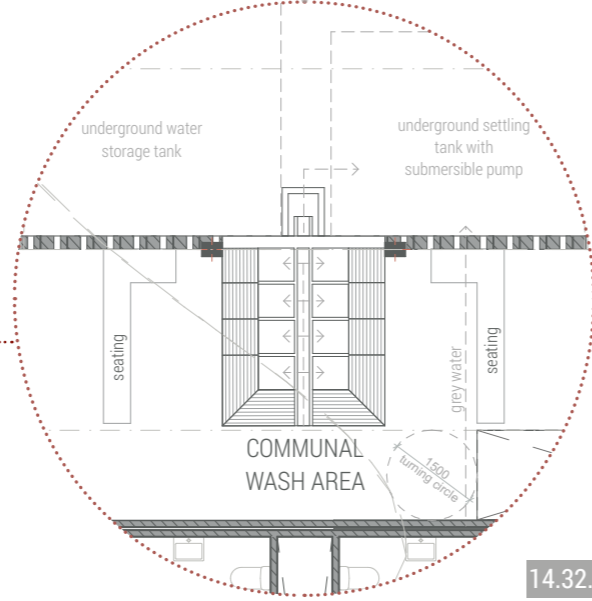
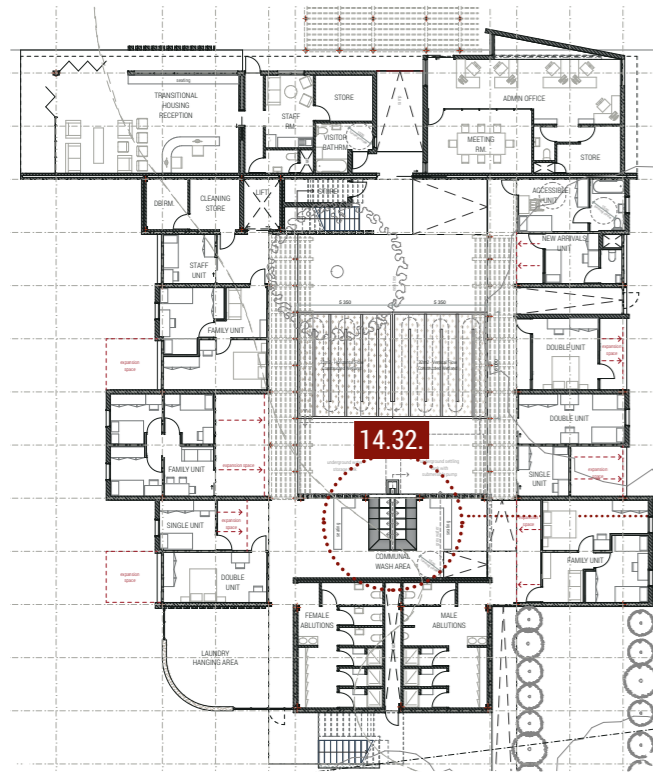
14.29. Various configurations of double unit (18m²) (Author 2021).



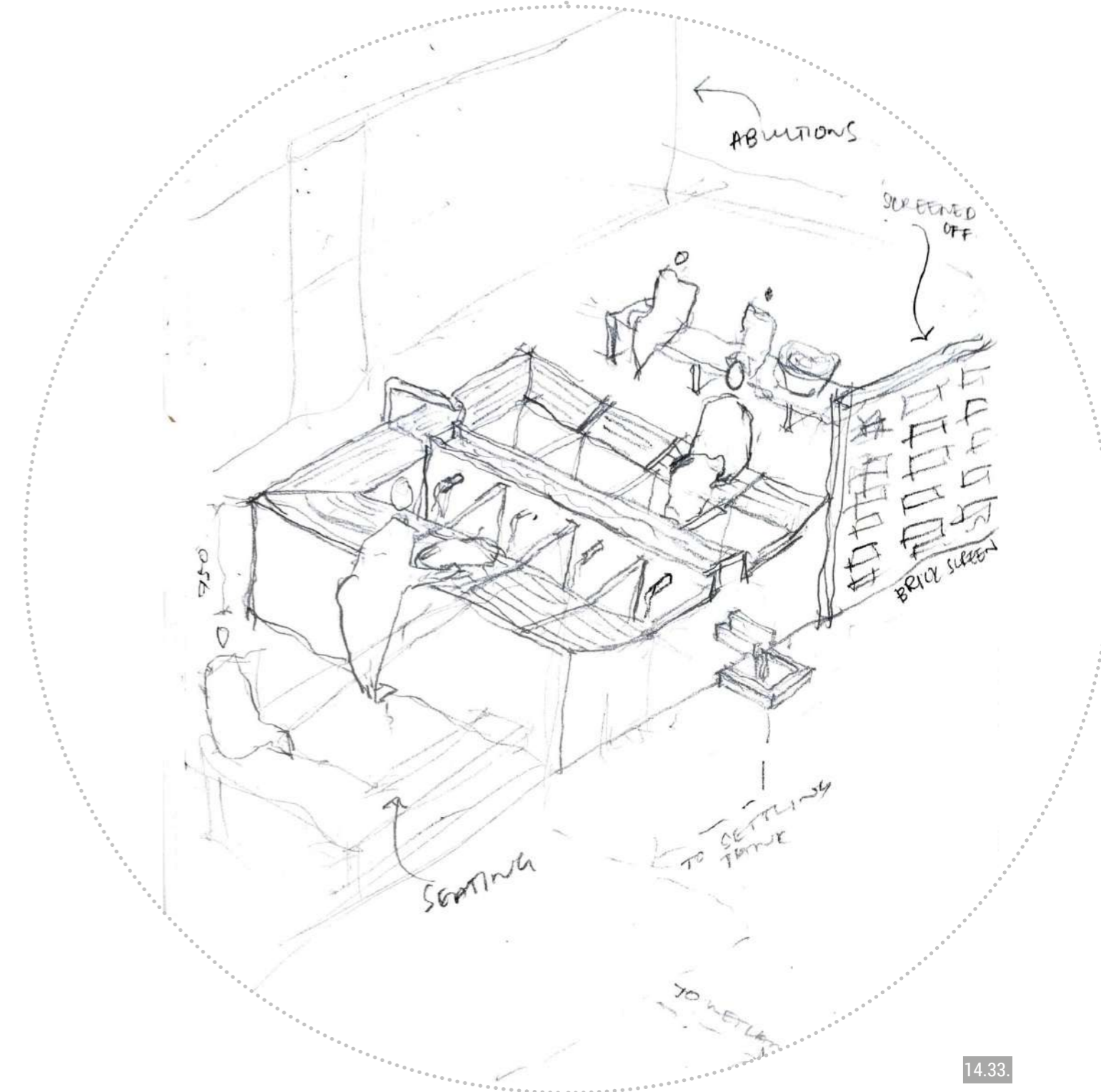
14.30. Single unit (9m²) with expansion space (Author 2021).



14.31. Universally accessible unit and New arrivals unit (Author 2021).

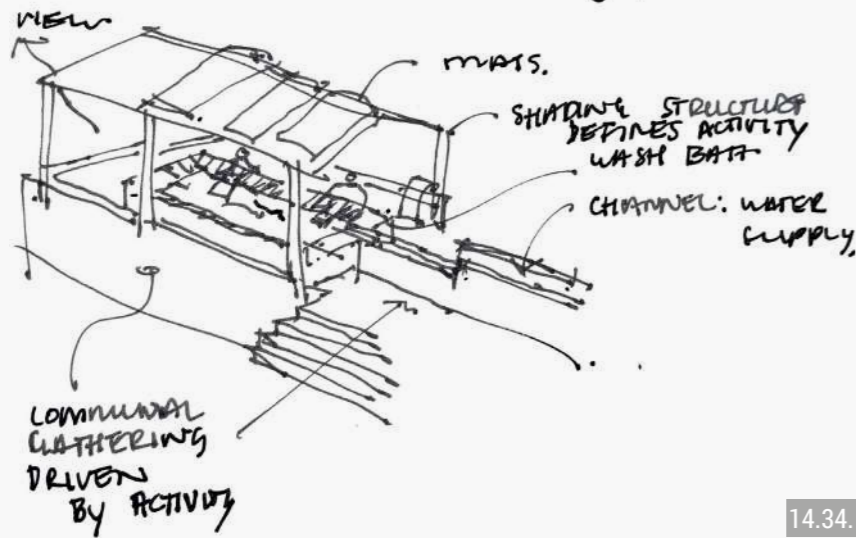


14.32.



14.33.

COMMUNAL HAND-WASHING SPACES
& CHEFCHOAOUEN WASHING PLACE



14.34.



14.35.



14.36.

Fig.14.32. Top left, page 104: Plan of iteration 3 communal wash area (Author 2021).
Fig. 14.33. Bottom, page 105: Communal wash area sketch (Author 2021).
Fig. 14.34. Middle left, page 104: Sketch of Chefchoaouen communal laundry (Author 2021).
Fig. 14.35. Bottom left, page 104: Chefchoaouen communal laundry, Morocco (Heppner 2016).
Fig. 14.36. Bottom right, page 104: Indian communal handwashing space (Thomashoff 2019).



15

materiality

Part 02 unpacks the material and technical explorations that manifest the conceptual strategy of the scale of permanence to reinforce the architectural language of the various levels related to the different spaces and programmes unpacked in Part 01.

[a]

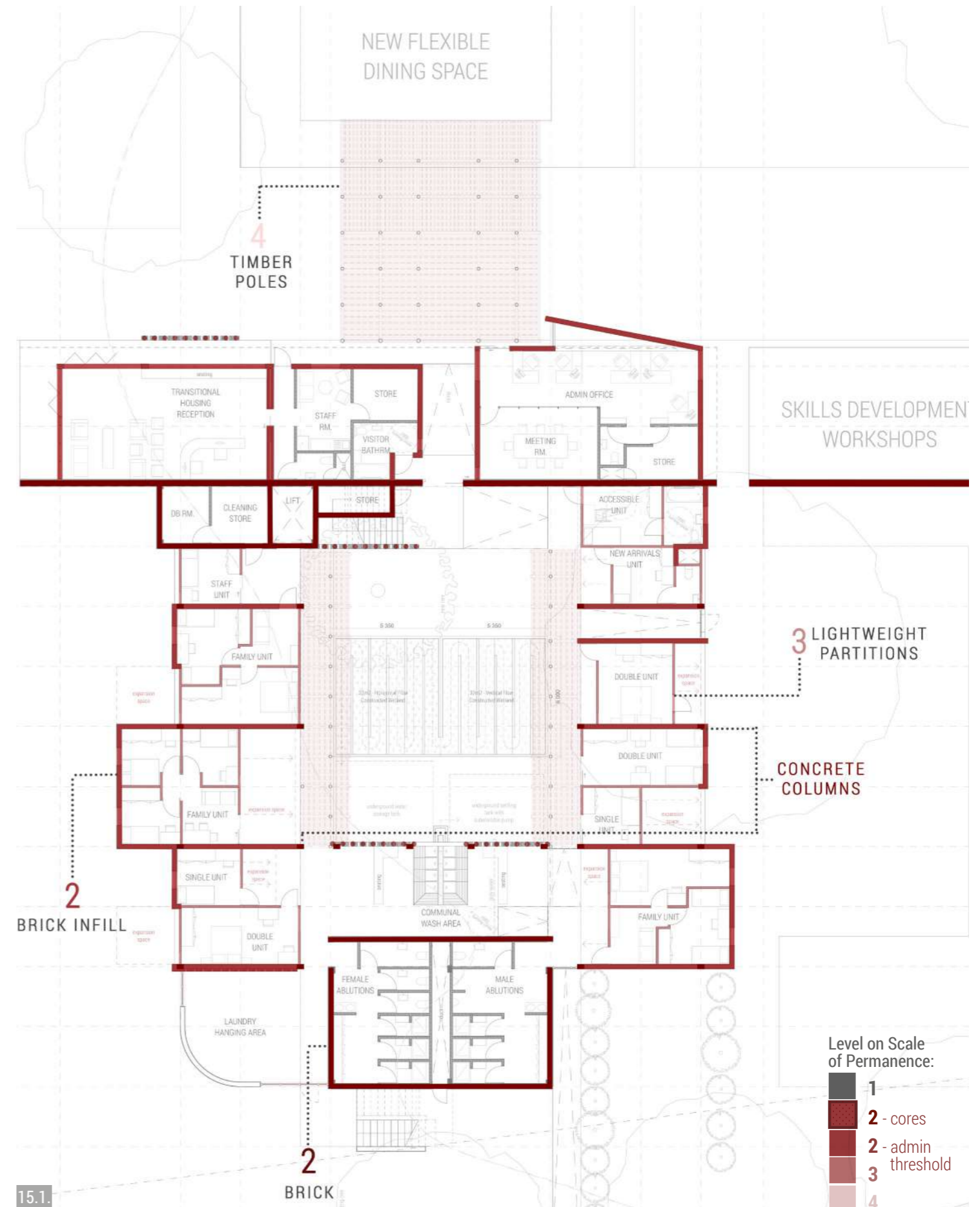
MATERIAL CHOICE & LAYERING

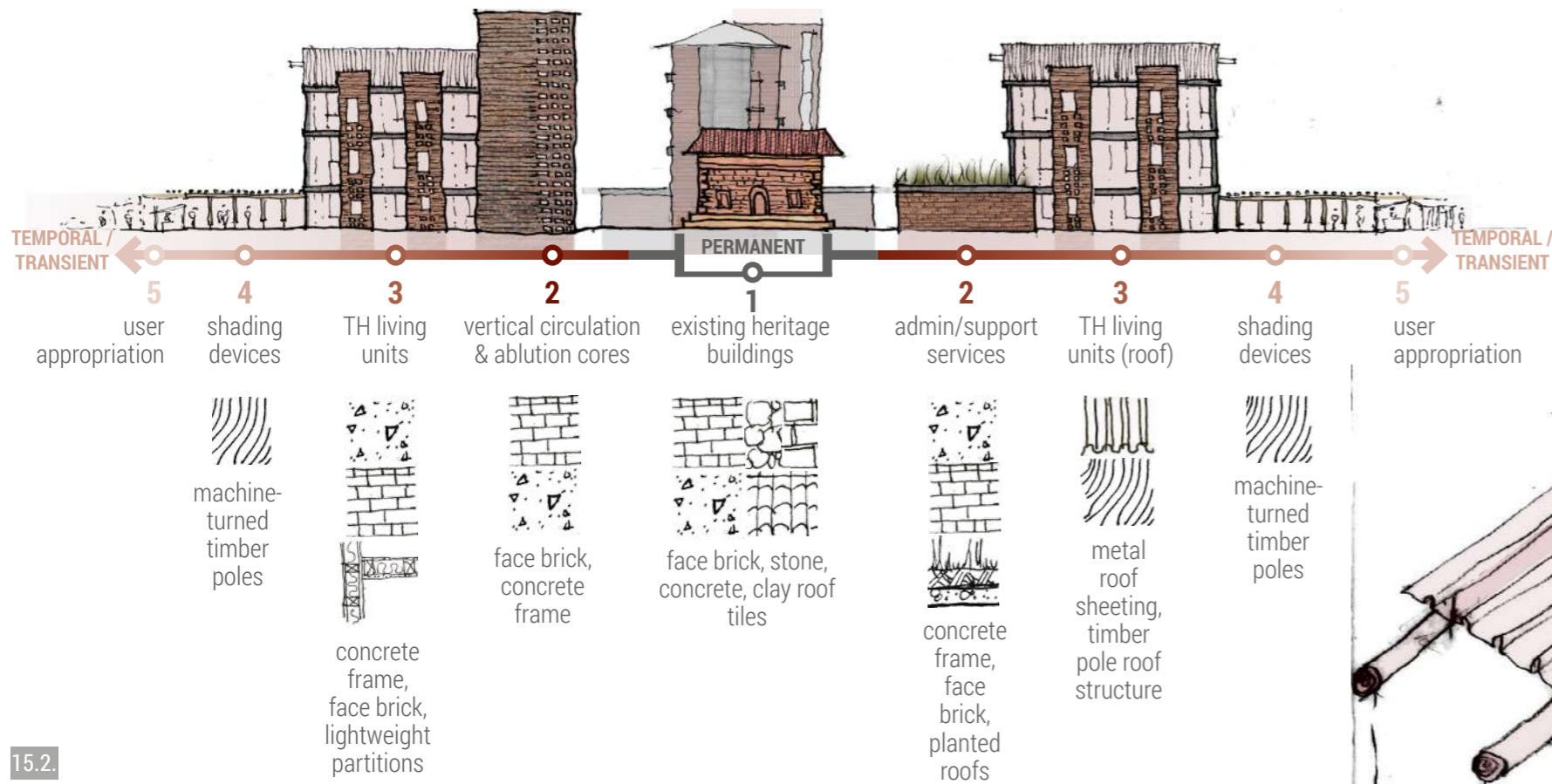
The material and technical intent stems from the aim to provide a platform for adaptability and future appropriation, while providing a sense of permanence and stability that negotiates the social conditions and changing needs of users on the one hand, while anchoring the existing heritage with their distinct red face brick aesthetic, to the proposed tectonic timber pole elements that define various transition and circulation spaces, unifying the project and reading as lighter, more temporal elements. The construction and materiality are not only intended to navigate these various levels of permanence/stability/stereotomics and temporality/transience/tectonics, but also to make use of local skills and available, affordable materials that are simple to construct without requiring specialist expertise, to allow current and future users to be involved in the construction process and future adaptation of the various spaces. Therefore, simple and humble materials such as face brick, timber-framed lightweight panels and machine-turned timber poles are used but elevated to achieve a dignified, sophisticated execution.

The layering of materials (Figure 15.3.) expresses the transition from fixed elements to lightweight, more flexible elements. It begins with the primary load-bearing concrete frame structure, which allows for long-term adaptability and provides a grid that accommodates the living unit modules. Then, the secondary structure of brick infill represents a heavy permanence in areas such as the vertical and abluion cores and demarcates bays within which flexibility occurs in the residential wings. The use of face brick textured panels, screens and envelopes that express the permanent and anchoring elements of the design (in level 2 and 3 on the scale of permanence) also build on the existing palimpsest of the heritage buildings' face brick aesthetics. Adaptable, lightweight internal partitions and external panels made of

timber frames, insulation and fibre cement cladding represent the tertiary wall structure that can be altered, removed and easily constructed to adapt and appropriate the living units. Lastly, the machine-turned timber pole pergolas and roof structure with steel sheeting read as a final tectonic and lighter addition to define transition and circulation spaces and to unify the various transitional housing spaces. These timber pole elements reference the tectonic timber pole construction of the informal structures on site, while also elevating the material through refined execution that gives dignity to the new living spaces. All of these materials are local and relatively low cost, which is an additional consideration when designing for this social context, programme and the intentions for future adaptation.

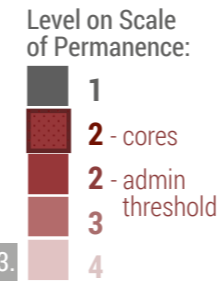
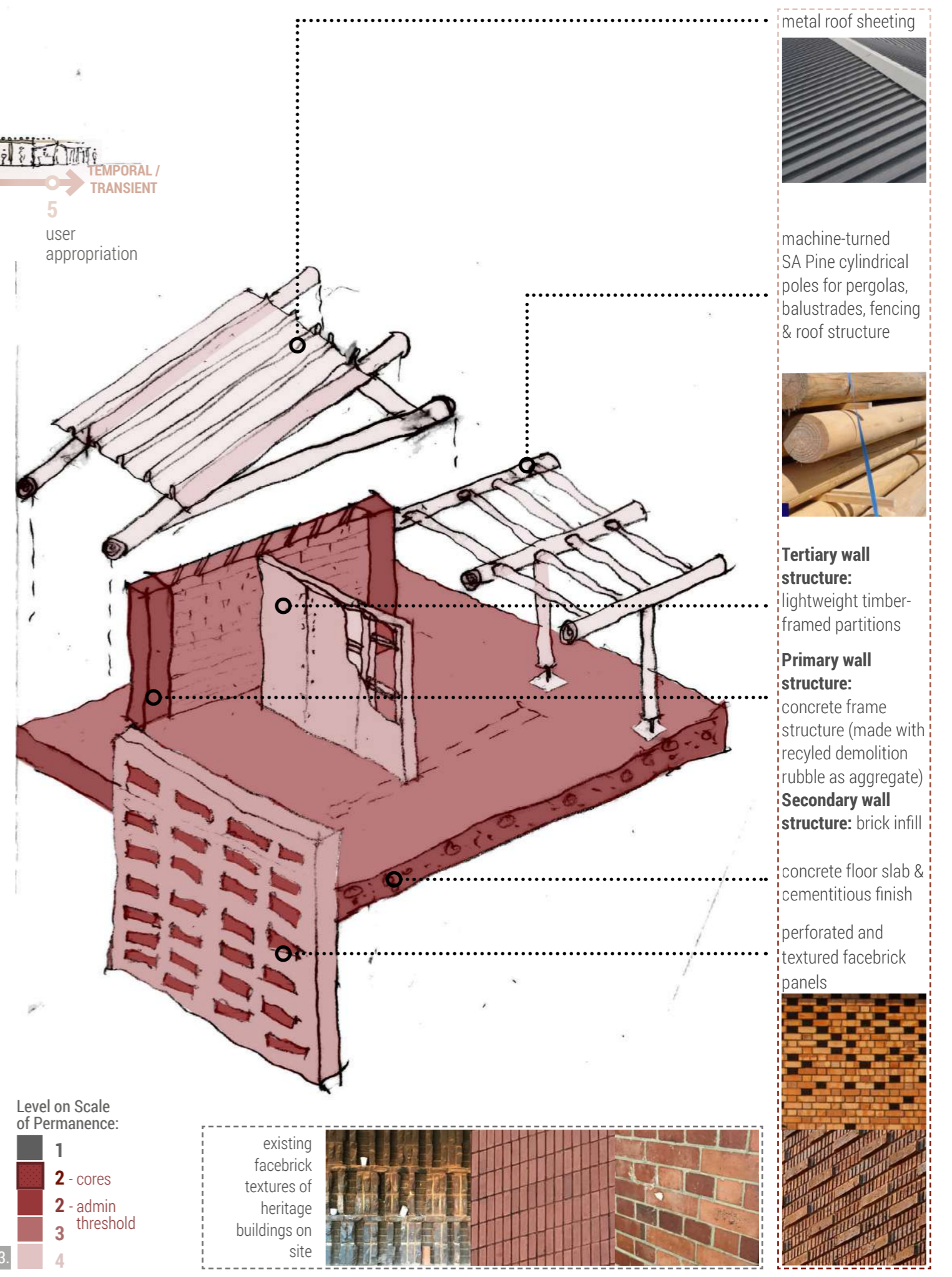
Fig.15.1. Right: Cluster A plan showing materials on different SOP levels (Author 2021).





15.2.

Fig. 15.2. Above: Scale of Permanence (SOP) material key (Author 2021).
Fig. 15.3. Far right: Material layering concept and palette (Author 2021).



15.3.

[b]

TECHNICAL & DETAIL EXPLORATION

The development of the section through the transitional housing and elements of the elevation start to express the architectural, material and technical intentions discussed previously. The various materials and their relation to the conceptual scale of permanence begin to define the programmes and spatial articulation of the design. For example, the more permanent textured brick panels on the sketch of the northern elevation (Figure 15.5.) alternate with more flexible lightweight panels (see Figure 15.6.), creating a distinct rhythm that expresses the transition between the more permanent, stereotomic vertical circulation core and admin threshold and the more flexible spaces of the transitional housing units.

Furthermore, as indicated in the previous section (Figure 15.4.), certain elements were chosen to be explored in more detail and resolved technically. Each of these were chosen to represent the layers of materiality that correspond to the levels on the scale of permanence, and as examples of simple, humble materials elevated to dignified, crafted construction and execution. These elements include:

1. The lightweight partition wall that is simple to construct by users, as a part of the adaptable/flexible level (3) on the scale of permanence.
2. The textured brick panels that give a distinct identity to these spaces and represent permanence (level 2) and continuation of the existing material language. These brick panels transition into perforated screens in certain areas.
3. The timber pole pergola as a tectonic element (level 4) that touches the ground lightly, demarcates transition and circulation spaces, and binds the various spaces together.

(see explorations of these elements on pages 114-115)

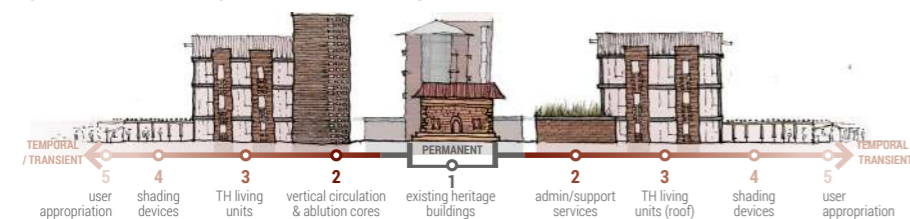
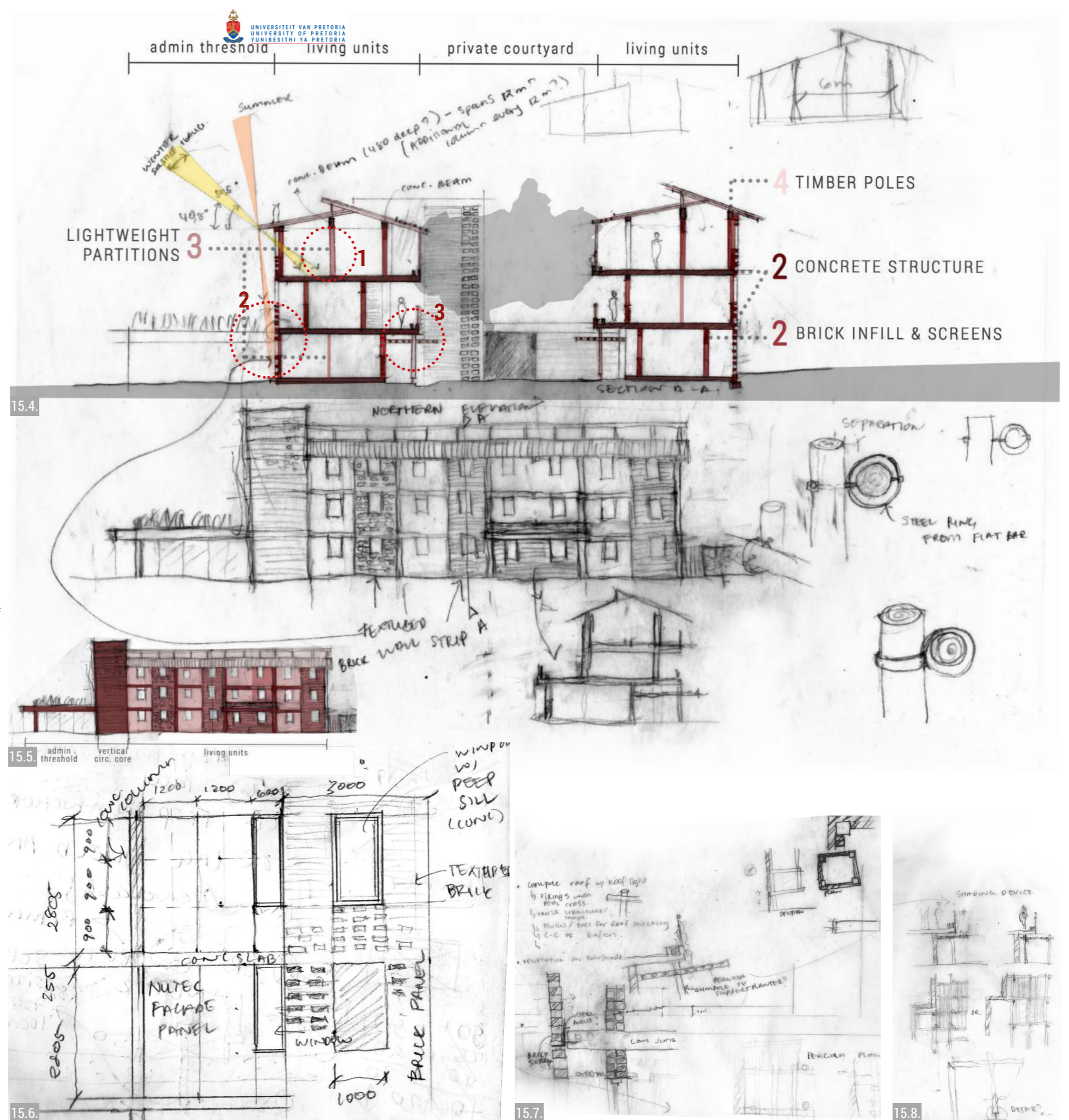
Fig. 15.4. Top: Section through Cluster A transitional housing units and courtyard (Author 2021).

