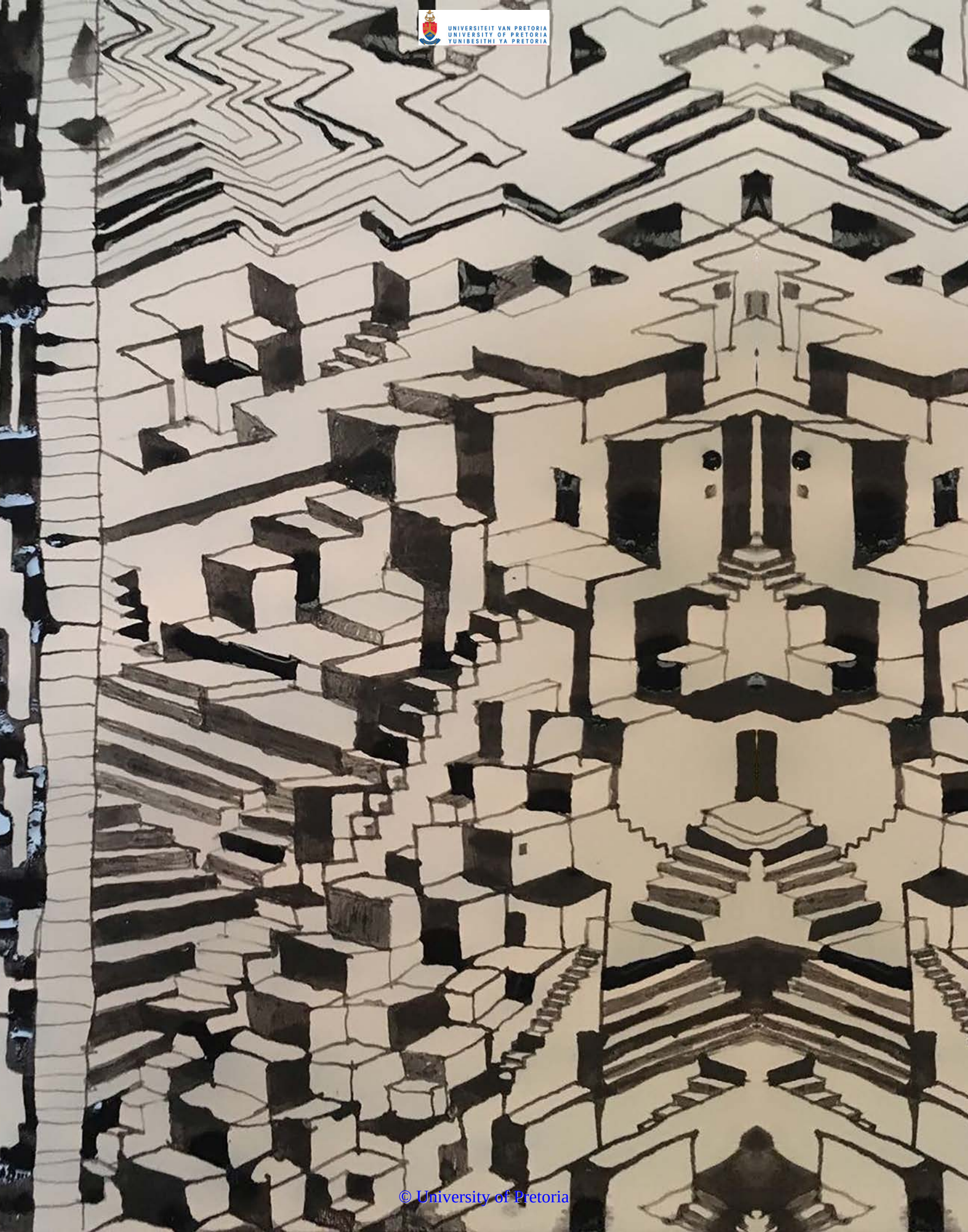
POLLY - OTTER ARCHITECTURE

FOR AN URBAN ENVIRONMENT SINKING UNDER LAYERS OF BARRIERS

WITH FOCUS ON THE BOUNDARY WALL AS AN ARCHITECTURAL MEDIUM TO SUPPORT THE URBAN CONDITION

E. BRECHER

2017



POLLY - OTTER ARCHITECTURE

"(APART-UNITY) ARCHITECTURE"

FOR AN URBAN ENVIRONMENT SINKING UNDER LAYERS OF BARRIERS

THE BOUNDARY WALL AS AN ARCHITECTURAL MEDIUM TO SUPPORT THE URBAN CONDITION.

TO DEFINE THE COMMUNAL AND INDIVIDUAL FUNCTIONS THE URBAN EDGE ENVELOPES AND RELATES TO.

by

EMMA BRECHER _ 10028880

*S*ubmitted in fulfilment of part of the requirements for the degree

Master of Architecture (Professional)

In the Faculty of Engineering, Built Environment and Information Technology

University of Pretoria

November 2017

MArch(Prof) / Master of Architecture (Professional)

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COURSE COORDINATOR _ Arthur Baker

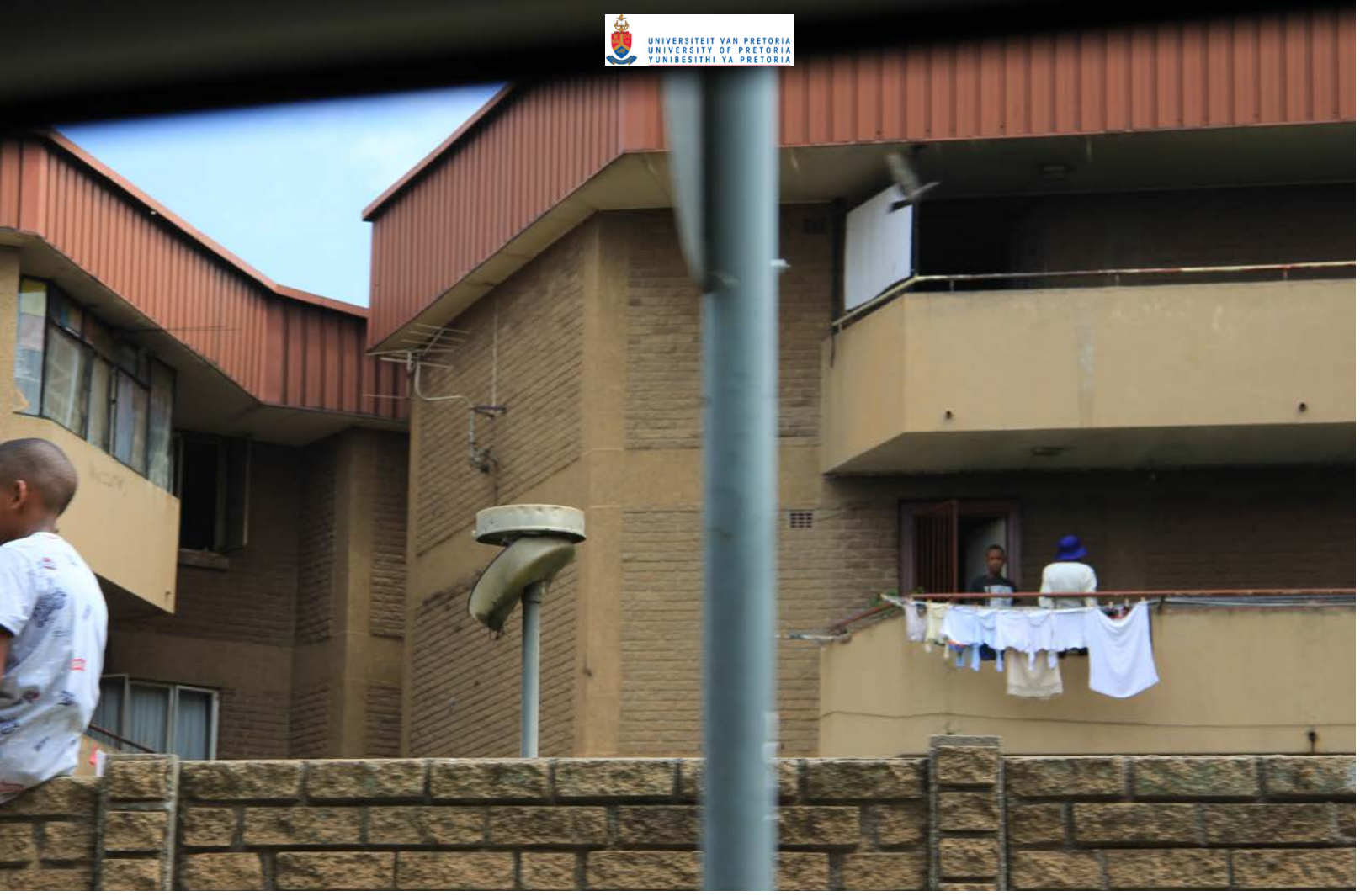


FIG 0.1. Child on boundary wall, Author, 2017

FIG 0.2. Child playing, Author, 2017

FIG 0.3. Wall art, Author, 2017

ABSTRACT

The area of investigation for this study falls within a small urban island called Westbury.
Situated 7km to the West of Johannesburg's CBD, it is isolated from the adjacent urban fabric as a result of its historical and also recent development. Westbury itself also consists of a series of fragmented islands with undefined boundaries, weak urban blocks and a disorientated grid.
The area has recently been identified as a high priority region for densification[1] by the city of Johannesburg, supported by transport-oriented infra-structural investment.

The questions raised by this study are contextualized against this backdrop.

How could densification in Westbury be achieved towards the creation of a more inter-connected, cohesive, accessible and therefore sustainable urban environment?
Following from this:

How could Westbury be better integrated with the immediate surrounding urban fabric whilst combating its own fragmentation?

What is the role of urban blocks and boundary conditions to help shape a future more integrated Westbury, and also towards meaningful place-making?

In what ways can architecture contribute in order to improve the urban fabric that operates on various scales: from the very scale of the house to that of an urban boundary to that of the urban block and ultimately the greater urban network?

The **hypothesis** outlined in this study is that **architecture is too weak to stand in isolation**, that **a network of buildings is necessary to achieve a more sustainable, accessible, cohesive, and inter-connected urban environment**. This is tested through a rigorous analysis of boundary conditions at different scales as reflected in the urban blocks of Westbury and the resultant architectural strategies.

Finally, a block and its attendant boundaries is singled out to test the architectural contribution towards densification of the suburb, the making of place, and better inter-connectivity.

The process is envisaged as driven from both the scale at which urban issues inform the architecture, and the reverse scale the architecture in Westbury informs the urban master plan. The architecture in style and scale sets the conditions for the proposed urban blocks. The boundary wall being the medium where urban meets architecture.

> "For these dreams to flourish in reality, we must recognise that there can be no ready-made solutions in housing, no recipes or established norms" _ Jean Renaudie

1. Definition of densification:
The increased use of space both horizontally and vertically within existing areas/properties and new developments accompanied by an increased number of units and /population thresholds. (Department, The Spatial Planning and Urban Design, 2009)

DECLARATION

In accordance with Regulation 4(c) of the General Regulations (G.57) for dissertations and theses, I delare that this thesis, which I hereby submit for the degree Master of Architecture
(Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.
I further state that no part of my thesis has already been, or is currently being, submitted for any such degree, diploma or other qualification.
I further declare that this thesis is substantially my own work. Where reference is made to
the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

.....
[EMMA BRECHER]

PROJECT SUMMARY

Dissertation Title:

Polly-Otter Architecture

Programme / type of building:

Housing. Densification
A row-house typology
Community Facilities
Public space
Boundary
Urban Block
Urban edge

Address:

On the north-eastern corner of Kretzschmar Street and Fuel Road, Westbury, Johannesburg, South-Africa

GPS Coordinates:

Latitude: 26°11'10.13"S
Longitude: 27°58'35.34"E

Research Field:

Human settlement and Urbanism

Clients:

Community of Westbury, City of Johannesburg,

Key words:

Densification model
Buffer Zone
A response to Apartheid Spatial Planning
Boundary conditions
Communal space
Row-houses
Courtyard typology
Towards self-sufficiency

Theoretical premise:

The theory of 'place-making'
A phenomenological approach

Architectural approach:

A context driven approach, where the analysis of space on the urban and architectural scale with problems identified on the levels of users, rulers and developers inform the architectural and urban response

CONTENTS

LIST OF FIGURES

ACKNOWLEDGEMENTS

An **exercise** was sent to the people who have significantly changed my way of thinking.

I thank them for their contributions and hope to continue the conversations that have shaped the way I see. Also to my parents, I am grateful for their efforts and support for me to have had this opportunity.

The exercise follows below,

Dear Contributor,

Please join me in a small exercise as a favor to help me communicate an idea as part of my dissertation that I will use in a drawing/summary depending on the response I receive from you.

THE PURPOSE OF THIS EXERCISE IS THAT YOU CAPTURE YOUR UNDERSTANDING OF A CERTAIN IDEA IN A CONTROLLED WAY to be able to capture the first thoughts that come to mind until you feel you have a clear opinion. FOR THAT REASON THE "IDEA" IS NOT REVEALED YET...

STEP 1: PREPARE YOURSELF to capture the idea (the medium/format is up to you entirely, a pencil and paper will do)

STEP 2: Capture your **idea of, perception of or definition of** ___THE HIDDEN WORD BELOW (now revealed for the sake of explaining the exercise) ___for at least two continuous minutes, you are not limited to this time and can exceed it until the idea has sunk to its conclusion. Please try to capture your entire chain of thoughts, small ideas, and big ideas, silly and intelligent ones in the sequence they arrive.

PLEASE PREPARE YOURSELF BEFORE REVEALING THE HIDDEN WORD BELOW (IN WHITE) _ TO REVEAL: SELECT THE HIDDEN TEXT IN WHITE

_____**A BOUNDARY**_____

Any person who reads this dissertation or has an interest in the topic is most welcome to contribute their idea, perception or definition of a boundary on the blank pages provided at the end of the book.

THE CONTRIBUTIONS RECEIVED

'BOUNDARIES' - MORE PERCEPTIONS, OPINIONS AND RELATIONSHIPS

(A gathering of opinions and perceptions of the word:

BOUNDARY in the direct context of the author, 2017)

"A BOUNDARY IS SOMETHING THAT CAN CHANGE"

Nicol Labuschagne

"A BOUNDARY IS AN END AND A BEGINNING, OR A BEGINNING OR AN END"

Nicci Labuschagne

"AN UNLIMITED STAIR OF IMAGINATION"

Arcadio Vera

"SOMETHING PERCEIVED/EXPERIENCED FROM DIFFERENT POINTS OF VIEW..."

Author

"WE ARE OUR BOUNDARIES...

Heiko Himmel

"BOUNDARIES PROVIDE SECURITY AND REFUGE. COULD LEAD TO CONFLICT. SHOULD BE RESPECTED,BE IT PHYSICALLY OR PSYCHOLOGICALLY. WHEN BOUNDARIES ARE CROSSED, REACTIONS ARE CAUSED."

Christine Brecher

"TO INCLUDE, TO EXCLUDE,
GIVES PRIVACY,
GIVES SOVEREIGNTY TO A REGION"
BOUNDARIES ARE MAN-MADE"

Christo Brecher

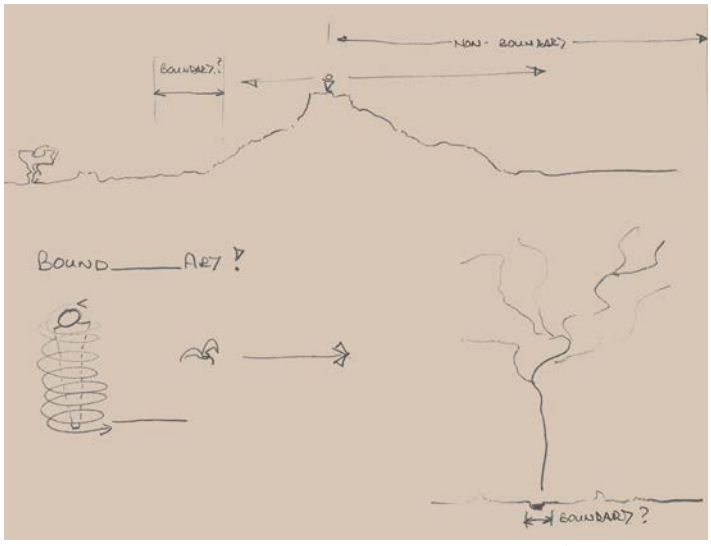


FIG 4. Graham Young's contribution sketch

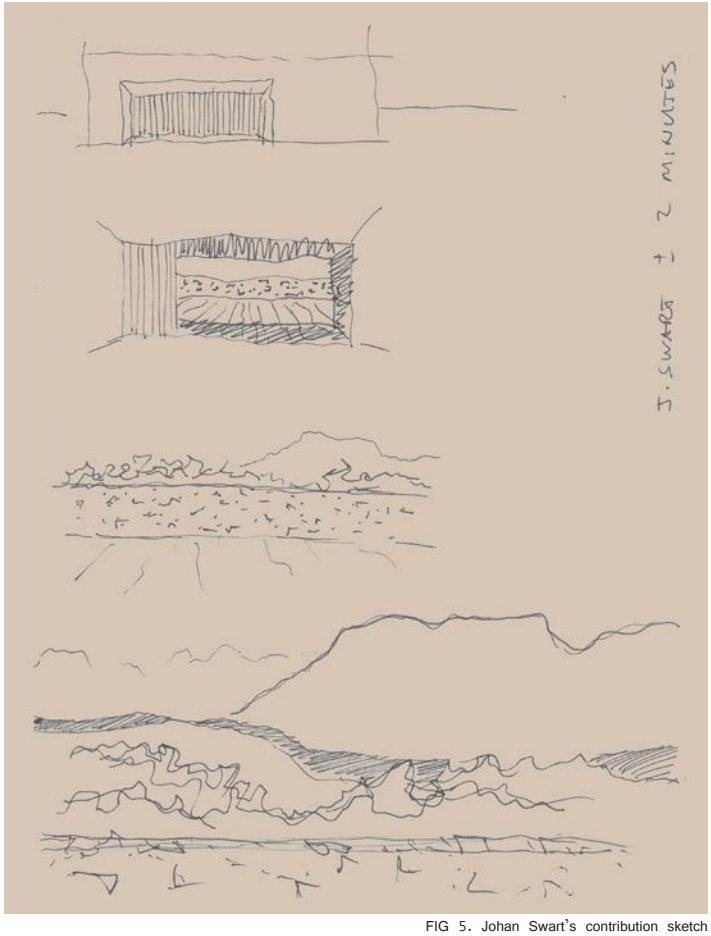


FIG 5. Johan Swart's contribution sketch

Cilna De Waal's contribution re-written:

What is outside the window?

(Savage detectives, Roberto Roland)

Bravery **Freedom** **Emptiness** **Abyss**

Comfort **Freedom** **Fullness** **Joy**

Boundaries give freedom of expression

Elimination of boundaries and testing > gives freedom to grow, to become, to understand.

"Make the circle big, bigger"

"What is freedom?"
Boundaries exist naturally
we cannot cross
or we can cross with great effort
overcoming a boundary is often associated with triumph - whether physical or psychological it presents us with a challenge
often associated with change
a change in identity
a change in place
the leaving behind of
the going into the unknown/undefined

"To change one's mind"

BOUNDARIES ARE USED BY HUMANS...

INDICATE OWNERSHIP
OWNERSHIP GETS EXPRESSED & ENFORCED
"Step into my house"

Create a sense of comfort & safety

"INSIDE"

MY GIFT TO YOU:

my gift to you will be an abyss, she said
but it will be so subtle you will perceive it
only after many years passed
and you are far from Mexico and me.
You'll find it when you need it most,
and that won't be the happy ending,
but it will be an instant of emptiness & joy and maybe then you'll remember me, if only just a little.

Roberto Bolaño

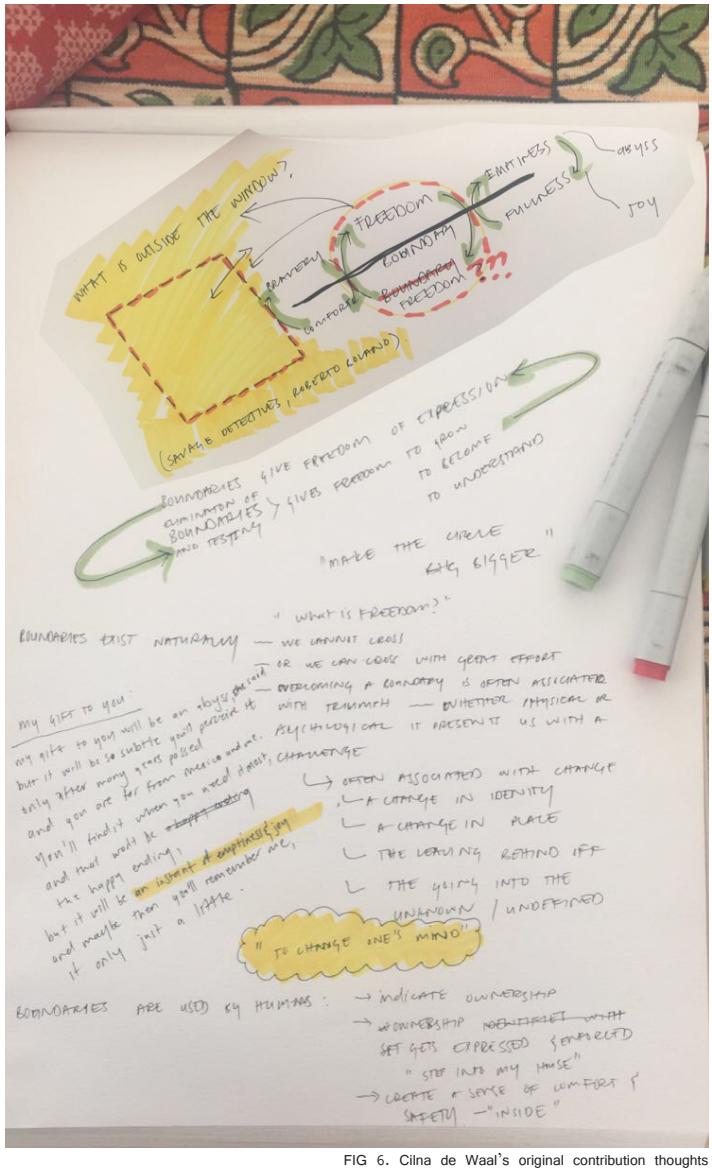


FIG 6. Cilna de Waal's original contribution thoughts

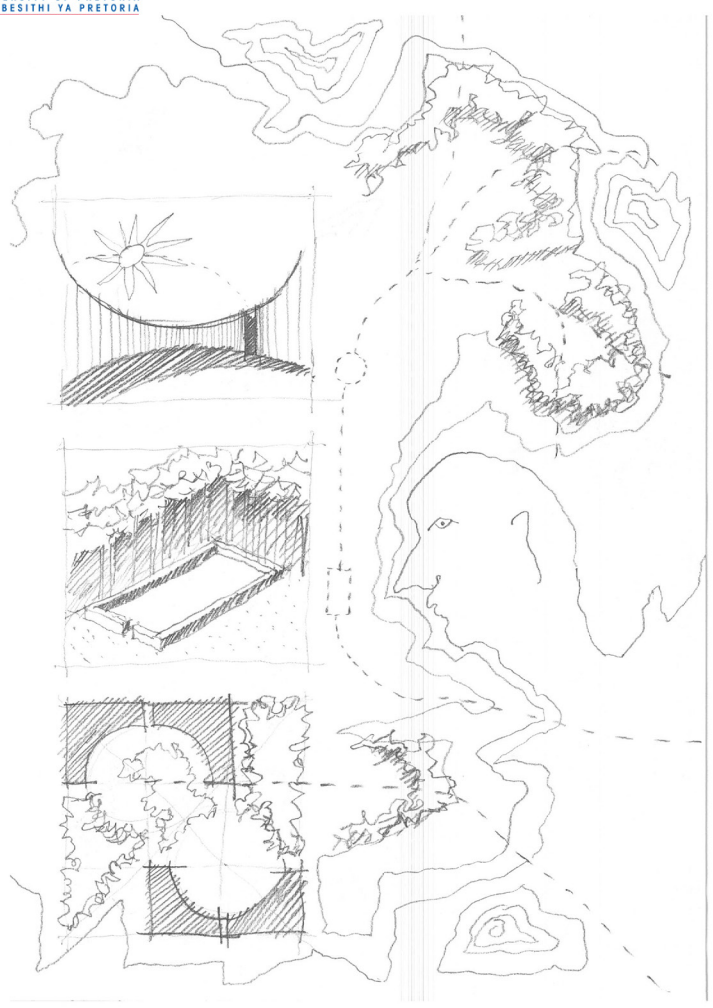


FIG 8. Johan Nel Prinsloo's contribution sketch, 2017

FIG 7. Arcadio Vera's contribution artwork

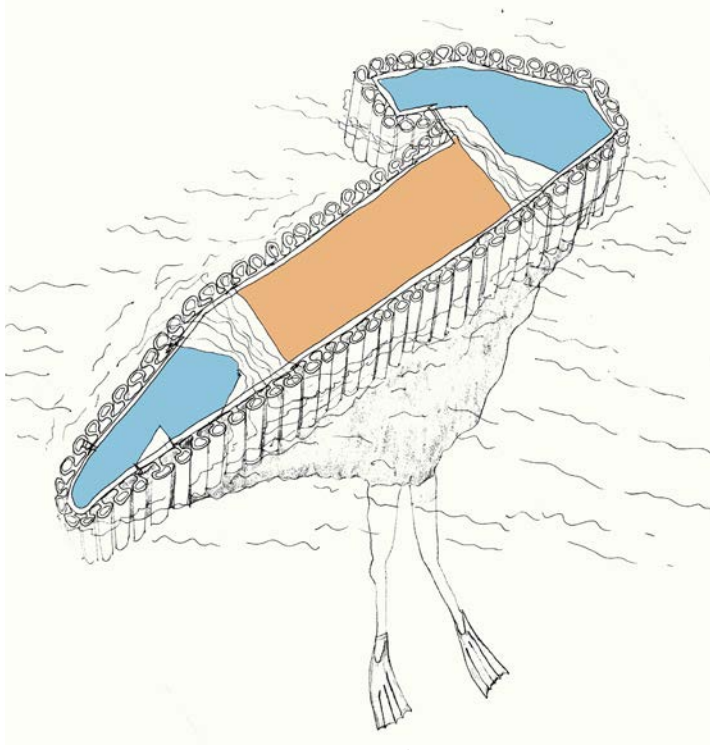


FIG 9. Author's idea of a polly-otter boundary condition

IN CONCLUSION:

Boundaries define our freedom, our living conditions, boundaries define our frame of reference, they determine our limitations, boundaries are the lines we cross to learn more or to take refuge. Boundaries separate us, or make us part of a greater whole. Boundaries define our quality of life, and it is from this point of view that this proposal aims to make a contribution to the poeple living in Westbury.

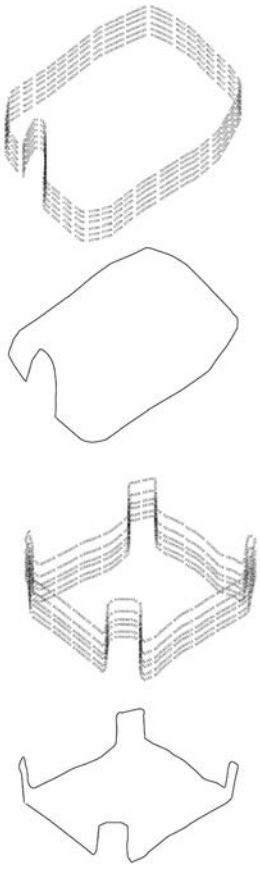


FIG 10. Boundary diagrams, Author, 2017

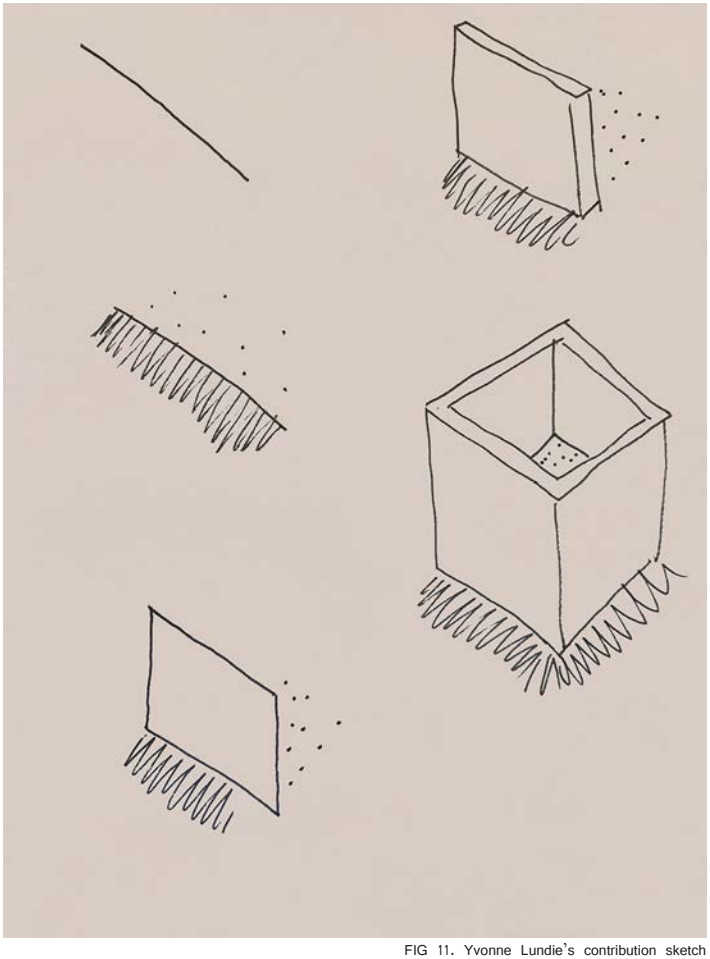


FIG 11. Yvonne Lundie's contribution sketch

FIG 12. Casper Lundie's contribution sketch

1.

INTRODUCTION

MORE THOUGHTS ON THE BOUNDARY...

Definitions and descriptions, of boundaries, how we use the word, what we associate with the word, found in the 14th edition of the Pharos Dictionary: (p. 205-206 & 800)

Break bounds
Exceed the bounds
Go beyond the bounds
Keep within bounds
Out of bounds
Set bounds

Be bound
Bound for the city
Homeward bound
Bound to success

Boundary condition
Boundary dispute
Boundary fence
Boundary gate
Boundary hit,
layer,
light,
limit,
line,
mark,
post,
settlement,
wall

Border,
divide, line,
reach, limit,
circuit,
frontier,
margin,
exceed one's authority,
within certain limits,
know no bounds,
determine the limits,
go too far,
on the verge of,
draw the line somewhere,
the uttermost confines,

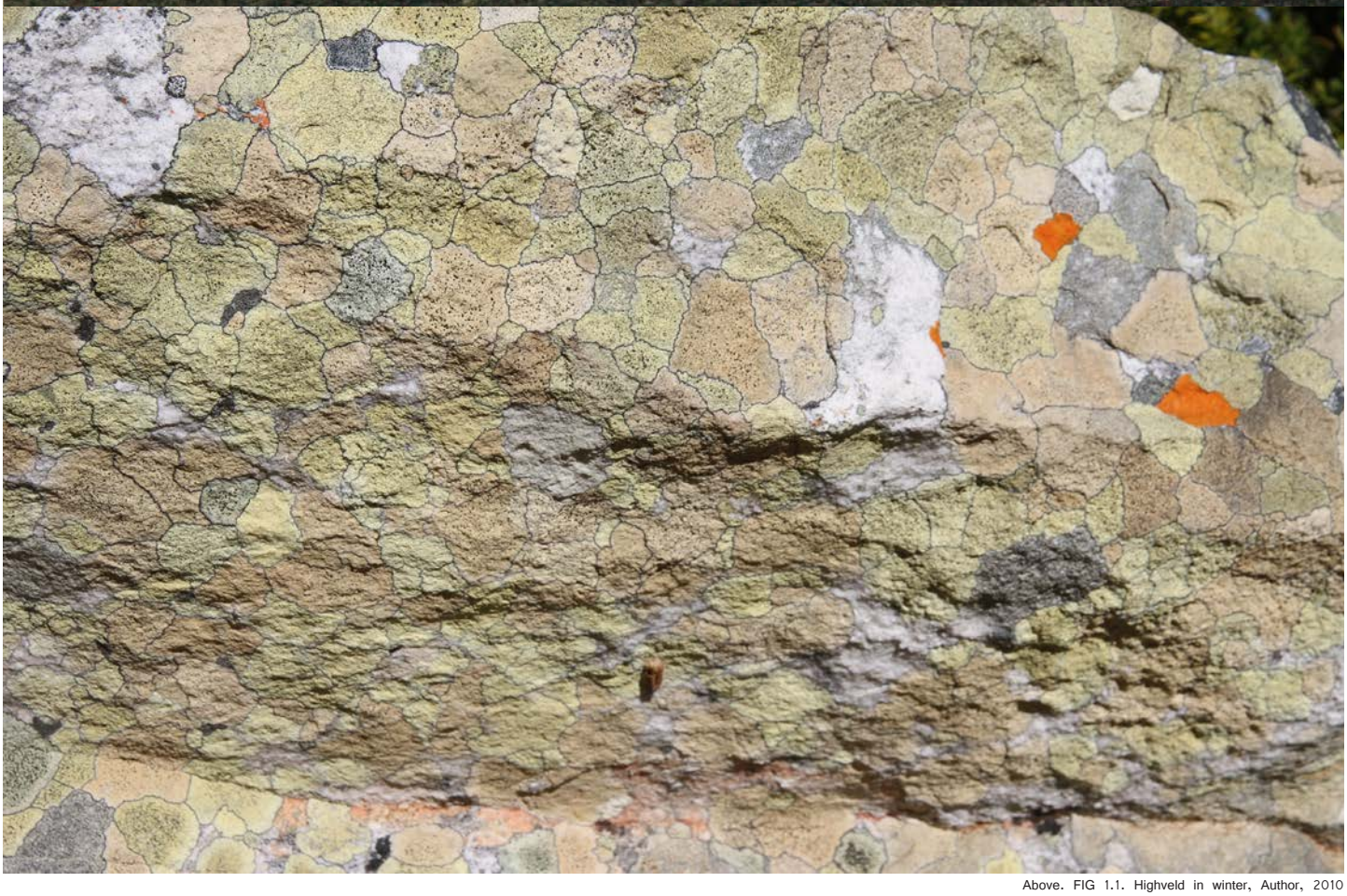
Walls

Without consideration,
without pity,
without shame
they have built great and high
walls around me.
And now I sit here and despair.
I think of nothing else:
this fate gnaws at my mind;
for I had many things to do
outside.
Ah why did I not pay attention
when they were building the walls.
But I never heard any noise or
sound of builders.
Imperceptibly they shut me from the
outside world.

Walls Poem by Constantine (P. Cavafy 1896)

To the right the photographs illustrate two different boundary situations captured by the author, the first image understood as two different sides that is joined by a hidden line. Both sides having the potential to be the other.
Highveld in winter, Author, 2010

The second image is a network consisting of different individuals each to each own in close relationship to the other, seemingly the same size and capable of coping under the same circumstances.
Lichen at the Cape of Good Hope, Author, 2011



Above. FIG 1.1. Highveld in winter, Author, 2010

Below. FIG 1.2. Lichen at the Cape of Good Hope, Author, 2011

SOUTH-AFRICA'S BACKGROUND

Urban transformation in South Africa has been complicated by wide-ranging factors including the legacy of apartheid, legislation settlement planning, private sector investment decisions, social and economic transitions, intergovernmental relationships, government capacity and financial constraints. The ability to modify and improve existing infrastructures and facilities remain essential for South Africa to achieve a more sustainable built environment.

OTHER OPINIONS

In recent urban and anthropological studies, Landman and Ntombela outlined the exclusionary nature of our cities which reinforces old patterns by new patterns of segregation. (Landman & Ntombela, 2006, p. 2) Their work raises many questions regarding the impact on the growing number of urban poor and their access to urban land and well-developed public places.

The emerging South African city is based on spatial patterns of segregation instead of integration, as outlined in the graph below. (Landman & Ntombela, 2006, p. 8)

There are urban boundary conditions that persist as a result of apartheid planning and continue to exclude access to the city. These boundary conditions, or 'buffer zones' are the remnants of apartheid planning; spatial strategies used to separate different racial groups according to the Group Areas Act[2] during the apartheid era (1948-1991). The zones were designed to separate race from race and neighborhoods from neighborhoods, and since then no interventions have changed this reality. Instead, much of our cities are still characterised by this fragmentation.