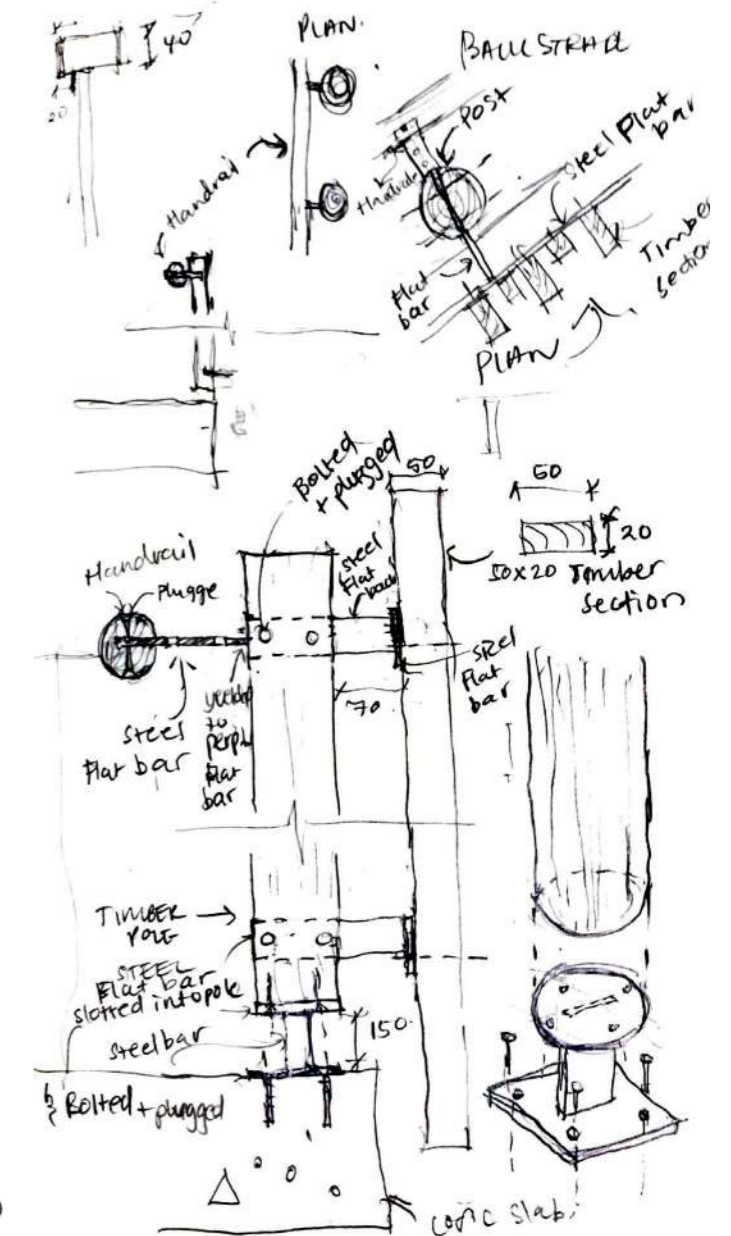
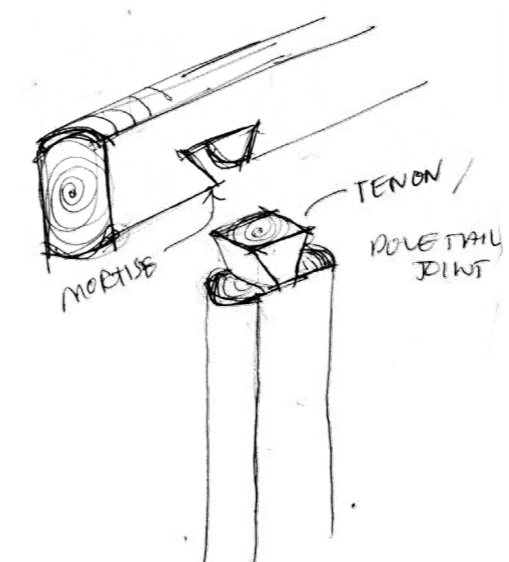
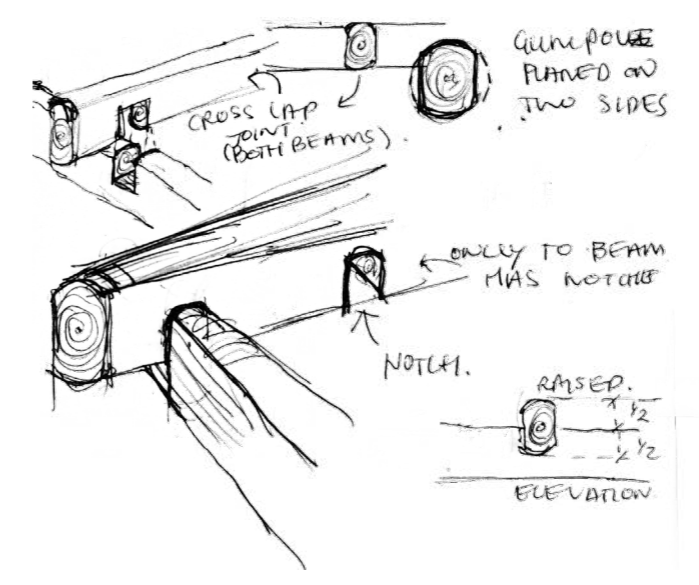
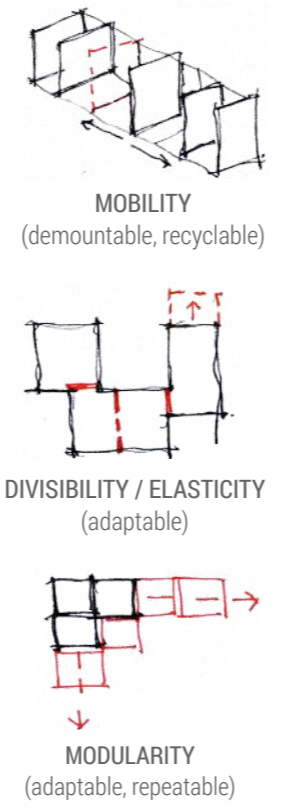
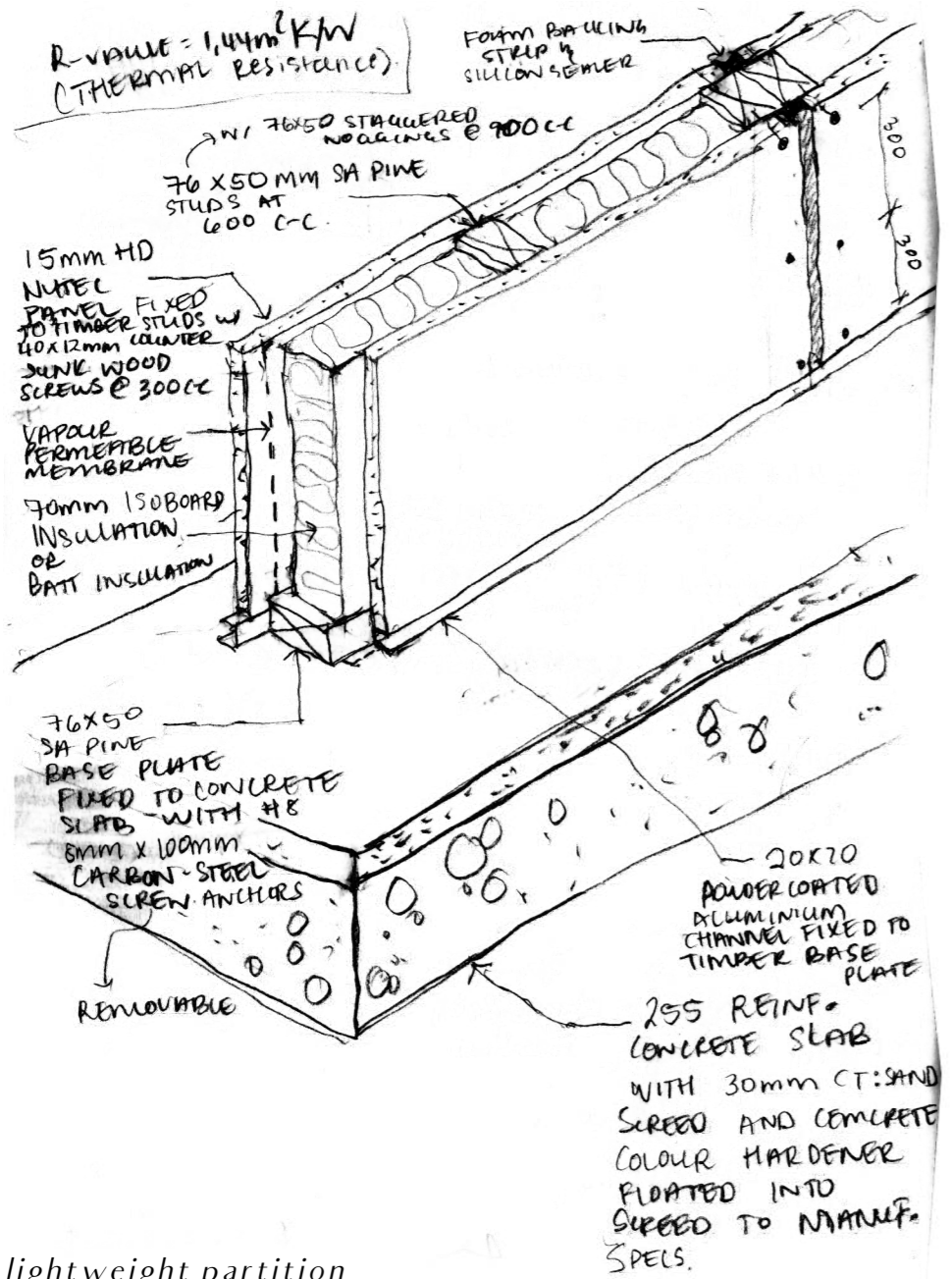
Fig. 15.5. Middle: Sketch of north elevation of transitional housing (Author 2021).

Fig. 15.6. Bottom, second to left: Sketch of part of northern elevation showing alternating brick and lightweight wall panels (Author 2021).

Fig. 15.7. Bottom, second to right: Exploration of brick facade panels that become screens where living units 'step back' (Author 2021).

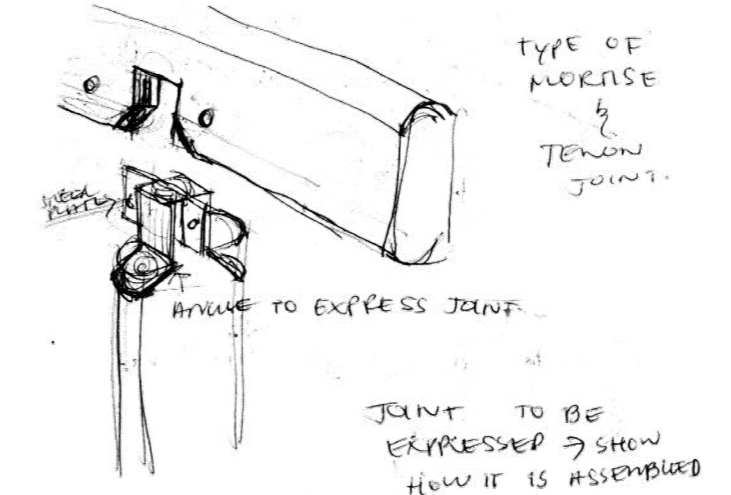
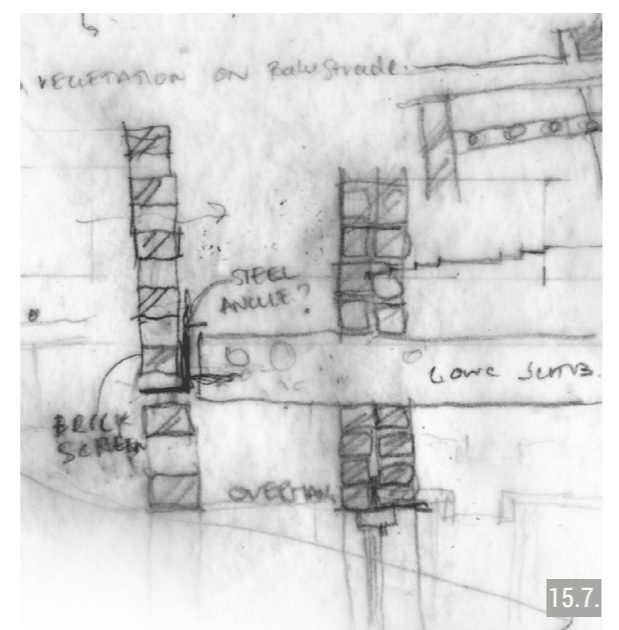
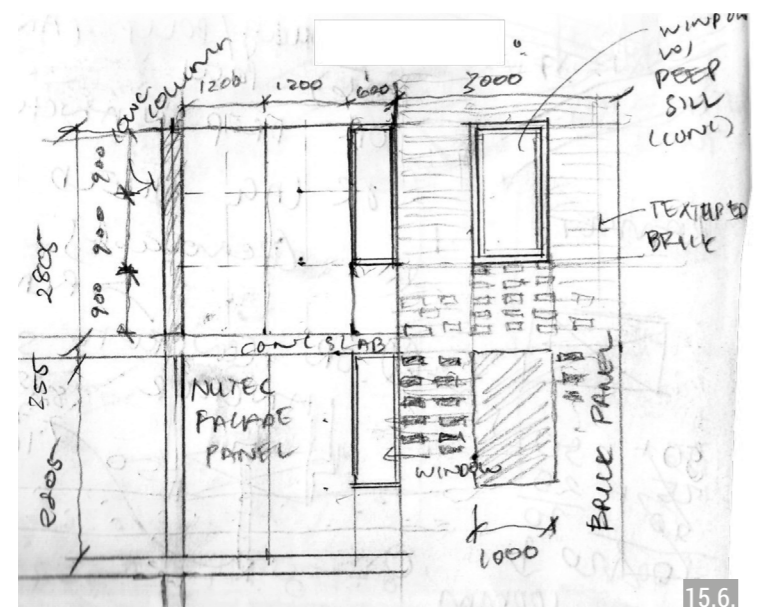
Fig. 15.8. Bottom, far right: Exploration of pergola on plan (Author 2021).





lightweight partition

15.9. 3D detail sketch of lightweight flexible wall panel (Author 2021).



timber pole connections

balustrade detail sketch

15.6. brick panels & screens

15.10. Explorations of timber pole connections for pergolas and balustrades (Author 2021).

16

environmental considerations

As part of the technical and technological development of the project, Part 03 unpacks some of the main environmental considerations in the design of the transitional housing roof, grey water recycling and thermal performance of the living units.

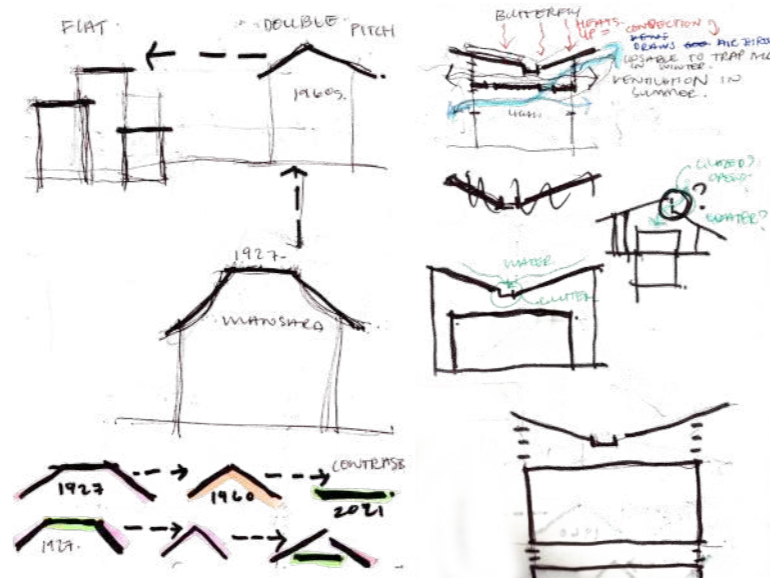
[a]

THE ROOF: FORMAL, FUNCTIONAL & ENVIRONMENTAL EXPLORATIONS

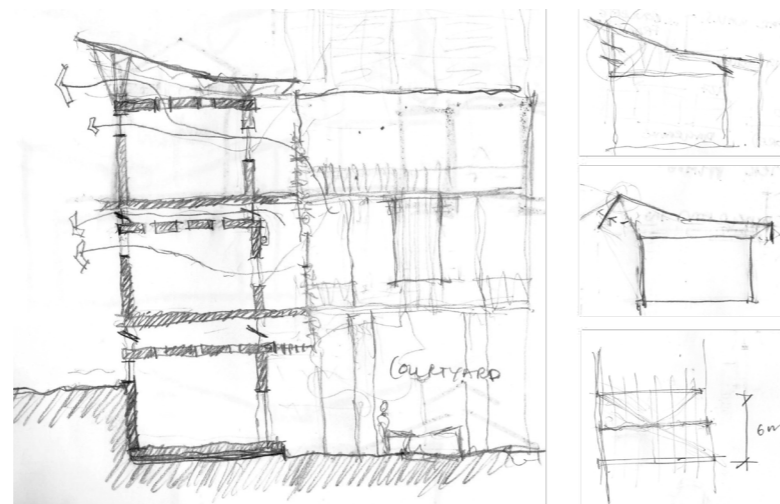
The roof explorations started off as a formal exploration informed by the shapes and forms of the existing buildings' roofs in order to honour and build on the existing architectural palimpsest (Figure 16.1. and 16.3.). This leads to various explorations of roof shapes that allow for adequate light and ventilation in the transitional housing units. As habitable living spaces, it was necessary to consider northern solar radiation and light for user comfort (Figure 16.4.).

Further exploration of the roof considered admitting light to the top floor units in such a way that a simple double-pitched roof is split into two sections along the middle of the living unit bays to allow light to penetrate both sides of the 6m bay if partitions were to divide the space (Figure 16.6.). A large central channel marks this intersection and allows rainwater to drain towards collection tanks above the circulation and ablution cores. The materiality and construction of this roof was considered on section and plan sketches (Figure 16.5. and 16.6.), using the material language of a load-bearing concrete frame and a timber pole roof structure extending into the tectonic shading device over the circulation.

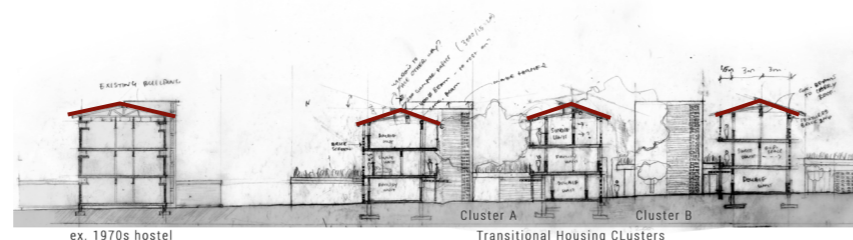
The roof serves various purposes, including a functional purpose where it rests on the permanent structural elements (concrete structure) in order to free the internal spaces below it, which allows for flexibility. Additionally, it serves a contextual purpose to relate to the existing roof forms and heights, and along with the pergola structures, it indirectly references the tectonic informal structures built with timber pole and branch skeletons. Lastly, it serves as a unifying element, binding all the elements and spaces below that manifest on various levels of the scale of permanence.



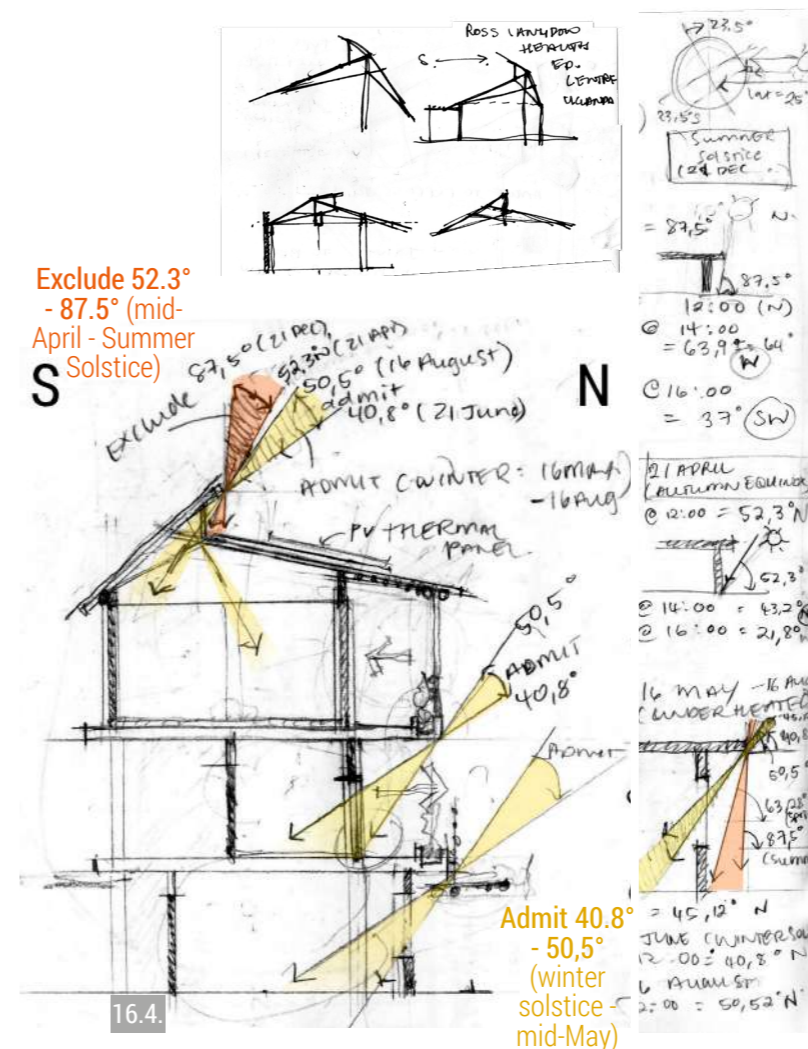
16.1. Explorations of roof shape based on existing forms (Author 2021).



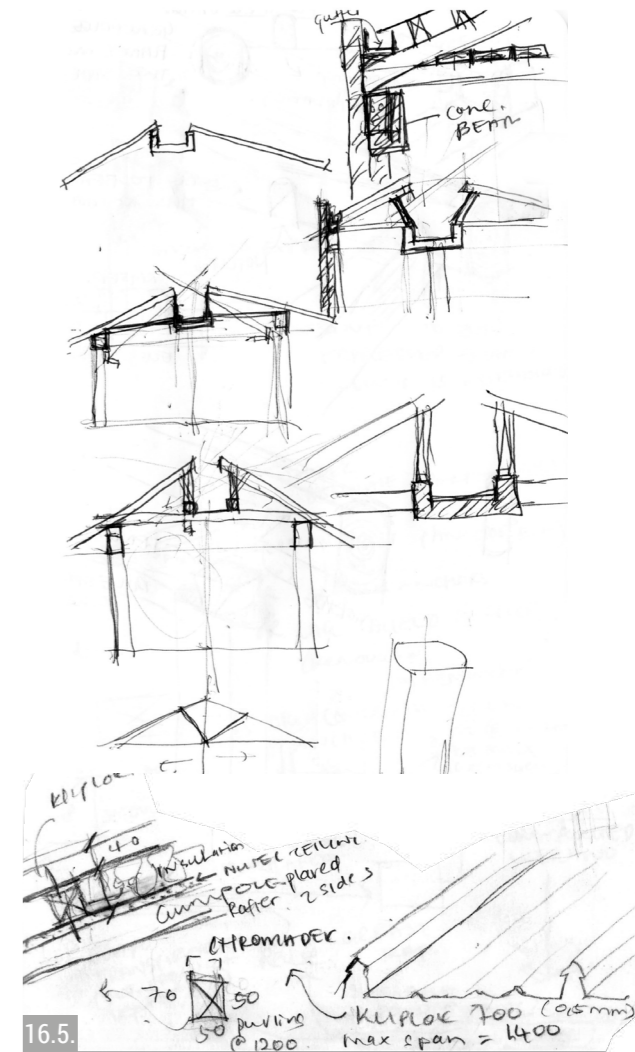
16.2. Exploration of roof in terms of ventilation (Author 2021).



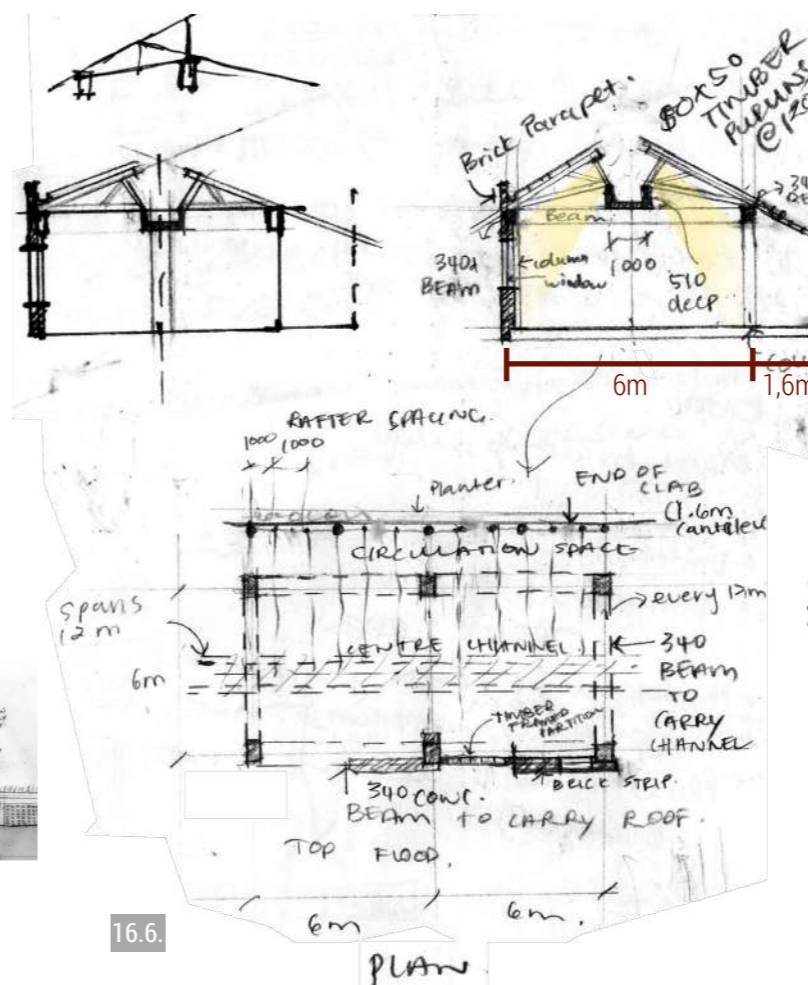
16.3. Iteration 2 section – roof shape relates to existing roofs (Author 2021).



16.4.



16.5.



16.6.

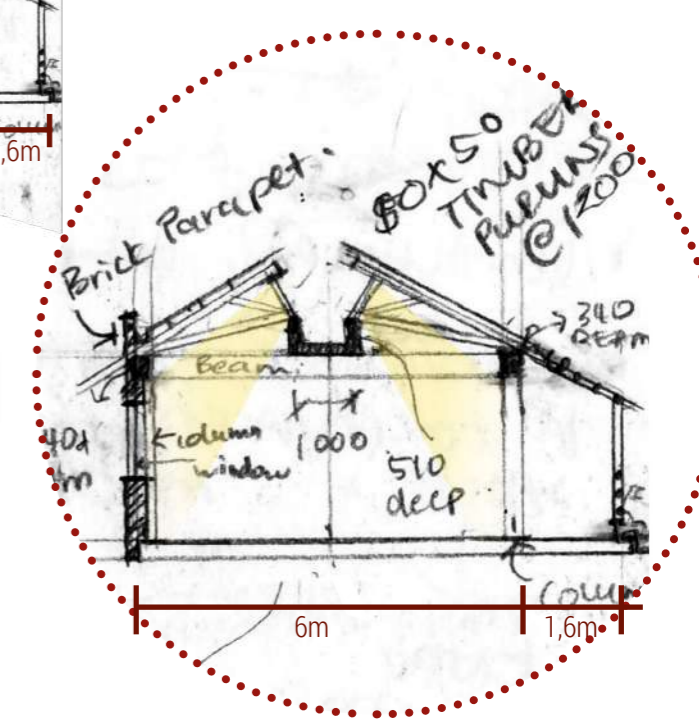


Fig. 16.4. Top left, page 117: Considering solar angles in roof form (Author 2021).

Fig. 16.5. Top right, page 117: Exploring pitched roof with central channel, roof construction/materials (Author 2021).

Fig. 16.6. Bottom left, page 117: Latest iteration of roof form with central channel, roof structure and spacing on plan (Author 2021).