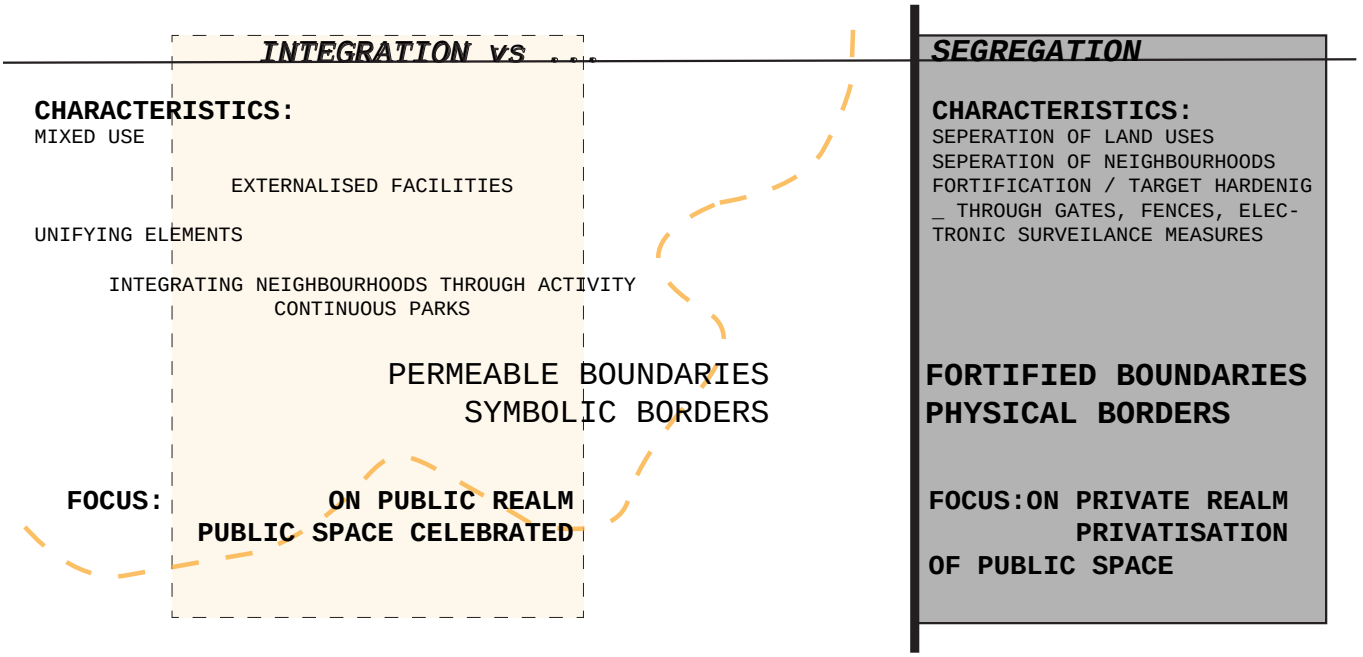


FIG 1.3. Integration vs segregation, Landman & Ntombela, Author, 2017

The buffer zones are boundaries within our cities which in fact offer latent potential to create inter-connectedness and permeability towards more inclusive, integrated cities. Investigations of these spaces in both observation and design, should begin with the primary elements of the space shaping our existance, such as domain, edge, path, boundary, and place – all of which structure the human environment from a phenomenological point of view (Norberg-Schulz, 1971, pp. 12-24)

The inside-outside relationship constituted by a boundary is one of the most important existential phenomenological aspects of place, and issues of how edges of place are defined (as in philosophically defined) and demarcated. According to the well-known phenomenologist, Martin Heidegger (1889-1976)

> What the word for space, raum, designates is said by its ancient meaning. Raum means a place cleared or freed for settlement and lodging. A space is something that has been made room for, something that is cleared and free, namely within a boundary, Greek peras. A boundary is not that at which something stops but, as the Greeks recognised, the boundary is that from which something begins its presencing. That is why the concept of horismos, that is the horizon, the boundary. Space is in essence that for which room has been made, that which is let into bounds (Ewing, 2012, p. 55).

Botond Bognar, a Professor at the University of Illinois Urbana-Champaign and an internationally renowned scholar of the history and theories of contemporary Japanese architecture and urbanism, observes that demarcations of the boundary or boundaries are sometimes concrete and clear but, often, 'elements overlap, leading to a complex, ambiguous system of interrelationships. In such a "discontinuous continuity," every place is a "twin-phenomenon" – that is, it is both a part of its larger environmental context and a totality of its composite

2. The Group Areas Act was fashioned as the 'cornerstone' of apartheid policy and aimed to eliminate mixed neighborhoods in favor of racially segregated ones which would allow South Africans to develop separately (South African Institute for Race Relations, 1950: 26 cited in Johnson-Castle).When the Group Areas Act was passed in 1950, it imposed control over interracial property transactions and property occupation throughout South Africa (Horrell, 1978: 71 cited in Johnson-Castle). It was amended almost annually and re-enacted in the Consolidation Acts of 1957 and 1966. The GAA created the legal framework for varying levels of government to establish particular neighborhoods as 'group areas', where only people of a particular race were able to reside (South African Institute for Race Relations, 1952: 32 cited in Johnson-Castle). The GAA displaced hundreds of thousands of people; breaking up families, friends, and communities. This was due in large part to the retroactive application of the law, meaning that once an area was declared a group area, the GAA had the power to demolish all the houses in the area and displace everyone who did not belong to the designated group (Mabin, 1992a: 422 cited in Johnson-Castle). The GAA added more restrictions to the lives of Africans and it was one of the first drastic rights infringements for Indian and Coloured populations (Marquard, 1969: 163). (Johnson-Castle, 2014)

sub-places. The result is an "endless" series of transitions, often with "invisible" but, by all means, always recognizable or sensible thresholds among lesser and greater places' (Seamon & Mugerauer, 1985, p. 192)

As Heidegger said, "the single houses, the villages, the towns are works of building which within and around themselves gather the multifarious in-between." (Heidegger quoted by Norberg-Schulz in Genius loci, 1996, p. 10) Phenomenologically, the issue of scale has to be understood as a sequential pattern of identification with multidimensional "worlds." The boundary offers an in-between condition. (Norberg-Shulz, 1996, p. 10)

If one were to extend the argument of the boundary within the paradigm of Marxism, the theorist Pier Vittorio Aureli, an architect and educator at the Berlage whose projects, researches, writings, and teachings focus on the relationship between architectural form, political theory, and urban history which relates to the focus on the relationship between man and the environment (natural or artificial) as the founding moment of the political and society - the so called relations to nature. Traditionally mediation is understood to be an intervention in a process or relationship; an intercession. In this case mediation stands between humans, and between humans and the surrounding world, structuring the very way in which we relate with each other in society and with the natural and human environment. (Stefani, 2011)

If we translate this into architectural terms, what it means is that we have to acknowledge that architecture, understood as the product of the way we cope and relate to nature and society, is founded primarily on separation and division which at the same time establishes a particular relation between humans, and between humans and the environment: this relation implies a decision about how to better organise the mediation, a decision which can never be completed once and for all - which means we are forever approximating an ideal equilibrium we can never achieve.

In architecture the mediation takes the form of a primary element, namely 'the wall'. A wall fundamentally enables a distinction between an interior and an exterior medium. The part stands for

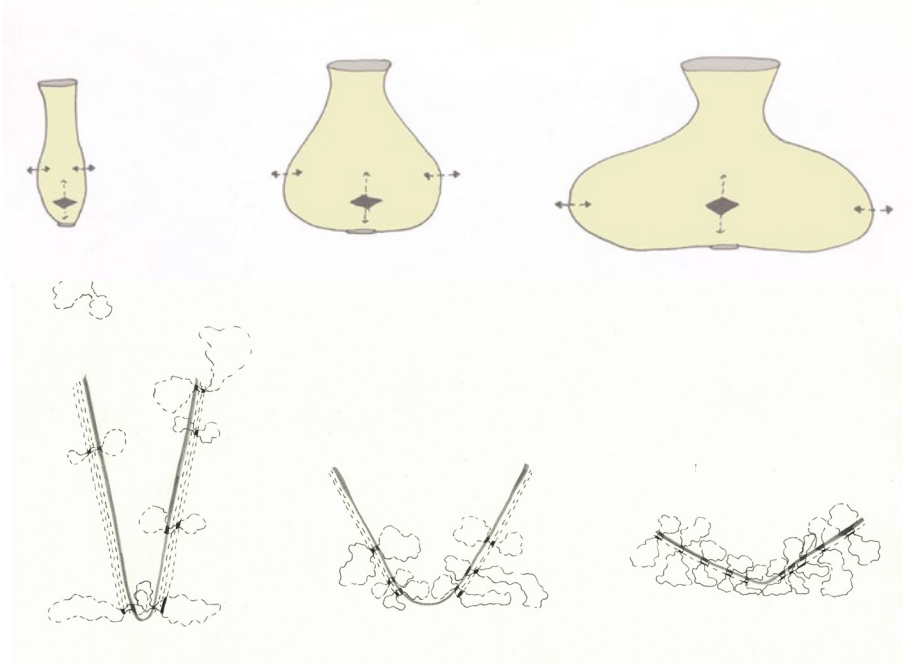


FIG 1.4. Thre relationship between boundary and density, Author, 2017

FIG 1.5. The relationship between the environment and density, Author, 2017

the interior medium that architecture produces, while the whole represents the exterior natural or artificial world. Thus, the work of architecture mediates the relation between human beings and the natural and artificial world, and also stands, more abstractly between human beings themselves, as it mediates our social relations through various spatial arrangements. (Stefani, 2011)

The previous drawings illustrate a metaphor of the word "boundary" as understood by the author (Left to right, high density to low density)
Scales of the relationship to the sky, the ground condition and the horizon.

To relate the above arguments to the fragmented South African city as described earlier on, one of the key objectives of the Department of Human Settlement's New Plan – Breaking New Ground (BNG) - is to create human settlements which beneficiaries regard as assets which enhance their quality of life. Among the contributing factors to the asset value of human settlements, are the location of the land and levels of infrastructure and services available. In the context of the new settlement plan, medium density housing[3] is seen as a tool to stitch together the fragmented urban landscapes that are the remnants of the buffer zones outlined above.

The BNG relies on medium density housing blocks to offer a balance between human and natural resources as a sustainable model for development.

Low density results in a deficiency in the human aspect, while high density is deficient in the natural aspect;medium density is therefore selected as the preferred density model for development.

This proposal responds to the method of densification described by the Department of Spatial Planning and Urban Design which includes re-development at higher densities including the demolition and integration of existing structures. (Department, The Spatial Planning and Urban Design, 2009)

INTENTIONS

Medium density housing is seen as the urban building blocks that could operate at several scales. It could contribute to a succession of environmental levels from building to urban block, to district, to city to region, gradually creating bigger more inclusive worlds where the larger contains the multiplicity of the smaller which in turn in a more condensed and concretised form, refers to and signifies the larger.

> As believed by Fernando Ramon who was convinced of the advantages of 'housing' over the usual 'house'. He reasoned that 'house' was too closely associated with the classic layout of a living room, two or three bedrooms, a kitchen and a bath, while the reality of 'pads', apartments, lofts, communes etc., was infinitely richer, and all of it fit within the semantic field of 'housing' (Paricio, 2017).

3. Medium density refers to increased gross residential density in urban areas by means of formal housing developments (Department, The Spatial Planning and Urban Design, 2009).
Medium density housing defined in terms of dwelling units per hectare (du/ha), is located at approximately 40-100 du/ha (gross) (Tonkin, 2008).
Gross du/ha is the number of dwelling units per hectare of land calculated in a designated area on the basis of land used for residential purposes and other land use such as industry, commerce, education, transport and parks. Excluded are land-extensive land uses such as agricultural land and nature areas/reserves/parks (Tonkin, 2008).

The main issue to be addressed is at the scale of the urban block, to approach the project from this scale towards the greater and smaller as a methodology to analyze, understand, capture and communicate the values lost and gained through continuous development. This approach frames the **intentions** of the proposal.

The research methodology requires defining the relationship between a building and the urban block or the block and the building as a point of departure.

To understand the possibilities for development and the different typologies of developments Westbury could offer while ensuring the development would benefit the current community.

To value what is there (to keep, enhance, celebrate or improve), and to define what is missing (to propose, place, activate, define, facilitate, sustain and nurture)

To improve resource management, the quality of life, to assist in changing the perceptions of Westbury and to improve serviceability in relation to civic agency as general intentions.

To generate a methodology of analysis and approach to understand the various spatial devices that define the urban experience and living conditions associated with it.

The specific urban intentions are to facilitate movement from the different areas identified as “islands” within the context of Westbury. (See page 34)

To repair, give definition and improve the fragmented existing medium density block typologies in Westbury with new connections, increased permeability, controlled access, improved visual access and to decrease the overall size of the urban blocks.

The most influential architectural element influencing the urban condition is the boundary or the edge condition. The proposal aims to enhance the relationship between the different spaces the boundary brings together.

RESEARCH METHOD

An important urban exercise for the intentions of this proposal was to capture and communicate the different urban block typologies in Westbury. The intention is to select an urban block most appropriate for densification, development and for testing the hypothesis stated in the introduction.

Analysis communicates how the urban blocks of Westbury are inefficient, and where they have potential in relation to the greater urban context. The weakness of the blocks provide direction for improvements. The intention for this exercise is to frame the problems/opportunities identified to guide the selection process in choosing the appropriate urban block for the proposal.

Interaction with residents from Westbury and observations drawn from site visits act as primary findings informing the response in design directly.

The secondary research includes a recent report on Westbury with accurate data and findings of the area. Supporting theories and precedents contribute to the principles and thinking which supports the design process.

DELIMITATIONS

The scale of the urban block identified is too big to have the entire master plan resolved to the level required for a dissertation, thus one section of the urban block is resolved to satisfy the requirements and to inform the master plan for the entire urban block/ buffer zone.

This proposal does not fall within the social housing development framework. The reason for this is the social and economic conditions of Westbury. Proposing social housing in this context would be taking a step backwards. The residents of Westbury have increased their floor area to up to 130m² with extensions on their properties. This is larger than the requirements set out by the social housing department. Thus the model proposed is within the gap market identified by the social housing department.

2.

PHOTOGRAPHIC ANALYSIS

COMMUNICATING THE LIVING CONDITIONS OF WESTBURY IN RELATION TO BOUNDARY CONDITIONS:

Undefined urban spaces

Urban “walls”

Various urban conditions within Westbury

Boundary wall typologies within Westbury

THESE IMAGES ARE NOT INCLUDED IN THE LIST OF ILLUSTRATIONS. THIS IS A SEPARATE LIST.

1. A boundary condition in relationship to the recently developed public park, Author, 2017

2. Washing as an urban wall with the higher density housing typologies, Author, 2017

3-4: The view up and down the hill outside the community hall, civic centre, Author, 2017

5-6: The view up and down the hill from the central public space between the medium density apartment blocks, Author, 2017

7-8: The view up and down the hill from the apartment buildings opposite the library, Author, 2017

9-10: The view up and down the hill from the buffer zone on Fuel Road, Author, 2017

11-18: Boundary wall typologies, how the community relates to and use walls and surfaces, Author, 2017

19: The view from the recently developed pedestrian bridge looking over the whole of Westbury up to Northclif. A weak relationship between the residential architecture and public space is illustrated. This is the area identified as the site to inform the densification model for the buffer zone, Author, 2017

20-27: Illustrations of the relationship between the park, the pedestrian ramp and bridge, and the residential context defining the arrival to Westbury from the BRT bus stop . Amy Leibbrandt, 2017

28: The open, undeveloped land identified for densification and its relationship to the residential context of Westbury. This image also illustrates the power cable crossing the urban block restricting development in its service area, Author, 2017

29-38: Westbury society and culture, *Jodi Bieber, professional photographer, 1996*

39-41: Street activities, street culture, *Dave Southwood, Professional photographer, date unknown.*

42-44: Street activities, street culture, *Author, 2017.*

45-47: Street activities associated with the different dwelling typologies, Author, 2017

48-59: Elevations illustrating the appropriation of the 10m x 18m single plot typology, Author, 2017

60-71: Illustrates the various services and commercial adaptations to the 10m x 18 m dwelling typology, Author, 2017

72-76: Materials and colours of Westbury, Author, 2017

77-82: This range of images aim to communicate the level of eyes on the street provided by the current boundary walls, Author, 2017

83-85: The recent park, pedestrian bridge and sidewalk upgrades defining the entrance to Westbury from the new Rea-Vaya bus station, Author, 2017

86-87: The relationship of the residential context consisting of the 10m x 18m plots to the buffer zone and public space, Author, 2017

88-89: Views towards the dwelling units from the first landing leading to the pedestrian bridge, Author, 2017

THESE IMAGES ARE NOT INCLUDED IN THE LIST OF ILLUSTRATIONS. THIS IS A SEPARATE LIST.

1. A boundary condition in relationship to the recently developed public park, Author, 2017

2. Washing as an urban wall with the higher density housing typologies, Author, 2017

3-4: The view up and down the hill outside the community hall, civic centre, Author, 2017

5-6: The view up and down the hill from the central public space between the medium density apartment blocks, Author, 2017

7-8: The view up and down the hill from the apartment buildings opposite the library, Author, 2017

9-10: The view up and down the hill from the buffer zone on Fuel Road, Author, 2017

11-18: Boundary wall typologies, how the community relates to and use walls and surfaces, Author, 2017

19: The view from the recently developed pedestrian bridge looking over the whole of Westbury up to Northclif. A weak relationship between the residential architecture and public space is illustrated. This is the area identified as the site to inform the densification model for the buffer zone, Author, 2017

20-27: Illustrations of the relationship between the park, the pedestrian ramp and bridge, and the residential context defining the arrival to Westbury from the BRT bus stop . Amy Leibbrandt, 2017

28: The open, undeveloped land identified for densification and its relationship to the residential context of Westbury. This image also illustrates the power cable crossing the urban block restricting development in its service area, Author, 2017

29-38: Westbury society and culture, *Jodi Bieber, professional photographer, 1996*

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48-59: Elevations illustrating the appropriation of the 10m x 18m single plot typology, Author, 2017

60-71: Illustrates the various services and commercial adaptations to the 10m x 18 m dwelling typology, Author, 2017