[b]

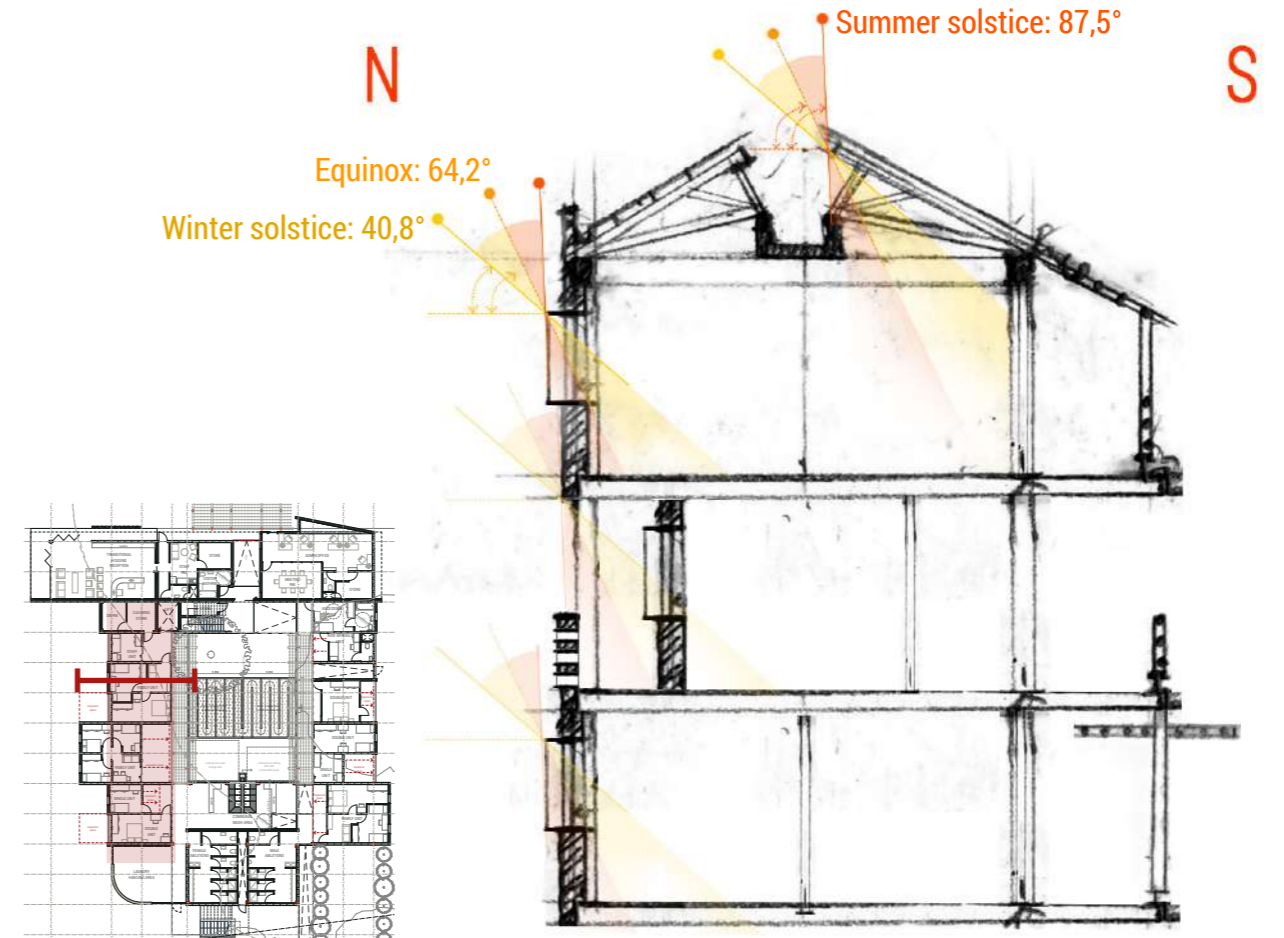
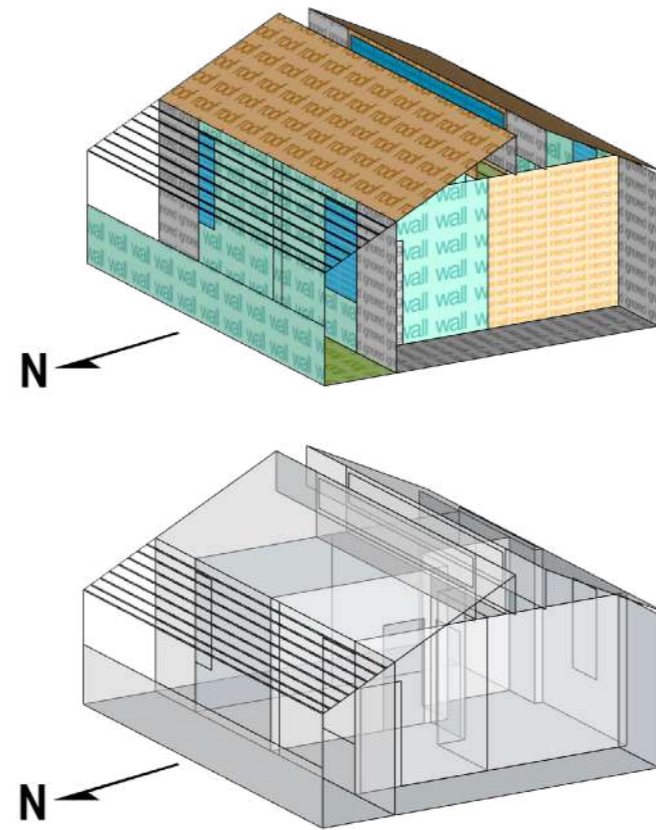
CLIMATIC & ENVIRONMENTAL INFORMANTS

Some of the climatic and environmental informants include solar angles, prevailing wind direction and average precipitation (refer to Appendix 5 for additional environmental and climatic data). Using these, the design has been adjusted to perform sustainably in terms of thermal conductance/performance of the building envelope (see Figure 16.8), required shading/overhangs to exclude harsh summer solar radiation and admit winter sun, rainwater harvesting and overall sustainability (using the SBAT tool (Gibberd 2020) – see Figure 20.4. in Appendix 5).

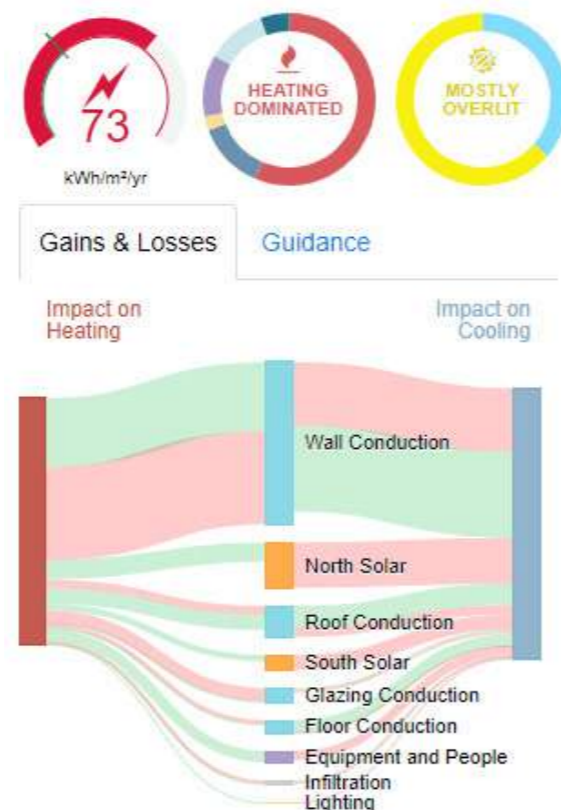
Pretoria receives an average annual rainfall of about 600mm (meteoblue.com n.d.) which has been recorded into monthly data to be used in the yield calculations for rainwater harvesting (see section d] on “Rainwater harvesting” and Appendix 5). Harvesting rainwater in the high-rainfall summer months allows for reserves during winter months to assist in meeting the non-potable water demands.

The thermal performance of one family living unit was tested using Sefaira to evaluate the thermal efficiency of the chosen materials and construction as well as the inclusion of shading devices etc. (see Figure 16.7). The R-values of the walls (brick and partition/infill panels) are considerably higher than required for climatic zone 2 in which Pretoria falls, according to SANS 204-2 (2011:12). Similarly with the floor and roof construction, where additional EPS insulation was added in the ceilings to increase the R-values of these constructions. The Sefaira evaluation indicates that Northern solar thermal gain is affecting the need for cooling to a fairly large extent. Therefore additional shading devices should be used to exclude more unwanted Northern sun. The wall conduction can also be improved even further to lower the need for heating and cooling.

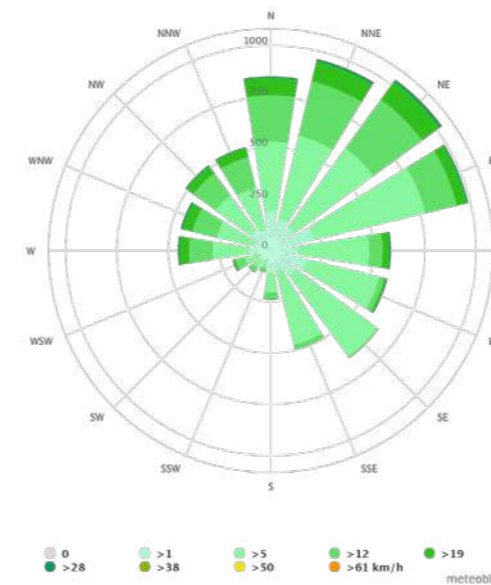
Lastly, the project achieved a score of 4.2. out of 5 on the Sustainable Building Assessment Tool (SBAT) (Gibberd 2020) (see Figure 20.4. in Appendix 5). Although this is considered high, additional improvements can be made in areas such as “energy”, “materials” and “waste”. As indicated also on the Sefaira evaluation, energy usage could be improved, by implementing renewable energy sources such as photovoltaic panels and solar water heating systems and geothermal heating/cooling systems to improve thermal comfort and energy performance.



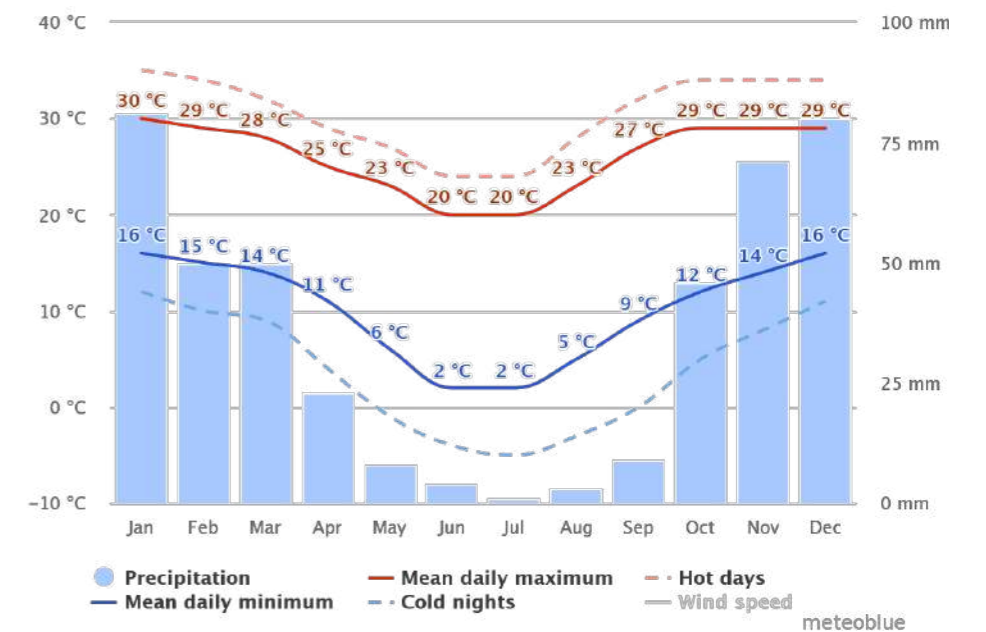
16.8. Solar angles, exclusion of summer sun and admission of winter sun through northern facade and roof light of Cluster A's northern housing wing (Author 2021).



16.7. Sefaira evaluation of thermal performance of a family unit on the southern wing of Cluster A based on envelope u-values, orientation and shading (Author 2021).



16.9. Wind rose for Pretoria, Gauteng (meteoblue.com n.d.)



16.10. Average temperatures and precipitation for Pretoria, Gauteng (meteoblue.com n.d.)

[c]

CONSTRUCTED WETLAND SYSTEM & GREY WATER RECYCLING

The water system for the transitional housing clusters consists of the grey water recycling component coupled with a rainwater collection component. This section will unpack the grey water recycling component in more detail.

Grey water from domestic activities of transitional housing refers to wastewater from “bathing, cooking, dishwashing and laundry”, whereas black water refers to wastewater from toilets (Ramprasad 2018: 155). The grey water from the transitional housing clusters can be recycled, stored and reused for non-potable uses including toilets, clothes washing and irrigation. The grey water would need to be treated to remove organic and inorganic contaminants and chemicals, including those from soaps, detergents, cosmetics, etc. (Ramprasad 2015: 458). Therefore, it is suggested that a baffled hybrid constructed wetland system (HYCW) be used in each of the private courtyards of the housing clusters, modelled after Ramprasad’s (2015, 2018) system for a student hostel in India.

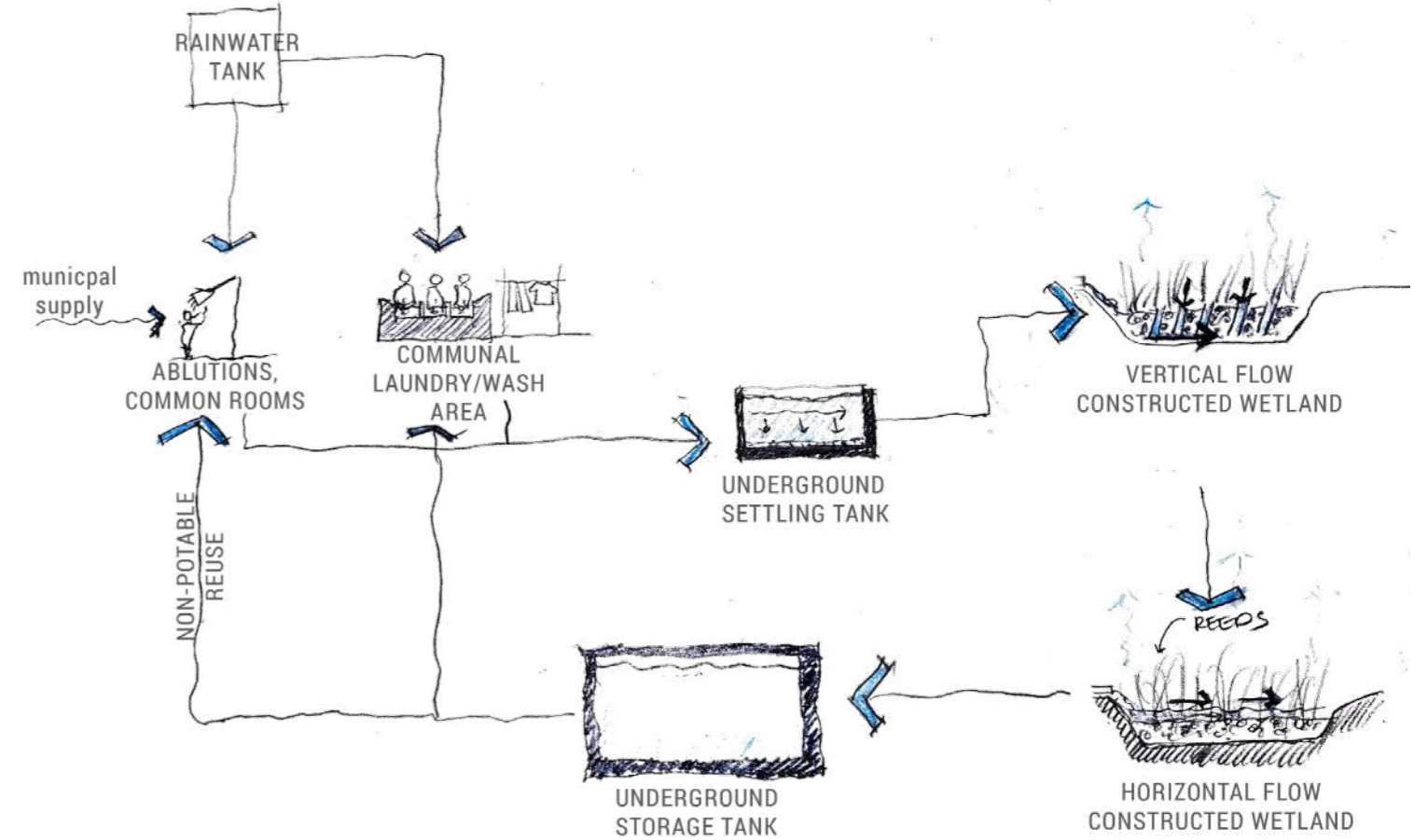
The HYCW consists of an underground settling tank with a submersible pump (pre-treatment), a vertical (subsurface) flow constructed wetland section (VFCW), a horizontal (subsurface) flow constructed wetland section (HFCW) and an underground storage tank (Ramprasad 2015: 458) (Figure 16.11. and 16.12.). The system combines the advantages of both types of constructed wetlands to ensure a sufficient quality of treated water. In the VFCW, water flows vertically through filter media and a top layer of aquatic vegetation (*Phragmites Australis*), which provides habitats for microorganisms to degrade organics (Ramprasad 2018: 155, Stauffer and Spuhler 2014). The VFCW minimises bad odours and provides greater absorption of toxic and organic contaminants (Vosloo 2017: 15), while the HFCW allows water to flow horizontally through filter media and vegetation to further treat the water.

Design considerations include slope, sizing and distance travelled by the water to ensure retention time of no less than 3 days (Vosloo 2017: 13). Sizing of the wetland system depends on the amount of water entering the system daily, considering the surface area of the wetland should be a minimum of two to five times the surface area of the water entering daily, assuming the same depth (Vosloo 2017: 13). A baffled system was chosen to increase the distance that the water travels, therefore allowing a longer retention period

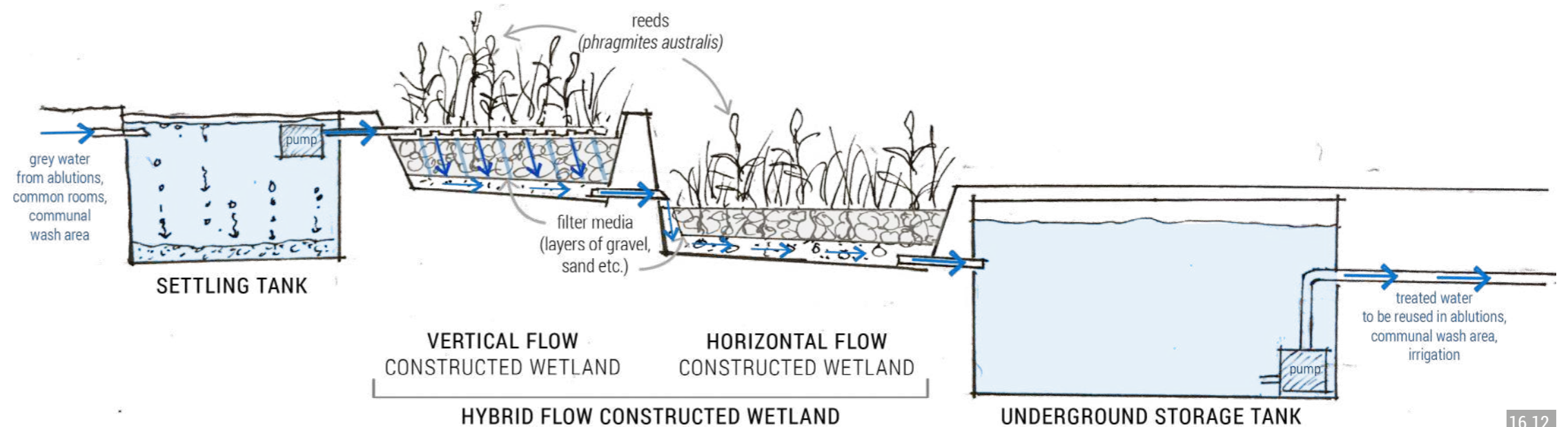
(Ramprasad 2018: 156). Some stormwater is expected to enter the system, especially during rainy seasons; therefore, this was also considered when sizing the wetland systems.

Grey water from the ablutions, common rooms and the communal wash area is transferred to the underground settling tank in the courtyard. After solids have settled, the high-level water is pumped intermittently from the settling tank into the inlet at the top of the VFCW (Ramprasad 2015: 458, Stauffer and Spuhler 2014). The water filters vertically through vegetation, gravel and sand layers, and eventually flows into the HFCW (Ramprasad 2015: 459, 460). Here, the horizontal subsurface flow through the sand and gravel filter media further treats the water that eventually flows into an underground storage tank (Figure 16.11. - 16.14.). This water, along with water from the rainwater collection tanks, can be reused for non-potable uses.

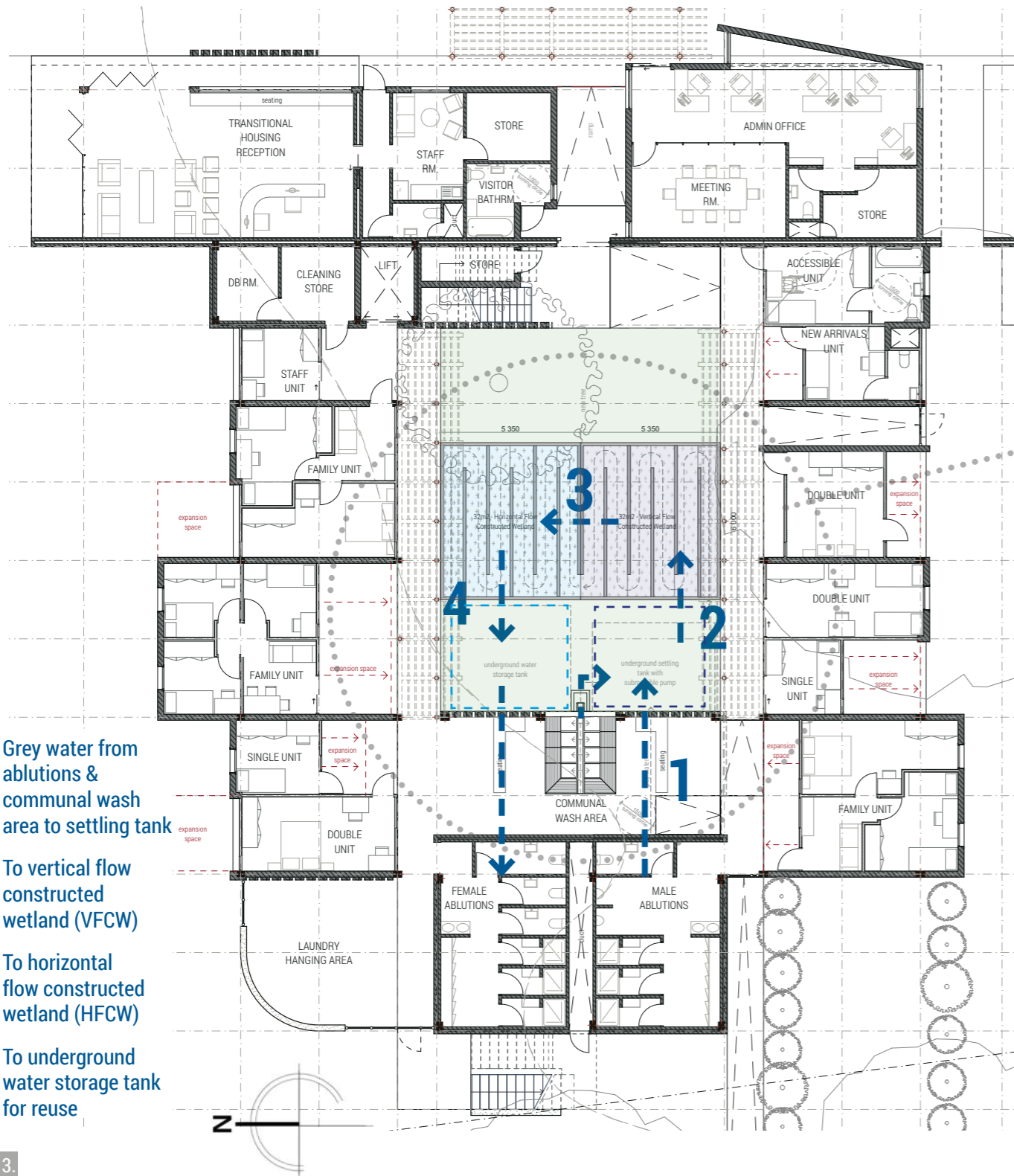
The wetland system softens the courtyard and hard surfaces, provides a living, constantly changing landscape and haven for the users and connects them to nature through the micro-ecosystem that develops here. It also contributes to a cooler micro-climate in the courtyard as water is evaporated and air flows over the wetlands, assisting in the cooling and cross ventilation of the adjacent living units (Figure 16.15.). The recycling of grey water and storage of rainwater also contributes to the resilience of the transitional housing inhabitants and the future of the complex by fostering a culture of environmental- and self-sustainability and independence.



16.11. Diagram of grey water recycling process and components (Author 2021).

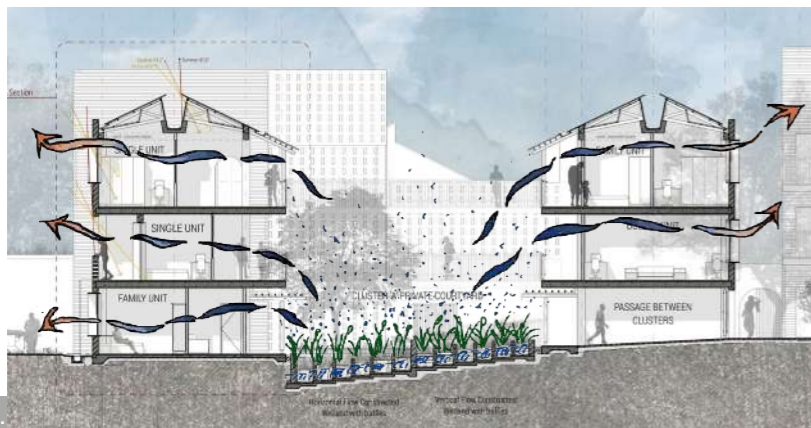


16.12.



1. Grey water from ablutions & communal wash area to settling tank
2. To vertical flow constructed wetland (VFCW)
3. To horizontal flow constructed wetland (HFCW)
4. To underground water storage tank for reuse

16.13.



16.15.

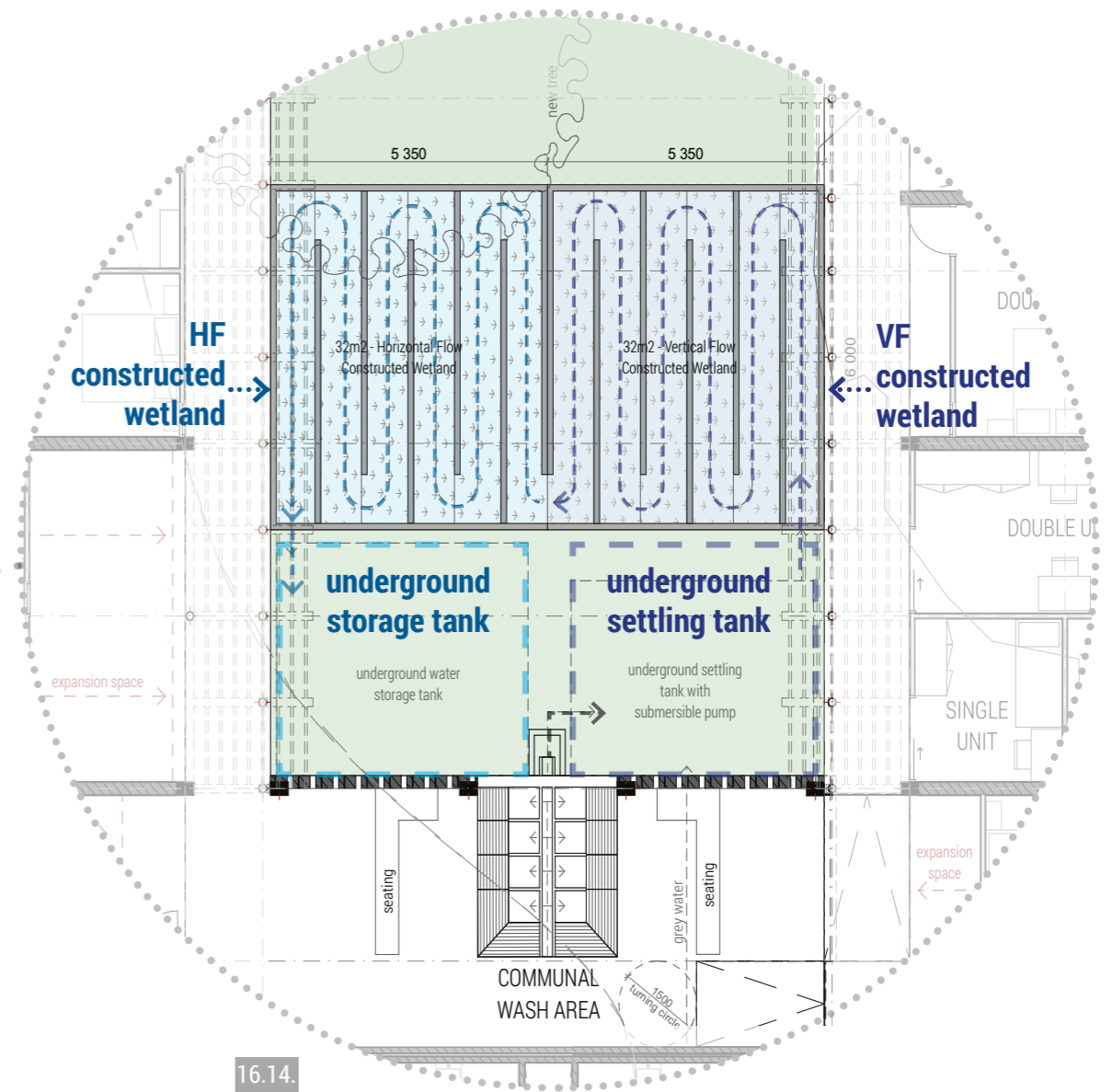
Fig. 6.12. Bottom of previous page: Schematic section diagram through grey water recycling system (Author 2021).

Fig. 16.13. Above: Plan of transitional Cluster A showing water recycling process (Author 2021).

Fig. 16.14. Adjacent page, top right: Baffled hybrid flow constructed wetland system and components on plan in Cluster A courtyard (Author 2021).

Fig. 16.15. Bottom left: Diagram showing evaporative cooling and presence of water that cools air entering the living units (Author 2021).

Fig. 16.16. Adjacent page, bottom right: Table of non-potable water demands and grey water to be recycled (Author 2021).



16.14.

Sizing of the underground storage tank for treated water:

Daily grey water output x 6 (to account for treating and storage of additional rainwater, runoff etc.)
= 5,33 x 7 = 37,31m³

Therefore, a 40 000L submerged tank of 5m(l) x 4m(w) x 2m(h) is provided to store the treated water for Cluster A. This is positioned in the private courtyard below landscaping.

Some water is lost to evaporation and some is retained by the wetland, therefore water is released from rainwater tanks into the wetland system as needed to meet the non-potable water demands throughout the month.

*Cleaning is not calculated here and would add a considerable load on the non-potable water demand. This would also be accounted for by topping up the wetland system and treated water from rainwater tanks.

Sizing of the constructed wetland system:

Assuming an average depth of 800mm, the total surface area per constructed wetland component (HFCW and VFCW)

is calculated as follows:

Daily grey water output surface area = 5,33m³ / 0,8m
= 6,66m²

Minimum surface area per HFCW and VFCW:

2 x 6,66m² = 13,3m²

Maximum surface area per HFCW and VFCW:

5 x 6,66m² = 33,3m²

Therefore, each of the constructed wetland components (HFCW and VFCW) for Cluster A are sized at 30m² with an average depth of 0,8m each.

WATER VALUES (Cluster A)

	Monthly (m ³)	Daily (m ³)
Non-potable water demand - Summer (worst case scenario) (toilets, laundry, irrigation)*	135,81	4,53
Total grey water output to be recycled (wash hand basins, kitchen sinks, wash troughs/laundry, showers)	159,93	5,33

16.16.

[d]

RAINWATER HARVESTING

The rainwater harvesting system works in conjunction with the grey water recycling system to provide water suitable for non-potable uses including toilet flushing, laundry washing, cleaning and irrigation. Each cluster has its own dedicated catchment tanks and constructed wetland system for future adaptability and in order to ensure water demands are met across the housing clusters. However, excess water collected and treated in each cluster will be diverted to areas on site where it is most needed, such as irrigation of the communal gardens.

For the purposes of evaluating the rainwater harvesting and grey water recycling potential of a single housing cluster, Cluster A was chosen due to its higher occupancy and number of living units compared to Cluster B. Therefore, the water demand would also be higher than Cluster B. Water calculations for Cluster A would follow a similar strategy for Cluster B, where Cluster B requires a lower water demand due to fewer living units and occupancy numbers. Additionally, not considered in this calculation are the social support services planted roofs to the south which could serve as additional catchment areas, where rainwater could be harvested in underground tanks after passing through the planted roof media, and used for non-potable water uses including irrigation.

Rainwater from the roofs and pavement/hard surfaces is collected via gutters and channels and passes through first flush diverters before being stored in rainwater tanks. From there, the rainwater is gradually fed into the constructed wetland system (as needed) to be treated and eventually reused along with the treated grey water. All treated water from the underground storage tank in the private courtyard is fed back into the cluster for non-potable use. The rainwater is used as reserves whenever the treated grey water is not sufficient to meet the non-potable water demand. Rainwater tanks, distributed on site as underground tanks and on the roofs of the ablution and vertical circulation cores as vertical water storage tanks, are provided to collect as much water as possible based on the available space, and store it until it can be used to supplement non-potable uses in the Cluster. The remainder of the stored water is used for non-potable uses outside of the cluster including irrigation of the landscaping and communal gardens.

CLUSTER 'A' CATCHMENT AREA (A)

	Area (m ²)	C (runoff coefficient)	C (weighted)
Roofs			
Reception & admin offices (planted roofs)	225	0,5	0,10
TH living units (pitched metal sheeting)	252	0,9	0,21
Subtotal	477		
Paving			
Permeable	102	0,75	0,07
Non-permeable	493	0,9	0,41
Ground floor	201		
First floor	147		
Second floor	145		
Total	1072		0,80

16.17. Table of water catchment area calculations (Author 2021).

AVERAGE MONTHLY PRECIPITATION (P) (PRETORIA, GAUTENG)

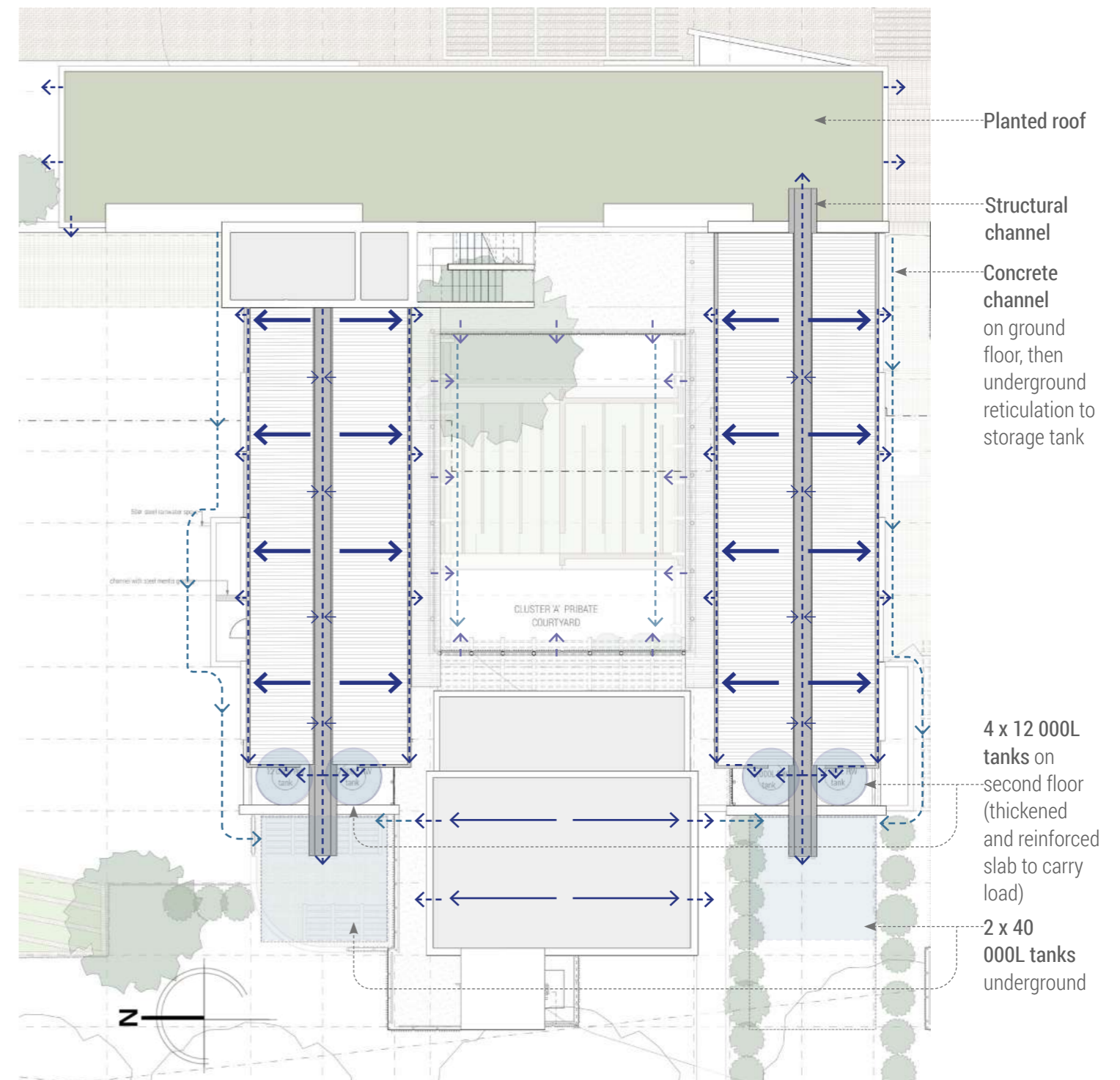
Month	Precipitation (mm)
January 2020	107
February 2020	99
March 2020	82
April 2020	38
May 2020	14
June 2020	5
July 2020	2
August 2020	5
September 2020	18
October 2020	51
November 2020	88
December 2020	98
Annual Total	607

16.18. Table of average monthly precipitation (Author 2021).

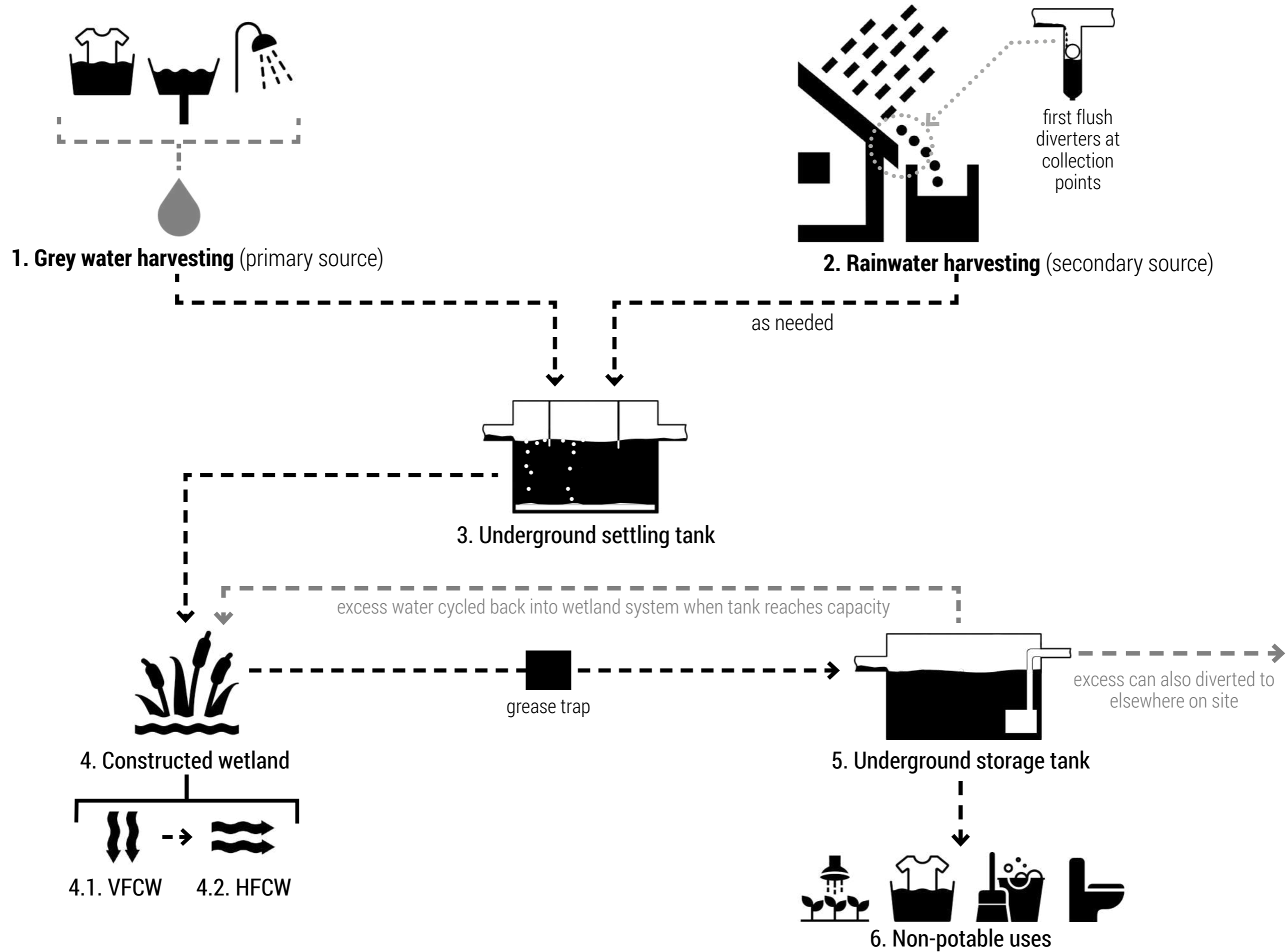
RAINWATER YIELD

Month	Average monthly precipitation (m)	Yield (m ³) Yield = P x A x C
January	0,107	91,97
February	0,099	85,09
March	0,082	70,48
April	0,038	32,66
May	0,014	12,03
June	0,005	4,30
July	0,002	1,72
August	0,005	4,30
September	0,018	15,47
October	0,051	43,83
November	0,088	75,64
December	0,098	84,23
Annual Total	0,607	521,72

16.19. Monthly rainwater yield calculations (Author 2021).



16.20. Rainwater catchment diagram for Cluster A (Author 2021).



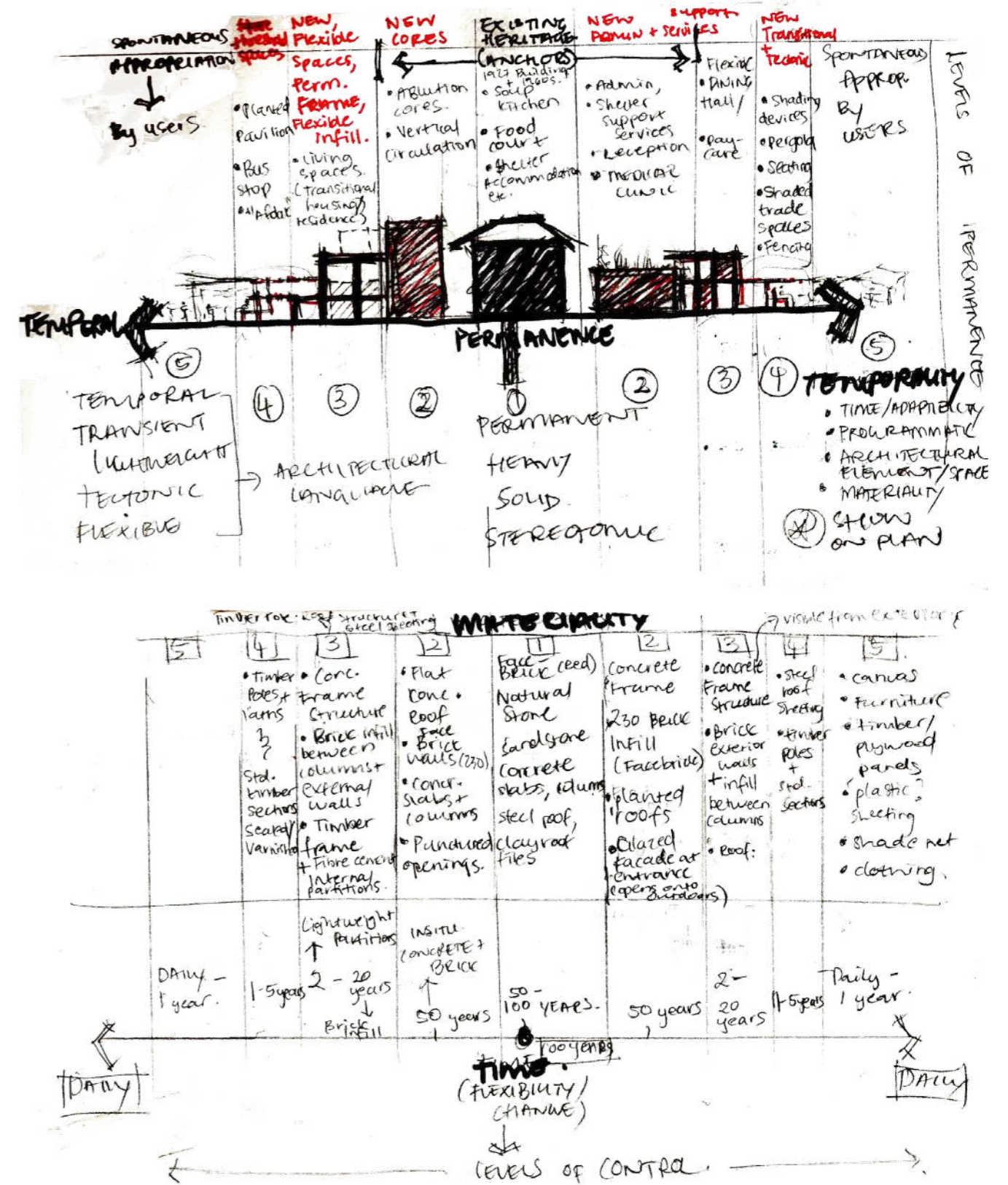
17 conclusion

Following Essay Two, this essay unpacks the design focus of the project – the transitional housing programme – in more detail. Various design and technical aspects are conceptualised in terms of the overarching conceptual strategy of the scale of permanence, which attempts to navigate the tensions between the existing and new; the historical condition and the social condition; heritage and user appropriation; permanence and transience; fixed elements and flexibility. The existing heritage buildings and historical condition represent the most permanent, stereotomic elements anchoring new programmes in support of the social welfare agenda (level 1); followed by the new anchoring vertical circulation and ablution cores and the admin/support service threshold (level 2). This then transitions to the more flexible spaces of the living unit wings, with their lightweight partitions and room for additions and alterations (level 3). The tectonic timber pergolas, screens and roof structure bind the spaces, demarcate transition and circulation spaces, and read as more temporal elements (level 4). Lastly, the spontaneous appropriation by the users is seen as the most transient/temporal layer (level 5), for which the other levels and elements of architecture provide a platform and structure.

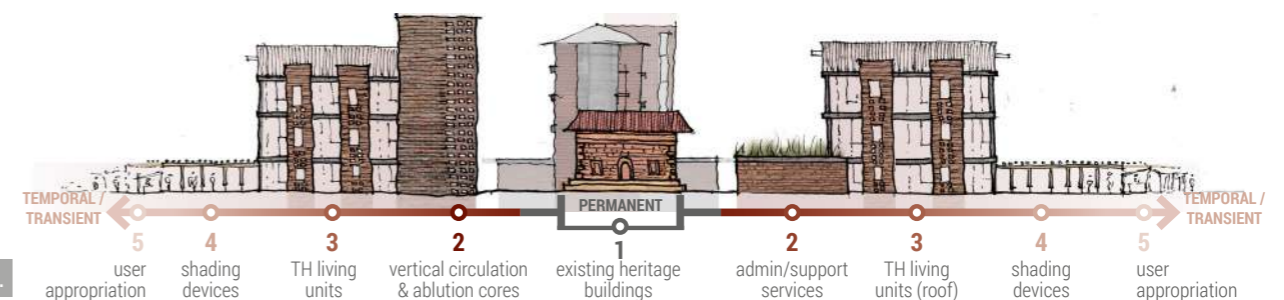
The programmatic and spatial requirements of this programme were explored through research and relevant typological precedents, which led to important design decisions in the development of the transitional housing plan, including the courtyard typology and the progression from public to private realms and communal to private spaces. The previously identified existing activities of “stay”, “wash”, “gather/linger” and “play” were concretised in the Social welfare pocket programme, and in the transitional housing spaces. This further legitimises these activities and provides a platform for new ones to emerge. The new additions also attempt to create a palimpsestic dialogue with the old, respecting the heritage buildings’ proportions, scale, organisation and axes.

An integral part of the plan development involved the development of the living units as flexible and adaptable modules that allow for various configurations, giving the users agency over their private spaces and setting the scene for future appropriation and alterations.

Thereafter, the material and technical intent was unpacked in relation to the scale of permanence and other relevant considerations regarding the construction of the design, whereby the material and technical explorations are seen as the physical manifestations of the various levels of permanence and transience. Lastly, the environmental considerations are examined through the exploration of the roof form and functions; climatic analysis; the grey water recycling system and constructed wetlands as an ever-changing manifestation of nature that creates a haven-like environment for the users of the transitional housing.



13.3. Process sketch of “Scale of permanence” (Author 2021).



14.4.

18
final presentation

[a]
FINAL PLANS, SECTIONS & ELEVATIONS



SITE PLAN 1:500

18.1. Final Site Plan at 1:500 scale on A1 portrait (Author 2021).



GROUND FLOOR PLAN 1:100

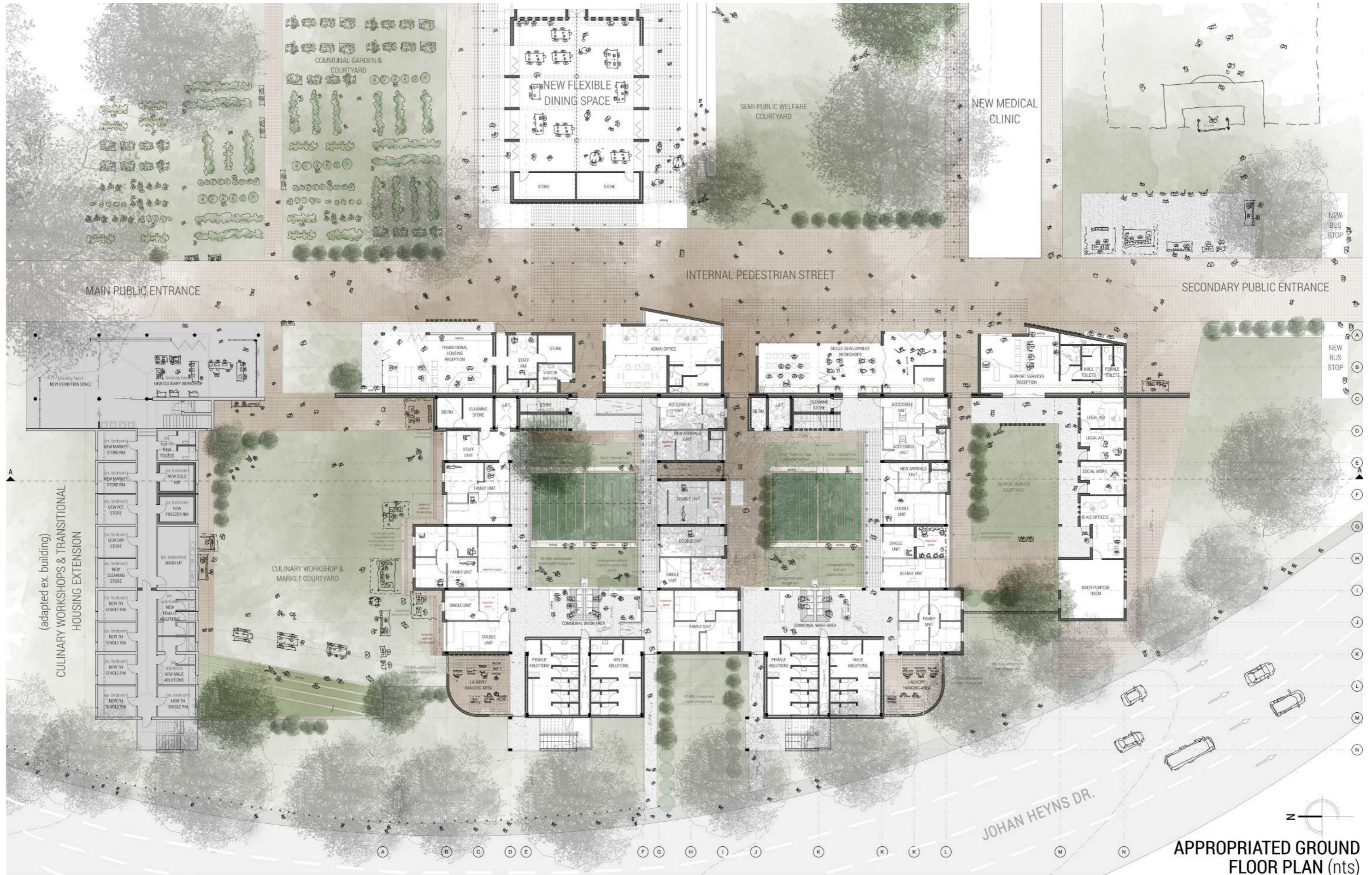


Floor plans 1:100

18.2. Key site plan indicating area of floor plans (Author 2021).

Final Ground Floor Plan at scale 1:100 on oversized A0 landscape (Author 2021).

18.3.



APPROPRIATED GROUND FLOOR PLAN (nts)

Appropriated Ground Floor Plan showing user appropriation and functions of spaces (not to scale) (Author 2021). 18.4.

Fig 18.6. Top, page 137: Final First Floor Plan at scale 1:100 on oversized A0 landscape (Author 2021).

Fig 18.7. Bottom, page 137: Final Second Floor Plan at scale 1:100 on oversized A0 landscape (Author 2021).

2.1 cores



2.2 admin & support service threshold



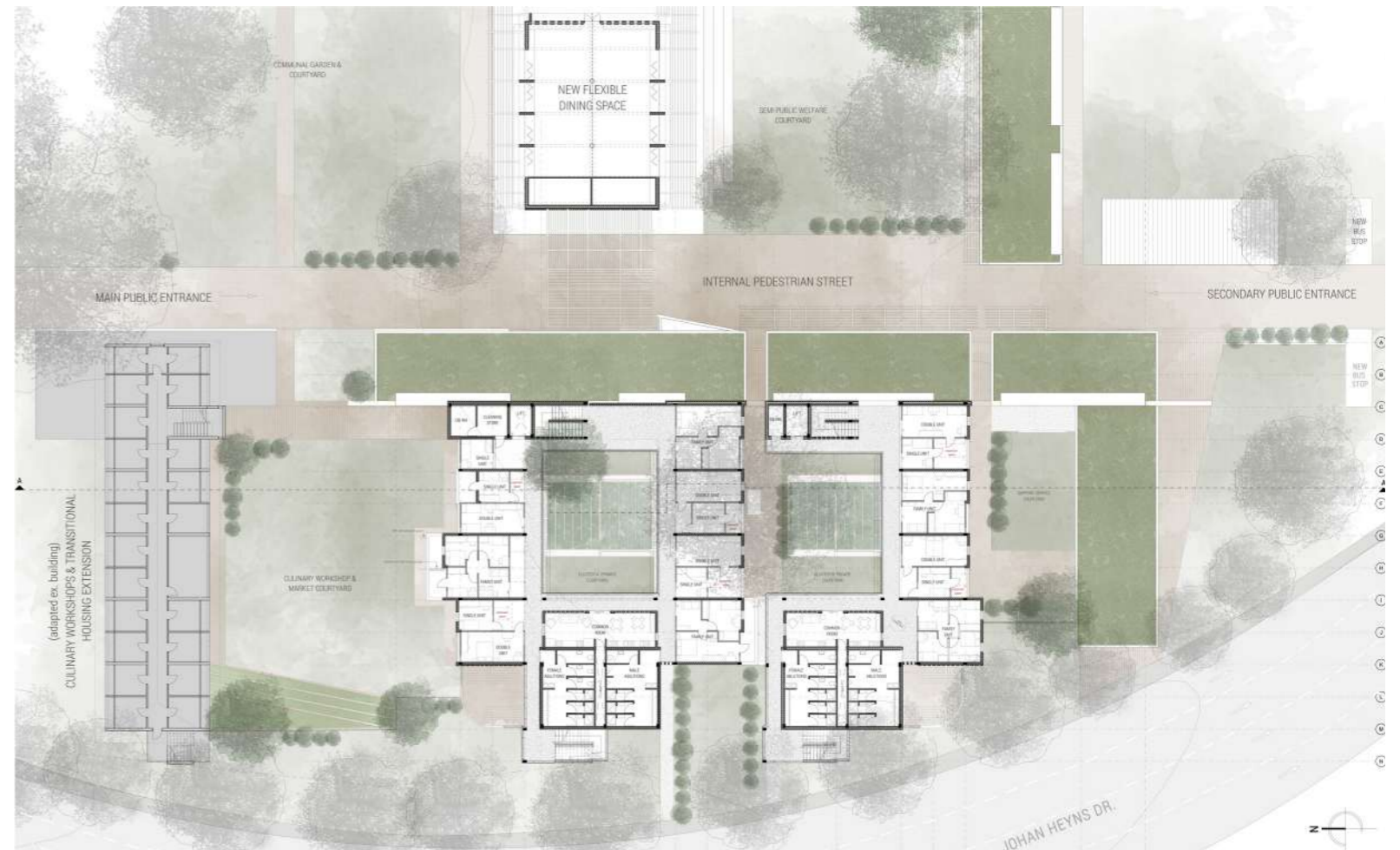
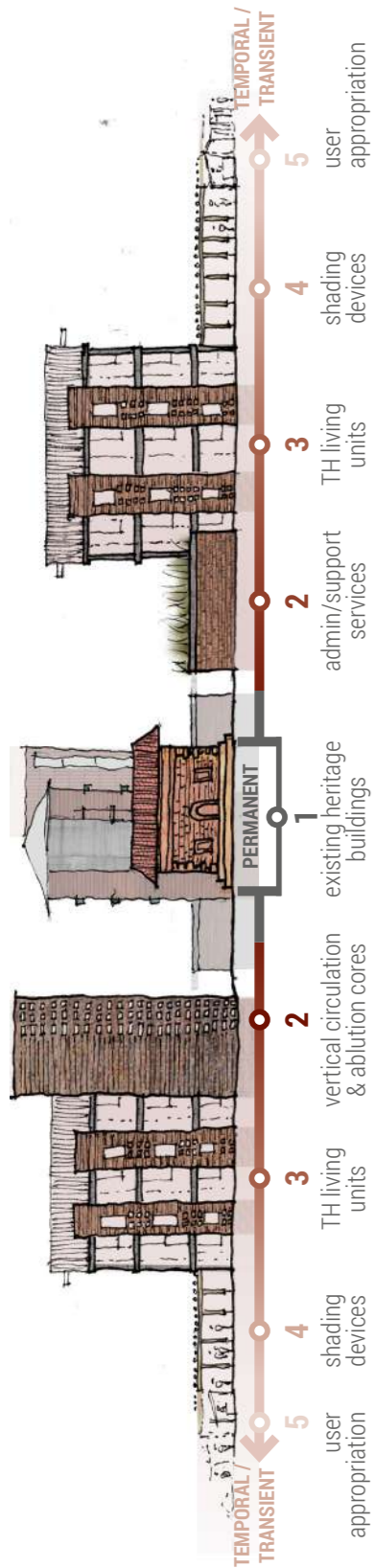
3 transitional housing living units



4 pergolas

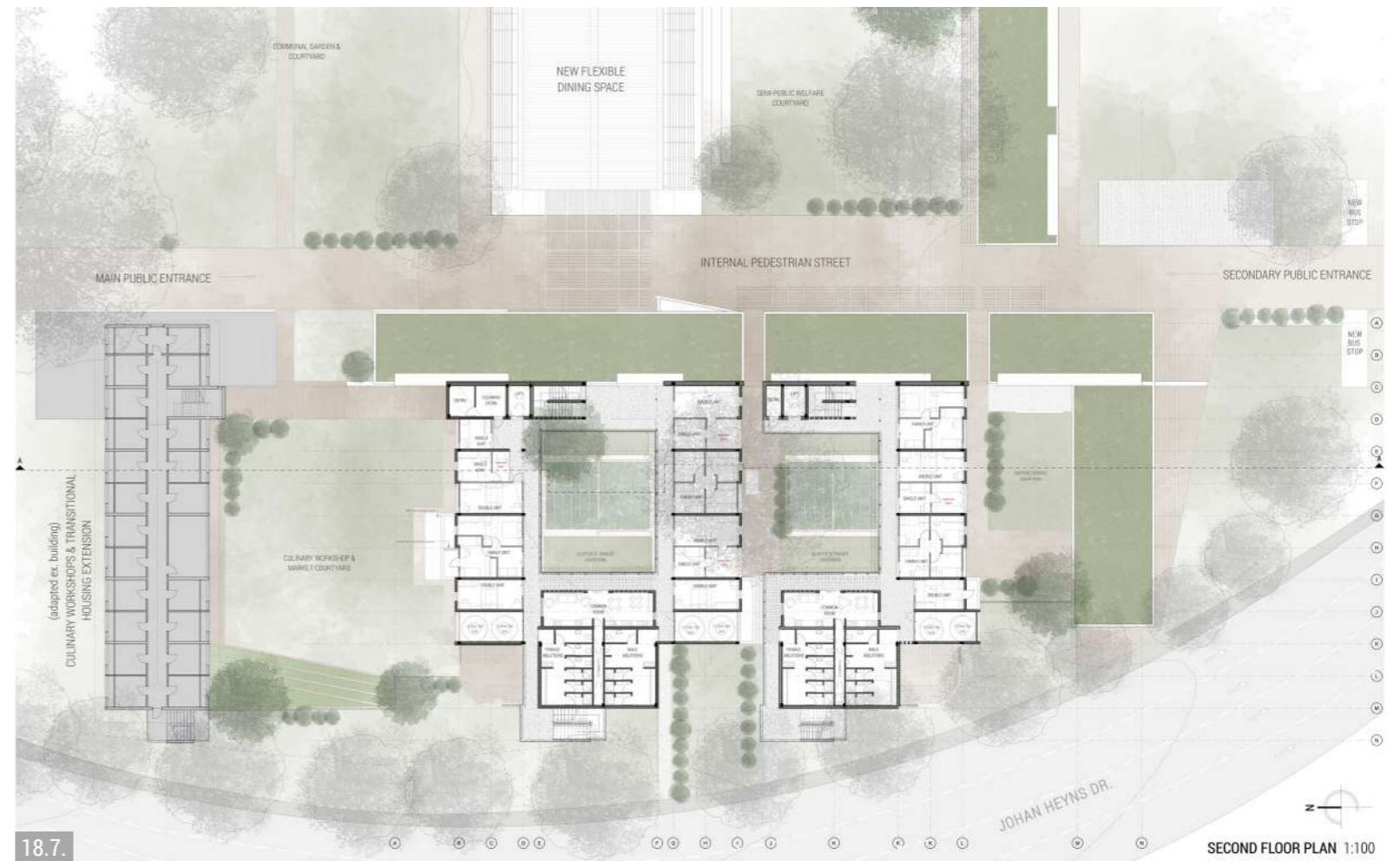


18.5. Various spaces and functions on the ground floor plan and their levels of permanence according to the Scale of Permanence (Author 2021).