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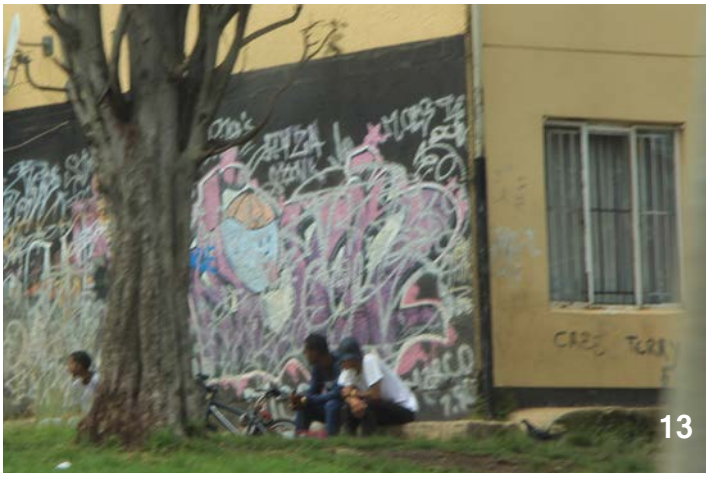
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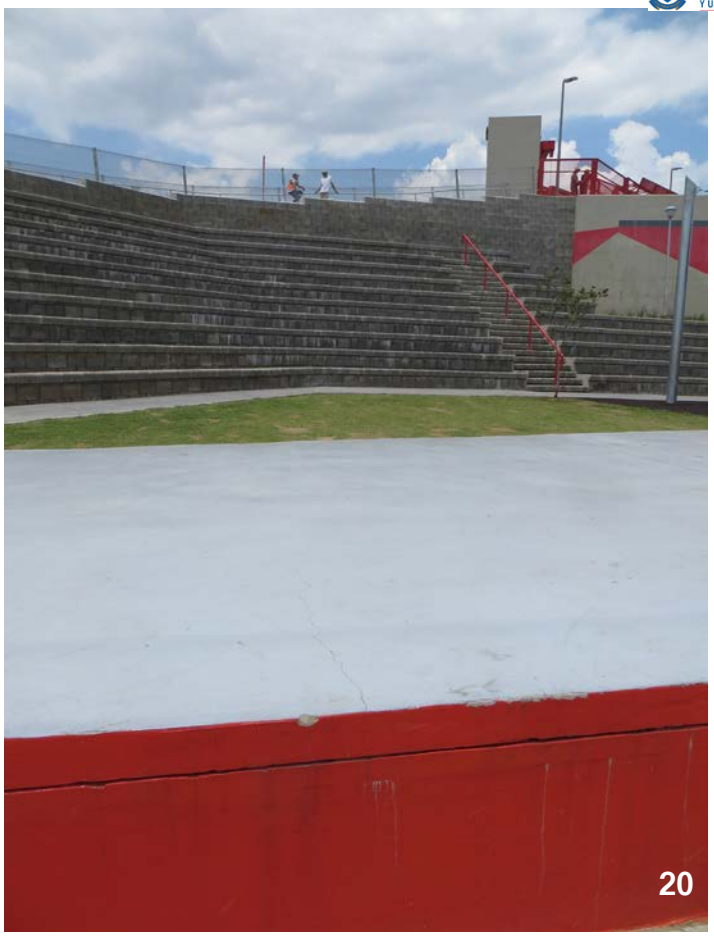
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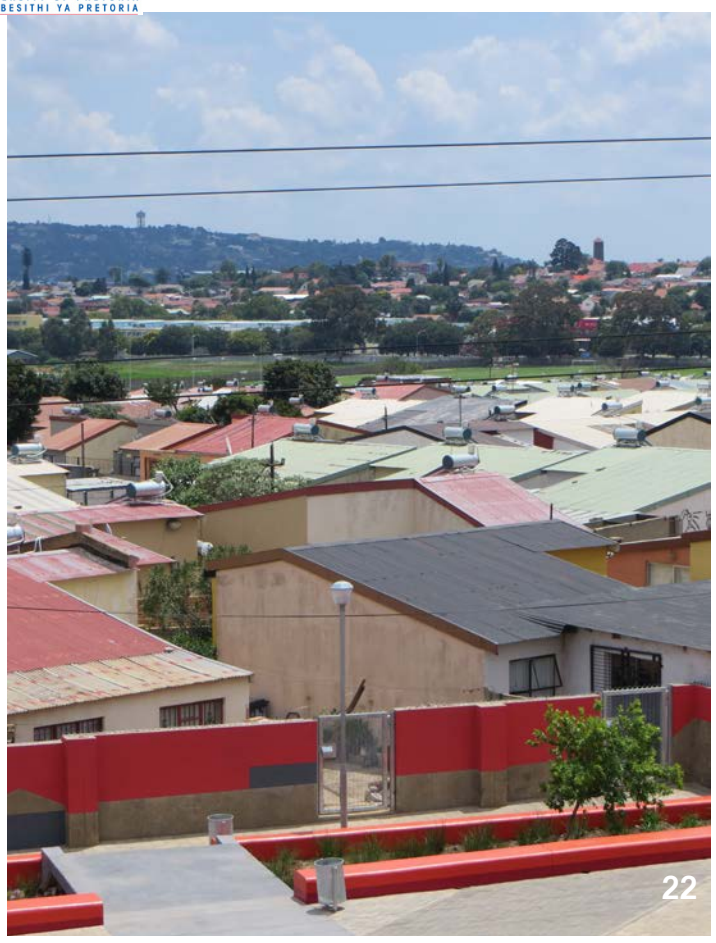
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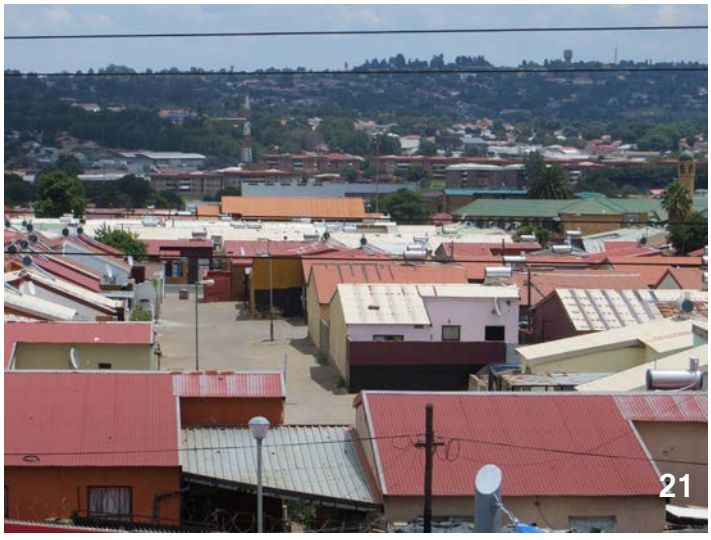
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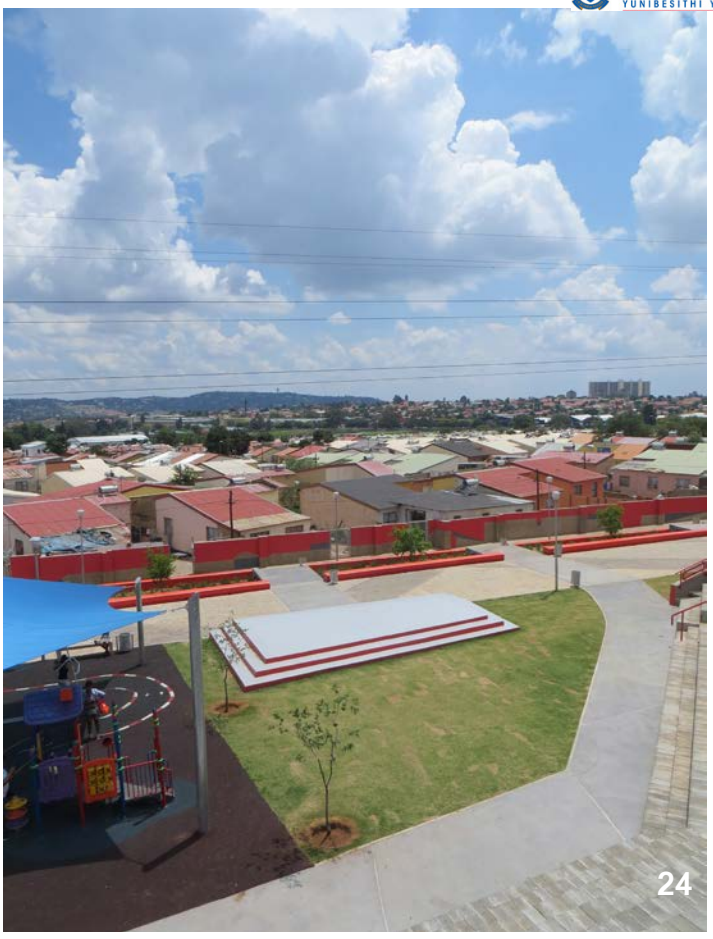
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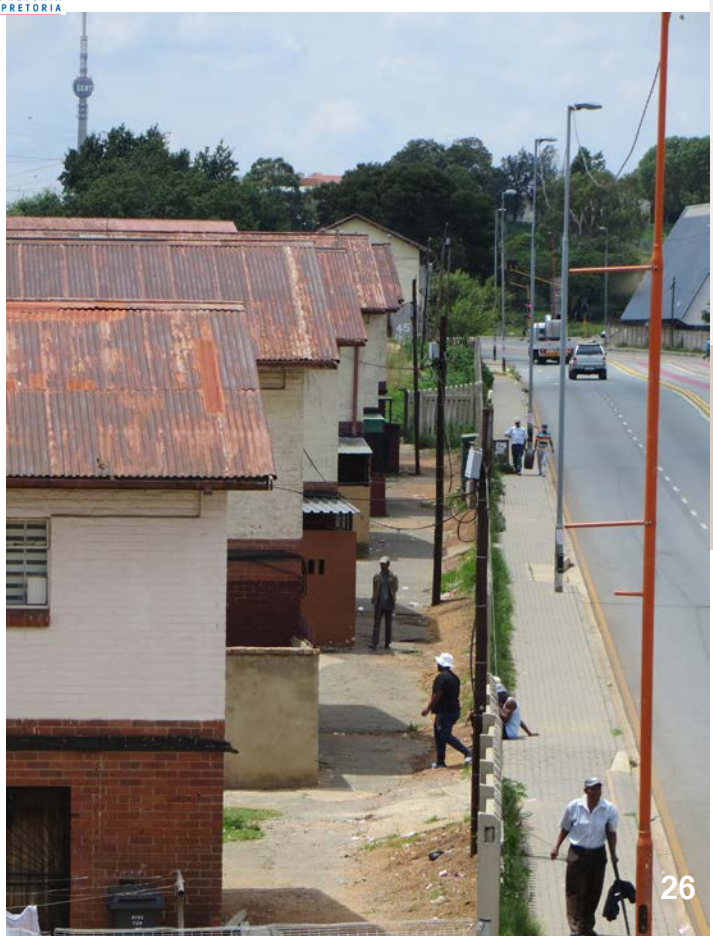
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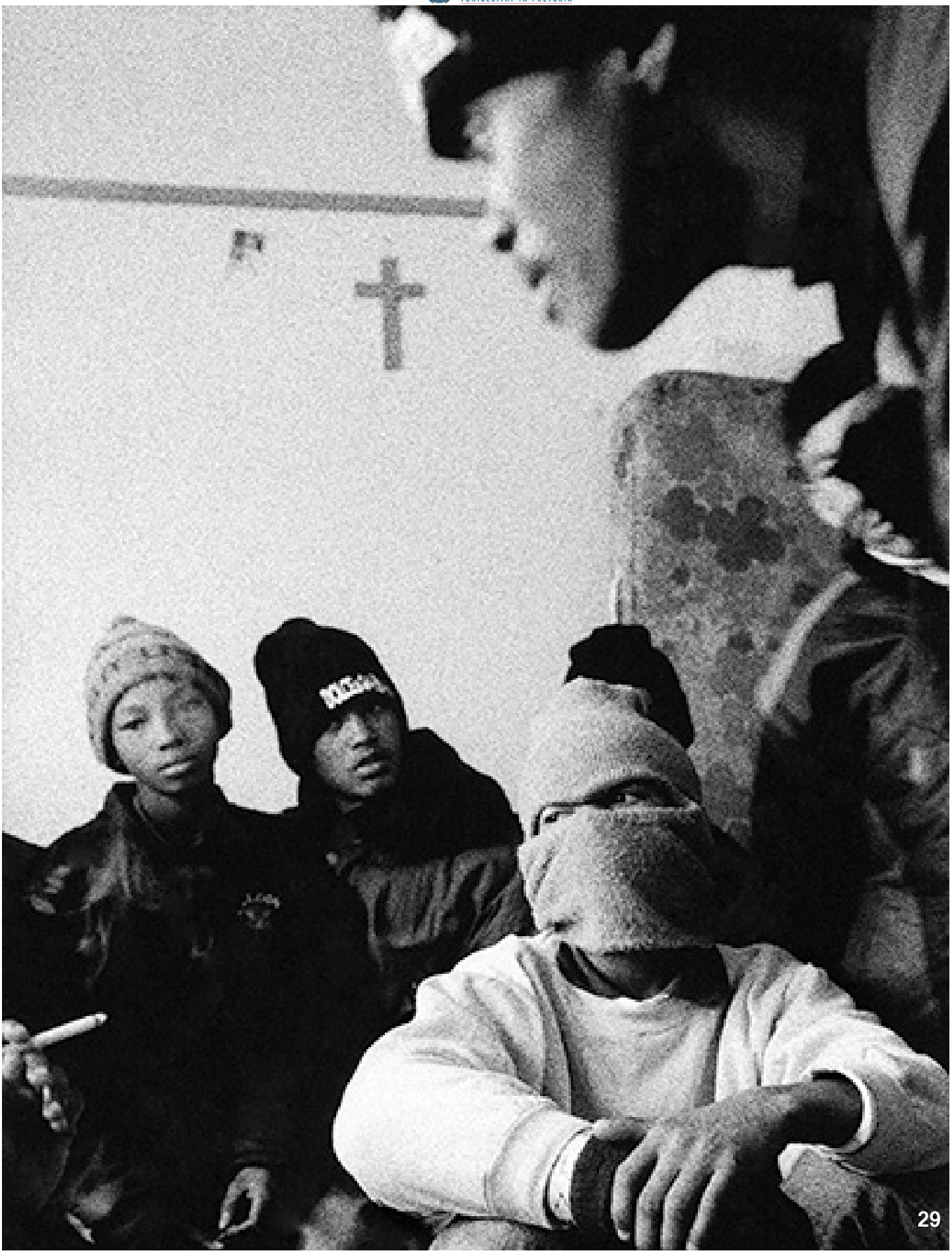

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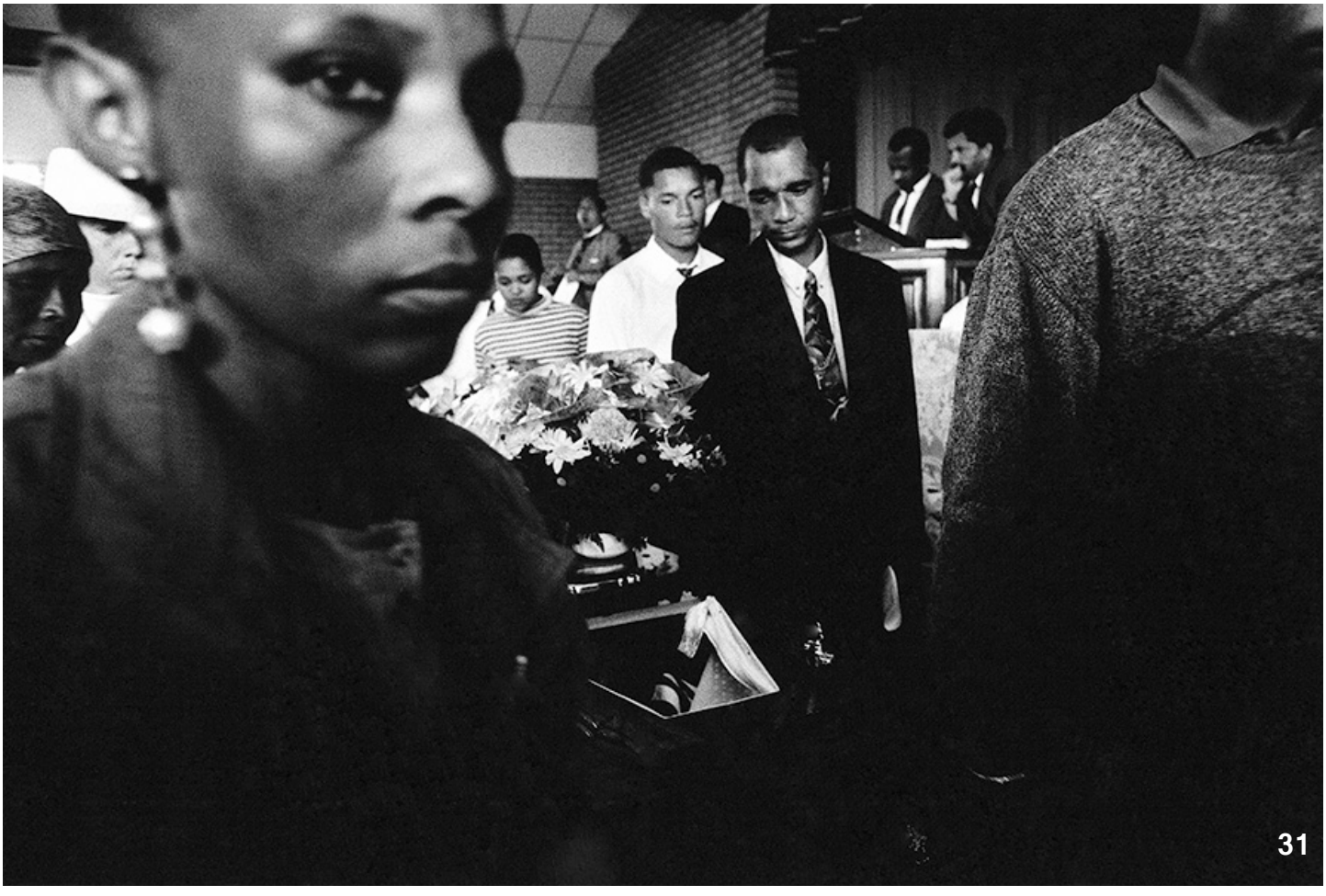

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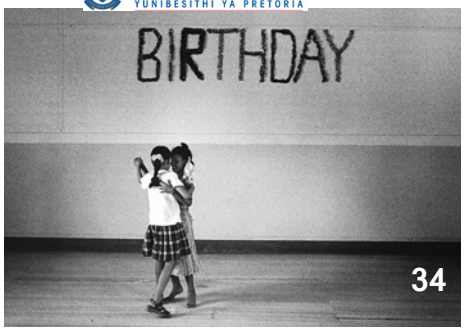

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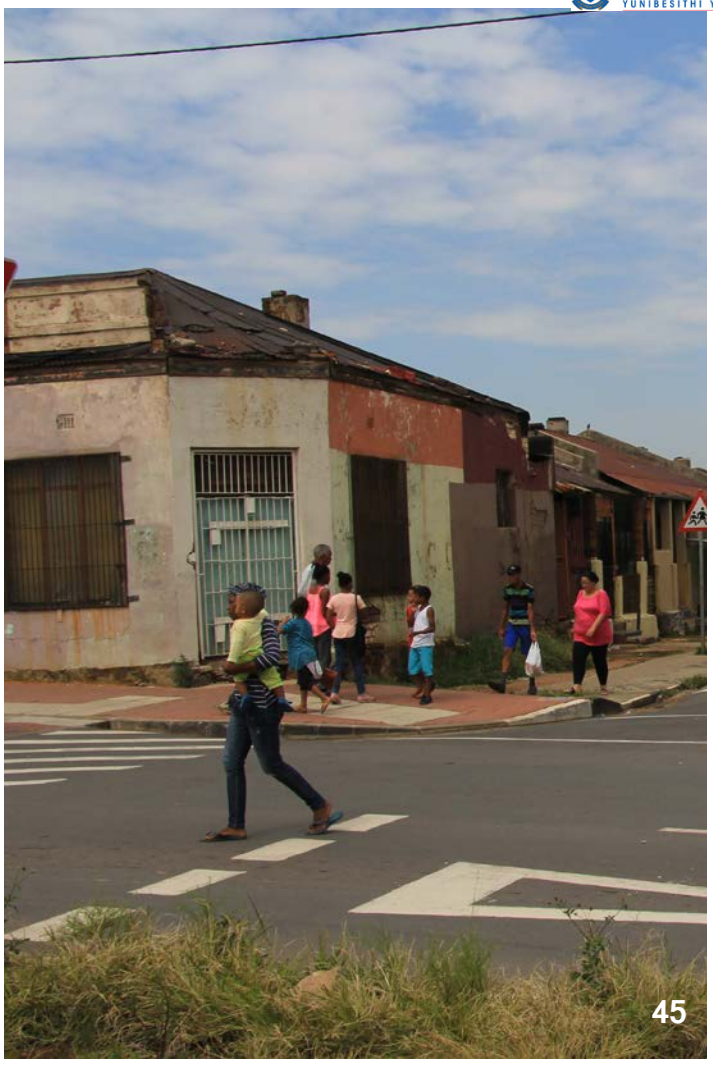