18.6.

FIRST FLOOR PLAN 1:100



18.7.

SECOND FLOOR PLAN 1:100



SECTION A-A 1:100

Final Section A-A at scale 1:100 on A0 landscape, indicating various spaces according to their levels of permanence (Author 2021).



NORTH ELEVATION 1:100



EAST ELEVATION 1:100



[b]
TECHNICAL RESOLUTION

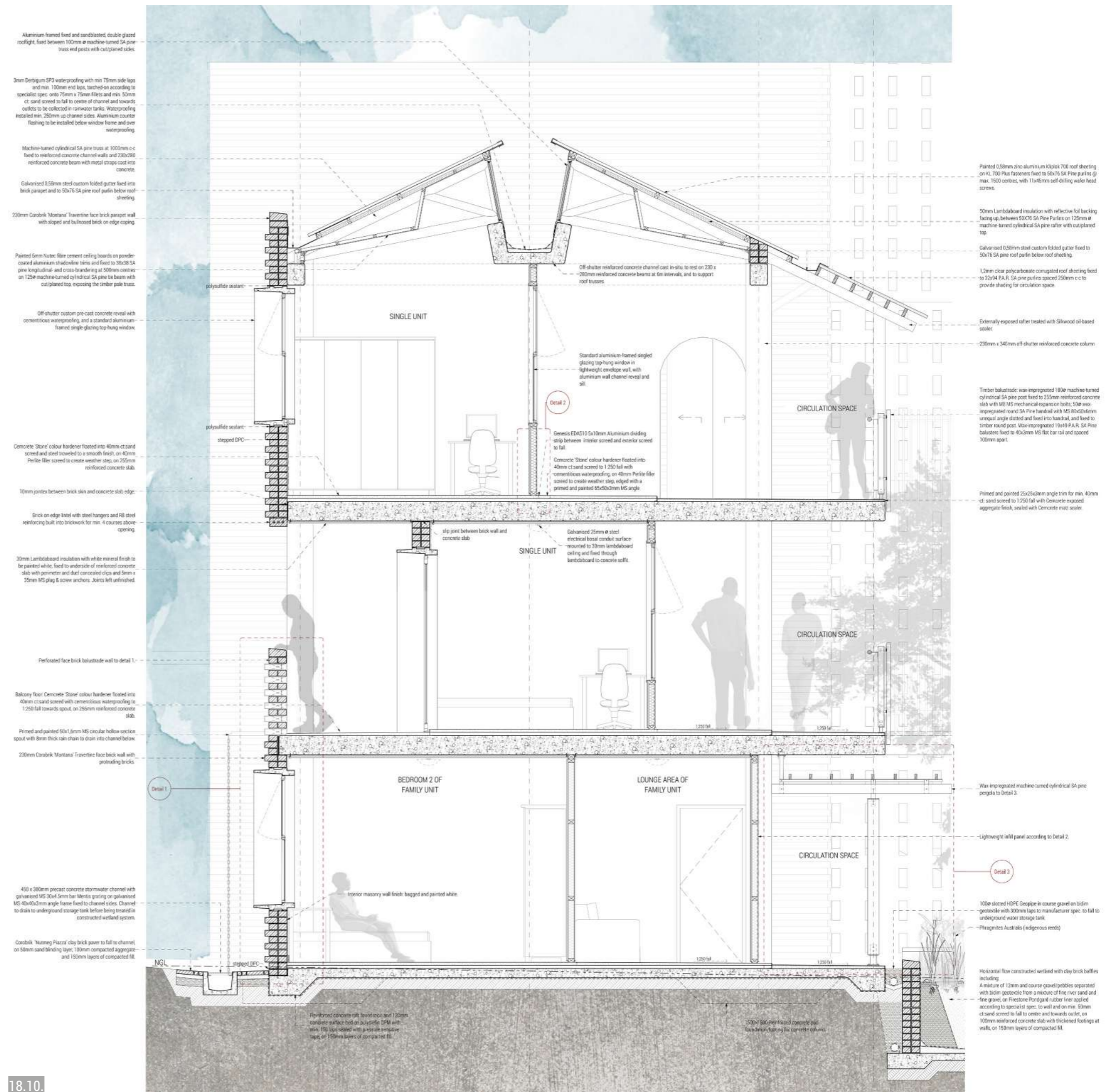
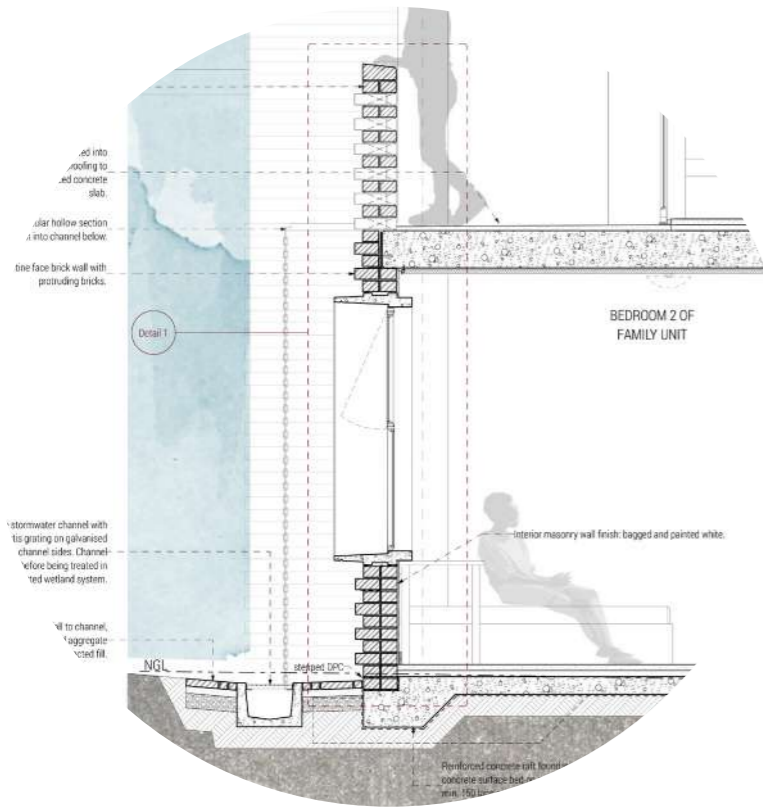


Fig. 18.10.: Detail section through the living units of the Cluster A transitional housing at scale 1:20 on A1 portrait (Author 2021).



230mm Corobrik 'Montana' Travertine perforated face brick balustrade wall with sloped and bullnosed brick on edge coping.

Balcony floor: Cemcrete 'Stone' colour hardener floated into min. 40mm ct:sand screed with cementitious waterproofing to min. 1:250 fall towards spout, on 255mm reinforced concrete slab.

30mm Lambdaboard insulation with white mineral finish to be painted white, fixed to underside of reinforced concrete slab with perimeter and dual concealed clips and galvanised 5x35mm MS plug & screw anchors. Perimeter finished with standard powder-coated 20x20x20x1,6mm aluminium shadow line trim fixed to wall. Joints left unfinished.

10mm jointex between brick skin and concrete slab edge.

Bricks supported on primed and painted 90x150x10mm MS unequal angle with non-shrink grout between brick and steel. MS angle bolted to 255mm reinforced concrete slab with galvanised MS M12 mechanical expansion bolts.

polysulfide sealant

Off-shutter custom pre-cast concrete reveal with cementitious waterproofing, and a standard aluminium-framed single glazing top-hung window.

polysulfide sealant

Corobrik 'Montana' Travertine face brick panel with cut 165x106x75mm protruding bricks and flemish bond below opening.

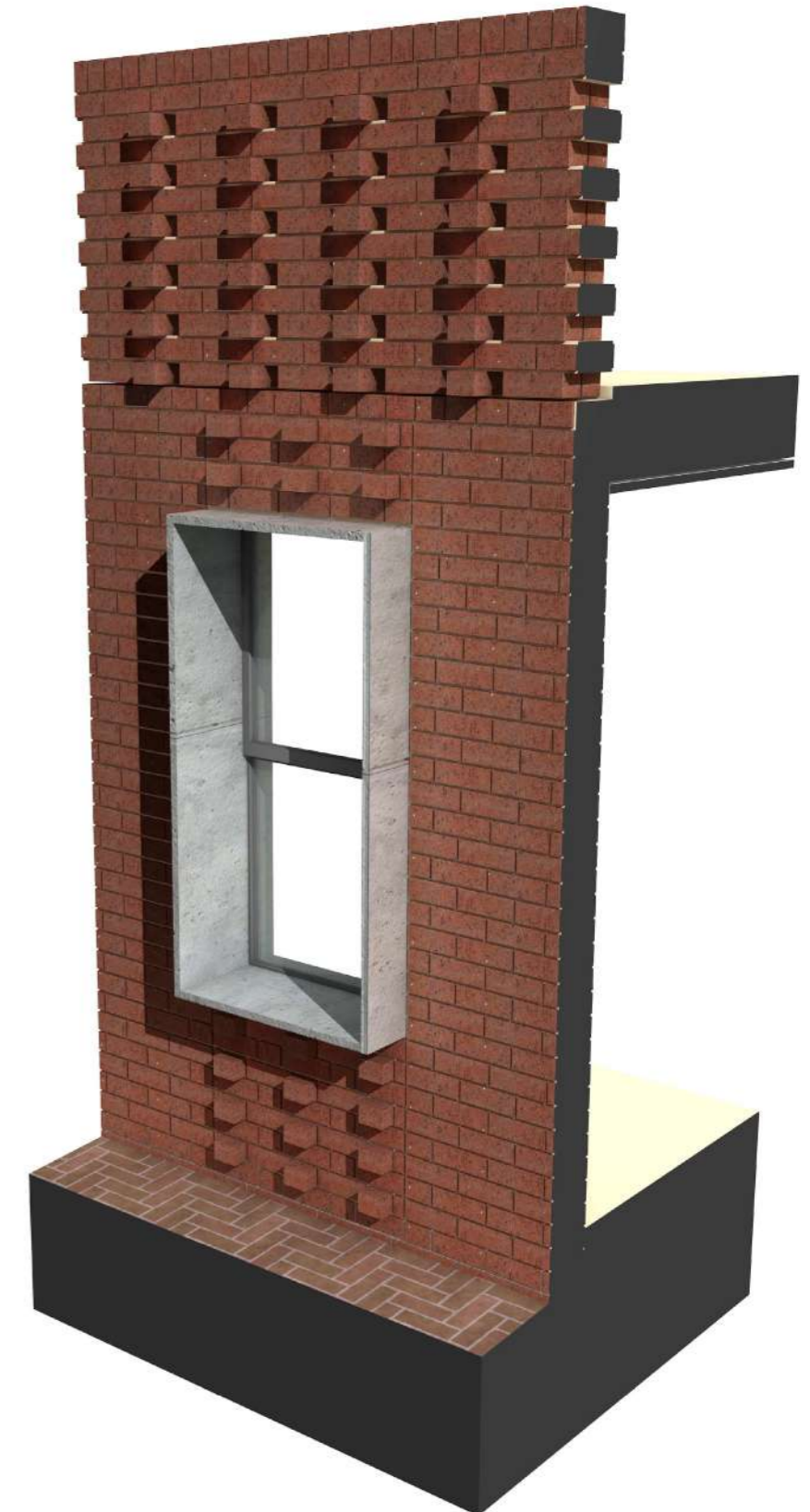
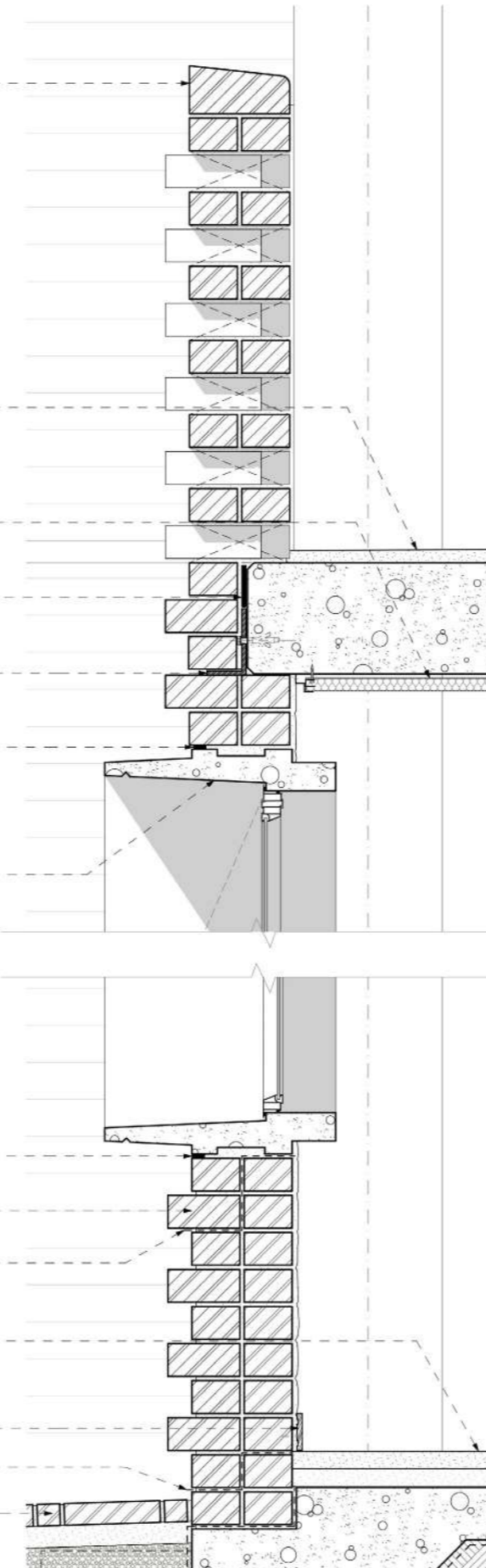
stepped DPC

Cemcrete 'Stone' colour hardener floated into 40mm ct:sand screed and steel troweled to a smooth finish, on 40mm Perlite filler screed to create weather step, on 120mm reinforced concrete surface bed and raft foundation.

Clear matt varnished 12x85mm P.A.R. Meranti skirting nailed to rough bagged and painted brick wall.

stepped DPC

Corobrik 'Nutmeg Piazza' clay brick paver to fall to channel, on 50mm sand blinding layer, 100mm compacted aggregate and 150mm layers of compacted fill.



2 brick infill patterned & perforated walls

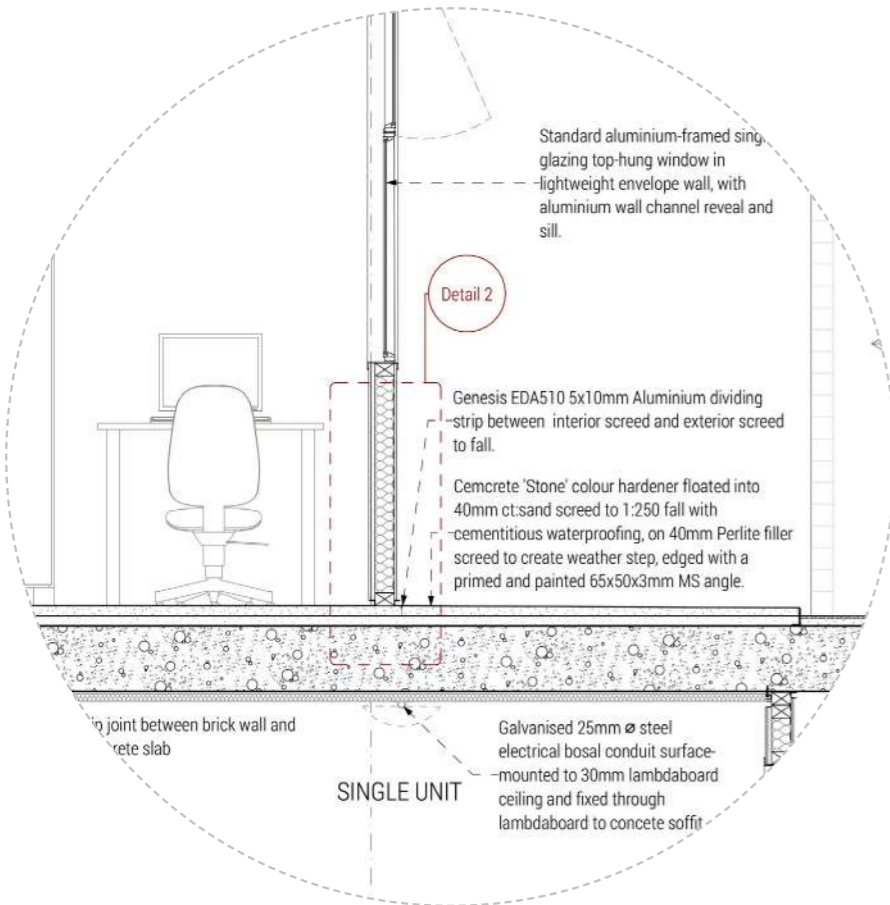


18.11. Cluster A key plan showing brick materiality of level 2 on the SOP (Author 2021).

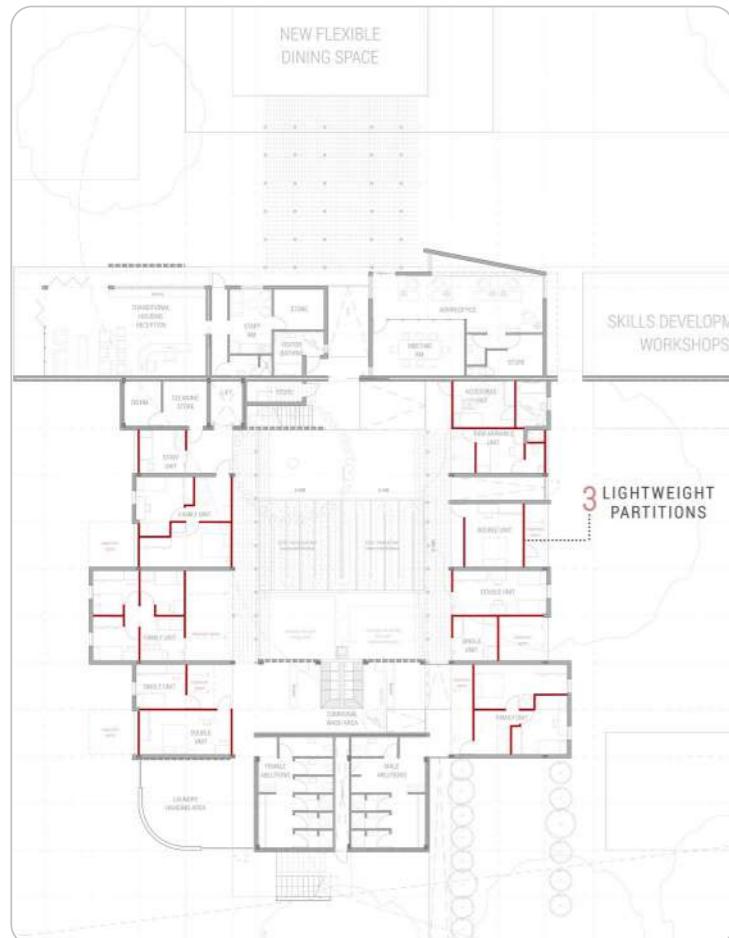
18.12. Detail 1: Brick facade and window detail at scale 1:10 when printed to full scale (not to scale here) (Author 2021).

18.13. Detail 1 3D (not to scale) (Author 2021).

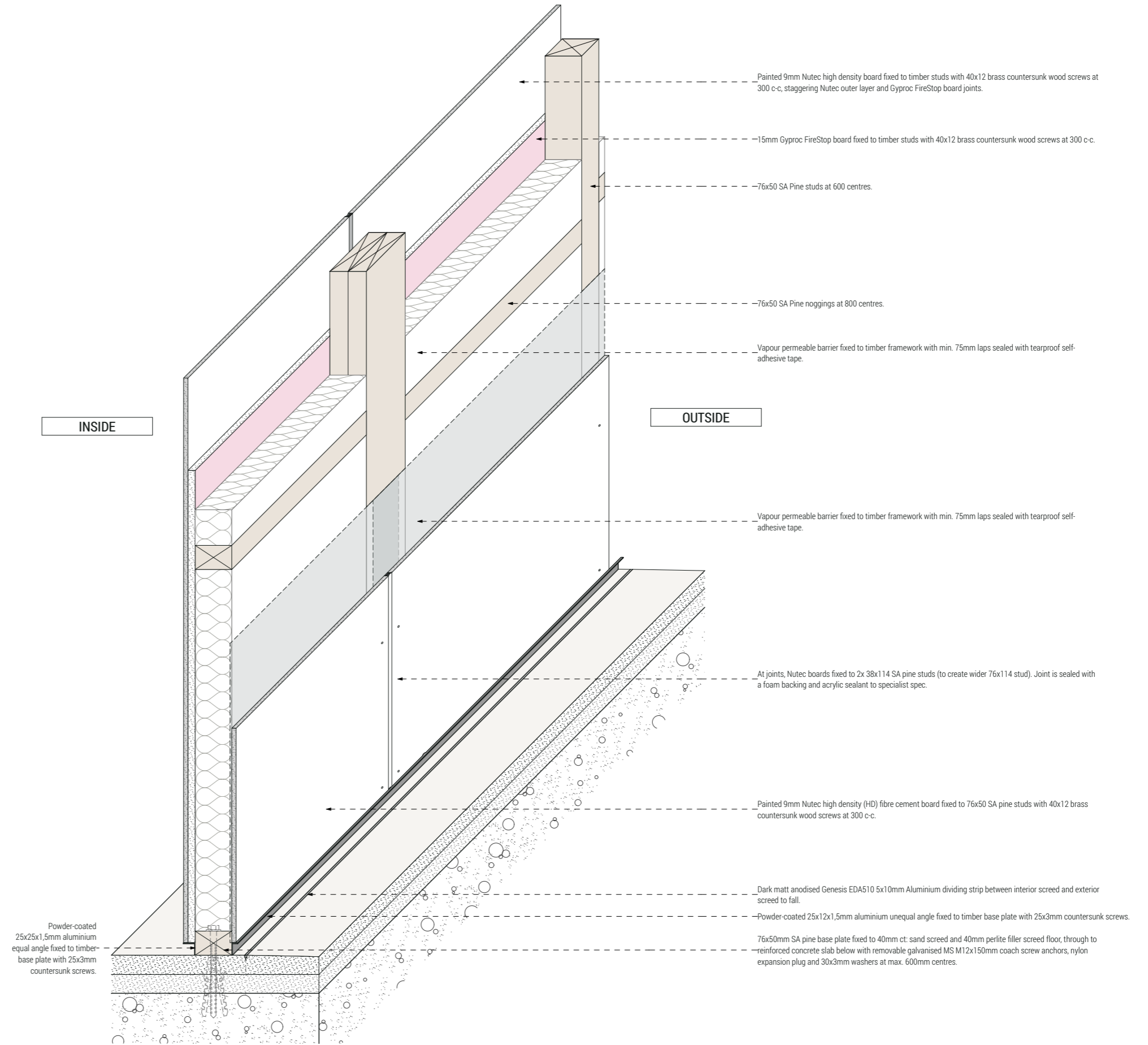
Detail 2: Lightweight infill panel (nts)



3 lightweight infill & partition walls

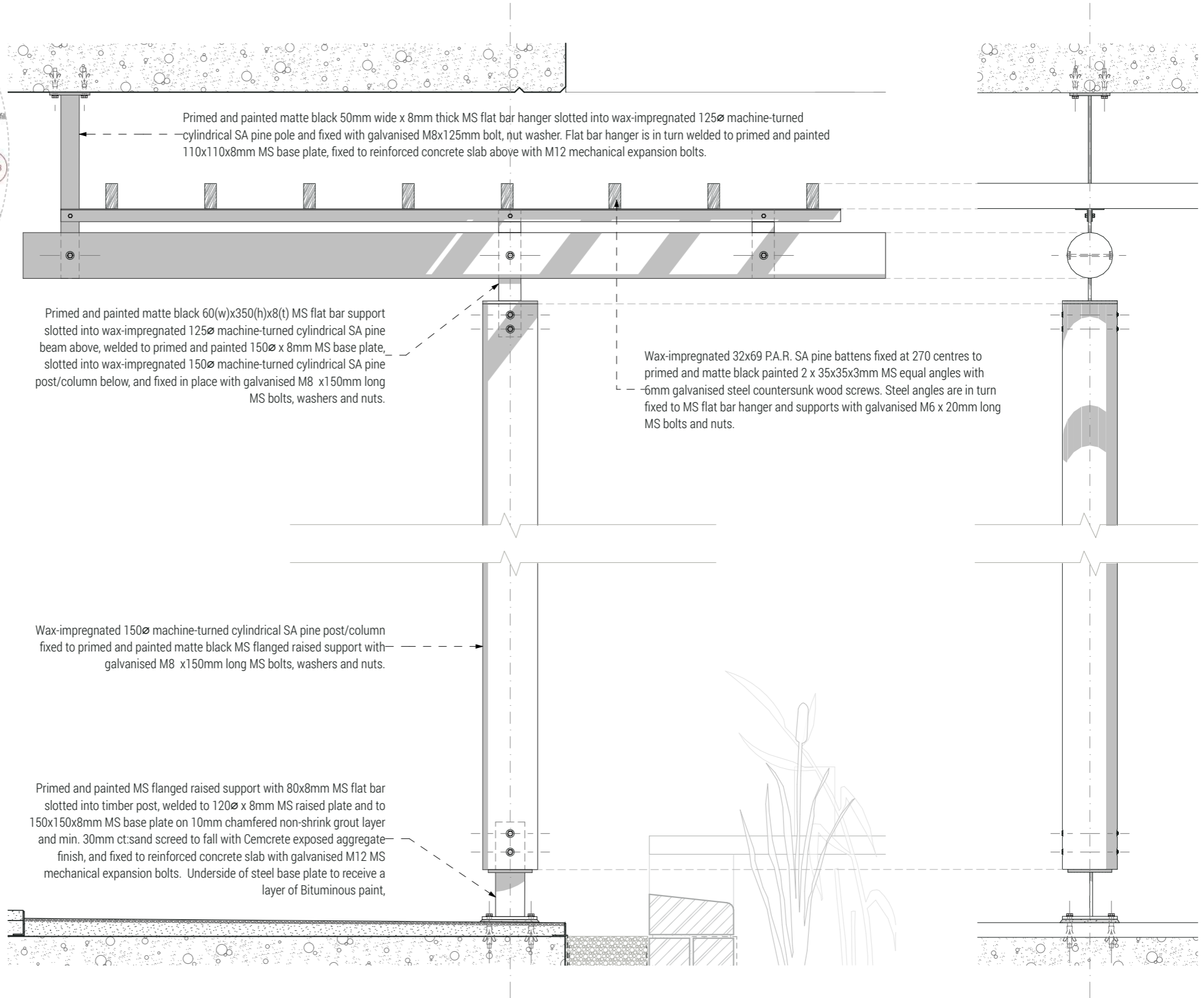
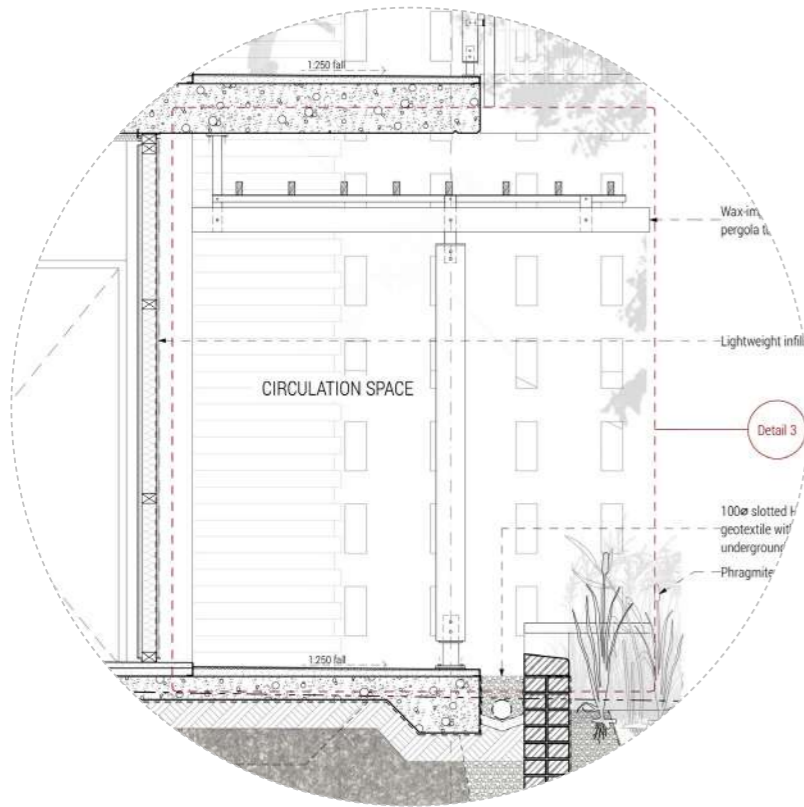


18.14. Cluster A key plan showing lightweight infill panels and partitions of level 3 on the SOP (Author 2021).



18.15. Detail 2: Lightweight infill panel detail at scale 1:5 when printed to full scale (not to scale here) (Author 2021).

Detail 3: Timber pergola (nts)



SIDE ELEVATION

FRONT ELEVATION

4 timber pergolas



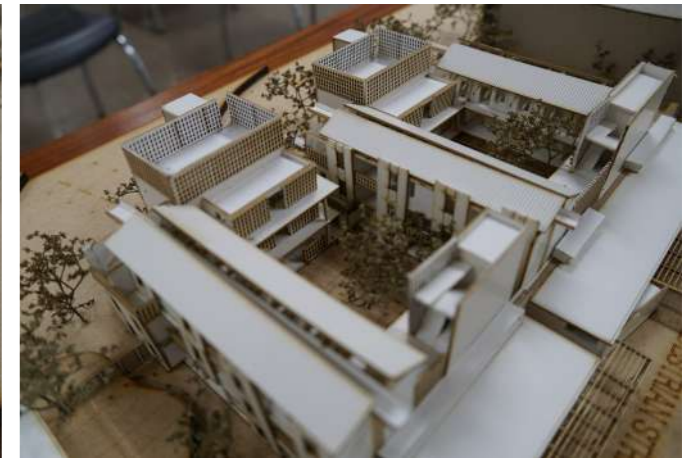
18.16. Cluster A key plan showing timber pergolas of level 4 on the SOP (Author 2021).

18.17. Detail 3: Timber pergola detail at scale 1:10 when printed to full scale (not to scale here) (Author 2021).



18.18. Detail 3 3D (not to scale) (Author 2021).

[c]
FINAL MODEL & PIN-UP PHOTOS



Compilation of photographs of final model (Author 2021). 18.19.



Compilation of photographs of final model and pin-up presentation (Author 2021). 18.20.

essay four

CONCLUSION & REFLECTION

The initial intentions of this dissertation were to investigate the phenomenon of neglected buildings and urban spaces that are appropriated by the homeless, and to explore the potential that this appropriation provides in the transformation and (re)activation of such sites. Throughout the dissertation, the topic was split into two themes: the social condition of homelessness and informal appropriation, and the historical condition of the architectural heritage of the site. In the academic and practice world of architecture, these two themes are often addressed somewhat separately. Their varied approaches often fail to overlap, and solutions tend to ignore one in favour of the other. Thus, this project has attempted to connect these frequently disconnected themes by navigating the tensions of the social and the historical in an effort to honour and address both. The social condition of homelessness and appropriation forms the primary focus of this dissertation, while the historical condition and heritage form the secondary focus. Therefore, emphasis was placed on addressing social needs in the context of respecting the heritage of the site. The intervention has aimed to uncover the site's latent potential by navigating the tensions between social and historical, permanence and temporality, existing and new, and formal and informal – building on existing activities of appropriation to create new layers of architecture, while honouring the existing heritage. It has sought to reimagine the isolated spaces of social and spatial decay as a layered, reintegrated and constantly evolving place of inclusion and safety.

Looking back

Essay One set the scene for the dissertation and illuminated the author's normative position as a combination of social values that consider space as a dynamic product of user appropriation and contextual sensitivity that involves the use of local materials, skills and context. These values are reflected in the intentions of the dissertation, as well as the final design and technical resolution of a contextually and socially sensitive intervention. The theoretical framework of appropriation, palimpsest, phenomenology and overlaying difference framed the project intentions and served as a lens through which the research on homelessness, the phenomenon of occupied neglected buildings, the analyses of the site and its users, and design informants are

approached. The initial research on homelessness and case studies of local occupied neglected buildings provided an overview of the social context of this project and the Melgisedek site. It also shed light on the reasons and nature of appropriation of such sites depending on its context, indicating that peri-urban sites (such as Melgisedek in Prinshof) with interstitial open spaces and less threat of eviction or harassment tend to be taken ownership of, leading to more positive, community-supporting appropriation. Lastly, the historical timeline of the site revealed the complex tangible and intangible palimpsest that exists in the manifestation of the two themes of social and historical conditions. These explorations paved the way for further analyses of Melgisedek in its physical context and the people who reside there towards the development of an informed, multi-layered and sensitive programme and approach to the site.

Essay Two expanded upon various analytical tasks for an in-depth understanding of the site, its users and its design potential. The goal was to bridge the general research in Essay One and the site-specific research in Essay Two with the initial conceptual and design informants, ideas and decisions. The two themes of historical and social conditions were explored with regards to the specific site in terms of the existing architecture (viewing this as part of a palimpsestic whole) and the proposed palimpsestic heritage approach to the site. The qualitative mapping and thorough user analysis delved further into the social condition on site. Interviews with relevant stakeholders provided valuable insight into the immediate and long-term needs and the issues faced by the site's informal residents. This informed the proposed mixed, multi-layered site programme with an emphasis on the transitional housing and social welfare component. Informed by the precedent studies, it was concluded that an approach of incrementality, adaptability and flexibility should be applied to the development of programme and space to be sensitive to the changing needs of the users and to address their immediate needs first. This led to the development of a phased site vision and strategy with a three-stranded programme that strives to build on the identified existing activities and forms of appropriation, incorporating and reinterpreting them into a site vision that seeks to address the needs and issues of the homeless on the site and reintegrate them into society.



18.21.

Lastly, Essay Three explored the conceptual strategy of a “scale of permanence” that acts as a tool through which the historical and social conditions – and various tangible and intangible tensions – can be navigated and applied to programme and architectural language, materiality and technical exploration, and indirectly to environmental considerations. With the scale of permanence as a driver, the programme and typology of transitional housing was elaborated in conjunction with various typological precedents, with an aim to understand and apply the programmatic and spatial requirements to the layout and organisation of the various design iterations. While applying principles of adaptability and flexibility, the design iterations were related back to these levels of permanence, which led to explorations of materiality and construction. Here, the layering of materials not only expressed the various levels of permanence, but was also guided by an intent to make use of local, affordable and humble materials to encourage user involvement in initial and future construction and alteration, as well as to create a symbiotic dialogue with the existing architecture. The intention to elevate and reinterpret local materials through sophisticated and dignified execution is expressed in the detailing and technical resolution. Lastly, the environmental considerations express the intention of a resilient, constantly evolving intervention that grows in harmony with its residents and natural context.

Opportunities for future research

Although the proposed intervention is applied to the specific site and its users, it is intended to serve as a prototypical exploration of how relevant and current complex social issues may be approached in tandem with a respect for existing heritage on other similar sites in South Africa. It also suggests a possible approach to addressing the issue of homelessness and the issue of [occupied] neglected/abandoned buildings, which are so closely intertwined. With a constant shift between social and heritage considerations, the project attempts to bridge the gap that often exists between them in many architectural endeavours. However, future work and research could expand on and delve into a more direct and physical engagement with existing Further research could also expand on the occupation and appropriation of neglected buildings and spaces by the vulnerable, especially from a spatial perspective. Comparison to international scenarios, causes and factors would further inform the appropriateness of proposed solutions and interventions with the understanding of the multitude of variables at play. This dissertation begins to shed light on certain nuances of the common phenomenon of this form of informal occupation and homelessness-related issues.

Upon further reflection, many debates around homelessness and suitable design approaches to the appropriation of space were engaged and built upon.

Insights on homelessness and local nuances

Although there are many common themes and issues globally regarding the issue of homelessness, one must acknowledge that each site and situation is unique in its nuances and manifestations. Therefore, solutions that have been proposed abroad may not be entirely applicable, appropriate or successful locally or even from one site to another. For example, at Melgisedek, the existence of many sub-communities and cultural diversity necessitated a spatial intervention that respects the need for individual space and even separate communal pockets or clusters that do not “force” inhabitants to live entirely as one large community, which can often be assumed to be the desirable outcome. Although this typology respects the innate human need for privacy and intimate community, it also acknowledges that differences in cultures are positive and do not need to be blurred or eradicated through space in order to foster a sense of inclusion. Another example of this is some of the causes of certain groups’ homelessness or the perpetuation thereof. At Melgisedek, many of the existing occupants lack legal documentation and the means to obtain it. This means that if a typical formal social housing development were to be developed on site, it would serve a very different vulnerable population of users that possess legal documentation, employment etc, and inadvertently would further displace those without documentation, thus perpetuating their homelessness. Therefore, the proposed intervention in this dissertation operates somewhere between the legitimisation and improvement of existing informal conditions and the introduction of formal interventions and typologies. Ultimately, there will never be one all-encompassing solution to any spatial issue, let alone this complex social phenomenon of homelessness. Solutions require sensitivity, empathy and nuanced understanding of unique communities.

Challenges in addressing appropriation and homelessness through design

The intended uses of a space often differ from the actual uses, and these are difficult to predict. As architects and designers, we tend to the side of prediction, problem-solving and determining how spaces should be used. When designing for appropriation, and more so for complex social issues such as homelessness, the challenge comes in balancing the architect’s design expertise in defining,

shaping and creating space with the user’s agency as a design tool in itself. Where and when do we design and dictate spatial functions, uses and types of appropriation? When do we allow for ambiguity without creating non-spaces, but just enough ambiguity to open up spatial possibilities to allow for user ownership and future resilience of changing needs? This fine line between determinate and indeterminate space is one still contested in many projects considering user agency and appropriation, where this project attempts to offer only one of many possible solutions.

Furthermore, homelessness is a multifaceted, complex issue with many socio-political, -spatial and -historical factors at play where architecture alone cannot offer a solution. Architects and designers should not see homelessness as a “problem we can and should solve”, but rather should acknowledge it as a cause and result of many other issues we have little to no control over. By implication, we should view it as a phenomenon of human existence that affects space. As Godsell (2021) states, designers should aim to cater for homelessness rather than “cure” it. Therefore, we can offer spatial solutions to some of the results, symptoms and spatial divides that exist in connection to homelessness. Space can encourage or discourage interaction and inclusion, it can foster and convey a sense of safety or intimidation, sensitivity or indifference. It is within these intangibles where designers have the ability to create tangible manifestations that can either improve or exacerbate the volatile conditions of the vulnerable and excluded.

Finally, a deeper appreciation of the complexities and importance of the various social and historical conditions explored in this dissertation have led to observations, conclusions and design approaches that could be further explored and developed in the workplace. These include sensitive responses to complex, layered contexts; the use of appropriate materials and construction methods; and simple, adaptable systems that are easy to construct using standard, available materials.

In conclusion, this dissertation has fostered an increased empathy for vulnerable people that are so often disregarded or excluded from society and its spatial ideals. Although architecture alone cannot begin to solve these complex issues, architects can apply deeper empathy and understanding in the shaping and reshaping of our cities. Through architecture, we can offer possible ways of tackling the socio-spatial divides of the past to create more inclusive environments that promote individual and communal agency for the future.

Fig. 18.21. Page 156: 3D render of the new Melgisedek complex (Author 2021).

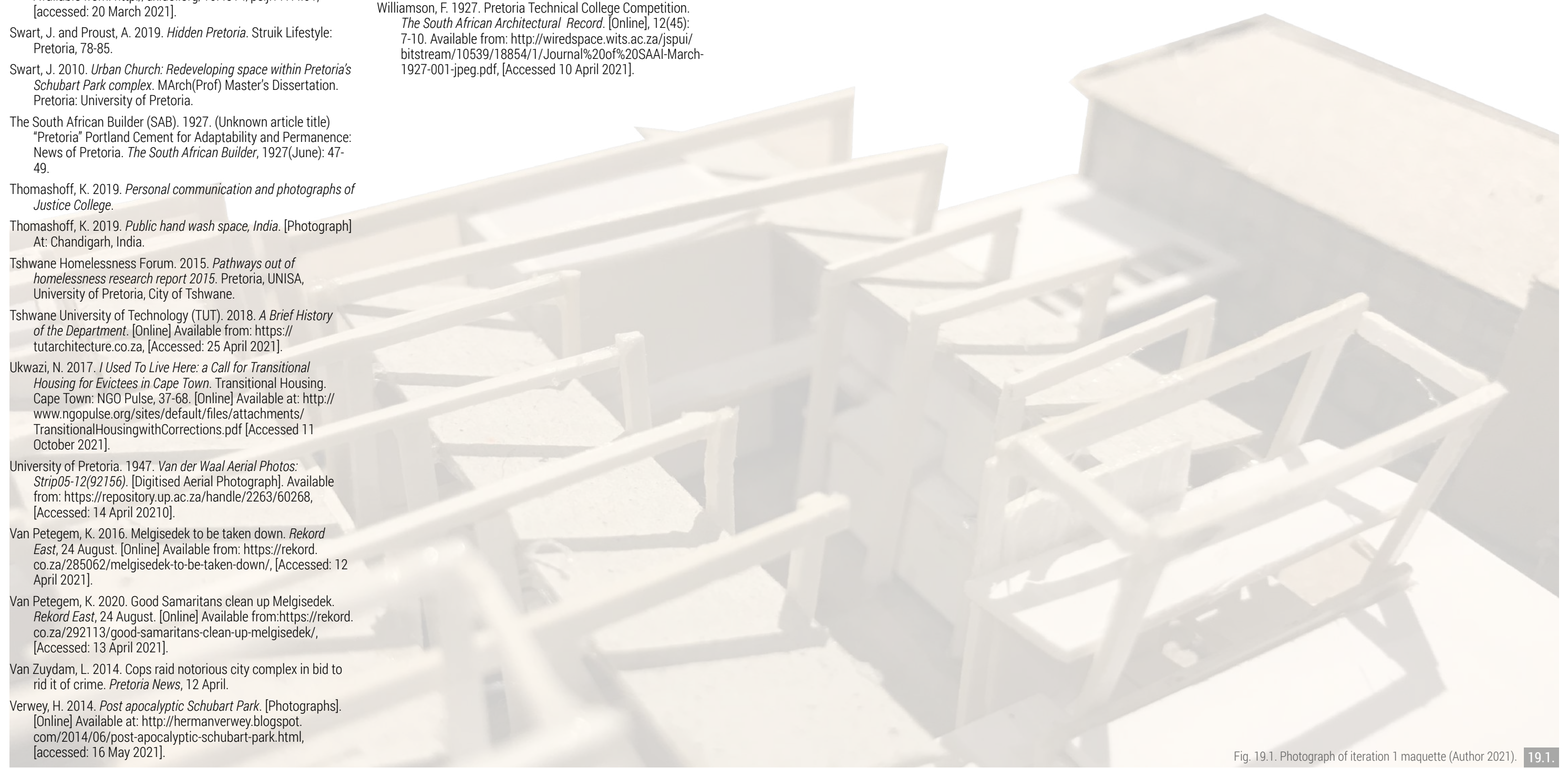


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 Fig. 19.1. Photograph of iteration 1 maquette (Author 2021). 19.1.

20

appendices



Fig. 20.1. Photograph of derelict staff building at Melgisedek (Author 2021).

20.1.

APPENDIX I: CASE STUDY DESCRIPTIONS

The following cases, each located in the City of Tshwane, were studied as an overview of the phenomenon of occupied neglected buildings from a local perspective, for site selection purposes and with a focus on the nature of appropriation. Each building is currently or has previously been occupied by vulnerable persons unable to afford alternative (urban) housing. Below is a brief description of the site and scenario of each case, as well as the icon for each case correlating to those on the scales of analyses in the document:

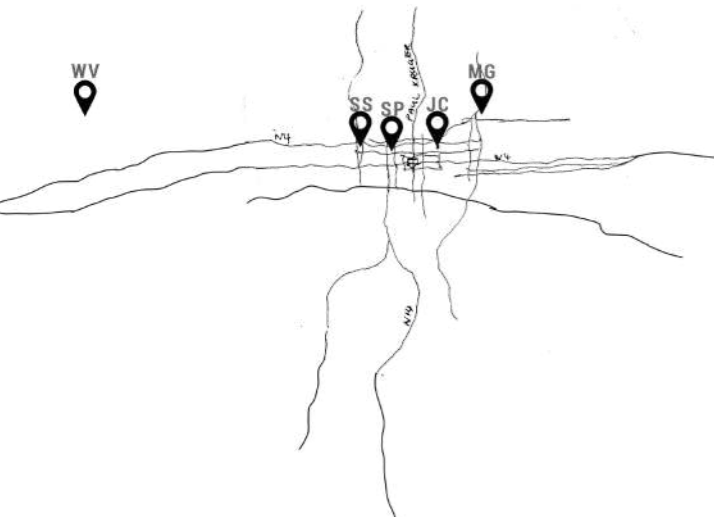


Fig. 4.6. Location sketch of case studies (Author 2021).

4.6.



WESTFORT VILLAGE (WV)
former leprosy hospital



Fig. 4.7. ID photo of Westfort village (Swart & Proust 2019), case study icon and location sketch (Author 2021).

4.7.



JUSTICE COLLEGE (JC)
former training centre for National School of Government (NSG) Department

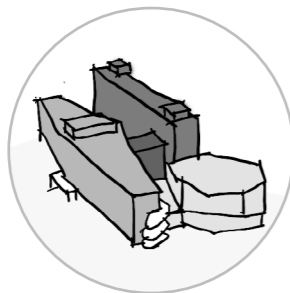


Fig. 4.8. ID photo of Justice College (Google earth 2021), case study icon and location sketch (Author 2021).

4.8.

Westfort Village is a former leprosy institution established in 1898 and designed by Dutch–South African architect Sytze Wierda. It is situated west of Pretoria at the foot of the old ZAR Fort Daspoort (Bruinette 2017, Kuipers 2015) and has a very complex and layered history and heritage. Due to the fear and stigma of leprosy at the time, the institution was isolated from the rest of the city. Abandoned in 1997 due to progress in medical treatment of leprosy that rendered the isolated institution unnecessary (Kuipers 2015: 10), the site gradually became inhabited by (eventually) approximately 4000 vulnerable people who have appropriated the site with informal structures, creches, shops and dwellings (Bruinette 2017, Kuipers 2015, Mollel 2018). Over the years, the community has taken ownership of the site; however, the landscape and buildings have deteriorated due to neglect (Grunewald and Breed 2013). Since 2016, the site has been earmarked for a large and controversial mixed housing development (Clarke 2016).

Situated in Pretoria Central, the site known as Justice College is a building that was designed by Brian Sandrock and built around 1960. It was originally used by the Extramural Department of the University of Pretoria, but after 1986, the building was used as a training centre for the National School of Government (NSG) Department, known as Justice College (Bates 2018: 32). In line for renovations in 2010, the building was vacated; however, for various reasons, the renovation project was halted, leaving the building to deteriorate as a result of neglect and vandalism (Thomashoff 2019). The building was gradually stripped or “mined” (Bates 2018: 37), while multiple street homeless and nyaope users occupied the building for shelter and to extract materials for illegal trade (Thomashoff 2019). In 2018, the commencement of the renovation-turned-restoration project by Thomashoff and Partner Architects was re-initiated and is currently underway. During the author’s internship at Thomashoff and Partner Architects, visits to the site revealed the dire situation reflected in the damage and inscriptions of plight by informal occupants.



MELGISEDEK (MG)
former Pretoria Technical College hostels, then NGO complex



Fig. 4.9. ID photo of Melgisedek (Author 2021), case study icon and location sketch (Author 2021).

4.9.



STRUBEN SHELTER (SS)
city-owned homeless shelter

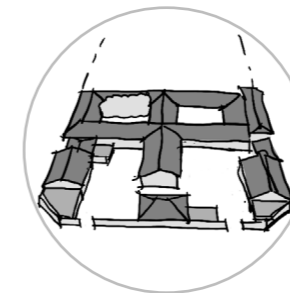


Fig. 4.10. ID photo of Struben Shelter (Google earth 2021), case study icon and location sketch (Author 2021).

4.10.



SCHUBART PARK (SP)
former housing development

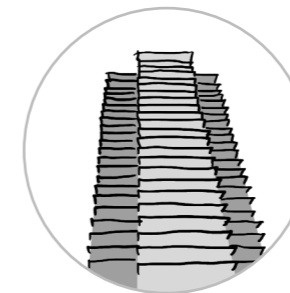


Fig. 4.11. ID photo of Schubart Park (Verwey 2014), case study icon and location sketch (Author 2021).

4.11.

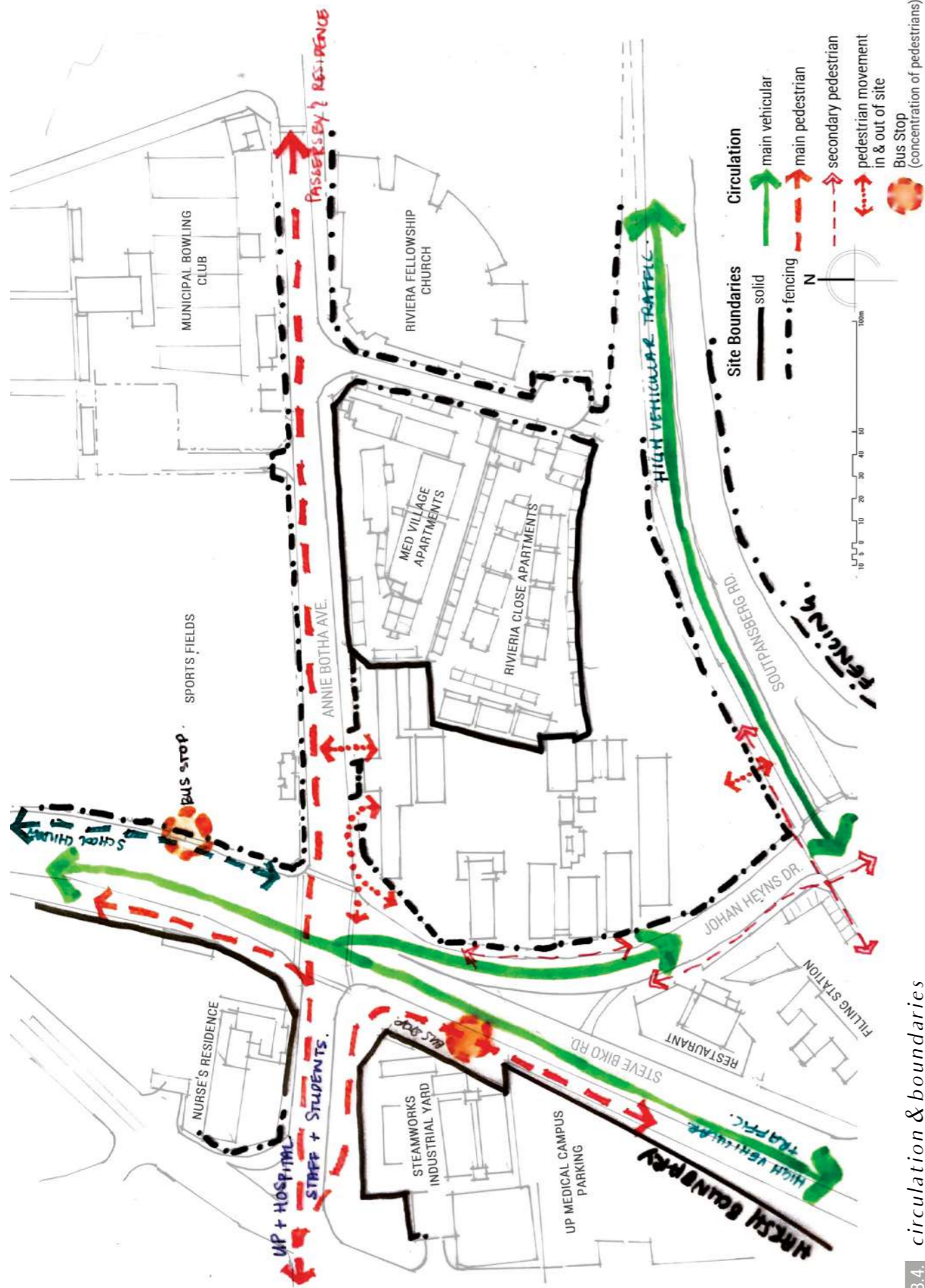


The city-owned site known as Melgisedek or “Mahala Flats” (De Beer 2021), situated in Prinshof close to the Tshwane District and Steve Biko Hospitals, was originally used as hostels for the Pretoria Technical College until 1986, and then as a homeless shelter run until 2009 (Bac 2020, Schmidt 2021). It has since been unmanaged, unmaintained and occupied by vulnerable people varying in numbers over the years, with about 500 current occupants (Bac 2020). The “near” homeless inhabitants have formed a legitimate community and taken ownership of the site by appropriating it with informal trade and dwelling structures and various communal and daily activities. There are numerous buildings on site in various states of decay, with the oldest built in 1927 and designed by Gordon E. Leith (SAB 1927). The site is currently earmarked for redevelopment into social and/or student housing (van Petegem 2020).

The Struben Street shelter is located on the western edge of Marabastad in a mixed-warehouse city-owned building built in the mid-twentieth century (De Klerk 2015: 3, 15). It is the only homeless shelter in Pretoria owned by the municipality (De Klerk 2015: 3). Intended as an overnight shelter for up to 150 homeless people, the site has been mismanaged, unmaintained and permanently occupied by up to 800 vulnerable people over the past 15 years (De Klerk 2015: 15). The inhabitants – many the elderly, substance users, people with “chronic psycho-social illnesses”, or mothers and children (Tshwane Homelessness Forum 2015: 3) – have appropriated the spaces to an extent; however, the site is considered “hijacked” by criminals who illegally exploit other vulnerable occupants (Mahope 2020). In 2014, a municipal notice of eviction without provision of alternative accommodation caused uproar and sparked discussions regarding the city’s policy and treatment of the homeless (Ntakirutimana 2015: 101, Tshwane Homelessness Forum 2015: 3).

Lastly, the Schubart Park high-rise housing complex close to Pretoria CBD was completed in 1976 as part of an inner-city urban renewal and housing development in the 1970s (Du Toit 2009: 160). Poor administration, social problems, neglect and mismanagement over the years and during the transition from apartheid to democracy has led to deterioration of the buildings and the residential life (Du Toit: 159, Swart 2010: 78). Eventually, the site became overcrowded and continuously dilapidated while housing a volatile community, with units being “hijacked” by criminals (Ntakirutimana 2015: 99, 100). In 2011, the residents were unlawfully evicted by the city without alternative housing, and in 2012, the Constitutional Court ordered the City of Tshwane to provide adequate alternative accommodation for the residents until it was safe to return home – which was never fully realised (Ntakirutimana 2015: 100, Schubart Park Case 2012). Through the years, the buildings have been stripped and vandalised, leaving only skeletons of the structures behind.