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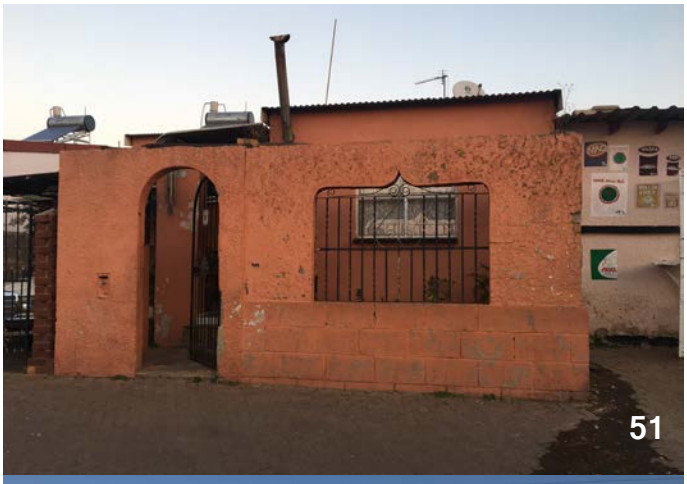
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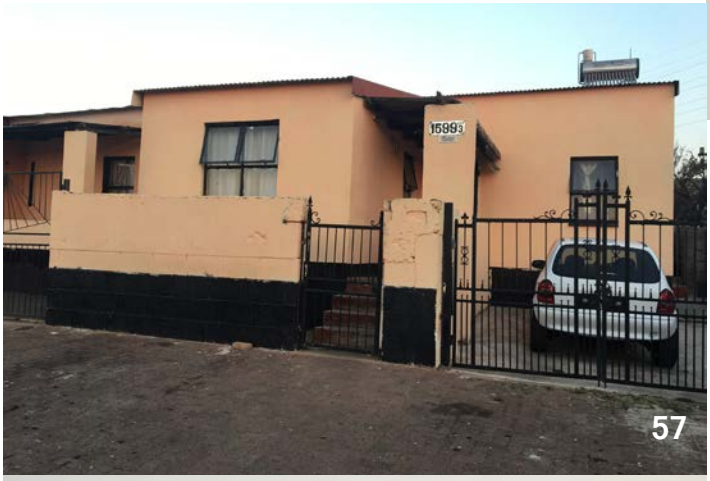

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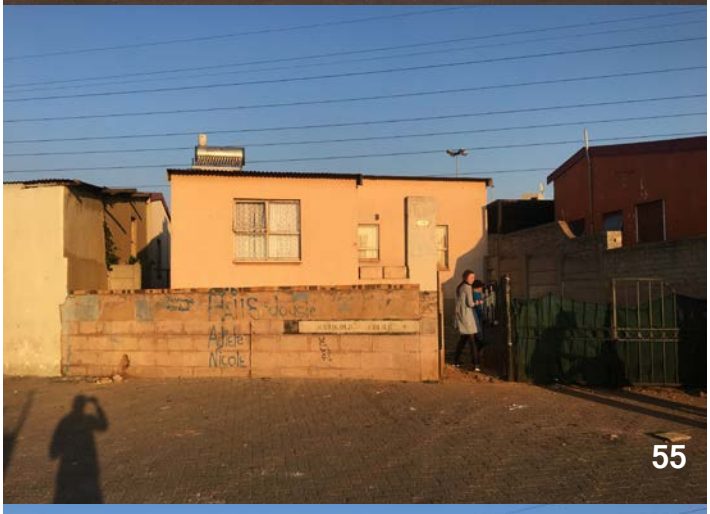
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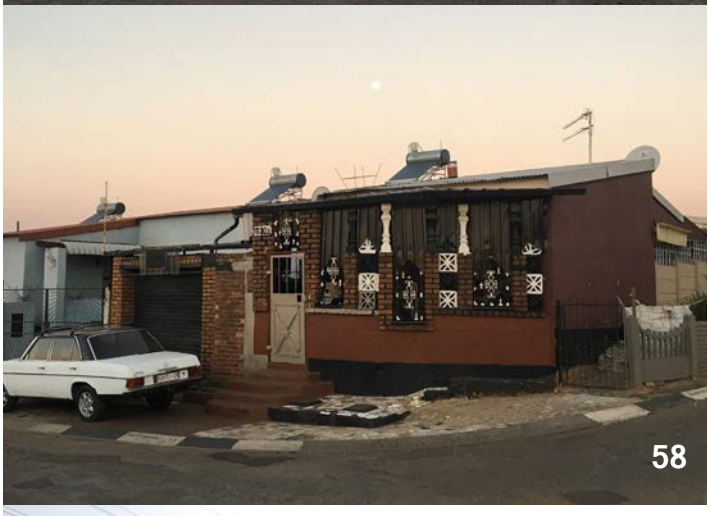
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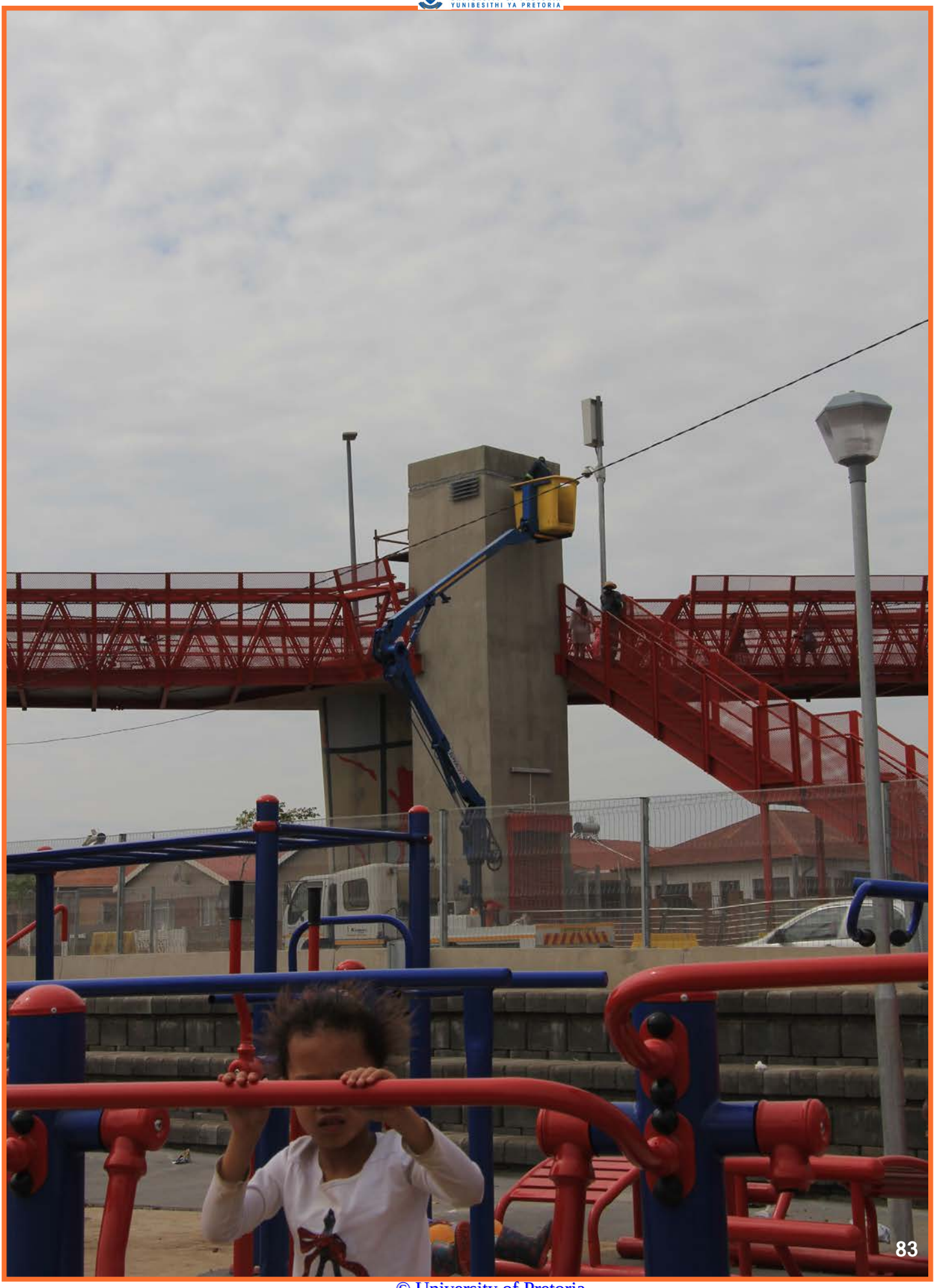

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CONTEXT

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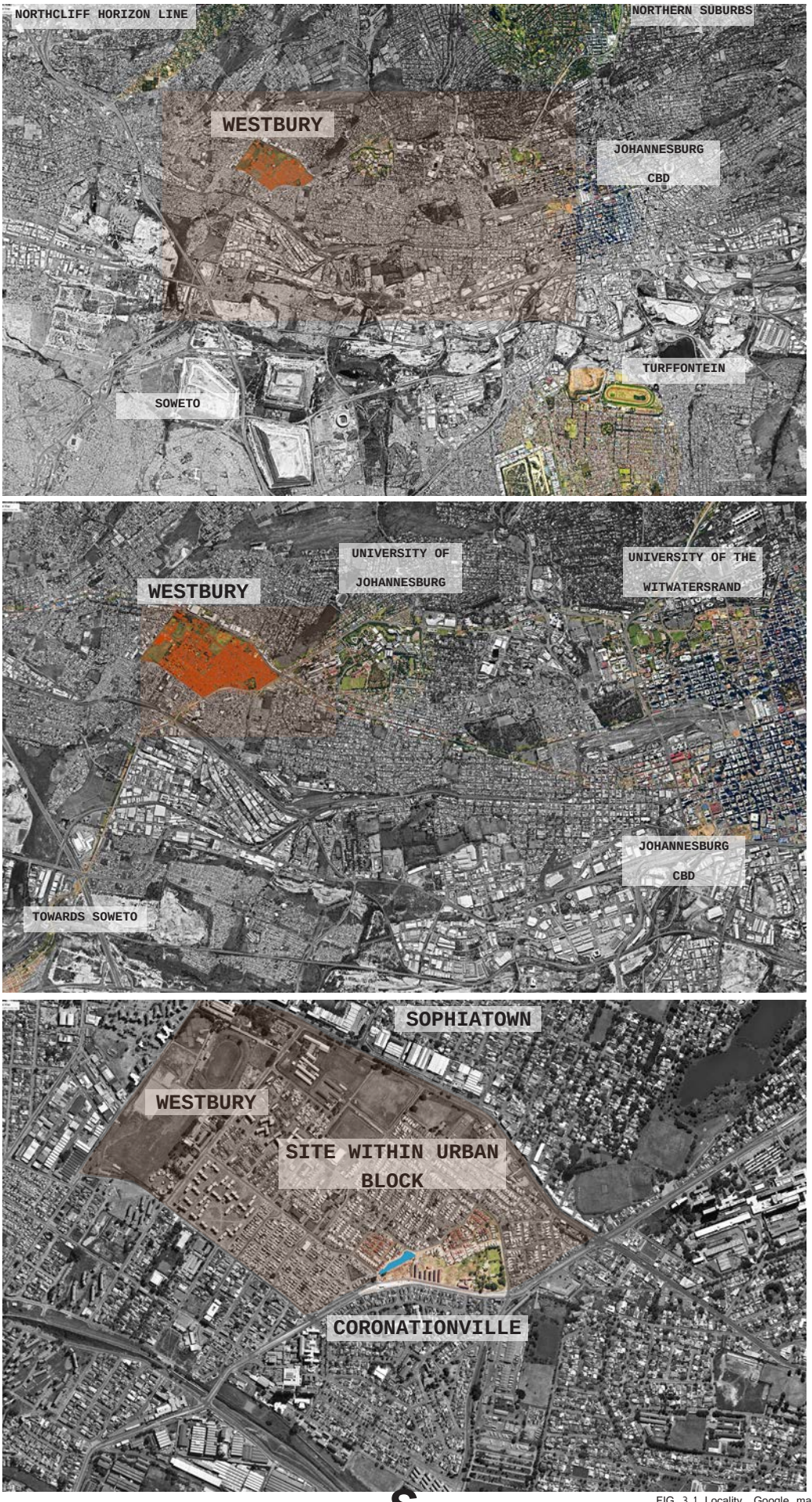

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FIG 3.1 Locality, Google maps, Author, 2017

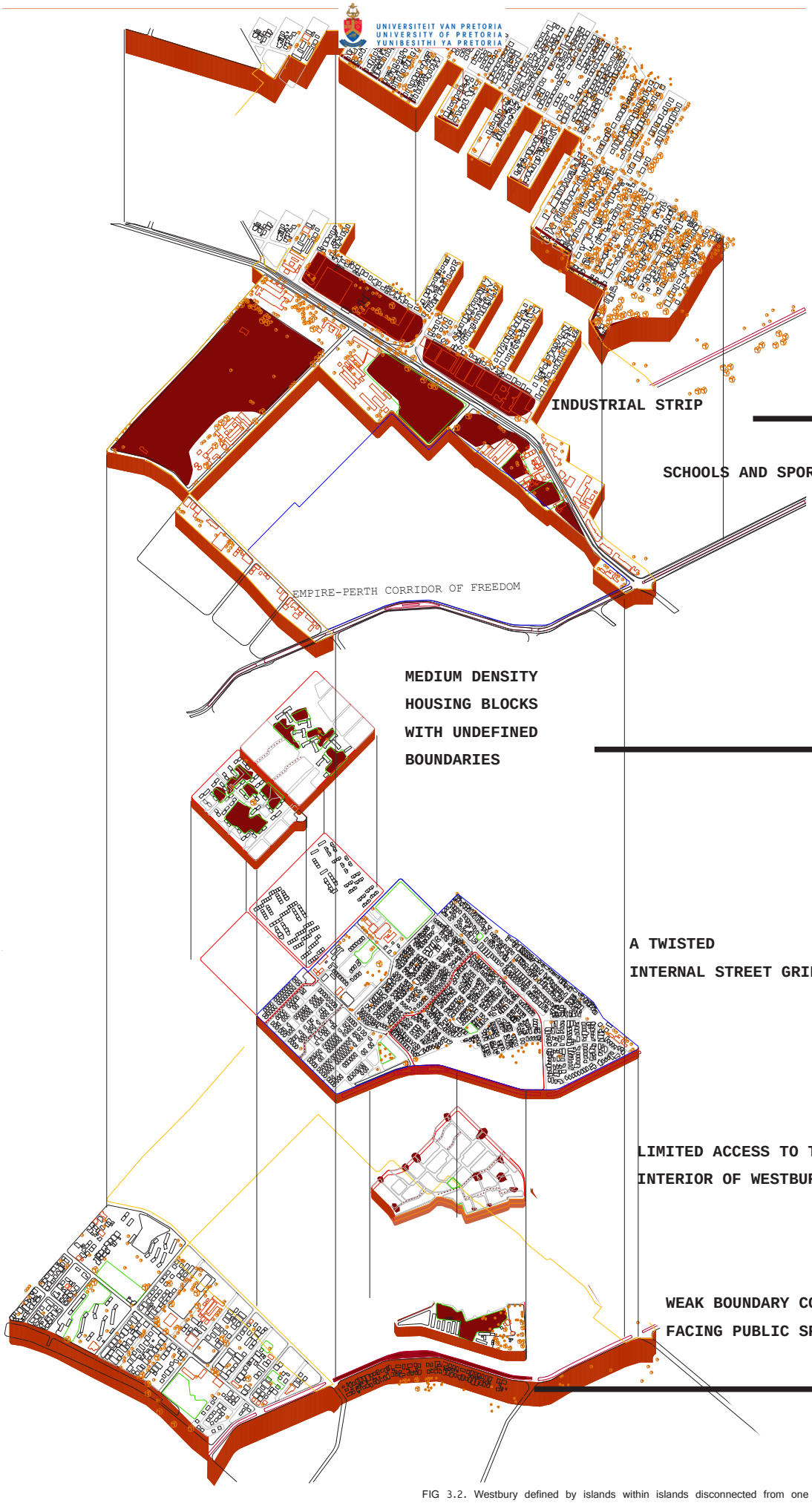


FIG 3.2. Westbury defined by islands within islands disconnected from one another. Author, 2017

ISLAND TYPOLOGIES OF WESTBURY:

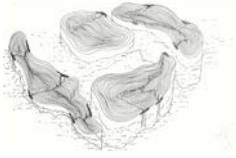
An analysis exercise to understand the spatial definitions that determine our relationship to space/place on an urban scale.

This exercise aims to identify the spatial characteristics separating us or making us part of the built environment.

Buffer Island separating Sophia Town with Westbury through the combination of industrial belt on Ontdekkers road and sport / school grounds / industrial belt
In most cases exceeding 200m in width.

Internal islands of indefensible space, unlimited access, intimidating space, 4-5 storey walk-up apartment blocks scattered over steep grass mounds, lack of privacy to inhabitants of apartment buildings

Internal islands of similar home typologies and grid structure, strong public street life and semi public/ private space, small scale, small plot sizes, paved pedestrian streets, limited vehicular access, limited visual access, streets and corridors not lining up



Outer edge , next buffer of difference (in relation to urban grid and inhabitants), railway and main road

HOW WESTBURY IS DEFINED: HISTORY, DEMOGRAPHICS, POLITICS AND DEVELOPMENT:

In order to investigate the boundary as mediator at various scales, Westbury was chosen as study area. Largely forgotten, it is a small urban pocket to the west of the inner city of Johannesburg, South-Africa. To understand the broader issues in terms of Westbury, it is crucial to outline its development and spatial character, as part of a history not unlike that of many similar pockets of South African cities.

Understanding the different aspects which define the context of Westbury was facilitated by various site visits, interviews and research, combined with common analysis tools which architects use, namely plans, sections, and elevations.
After having analysed Westbury on the city's scale and the urban scale, three main categories were identified to communicate the context, namely:

HOW WESTBURY IS **DEFINED** (History, politics, development and culture)
HOW WESTBURY IS **CONNECTED**: (Transport, street grids, topography and perceptions)
HOW WESTBURY IS **ACTIVATED**: (Events, living conditions, facilities and activities)

How Westbury is defined:
Westbury was originally part of the farm Waterfall, and served as a peripheral service area for the city of Johannesburg before development started late in the seventeenth century. (Klug, 2017, p. 6). The illustration below communicates the various urban stages which what is now called Westbury and the areas in direct relationship to it, went through up until 2017.

Its first functional use to the greater community was the fact that the sewerage works were situated here.

After the South-African War between 1904 and 1918, other suburbs were also established to the west and east of the city. This included Sophia-town to the north-east, and Newclare to the south-west in 1905.