APPENDIX 2: ENLARGED MESO-CONTEXT MAPS



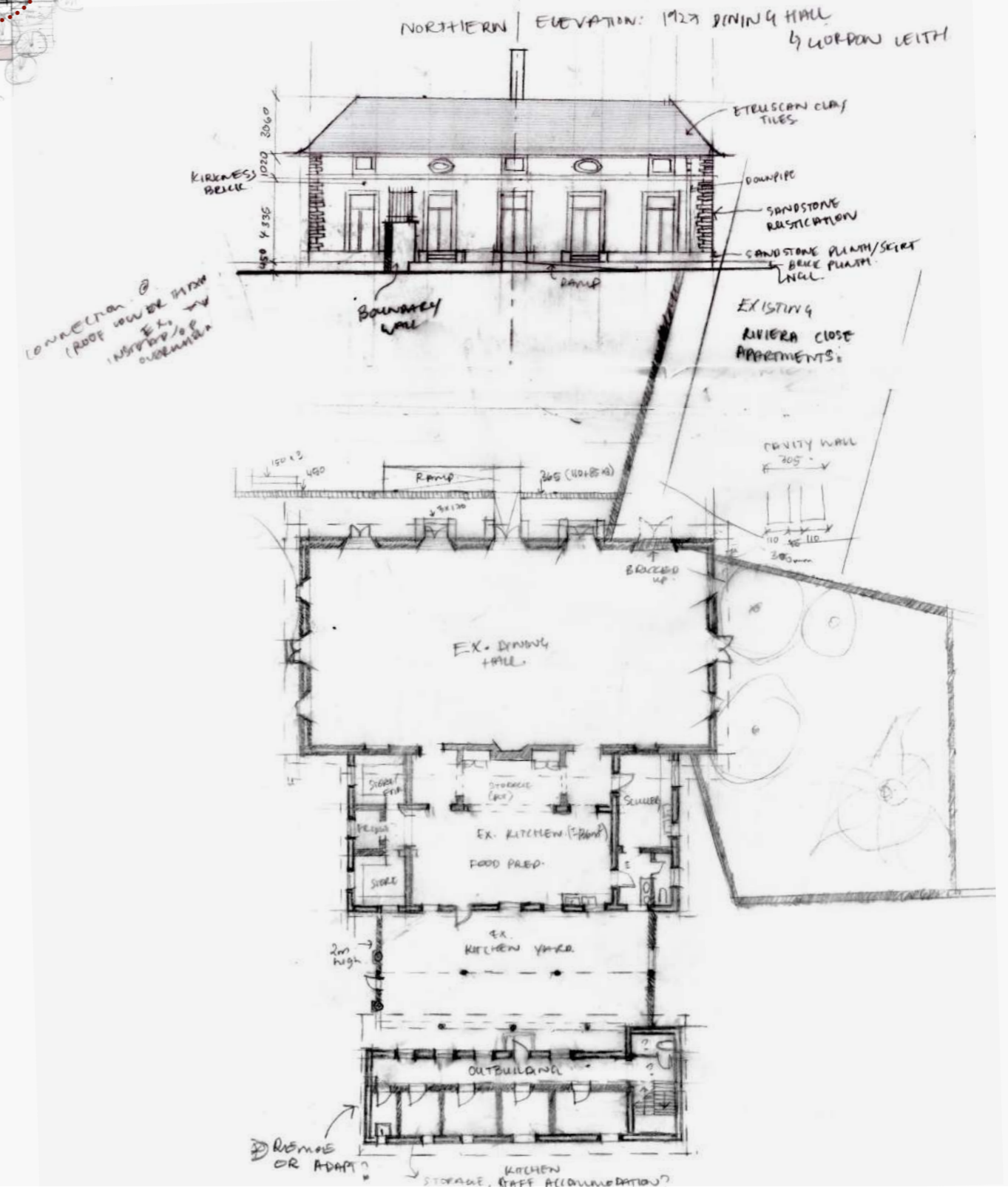
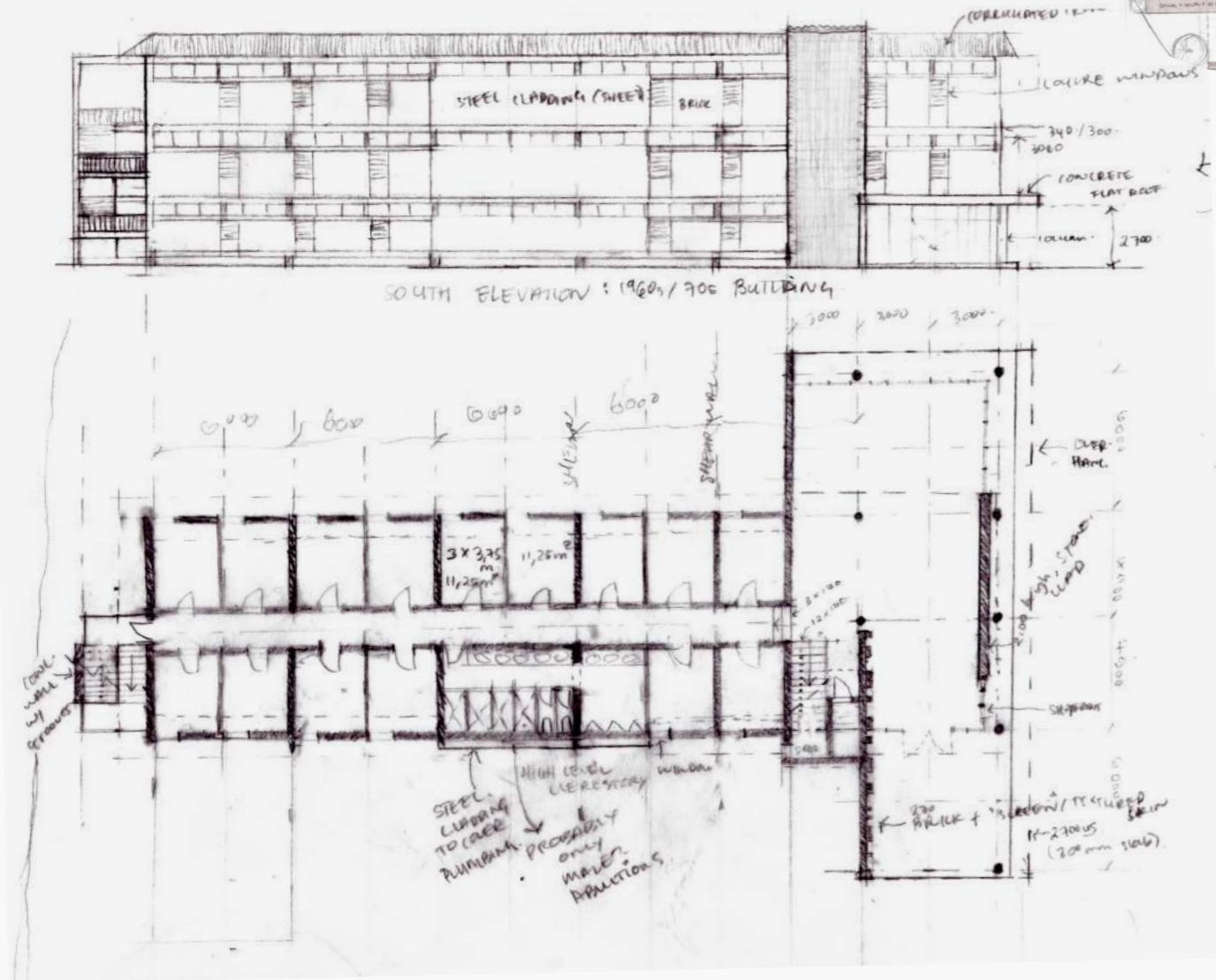
APPENDIX 3: ENLARGED SKETCH PLANS OF
SELECTED EXISTING BUILDINGS



1960s/70s Hostel Building:
Functional Regionalist / International Style



1927 G.E. Leith Dining Hall:
Baker-school classicist "Traditional Style"



APPENDIX 4 ACCOMMODATION SCHEDULE

(Social Welfare Pocket only)






Programme / Function (Description)	Size / Area	Quantity	Total Area	Level on Scale of Permanence
I. TRANSITIONAL HOUSING				
Shelter Admin (1 storey)				
accommodates +- 40 residents				
Reception & waiting area	60m ²	1	60m ²	
Staff room	11m ²	1	11m ²	
Staff toilet (1 wc, 1 hwb)	2,4m ²	2	4,8m ²	
Store	8m ²	1	8m ²	
Visitor / new arrivals toilet (Accessible wc, hwb, bath)	7m ²	1	7m ²	
Admin open plan offices (5 cubicles/desks)	35m ²	1	35m ²	
Meeting room	21m ²	1	21m ²	
Admin Store	8m ²	1	8m ²	
Cluster A (3 storeys)				
accommodates +- 75 residents				
Comunal ablutions (Per floor - Male: 3 showers, 1 wc, 2 urinals, 3 hwb, lockers and changing space; Female: 3 showers, 3 wc, 5hwb, lockers and changing space; 900mm wide wet duct)	76m ²	3 (1 per floor)	226,5m ²	Level 2 - Permanent Cores
Common Room (Shared kitchen: 2 fridges, 2 stoves; Wash-up: 2 sinks, shelving; Lounge: 2 couches, 2 small dining tables)	40m ²	2 (on second & third floors)	80m ²	Transition between level 2 and 3
Communal wash area (Laundry hand-washing facilities: 8 wash troughs; seating)	30m ²	1	30m ²	
Clothes hanging/drying	34m ²	1	34m ²	Level 4
Single unit (1 pax)	3x3 = 9m ²	8	72m ²	
Double unit (2 pax)	3x6 = 18m ²	9	162m ²	
Family unit (4 pax)	6x6 = 36m ²	9	324m ²	
New Arrivals unit (1 pax; 1 wc, 1 hwb)	3x4 = 12m ²	3 (1 per floor)	36m ²	Level 3 - flexible/adaptable living spaces
Accessible unit (1-2 pax; 1 accessible wc, 1 hwb, 1 bath)	3x6 = 18m ²	3 (1 per floor)	54m ²	
Staff unit (1 pax)	3x3 = 9m ²	1	9m ²	
Cleaning store	8m ²	3 (1 per floor)	24m ²	
DB room	7m ²	3 (1 per floor)	21m ²	
Vertical circulation core (1000kg/12 passenger lift; staircase with 170mm risers and 280mm tread)	Plan area per floor: 20m ²	3	60m ²	Level 2 - Permanent Cores
Open private courtyard (Surrounded by open, shaded circulation space)	14,7 x 10,7 = 157m ²	n/a	157m ²	
Constructed wetland in courtyard (Hybrid Horizontal flow section and vertical flow section)	Each = +32m ² Total = 2 x 32m ² = +64m ²	n/a	+64m ²	Level 4

Programme / Function (Description)	Size / Area	Quantity	Total Area	Level on Scale of Permanence
Cluster B (3 storeys)				
accommodates +- 40 residents				
Comunal ablutions (Per floor - Male: 3 showers, 1 wc, 2 urinals, 3 hwb, lockers and changing space; Female: 3 showers, 3 wc, 5hwb, lockers and changing space; 900mm wide wet duct)	76m ²	3 (1 per floor)	226,5m ²	Level 2 - Permanent Cores
Common Room (Shared kitchen: 2 fridges, 2 stoves; Wash-up: 2 sinks, shelving; Lounge: 2 couches, 2 small dining tables)	40m ²	2 (on second & third floors)	80m ²	Transition between level 2 and 3
Communal wash area (Laundry hand-washing facilities: 8 wash troughs; seating)	30m ²	1	30m ²	
Clothes hanging/drying	32m ²	1	32m ²	Level 4
Single unit (1 pax)	3x3 = 9m ²	5	45m ²	
Double unit (2 pax)	3x6 = 18m ²	6	108m ²	
Family unit (4 pax)	6x6 = 36m ²	3	108m ²	Level 3 - flexible/adaptable living spaces
Accessible unit (1-2 pax; 1 accessible wc, 1 hwb, 1 bath)	3x6 = 18m ²	6 (2 per floor)	108m ²	
Staff unit (1 pax)	3x3 = 9m ²	1	9m ²	
Cleaning store	3m ²	3 (1 per floor)	9m ²	
DB room	3,5m ²	3 (1 per floor)	10,5m ²	Level 2 - Permanent Cores
Vertical circulation core (1000kg/12 passenger lift; staircase with 170mm risers and 280mm tread)	Plan area per floor: 20m ²	3	60m ²	
Open private courtyard (Surrounded by open, shaded circulation space)	15m x 10m = 150m ²	n/a	150m ²	
Constructed wetland in courtyard (Hybrid Horizontal flow section and vertical flow section)	Each = +25m ² Total = 2 x 25m ² = +50m ²	n/a	+50m ²	Level 4
Skills development workshops (Flexible workshop spaces open up onto public internal street, 1 store room)	34m ²	3	34m ²	Level 2 - Admin & support service threshold
Support Services (1 storey)				
Reception & waiting area	50m ²	1	50m ²	
Ablutions (Male: 1 wc with 1 hwb, 1 urinal, 2 hwb; Female: 2 wc with own hwb, 2 hwb; 1 unisex Accessible wc with hwb)	27m ²	1	27m ²	
Legal aid office	3 x 4 = 12m ²	2	24m ²	Level 2 - Admin & support service threshold
Social work office	3 x 4 = 12m ²	1	12m ²	
ID (documentation) assistance	24m ²	1	24m ²	
Multipurpose room	35m ²	1	35m ²	
Open private courtyard (Surrounded by open, shaded circulation space)	12,5m x 10m = 125m ²	n/a	125m ²	Level 4
2. SOUP KITCHEN				
Food service & existing dining space (1927 Dining hall)	260m ²	n/a	260m ²	Level 1 - Existing heritage buildings

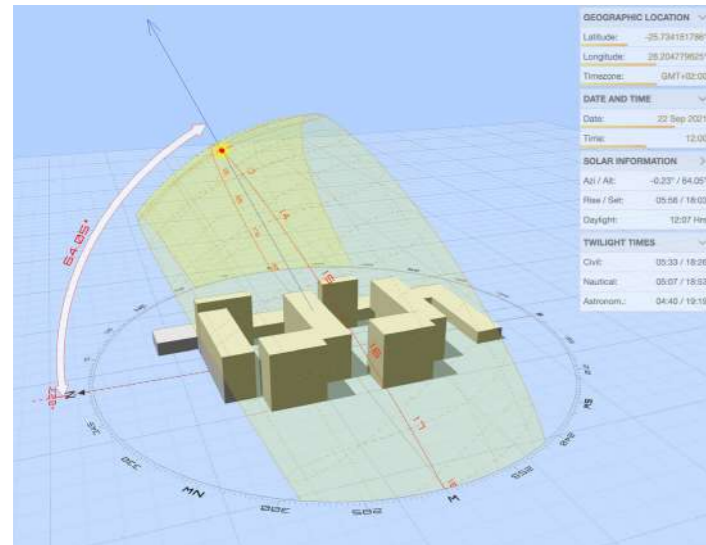
Programme / Function (Description)	Size / Area	Quantity	Total Area	Level on Scale of Permanence
Preparation Kitchen (Hot & cold prep.; wash-up; dry store; equipment & pot store; 1 wc; cold rooms, freezer room etc.)	127m ²	n/a	127m ²	Level 1 - Existing heritage buildings
Kitchen yard	95m ²	n/a	95m ²	
New service & refuse yard	250m ²	n/a	250m ²	
New flexible dining space (Multipurpose hall - suitable for 25-30 beds or sleeping pods for emergency temporary shelter; store rooms)	220m ²	n/a	220m ²	Level 3 - flexible/ adaptable living spaces
Open public courtyard (Extended outdoor dining space with pergolas)	515m ²	n/a	515m ²	Level 4
3. ADDITIONAL SOCIAL SUPPORT SERVICES				
Medical clinic (Reception, pharmacy, exam rooms, accessible wc, store)	165m ²	n/a	165m ²	Level 2 - Admin & support service threshold
Daycare centre (Toilets, kitchenette, common play room, classrooms)	148m ²	1	148m ²	
Psychological therapy/counselling clinic (Adapted ex. 2 storey building - therapy rooms, ablution, offices)	80m ²	2	160m ²	Level 1 - Existing heritage buildings
Open courtyard (With secure, fenced-off children's play area)	300m ²	1	300m ²	Level 4
4. ADAPTED 1960S HOSTEL (3 storeys)				
Culinary workshop & exhibition space (Ground floor: Flexible space for weekend markets - movable panels, sliding partitions, mobile cooking islands and prep. tables, fixed sinks, small cleaning store)	145m ²	n/a	145m ²	
Culinary workshop storage & ablutions (Existing hostel rooms adapted and retrofitted: cleaning store, pot store, dry store, 1 cold room, 1 freezer, 1 male wc and hwb, 1 female wc and hwb, wash-up space, 2 market store rooms)	134m ²	n/a	134m ²	Level 1 - Existing heritage buildings
Overflow transitional housing accommodation (Half of ground floor, entire second and third floors, includes male and female shared ablutions)			accommodates +- 35 additional residents	
Transitional Housing accommodates a total of +- 150 residents (cluster A + cluster B + overflow accommodation)				

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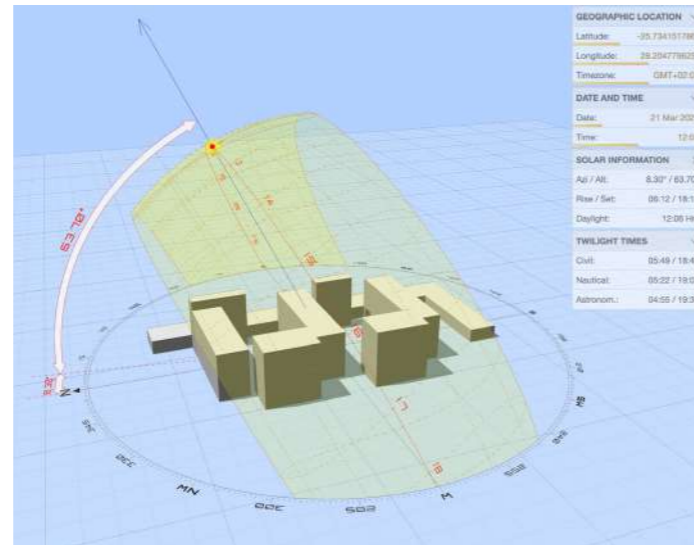
Level on Scale
of Permanence:

-  1
-  2 - cores
-  2 - admin threshold
-  3
-  4

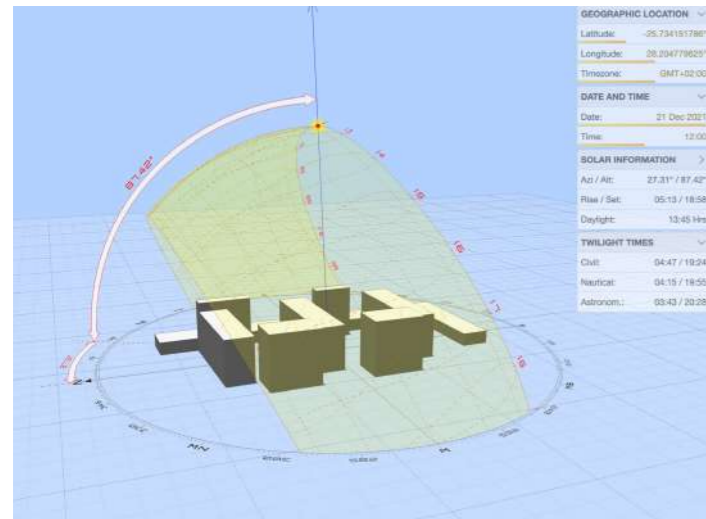
APPENDIX 5: ENVIRONMENTAL INVESTIGATIONS & DATA



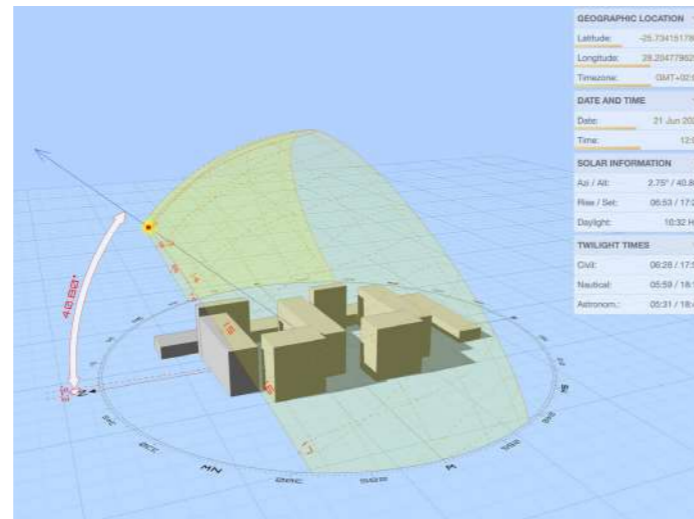
22 September 12pm - Spring Equinox: 64,05°



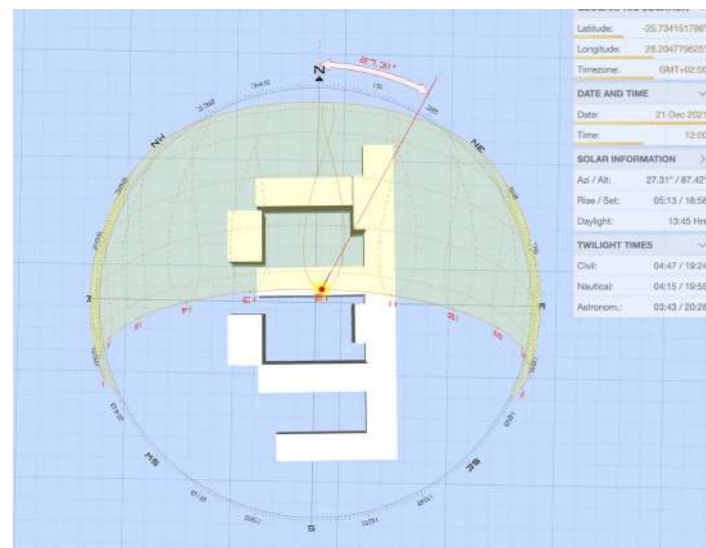
21 March 12pm - Autumn Equinox: 63,7°



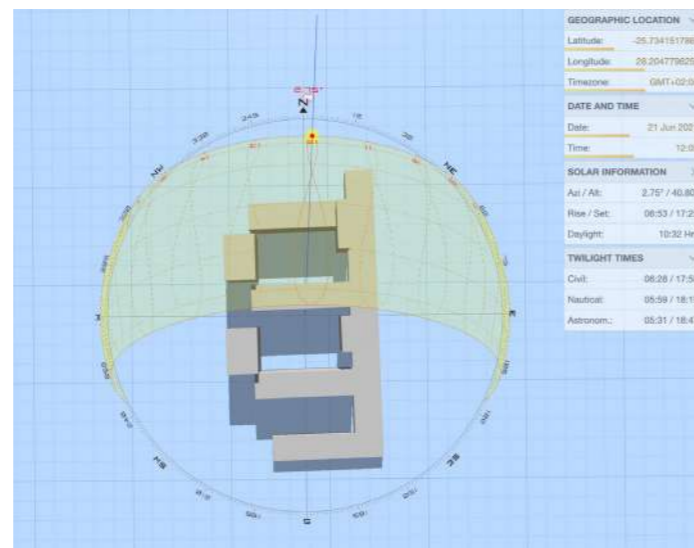
21 December 12pm - Summer Solstice: 87,42°



21 June 12pm - Winter Solstice: 40,80°

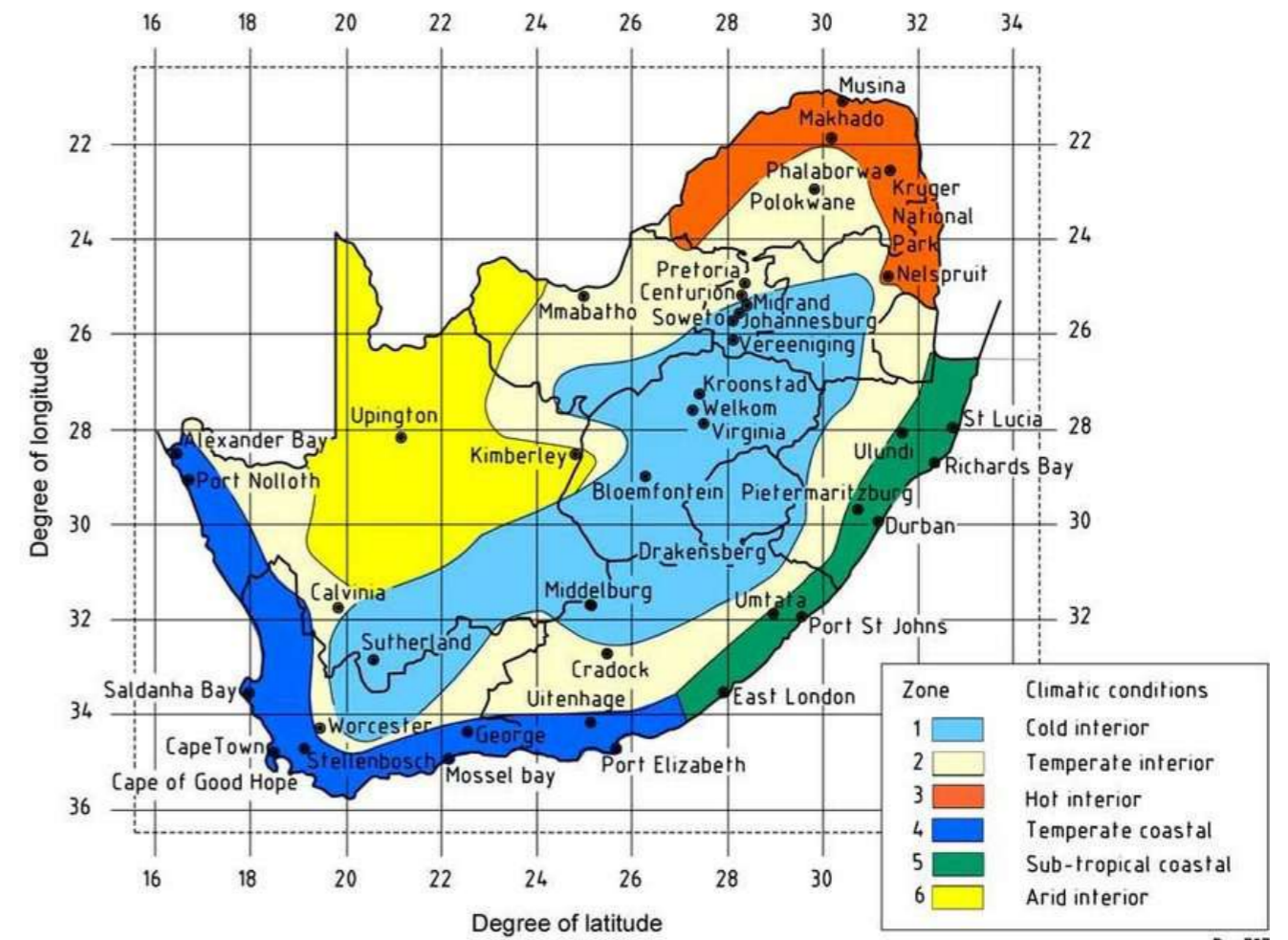


sun path diagram plan of 21 December 12pm - Summer Solstice



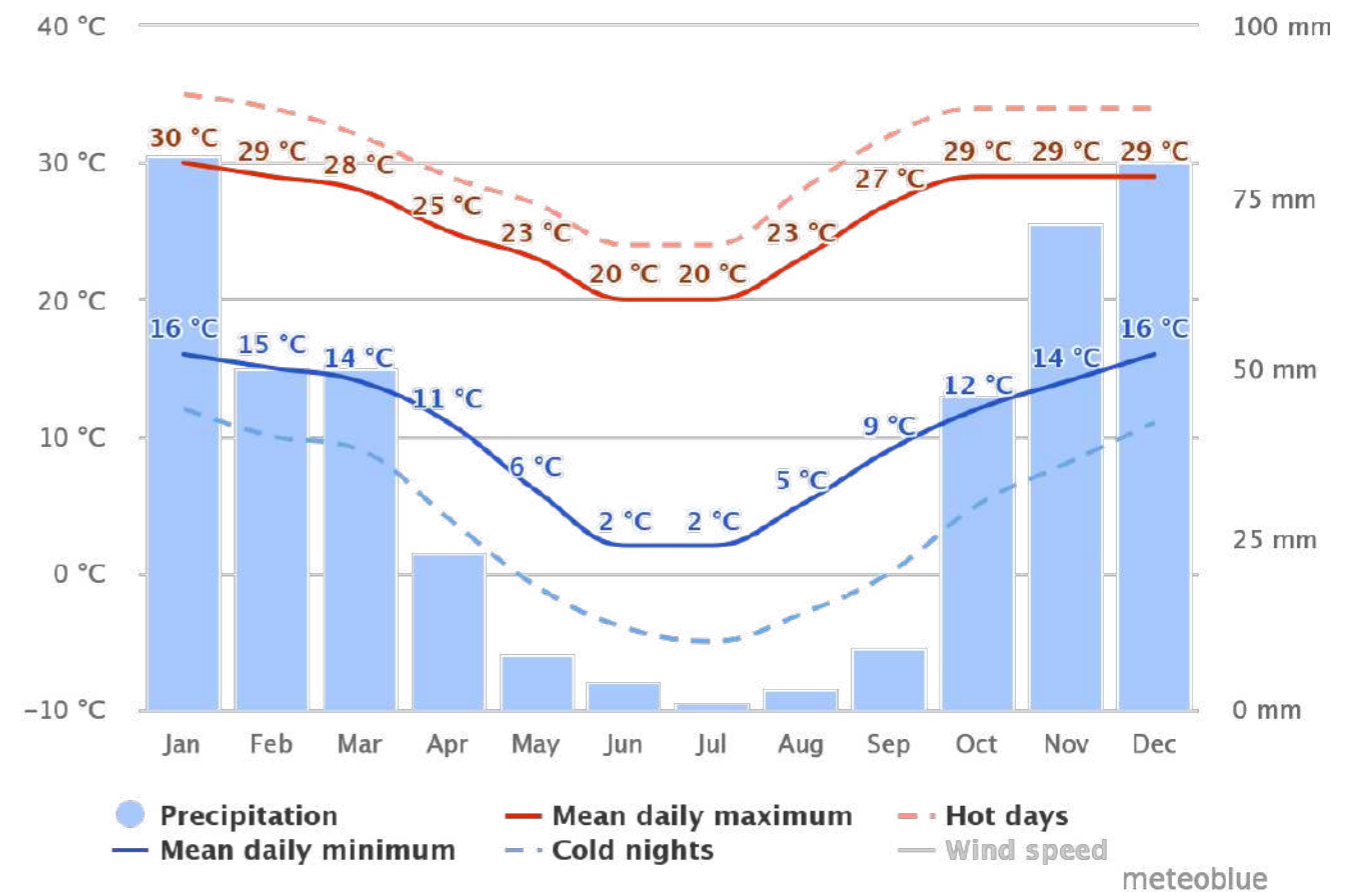
sun path diagram plan of 21 June 12pm - Winter Solstice

20.2. 3D Solar angles and sun path study (andrewmarsh.com n.d.).