In 1918 the first municipal black township, named the Western Native Township by the apartheid state, was established in the area which previously occupied the sewerage works. The reasons for this was a serious outbreak of influenza in the inner city ghettos occupied by black people. Sophia Town and Newclare, together with the Western Native Township became known as the Western Areas(Beinart 1975 cited in Chapman, 2013) (Chapman, 2013).

The transport system infrastructure in those days consisted of an electric tram route (east to west) and a major road (Main Road) traveling in the direction of the CBD. The tram system was disabled in 1948 when Main Road had developed into a six-lane roadway (Klug, 2017, p. 7).
The first signs of a buffer zone was the widening of Main Road and the development of an industrial strip in the late 1950's stretching from Martindale to Sophia-town on Westbury's extreme northern edge. This was the start of the urban separation from neighboring areas which in effect closed opportunities for exchange, and both areas were affected.

Being the first and only established Black Native Township and Johannesburg declared a 'whites only area' in 1923 under the Native Urban Areas Act, the population and occupation density of the Western Native Township increased at unmanageable rates. By the late 1930s its population had increased to approximately 12000 people and the entire Western Area to an estimated 70,000 (Pirie and Hart 19xx, cited by Klug, 2017).

In 1940 the WNT was supplied with a hospital, a library, crèches, schools and sports fields. The schools and sport field developments were also located towards the northern edge of Westbury, acting as a third layer to the buffer zone between Westbury and Sophia-town. In this time-frame the WNT's planning and regulations were strictly managed by the City Council (Goodhew, 1990, cited by Klug, 2017).

The next level of segregation was the most extreme. In 1950, under the Group Areas Act, people were relocated and separated into groups based on their assigned racial groups. Further evidence shows that this separation was not only based on racial group but also determined economic status which dictated the area to which a person was relocated within a racial group. Coronationville was the designated higher income area, compared to the WNT in the case of the "colored" community. At the same time all the white citizens in Sophia-town were relocated to the city of Johannesburg, and all the coloured citizens from all over Johannesburg displaced to the WNT. Soweto received the people who originally occupied the WNT (Klug, 2017, p. 7).

For the next 30 years -until 1980 - the WNT underwent extensive re-development as did Bosmont, Newclare, Coronationville and Claremont; areas identified for coloureds. Housing specifically for coloreds, was only provided in 1937 when Coronationville was established (SAHO, 2016 cited in Klug, 2017).

The following image illustrates the **progression of separation between Westbury and its surrounding areas.**

* Note the **growth of the buffer zone** with the change in occupation of different **racial groups** combined with the different developments in **urban design.**

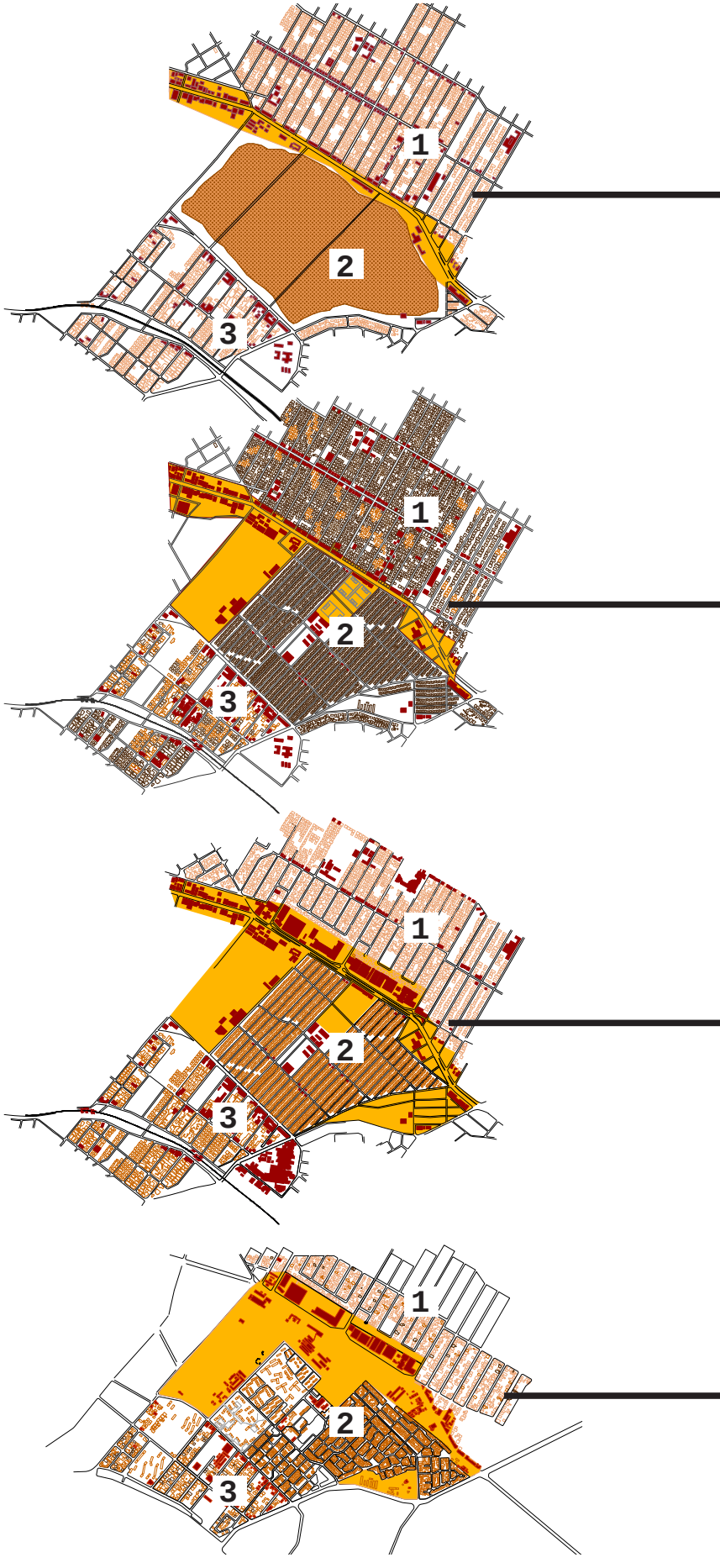


FIG 3.3. Westbury's development, race and urban design. Author, 2017

1905-1918

Inhabitants Sophiatown **(1)**: whites
Westbury **(2)**: sewage works
Newclare **(3)**: mix

Edge to Sophiatown: commercial public space

1918-1948

Inhabitants Sophiatown **(1)**: blacks and other
Westbury **(2)**: blacks
Newclare **(3)**: mix

Edge to Sophiatown: widened Main road, schools and sport facilities

1948-1985

Inhabitants Sophiatown **(1)**: underprivileged whites "TRIOMF"
Westbury **(2)**: coloureds
Newclare **(3)**: mix, more coloureds

Edge to Sophiatown: schools, sport facilities, industrial belt buffer and widened Ontdekkers Road with streets from Sophiatown disconnected from Westbury

1985-2016

Inhabitants Sophiatown **(1)**: whites, mixed
Westbury **(2)**: coloureds
Newclare **(3)**: mix, more coloureds

Edge to Sophiatown: schools, sport facilities, industrial belt buffer and street grid completely disrupted and remodelled.

URBAN ANALYSIS OF WESTBURY

TOPOGRAPHY_SLOPE_VIEWS_SCALE OF BUILT ENVIRONMENT

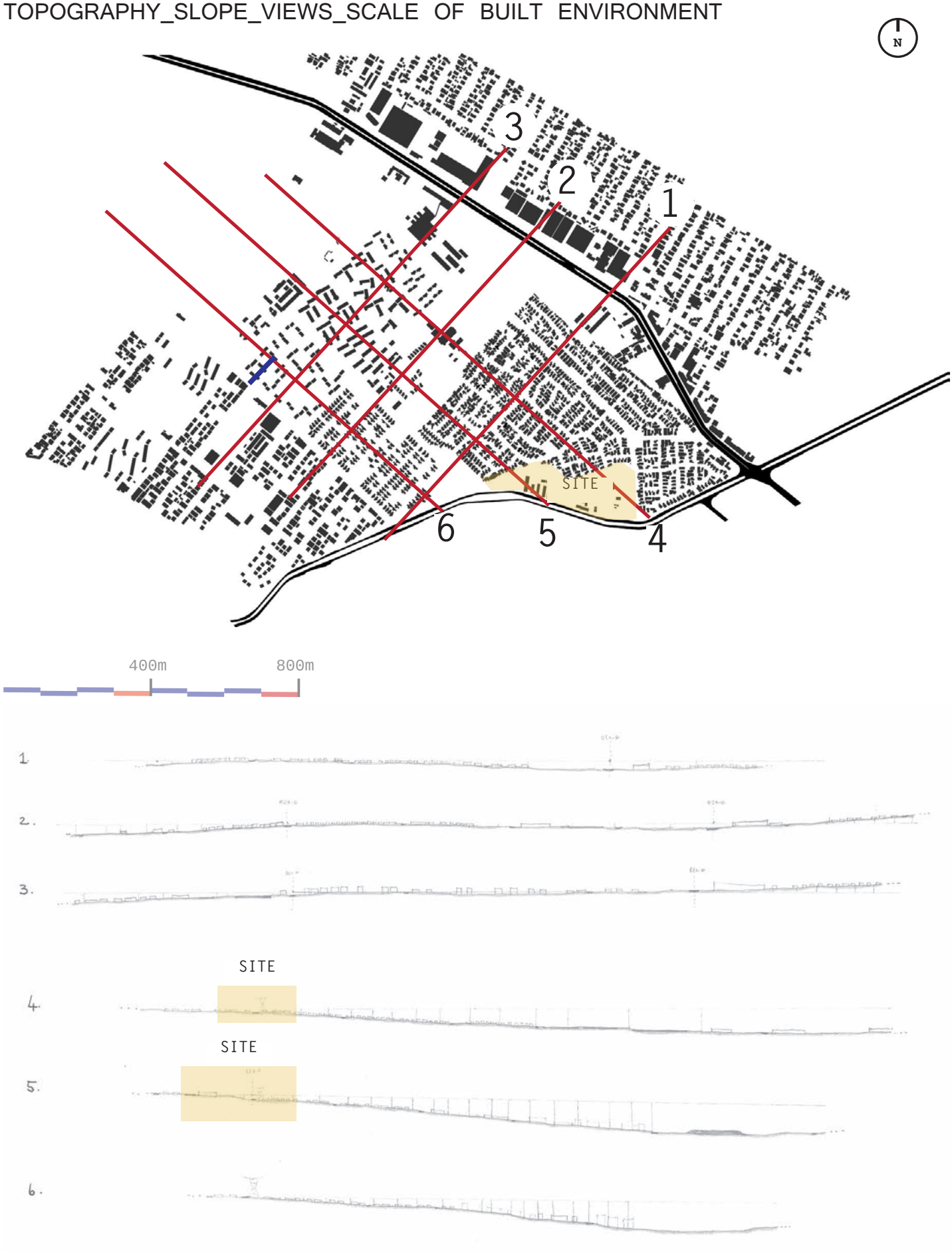


FIG 3.4. Westbury's topography and scale of the built environment. Author, 2017

RECENT DEVELOPMENT

1 Corridors of Freedom sidewalk upgrade

2 Play park

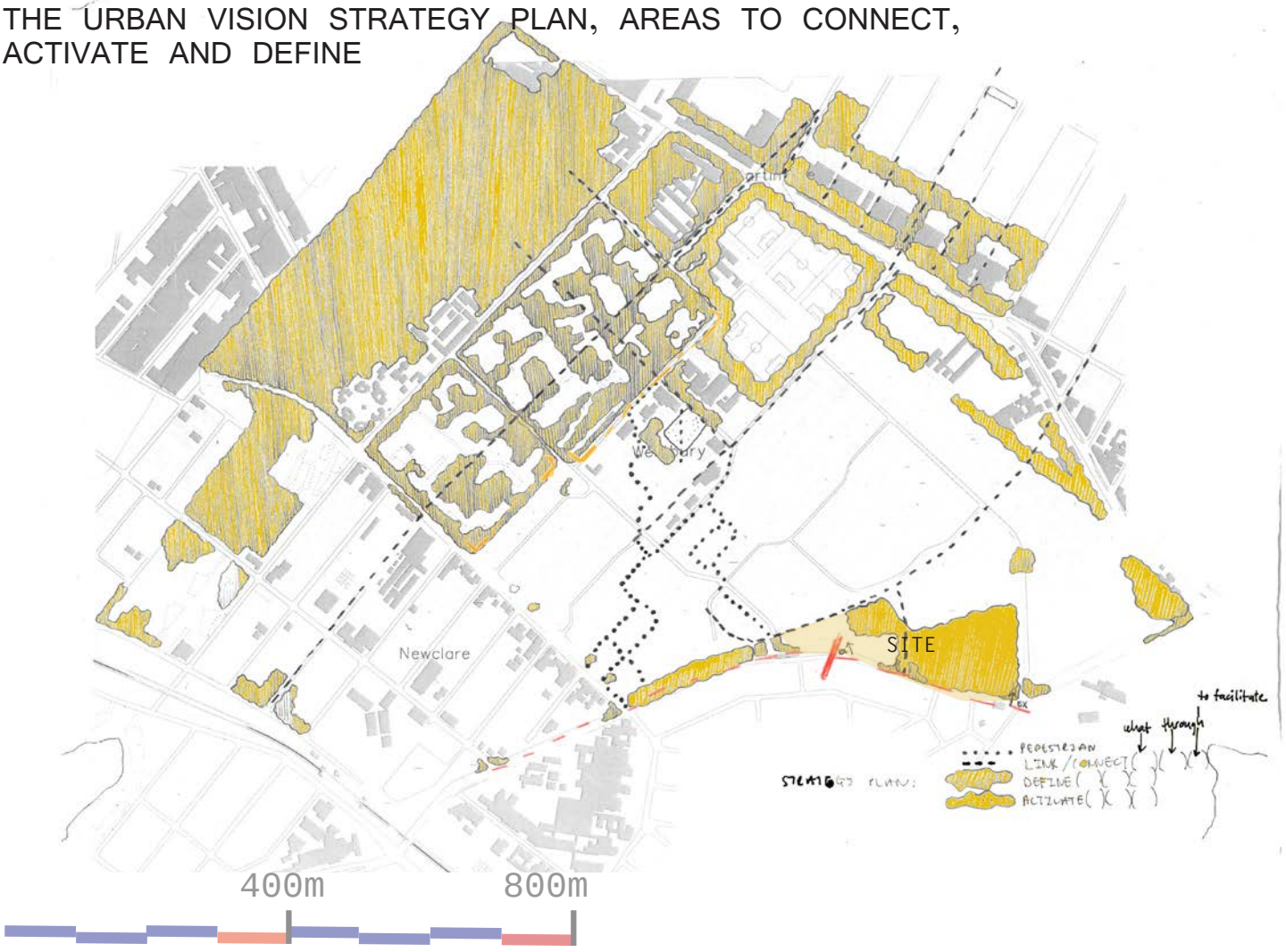
3 Clinic

4 Corridors of Freedom, Rea Vaya bus stop

5 Park and bridge

FIG 3.5. Recent development in Westbury. Author, 2017

THE URBAN VISION STRATEGY PLAN, AREAS TO CONNECT, ACTIVATE AND DEFINE



1. CONNECT
2. DEFINE
3. ACTIVATE

WHAT?

- Connection of Northern fringe
- Space (Public)
- Civic Agency
- Identity
- Space(Block readability)
- Space(Semi-)
- Space(Edges)
- Space(Diversity)
- Creating Space (Development)
- Space(Defensible)
- Trade/Exchange
- Systemic

THROUGH:

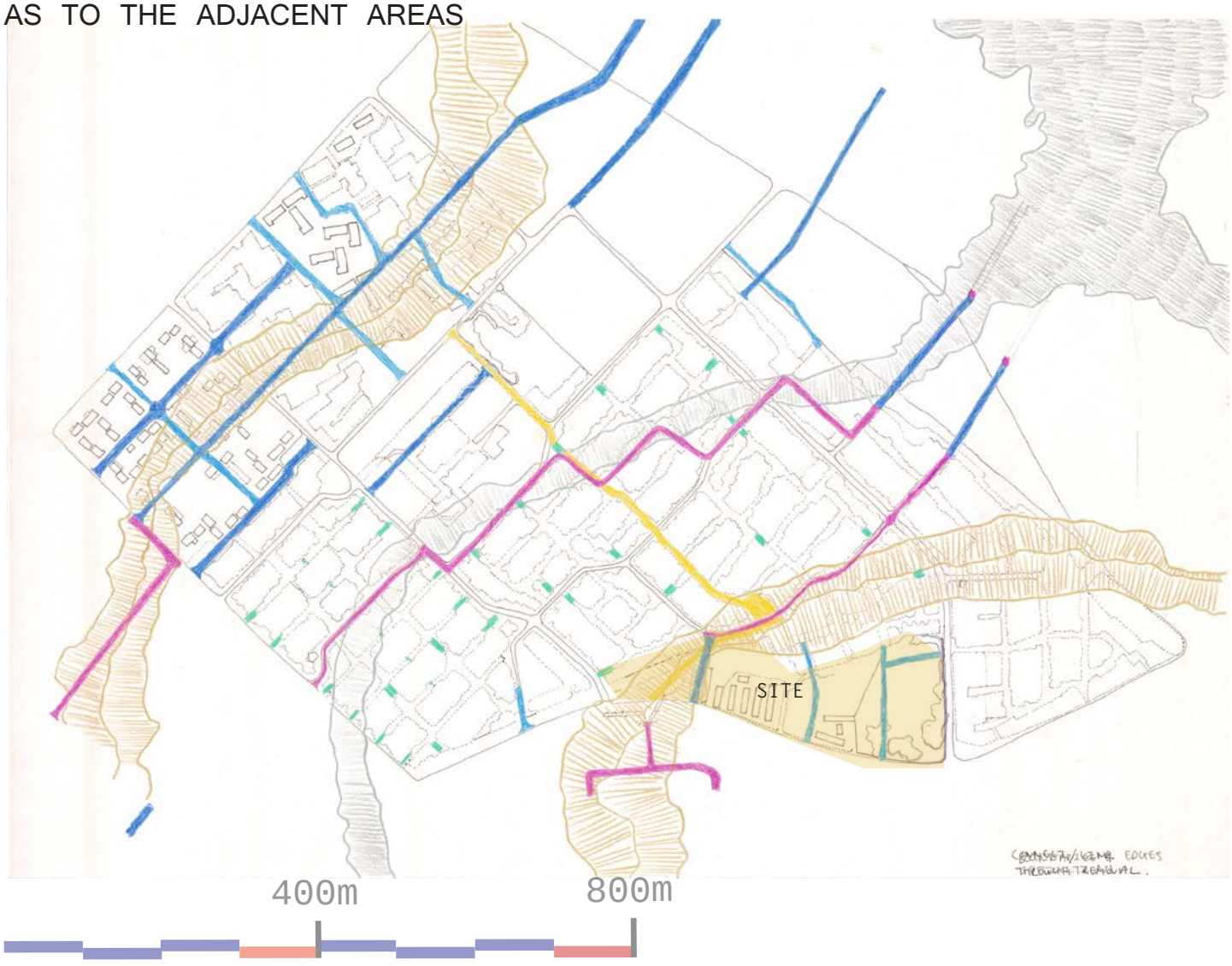
- Access (Roads, edges)
- Access (parking)
- Zoning/location
- Continuation (Visual)
- Removal
- Addition
- Programme
- Landmark
- Gateways
- Celebrate
- Division
- Topography
- Resources
- Ownership
- Public Infrastructure
- Aesthetics/Façade
- Repair

IN AIM TO FACILITATE:

- PERMANENT/TEMPORARY
- ADJUSTABLE/FIXED
- PHASED
- IMPROVE
- REDUCE
- INCLUDE
- EXCLUDE
- CONSCIENCE
- COGNISANCE

FIG 3.6. Urban vision, areas to be addressed with the urban strategy. Groupwork, 2017

PROPOSED CONNECTIONS OF THE INTERNAL BUILT FABRIC AS WELL AS TO THE ADJACENT AREAS



vertical connection , perpendicular to contours, steep short-cut

secondary roads, to reduce urban block sizes

horizontal connection, more or less parallel to contours

horizontal connection, more or less parallel to contours, bicycle routes

removal of bollards, proposing speed humps and road surface texture difference

FIG 3.7 Different modes and areas to connect Westbury to the surrounding areas. Author, 2017

AREAS PROPOSED TO ACTIVATE, DENSIFY AND DEFINE

area to have sketch design proposal of new boundary

proposed commercial opportunities, mixed use

temporary and mobile functions as event

new boundary additions to existing buildings having a weak relationship to the street

FIG 3.8. Where to activate, define and densify in the context of Westbury. Author, 2017

HOW WESTBURY IS DEFINED: HISTORY, DEMOGRAPHICS, POLITICS AND DEVELOPMENT CONTINUED:

In general, Westbury is still suffering the consequences of the apartheid era and a formal system of racial segregation that previously governed South-Africa. The most recent transport infrastructure development aims to link people on a greater scale, in the opposite direction, from areas like Westbury towards the CBD. This is called the Corridors of Freedom project. Internally, as clearly visible in the above image, Westbury also developed in a fragmented way, so that the suburb is now characterised by pockets of emptiness and division, and a general lack of cohesion in the urban fabric.

Despite the urban upgrades, including sidewalk upgrades in three main streets, park upgrades, the Rea Vaya bus station, and a new pedestrian bridge connection to Coronationville, Westbury remains a critical area suffering from poverty, low economic growth, unemployment, drug abuse, gangsterism and high levels of crime.

Considering these recent developments and Westbury's prime location it is only a matter of time before developers start buying properties from current residents and converting them to suit private investment interests which may result in the gentrification of some parts of the area (probably along the BRT route), and also in the displacement of people once again. The project aims to guard against this, and to ensure that the benefits of the Corridors accrue to the local population and to those most in need (Klug, 2017, p. 20).

The tenure patterns of the area were researched earlier this year (2017) by Neil Klug, lecturer, urban planner and designer at the University of the Witwatersrand. The findings inform the tenure and dwelling typologies the project proposes.

The area is comprised primarily of:

> freestanding homes (39%)
> informal shacks (29.3%)
> flats/apartments (27.8%)
> and many of the formal dwellings are fully paid for (75%) (Klug, 2017, p. 14).

This could be due to people being offered first-time ownership bonds in the late 1980s (during the redevelopment of Westbury), plus the Enhanced Extended Discount Benefit Scheme (EEDBS) which transferred pre-1994 rental housing stock to qualifying occupants (Klug, 2017, p. 15). The relatively high percentage of property owners should be extremely well placed to benefit from the additional rights benefits that could result from the densification and increased rights opportunities offered in the **Empire-Perth Corridor Strategic Area Framework (SAF) and the Westbury Development Precinct (WDP)** plan (Klug, 2017, p. 15).
The bulk of ownership applies to houses in Westbury, and the bulk of the sub-lets to flats (Klug, 2017, p. 16).

The respondents interviewed in the research appeared to be unaware of the potential financial advantages of owning assets or property for leveraging or obtaining additional financial resources. Interestingly, the participants expressed the view that one of the best aspects of living in Westbury was that they have "free housing". Here they may be referring to the fact that through the EEDBS process, the beneficiaries simply receive free-hold titles to their properties from the state - given that they have paid rent to the apartheid government for decades. Approximately 68% of households interviewed in the Westbury area occupied an entire dwelling.

The remaining 31.7% occupy between one and three rooms. The survey also found that only 16.7% of the interviewees are renting accommodation.

However, evidence of backyard shacks is evident in almost every site in Westbury. This, together with a relatively small number of rental households and a high number of single family households (95.7%), suggests that the bulk of backyard rooms are being used by extended family members - as opposed to outside renters. Respondents also reported a drastic increase in tuck shops in the past 14 months which would account for additional informal structures, particularly on the road frontage where pedestrians pass. This has been identified as a problem by the local ward councilor since these extensions often occupy road reserves which means that private landowners are in effect renting out municipal land (interview with Ward Councilor, 12 October 2016). The ward councilor maintains that it is a very emotive issue in the community, and needs both a technical and political solutions (Klug, 2017, p. 16).

This project takes the position that the land will remain in the hands of the current community who will benefit from the land they have occupied since the 1950s.
What remains to be said about Westbury today is a reflection on the characteristics of the community.

The area exhibits a stable community, with the mean number of years in a current dwelling being 22.6, as opposed to 33.1 in Johannesburg. Further evidence of the stability of the residents in the area is that 57.2% of the respondents interviewed stated that they have always lived in the same neighborhood, although 14% not always in the same residence. Furthermore, 85.9% of the participants stated that they anticipated remaining in the area for the next 10 years (Klug, 2017, p. 14). This could mean that residents mostly leave Westbury when they achieve a higher state of income. On a site visit, a resident mentioned that people move to Coronationville or Sophiatown when they have the financial means to do so. This shows that people still prefer to be close to their culture/networks but choose to move to safer areas with better defined urban spaces or living conditions.

These signs of a stable community could provide opportunities for positive and constructive engagement with the City. However, the evidence gathered from the survey, literature on the area, as well as qualitative interviews, suggests that the high levels of poverty, unemployment, poverty, drug abuse and violence in the area constrain community unity (Klug, 2017, p.14).

The spatial layout of the freestanding homes have different relationships to the street; in some cases entrances to the houses face the street directly, opening up the homes to the street. In others, homes are rotated to have a side elevation facing the street with a solid wall. Home-owners have closed their boundary walls leaving only small windows and entrances to the homes. This has a major effect on the atmosphere and the nature of street activities. In the way people are extending their homes, there are no guidelines or regulations ensuring a safe urban environment. This is a major concern informing the strategy of the proposal.

With that said, the pedestrian streets in Westbury have a certain charm because they are mostly occupied by the people living there, with sidewalks only on the main roads; pedestrians mostly walk the entire street without sidewalks in the areas between the homes.

The internal streets serve as an extension of the community rather than avenues to pass through. The current narrowed pedestrian entrances to the residential streets should be improved to provide visual access for pedestrians. With blind corners it is intimidating to enter the residential areas not knowing what hides behind the narrowed walls.

People have the freedom to express their identities via the boundary walls or street elevations. It remains a hopeful place, despite its fragmentation.

The community has experienced poor policing and a sense of alienation from the government for many years. Contributing to this are a number of poor spatial planning interventions during the past 60 years combined with the apartheid legacy of forced removals which has left a deep scar on the psyche of the population, resulting in mistrust of the state and a feeling of dis-empowerment as a community. Many of the current problems experienced in the area are linked to this history (Klug, 2017, p. 5).

What lies ahead?

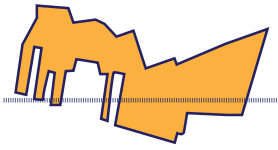
Westbury was recently earmarked a high-priority area for densification through social housing interventions by the City of Johannesburg. This densification will have to be strategic since the major problem still is the fact that Westbury is isolated through a series of boundary conditions which do not promote cohesion with the adjacent urban fabric or its own internal fabric. In order to restore these conditions, this study aims to address the scale of a typical urban block found on the edge of Westbury facing the buffer zone. The relationship to the interior of Westbury as well as a relationship to the undeveloped buffer zones, offer the potential of re-shaping the relationship with the adjacent urban fabric.

Here follow the **three areas identified for densification** in Westbury, compared to different density typologies globally as a method to prepare the spatial organization to best accommodate densification.
The illustrations communicate the different street grids, block parameters scale, orientation and spatial oganization.
The areas indicated in the context of Westbury indicate the unbuilt areas.
The areas indicated in the international context indicate the built areas.

Criteria for comparison to other urban block typologies:

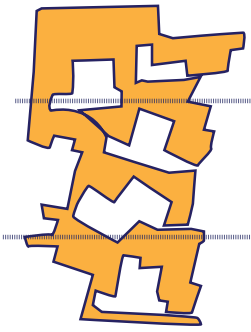
> The edge condition to the street
> The buildings orientation towards the street
> Public space
> Private space
> Permeability of the block
> Impact of density on the urban environment

BLOCK TYPOLOGIES OF WESTBURY SHOWING UNDEFINED SPACE



edge site

central site #1



central site #2

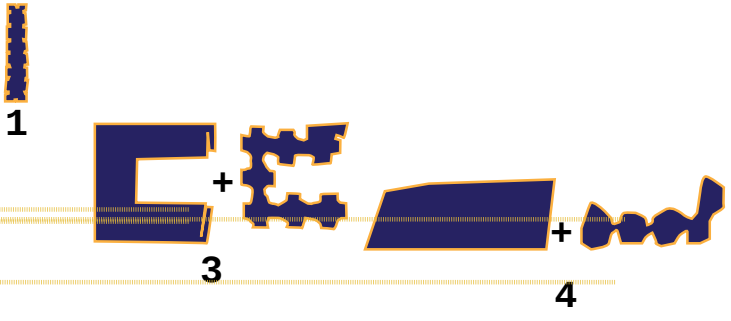
FIG 3.9. Comparing international densities experienced by the author to the context of Westbury, Google Earth Pro, Author, 2017

INTERNATIONNAL BLOCK TYPOLOGIES SHOWING DEFINED SPACE

Barcelona_superblock

Mexico city_delegacion Cuauhtemoc

London city_South kensington



Hong Kong_kowloon To Kwa Wan

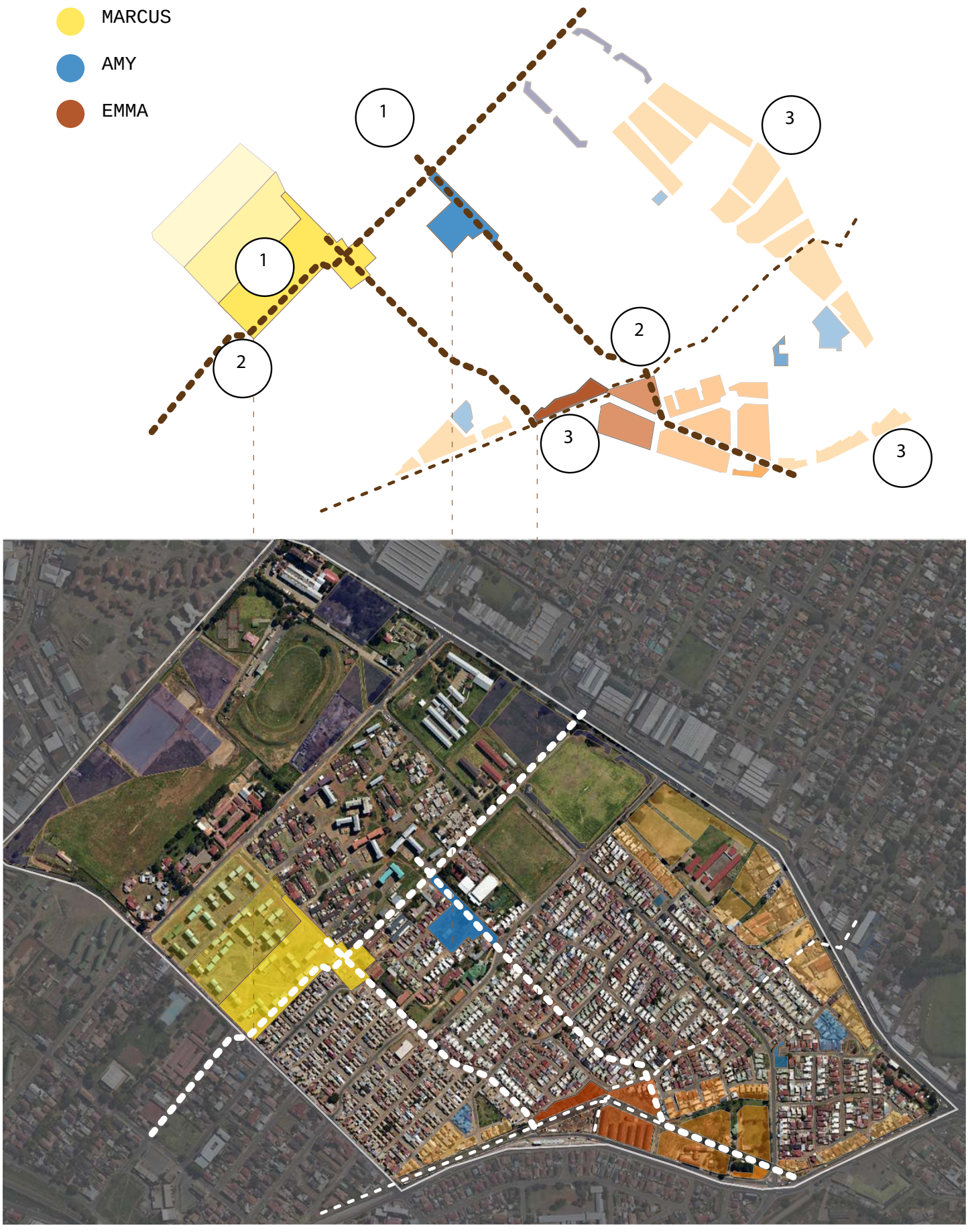


FIG 3.10. Urban vision plan, Group-work edited by Author, 2017

URBAN VISION

In the urban vision of our group, consisting of Marcus van Der Hoven, Amy Leibbrandt and the author, three main urban issues that contribute to the critical state Westbury finds itself in, are identified:

- The first is the weak urban blocks found in the centre and lower areas of Westbury; medium density apartment buildings are randomly placed in the landscape(Addressed by Marcus van der Hoven).

- The second is the lack of infrastructure on a smaller and more flexible scale which would allow the community to interact and shape it to their needs as a collective or as individuals (Addressed by Amy Leibbrandt).

- The third is being the buffer zone that contributes to the isolated nature of Westbury and its weak relationship to the rest of the city (Addressed by the author).

A metaphor relating to *dentistry* could help to explain the current condition/ crisis in Westbury.

She has an abscess[1] located in her deepest centre, those who had to fix her teeth with braces pulled them even skewer[2] and as time developed she lost all her front teeth[3] and now is ashamed of herself...

1. Referring to the weak urban conditions defined by the medium density apartment buildings
2. Referring to the unique organic grid built in 1985 that never lines up
3. Referring to the growth of the buffer zone and the absence of a link to the rest of the city

The urban vision intends to facilitate Westbury with a variety of tenure options with the land that is available. Each project addressed this problem in a unique way. The three proposals work together to propose a balanced context for the growth and stability of the Westbury community. The intention is for Westbury to become a place to belong and remain rather than a place where one cannot escape or wants to escape from.

FIG 3.11. Urban vision plan showing the areas with the same weak relationship to public space or the buffer zone, Author, 2017

It is against this backdrop that the architectural study of this proposal aims to fill the buffer zone with proposed new urban blocks and roads wherever appropriate to improve access to Westbury.

The scale of the proposed urban blocks relate to the existing urban fabric. The principles and conditions of these urban blocks in the greater densification masterplan, are gathered from the first three urban blocks closest to the new REA VAYA bus station within the buffer zone. The architecture model defines the principles shaping the urban block.

URBAN ANALYSIS: IDENTIFYING THE ISSUES

The urban analysis methodology involved understanding the different aspects which define the character of the urban environment, in other words the atmosphere. These aspects relate mostly to the density of place supported by the built environment:

- access points
- modes of access
- visual access
- eyes on the street
- people/activities on the street
- the boundary conditions or strength of the edges
- the scale of the built fabric
- views up and down the hill
- the street character
- open space (undeveloped land)
- use of undeveloped land
- the relationship of the architecture to public space, and
- the street grid and the scale of the street surrounding a certain area definable as an urban block.

The Urban analysis below communicates the way in which Westbury is **connected and activated** on plan.

street layout

pedestrian desire lines

main roads

taxi routes

Rea Vaya bus route and stops

FIG 3.12. Urban analysis, how Westbury is connected, Groupwork, 2017

How Westbury is connected refers to the means people have to arrive and leave; the flow and movement of people through the neighborhood. It refers to he opportunities to connect in various meanings of the word: to learn, to share, to gain, to give, and to exchange.

An urban analysis identifies transport opportunities, routes serviced gathering points, street grid, orientation and topography. All these elements either connect Westbury to or separates it from its direct surroundings and the greater context of the city of Johannesburg.

The conclusions drawn from the group analysis on transport modes are corroborated by Neil Klug with quantifiable data: the primary modes of transport used within the area are:

- walking (45%)
- minibus taxis (28.6%), and
- 8.5% of respondents using the Rea Vaya BRT.

Respondents feel that the cost of the Rea Vaya system deters them from using it.
Very important to take in account is the economic status of the people living in Westbury. Of the current inhabitants, 36.9% have no monthly income, while the majority of those employed earn only between R1 001 and R1 500 per month. Very few residents earn more than R3 500 per month. The current cost of a return trip from Westbury to the CBD and back would cost R16.20 using a smart card (at an initial cost of R26.50).In addition, a large number of residents are unemployed (40.8%,) and consequently do not require public transport services. The high unemployment and poverty rates in the area thus restrict the movement of residents (Klug, 2017, pp. 18-19).

Why is it important to be connected?

> As Andrew Makin says: "Cities happen where there is the passing of one thing to another, whether it's an idea or whether it's an economic exchange or whether it's a cultural interchange, that's what cities are for. A good city is a machine that does that well. Effectively and efficiently. That means that good cities are dense places. Where people are close to one another, where there is connectivity, where people can interact with each other and where people are easily connected to people who are like them and not like them"(Makin, 2014).

Current opportunities for people from other parts of the city to connect with Westbury are limited; it is as if Westbury exists only for the people living there - to serve and be served by the people of Westbury. For this reason it could be said that Westbury is an "island" suffering from unemployment and poverty which lead to more serious issues. While it is important for people to be able to access business areas it is even more important to create working opportunities and opportunities for exchange within the area with the ultimate possibility of drawing in support from other areas.

The site is located adjacent to the new Rea Vaya bus station on the Empire-Perth corridor that could possibly bring more people to the area. Next to the bus station is a new public park designed by Local Studio and completed in 2016. This arrival space has the potential to become a positive window to Westbury where visitors could engage and contribute to the growth of the community. The site is situated at a high point which offers a view overlooking the area up to Northcliff defining the horizon.