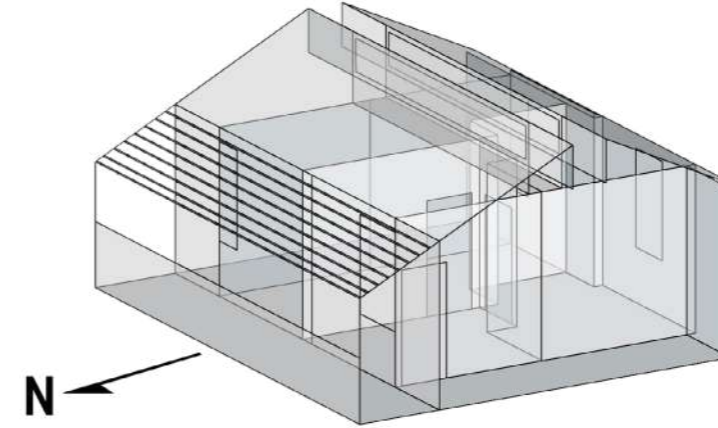
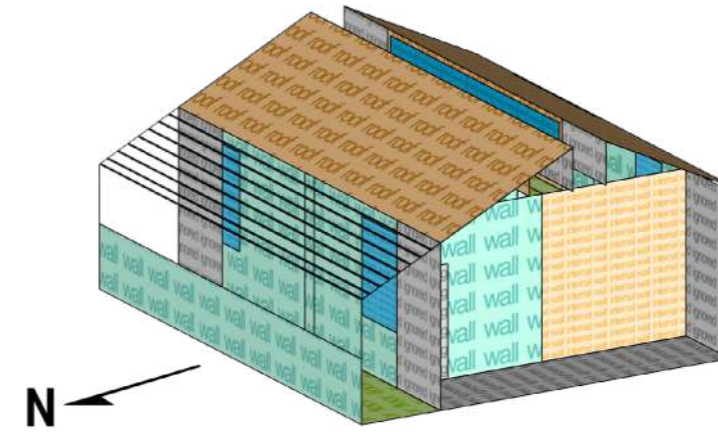


Drg 727

20.3. Climatic Zone map of South Africa. Pretoria falls in zone 2 – temperate interior (SANS 204-2 2011).

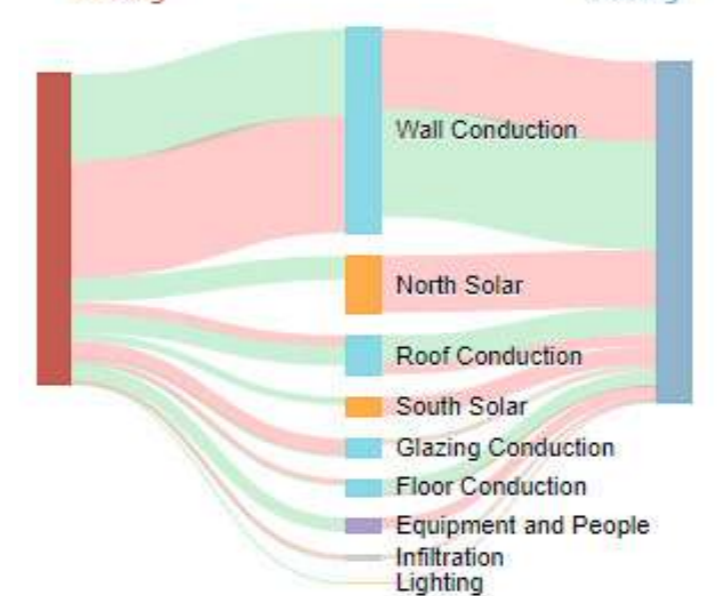


16.10. Average temperatures and precipitation for Pretoria, Gauteng (meteoblue.com n.d.).



Gains & Losses Guidance

Impact on Heating Impact on Cooling



Sefaira Energy & Daylight

Upload to Sefaira

Open Daylighting Visualization

Entity Palette

Analysis Update Analysis

Residenti in Pretoria, GT, ZA, G...

Model Properties Close

HVAC type: Fan Coil Units and Central Plant

Baseline: SANS 10400

Wall Insulation: Poorly Insulated

Floor Insulation: Insulated

Roof Insulation: Well Insulated

Glazing U-Factor: 1 Pane

Visible Light Transmittance: 2 panes

Solar Heat Gain Coefficient: Clear Single Glazing

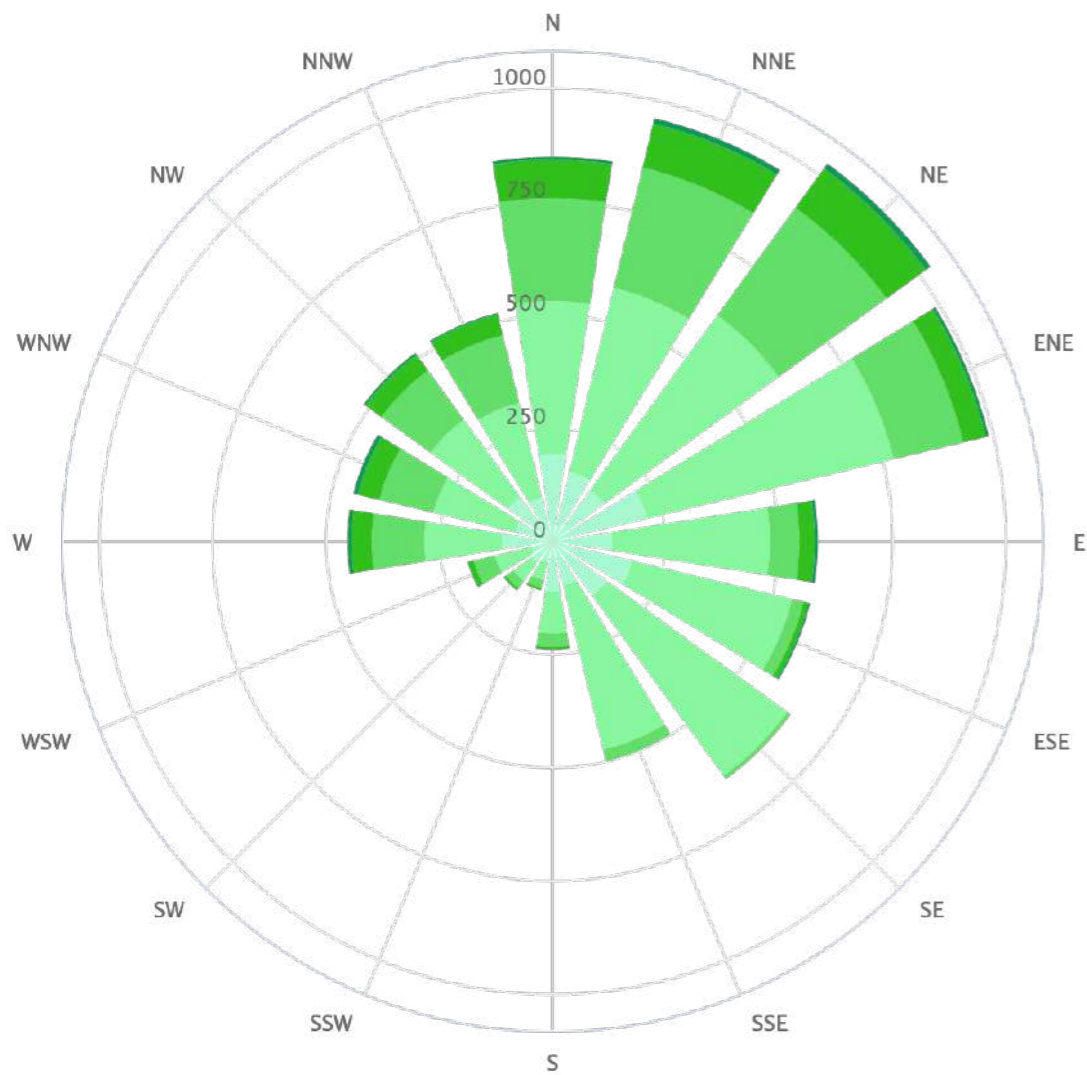
Infiltration Rate: Normal practice

Ventilation Rate: Typical Ventilation

Equipment: Excellent

Lighting: Excellent

Total Floor A Close **54 m²**



0 >1 >5 >12 >19

>28 >38 >50 >61 km/h

meteoblue

16.9. Wind rose for Pretoria, Gauteng (meteoblue.com n.d.)

16.7. Sefaira evaluation of thermal performance based on envelope u-values, orientation and shading (Author 2021).

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL

1,04

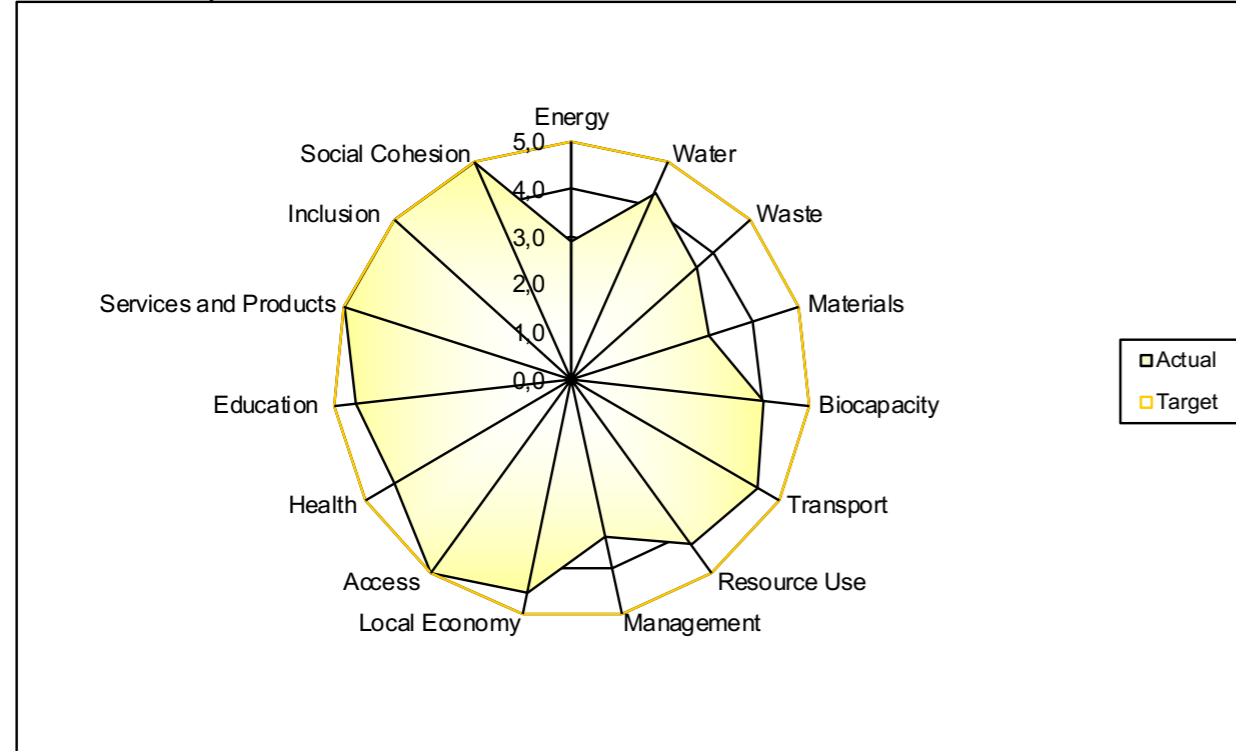
Achieved
4,2

SB SBAT REPORT
SB1 Project

0

SB2 Address

0

SB3 SBAT Graph

SB4 Environmental, Social and Economic Performance

	Score
Environmental	3,6
Economic	4,3
Social	4,8
SBAT Rating	4,2

SB5 EF and HDI Factors

	Score
EF Factor	3,9
HDI Factor	4,6

SB6 Targets

	Percentage
Environmental	71
Economic	87
Social	95

SB7 Self Assessment: Information supplied and confirmed by

Name	Date
Signature	

SB8 Validation: Documentation validated by

Name	Date
Signature	

SB9 Validation Report Version

IVR

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL

1,04

Target	Achieved
5,0	4,2

BI Building Information
BI 1 Building Targets

	Target	Achieved
EN	5,0	2,9
WA	5,0	4,3
WE	5,0	3,5
MA	5,0	3,0
BI	5,0	4,0
TR	5,0	4,5
LE	5,0	4,5
MN	5,0	3,3
RE	5,0	4,3
SP	5,0	5,0
AC	5,0	4,3
HE	5,0	4,5
ED	5,0	5,0
IN	5,0	5,0
SC	5,0	5,0

BI 2 Priority Key (Not Performance Key)

VH	Very High	5,0	
HI	High	4,0	
ME	Medium	3,0	
LO	Low	2,0	
VL	Very Low	1,0	
NA	None / Not Applicable	0,0	

APPENDIX 6: GREY WATER & RAINWATER DATA & CALCULATIONS

DOMESTIC WATER DEMAND (Cluster A)

Fixture	Qty	Daily water usage per person (L)	Total daily water usage (L)	Total water usage per month (m ³)
<i>Transitional Housing</i> <i>75 Residents (including 1 with disabilities)</i>				
Showers	18	50	3 700	111
Baths	1	100	100	3
Toilets	14	No. of 6L flushes pp/day: 5 30	2 250	67,5
Wash hand basins	26	No. of 0,5L washes pp/day: 12 6	450	13,5
Kitchen sinks	6	No. of 45L loads pp/week: 1 = 0,14/day 6,43	482,14	14,46
Communal wash troughs	8	No. of 60L loads pp/week: 1 = 0,14/day 8,57	642,86	19,29
Cooking		1	75	2,25
Subtotal			7 700	231
<i>Admin/reception</i> <i>10 Staff</i>				
Bath	1	100	300	9
Staff Toilets	2	No. of 6L flushes pp/day: 3 18	180	5,4
Visitors toilet	1	No. of 6L flushes per day: 20 120	120	3,6
Staff Wash hand basins	2	No. of 0,5L washes pp/day: 5 2,5	25	0,75
Visitors Wash hand basins	1	No. of 0,5L washes per day: 30 15	15	0,45
Kitchen sinks	6	No. of 45L loads per week: 2.5 16,07	16	0,48
Subtotal			656	19,68
Total			8356,00	250,68

20.5. Domestic water demand calculations of Cluster A of the transitional housing programme (Author 2021).

IRRIGATION DEMAND (Cluster A)

	Area of planting (m ²)	Depth per month (m)	Monthly Demand (m ³)	
Planted roofs	225	0,12	27	
Landscaped courtyard	81,4	0,16	13,02	SUMMER
Total	306,4		40,02	
Planted roofs	225	0,12	27	
Landscaped	81,4	0,125	10,18	WINTER
Total	306,4		37,18	

20.6. Irrigation demand calculations of Cluster A's landscaping and planted roofs (Author 2021).

WATER VALUES (Cluster A)

	Monthly (m ³)	Daily (m ³)
Non-potable water demand - Summer (worst case scenario) (toilets, laundry, irrigation)*	135,81	4,53
Total grey water output to be recycled (wash hand basins, kitchen sinks, wash troughs/laundry, showers)	159,93	5,33

16.16. Table of non-potable water demands and grey water to be recycled (Author 2021).

CLUSTER 'A' CATCHMENT AREA (A)

	Area (m ²)	C (runoff coefficient)	C (weighted)
<i>Roofs</i>			
Reception & admin offices (planted roofs)	225	0,5	0,10
TH living units (pitched metal sheeting)	252	0,9	0,21
Subtotal	477		
<i>Paving</i>			
Permeable	102	0,75	0,07
Non-permeable	493	0,9	0,41
Ground floor	201		
First floor	147		
Second floor	145		
Total	1072		0,80

16.17. Table of water catchment area calculations (Author 2021).

APPENDIX 6: GREY WATER & RAINWATER DATA & CALCULATIONS

AVERAGE MONTHLY PRECIPITATION (P)

(PRETORIA, GAUTENG)

Month	Precipitation (mm)
January 2020	107
February 2020	99
March 2020	82
April 2020	38
May 2020	14
June 2020	5
July 2020	2
August 2020	5
September 2020	18
October 2020	51
November 2020	88
December 2020	98
Annual Total	607

16.18. Table of average monthly precipitation (Author 2021). Data collected from climate-data.org (n.d.), meteoblue.com (n.d.) and weatherspark.com (2016).

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RAINWATER YIELD

Month	Average monthly precipitation (m)	Yield (m ³) Yield = P x A x C
January	0,107	91,97
February	0,099	85,09
March	0,082	70,48
April	0,038	32,66
May	0,014	12,03
June	0,005	4,30
July	0,002	1,72
August	0,005	4,30
September	0,018	15,47
October	0,051	43,83
November	0,088	75,64
December	0,098	84,23
Annual Total	0,607	521,72

16.19. Monthly rainwater yield calculations (Author 2021).

APPENDIX 7: GLOSSARY

Abandoned / vacant buildings:

A building that has been deserted permanently by the owner of such building (City of Tshwane 2011: 1) and is no longer used for any formal or official function. These buildings are often left neglected and vacant, without official occupants.

Homelessness:

“According to Shelter SA Snapshotz (2004), homelessness means to live without conventional accommodation or to live in sub-standard accommodation. It is also to live in places of insecure tenure or to be unable to afford adequate housing. As a result, victims feel extremely unsafe, unwell, alienated, isolated, and excluded from the social, economic and civic opportunities that most citizens enjoy.” “Homeless people are part of shack-dwellers, informal settlers, the poorest of the poor people, destitute unwanted, and squatters.” (Ntakirumana 2015: 14) Homelessness includes people living on the street or ‘rough sleepers’, temporary overnight sleepers and informal dwellers (Ntakirumana 2015: 16, Tshwane Homelessness Forum 2015: 5).

Informal Appropriation:

Spontaneous and creative place-making and transformation of space “appropriated by ‘marginal groups’” where the “original, but now defunct, function is transgressed” (Shaw and Hudson 2009: 1). New uses and activities emerge outside of the original, previously prescribed or formal uses and ownership of the space(s). In the case of vulnerable groups such as the homeless, it is often in response to basic physical, spatial and psychological needs including shelter, privacy, safety, belonging and a place to call home (Dreifuss-Serrano 2020: 601). It is usually characterised by illegal occupation of property or land and “insecurity of tenure” (Ngwenya 2017: 13). The materiality of such appropriation depends on the immediately available materials, but is usually a “bricolage” of found objects (Rende 1998: 141) and materials including, but not limited to, reclaimed timber pallets, planks, shutter board, branches and poles; pieces of corrugated steel sheeting; plastic and fabric tarp or shade netting; corrugated cardboard; and thatch from palm, pine or banana trees in the vicinity.

Neglected / derelict buildings:

A building that is inhabitable but unsuitable for occupancy by humans and has fallen into a state of decay. This may include a building which:

1. Appears to have been abandoned by the owner with or without the consequence that rates or other service charges are not being paid.
2. Is the subject of numerous complaints of derelict buildings from the public, including complaints of criminal activity.
3. Is illegally occupied in terms of the Prevention of Illegal Eviction from Unlawful Occupation of Land Act 19 of 1998 (PIE).
4. Refuse or waste is stored, dumped or accumulated in and around such building.
5. Is partially completed and abandoned, or structurally unsound and posing a risk.

(City of Tshwane 2011: 1-2)

Re-appropriate:

(Verb) to appropriate (something) again: such as

a: to allocate or assign (something) in a new or different way

b: to take back or reclaim (something) for one’s own purposes

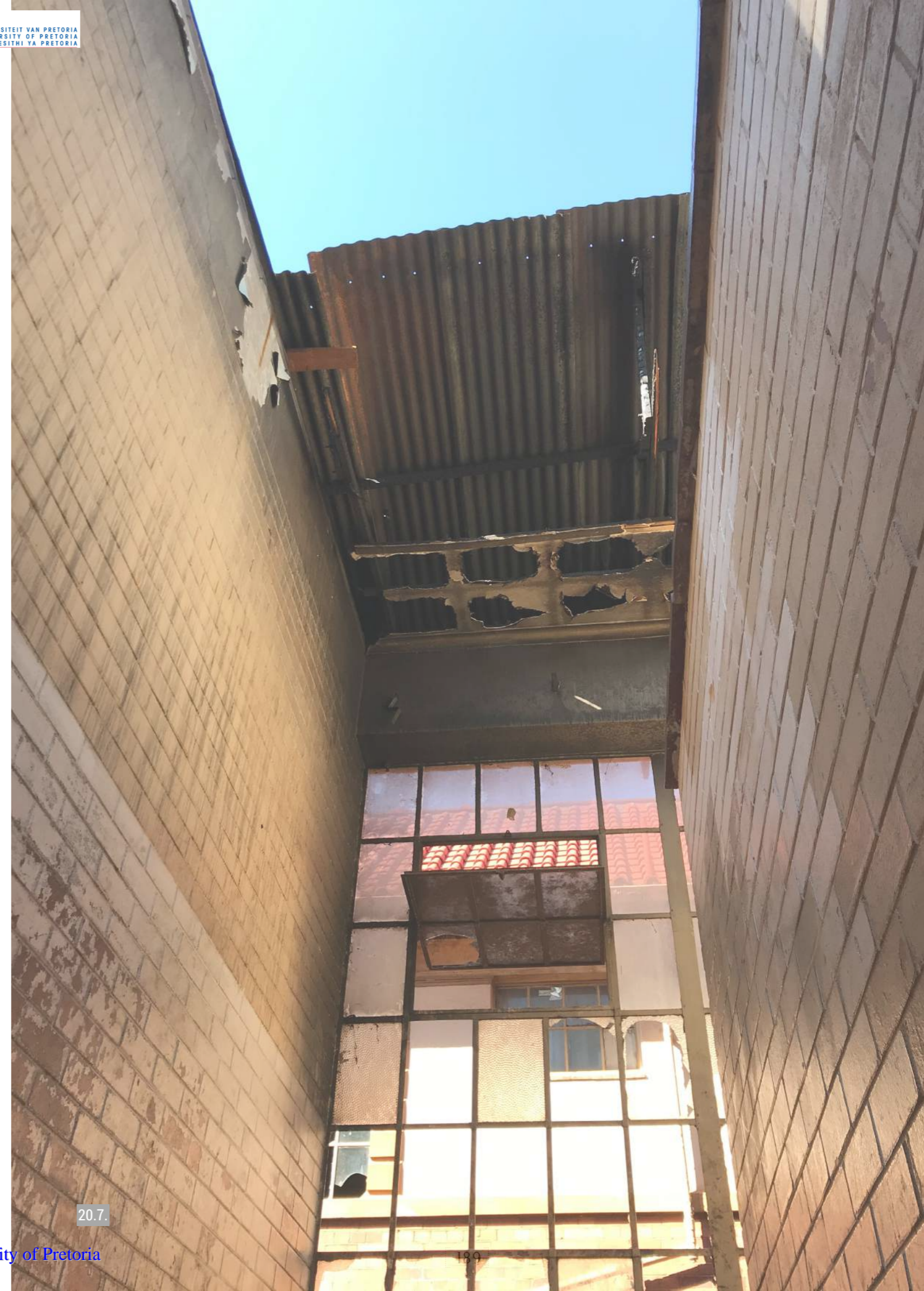
(<https://www.merriam-webster.com/dictionary/reappropriate>)

Author’s interpretation in the context of the topic:

To appropriate, occupy and use space in a new way that differs from the original or assigned use and ownership.

The informal appropriation of space by vulnerable people, which results from an effort to “(re)claim space”, establish a sense of belonging or express identity, is spontaneous, creative and innovative as it leads to new emerging uses and meanings of place (Shaw and Hudson 2009: 4).

Fig. 20.7.: Photograph of derelict building at Melgisedek (Author 2021).



20.7.

APPENDIX 8: ETHICS CLEARANCE

departmental blanket approval



9 June 2021

Reference number: EBIT/79/2021

Ms A van Aswegen
Department: Architecture
University of Pretoria
Pretoria
0083

Dear Ms A van Aswegen

FACULTY COMMITTEE FOR RESEARCH ETHICS AND INTEGRITY

Your recent application to the EBIT Research Ethics Committee refers.

Conditional approval is granted.

This means that the research project entitled "Masters Professional Mini-Dissertation in Architecture, Landscape Architecture and Interior Architecture (Group / Blanket)" is approved under the strict conditions indicated below. If these conditions are not met, approval is withdrawn automatically.

Conditions for approval

This application is approved based on the summaries provided.

Applications from each student (including application forms and all necessary supporting documents such as questionnaire/interview questions, permission letters, informed consent form, etc) will need to be checked internally by the course coordinator/ supervisor. A checklist will need to be signed off after the checking.

All of the above will need to be archived in the department and at the end of the course a flash disc / CD clearly marked with the course code and the protocol number of this application will be required to be provided to EBIT REC administrator.

No data to be collected without first obtaining permission letters. The permission letter from the organisation(s) must be signed by an authorized person and the name of the organisation(s) cannot be disclosed without consent.

Where students want to collect demographic the necessary motivation is in place.

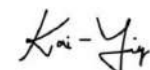
This approval does not imply that the researcher, student or lecturer is relieved of any accountability in terms of the Code of Ethics for Scholarly Activities of the University of Pretoria, or the Policy and Procedures for Responsible Research of the University of Pretoria. These documents are available on the website of the EBIT Ethics Committee.

If action is taken beyond the approved application, approval is withdrawn automatically.

According to the regulations, any relevant problem arising from the study or research methodology as well as any amendments or changes, must be brought to the attention of the EBIT Research Ethics Office.

The Committee must be notified on completion of the project.

The Committee wishes you every success with the research project.



Prof K.-Y. Chan

Chair: Faculty Committee for Research Ethics and Integrity
FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

faculty of health sciences approval



Faculty of Health Sciences **Research Ethics Committee**

27 May 2021

Approval Certificate New Application

Dear Mrs HR Karberg

Ethics Reference No.: EBIT/77/2021

Title: Uncovering the latent potential of informally appropriated vacant spaces: the adaptive reuse of Melgisedek towards addressing issues of homelessness

The **New Application** as supported by documents received between 2021-04-29 and 2021-05-26 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2021-05-26 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Ethics Approval is valid for 1 year and needs to be renewed annually by 2022-05-27.
- Please remember to use your protocol number (EBIT/77/2021) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely



On behalf of the FHS REC, Professor Werdie (CW) Van Staden
MBChB, MMed(Psych), MD, FCPsych(SA), FTCL, UPLM
Chairperson: Faculty of Health Sciences Research Ethics Committee

*The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

Research Ethics Committee
Room 4-60, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel +27 (0)12 356 3084
Email: deepika.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense Sa Maphelo

APPENDIX 8: ETHICS CLEARANCE

deans permission letters



Faculty of Health Sciences

Deputy Dean of Teaching and Learning Preliminary Approval

29 April 2021

Mrs HR Karberg
Department of Family Medicine
Faculty of Health Sciences
University of Pretoria

Dear Mrs HR Karberg

ETHICAL APPROVAL FOR RESEARCH PROJECT EBIT/77/2021

The letter serves to confirm that I am supportive of the following Masters research project:

UNCOVERING THE LATENT POTENTIAL OF INFORMALLY APPROPRIATED VACANT SPACES: THE ADAPTIVE REUSE OF MELGISEDEK TOWARDS ADDRESSING ISSUES OF HOMELESSNESS

I have no objection to the research team requesting the staff/students from the Faculty of Health Sciences to participate in this research project, **subject to ethics approval by the Faculty of Health Research Ethics Committee.**

Kind regards



Professor V Steenkamp
Deputy Dean: Teaching and Learning
Faculty of Health Sciences



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Theology and Religion

Prof Jerry Pillay
Dean: Theology and Religion

29 April 2021

Ms Heike Karberg
Department of Architecture
EBIT Faculty
University of Pretoria

Dear Heike,

Re: PERMISSION TO INTERVIEW STAFF

Thank you for your correspondence requesting permission to interview staff in the Faculty of Theology and Religion for your Master's research.

Permission is hereby granted for you to interview relevant staff in our Faculty to assist you with information you may require. As you have indicated, Prof Stephan de Beer would be most resourceful given the topic of your research.

Best wishes for your research.

Yours sincerely,



PROF JERRY PILLAY
DEAN: FACULTY OF THEOLOGY AND RELIGION