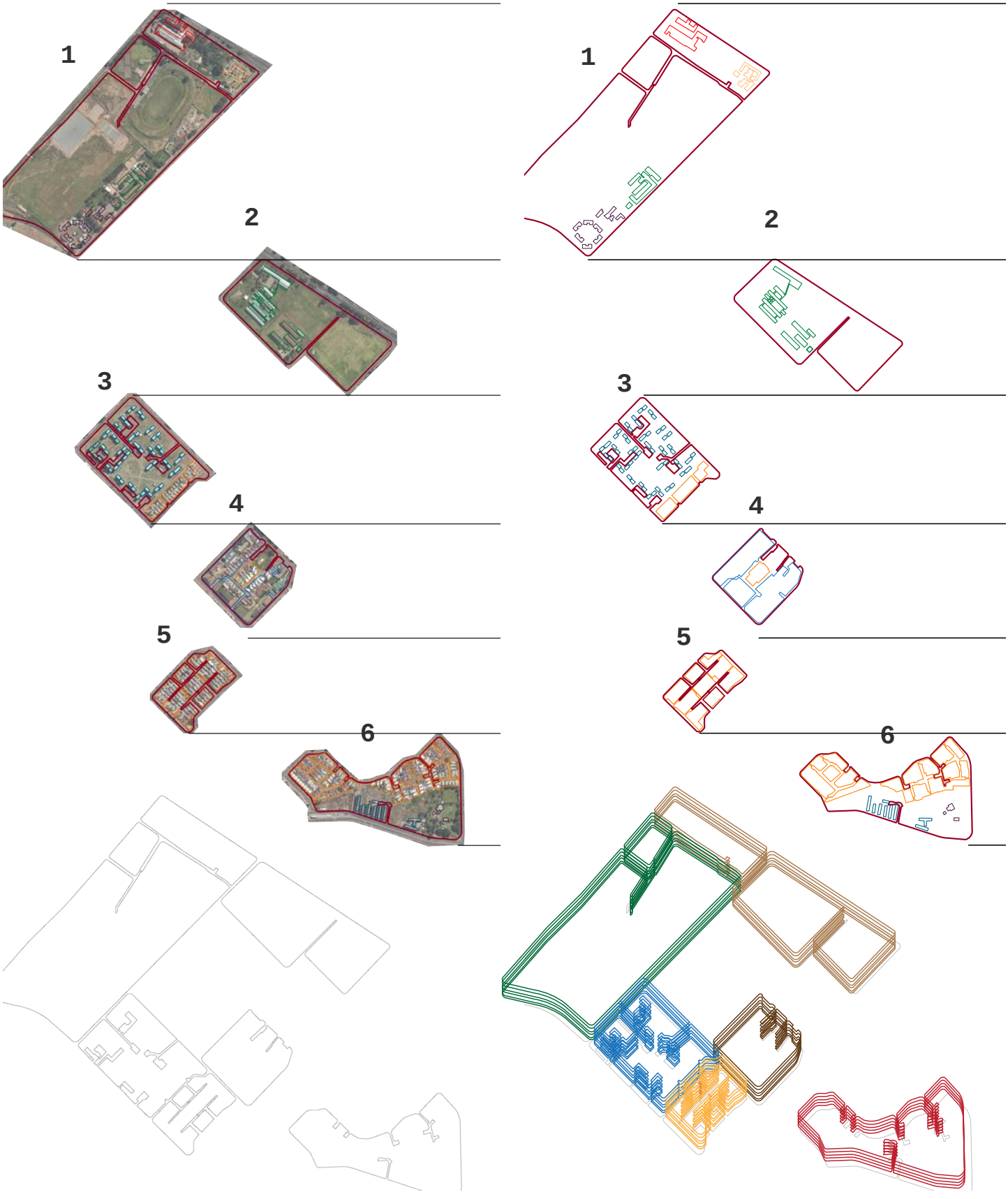


FIG 3.13. Urban block typologies identified in the context of Westbury, Author, 2017

Selecting a site within Westbury

In order to focus the study area within Westbury, a rigorous analysis identified different potential sites or urban blocks for investigation.

The criteria for selection were:

1. An urban block* with undefined edges
2. An urban block* with potential densification/which falls in a zoning area where densification would be appropriate/within the urban framework identified for densification
3. An urban block* with the potential to contribute to the urban atmosphere in a positive sense
4. An urban block* located in a problem area

* Here urban block is defined as an area surrounded by a street in which two cars could drive past one another without interruption.

In this analysis it was important to communicate the different urban block typologies that Westbury consists of. Seven typologies were identified:

To the left is a map with the urban blocks identified as different typologies in the context of Westbury:

1. Edges mostly undefined, huge, extension of the buffer typology into the interior of Westbury
2. Buffer with sport/school facilities, still larger compared to other urban blocks
3. Large undefined block with free standing medium density apartment buildings
4. The civic block, pedestrian orientated with mixed use
5. Single plot, single storey, pedestrian orientated, continuous edge
6. Edges undefined from one side, large, continuation of buffer zone, semi-single plot semi-undeveloped land with 2 areas of medium density apartment buildings.

FIG 3.14. Urban analysis, Undefined open land in areas suitable for densification, Author, 2017

In choosing an appropriate urban block for the proposal, Westbury offered three possibilities with two different approaches to addressing the issues identified:

#1 _____ The "Perception" of Westbury approach _Front teeth approach

#2 _____ The "Weak centre" of Westbury approach _Abscess approach

Below is a map indicating the three the urban blocks which satisfied the criteria.

URBAN APPROACH 1:

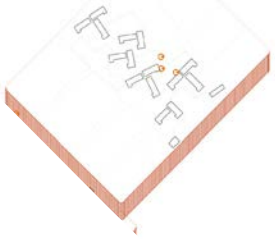
THE PERCEPTION OF THE ISLAND:

The approach from the outside in

URBAN APPROACH 2:

THE ABSCESS:

The approach from inside out



URBAN APPROACH 2:

THE ABSCESS:

The approach from inside out

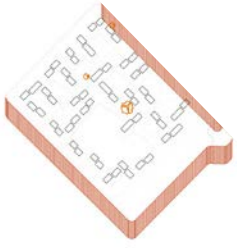


FIG 3.15. Site selection, Author, 2017

Ultimately, the urban block on the edge seemed to offer the potential to improve the "perception" of Westbury because it failed across various levels while at the same time offered many opportunities...

Failures:

- Weak urban edge
- Weak urban management (waste dumping and neglected open space)
- Weak relationship to public space
- Weak boundary condition
- Resident's homes exposed to the public using the park and pedestrian bridge
- Block impermeable, too large, restricting access into Westbury from Fuel Road
- Limited access

Opportunities:

- Undeveloped land offers opportunities for new connections
- The possibility to support the recent infrastructural developments in the area for being located next to the REA VAYA bus station and the new park with pedestrian bridge. The site is located where the recent developments come together, stretching from the exterior edge of Westbury neighborhood to the interior along Kretzschmar Street with sidewalk upgrades.
- The opportunity for exchange between the people from Westbury, as well as to receive possible visitors
- Allows exploration of a possible solution that could inform the development and densification of the entire buffer strip surrounding Westbury
- An opportunity to decrease the size of the urban block to be more pedestrian friendly and to make Westbury more accessible from Fuel Road

THE ISSUES AND POSSIBILITIES SHAPING THE RESPONSE IN DESIGN:

(In the order of importance of influence)

- Urban
- Architectural

On the urban scale, two main aspects contribute to the intentions of the proposal:

- The first is the position of the urban block in relation to the surrounding neighborhoods/ the city. Westbury appears to be isolated from its surrounding areas with many layers of barriers including the buffer zone described above. The block chosen for intervention offers the possibility of defining a new entrance to Westbury and the possibility to connect Westbury to the city and the city to Westbury; space for exchange.

- The second is the character of the urban block which offers the possibility for a **network of buildings** as opposed to a single plot typology.

On the architectural scale there are many opportunities for the proposal to play a supporting role through careful consideration of the definition of the boundary; in other words to better define the whole and the individual functions it envelopes and relates to. The following observations informed the intentions of the architecture as the project developed.

URBAN BLOCK ANALYSIS OF THE CHOSEN SITE:

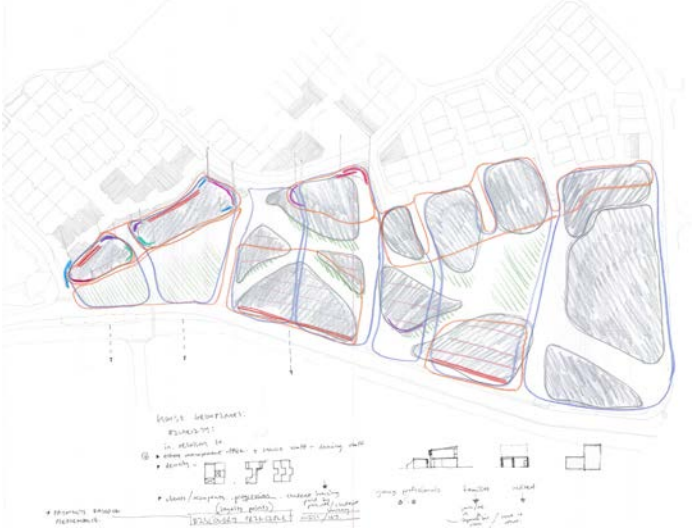


FIG 3.16. The possibilities of new urban blocks to decrease the size of the existing block and to improve access to and from Westbury

FIG 3.19. Topographical areas of note, areas of viewing down the hill over Westbury, steep slopes and vegetation barriers

FIG 3.17. Possible links across the existing Urban block

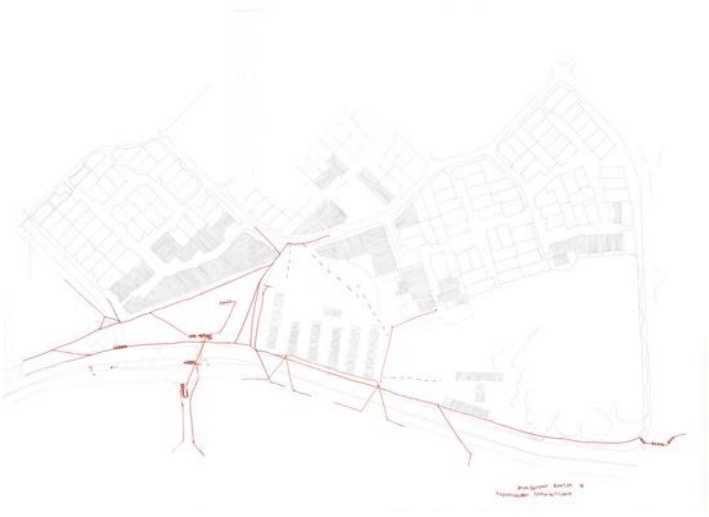


FIG 3.20. Pedestrian movement

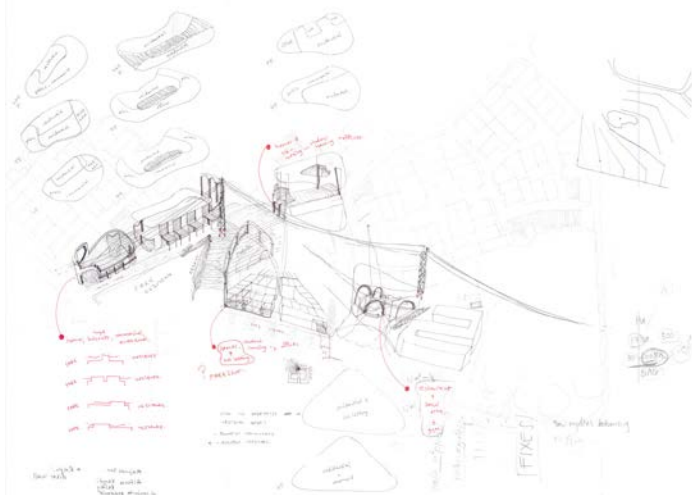


FIG 3.18. Possibilities of place-making that relate to the unique opportunities offered on site

FIG 3.21. Boundary walls with relationships between the residential context and public spaces

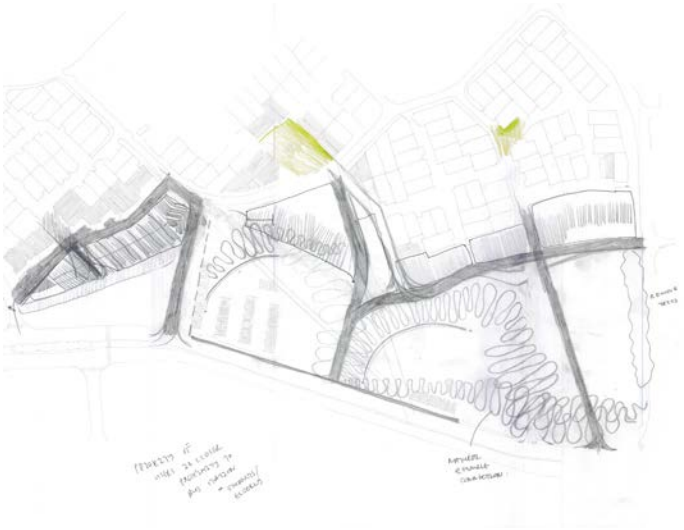


FIG 3.22. Development of improved access

FIG 3.23. Development of the Master-plan, highlighting the line of view in yellow, down the hill , steep slopes and natural rocky areas

FIG 3.24. Development of Master-plan and the continuous urban edge

Above: Fig 3.25. The site and context. (Photographer: Brown Pictures used with permission from Thomas Chapman, edited by Author, 2017.

SITE ANALYSIS OF THE CHOSEN SITE:

Below: FIG 3.26. Site analysis, land-use, areas to be influenced, activities Author, 2017

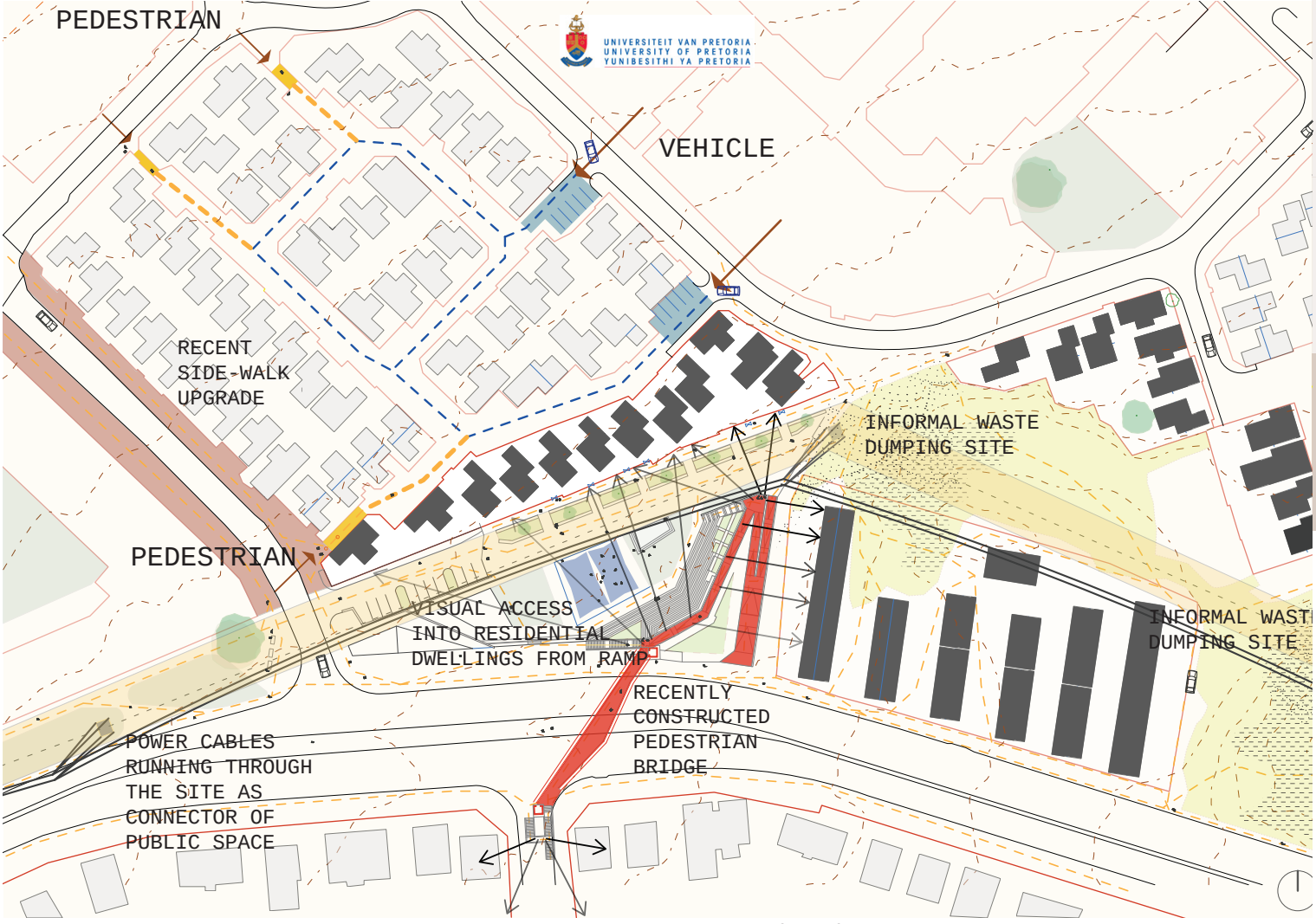


FIG 3.27. Site analysis, electricity line, visual access to dwellings, access, Author, 2017

FIG 3.28. Site analysis, Layers of barriers into Westbury, extensions, storm-water runoff. Author, 2017

OBSERVATIONS

• A sharp increase in extensions to the houses and apartment buildings since 2010 could be traced. The extensions are shack-like, and according to Klug's report p.16 mostly inhabited by extended families instead of outside renters. There are also cases of students renting rooms from the subdivided or backyard constructed rooms. The nature of the extensions are not planned and lead to unhealthy living conditions which are applicable not only to the original house's occupants as well as the additional occupants but also the additional occupants deterioration in living conditions, and ultimately depreciation in property value as well. Another phenomenon is that the people are sacrificing their homes and adapting them to economical functions such as crèche's, shebeens, corner-shops, liquor stores or bars. Sacrificing their living standards for economic opportunities.

• The relationship between the houses/apartments facing the new park with the pedestrian bridge is weak. Walls with steel gates to the backyards of the individual plots giving access to the single storey homes define the relationships to the park on its northern edge. People using the park have visual access to the residential areas surrounding it, both to the north and the east which invades their privacy and possibly also compromises their security. The elevated position leading to and from the ramp of the pedestrian bridge contributes to this problem.

• The dwelling typologies formally constructed are limited in diversity and the built environment has been informally adapted in an adhoc manner to serve different purposes than what it was intended for.

• The resourcefulness of the current dwelling typologies in terms of services, access to land, and possibilities available to the occupants are limited.

Positive observations are that the existing pedestrian experience is colorful in the way people have appropriated their individual homes, and this language could serve to inform the proposal. It would be of value to allow people the opportunity to express their personal status in a similar way as is currently happening.

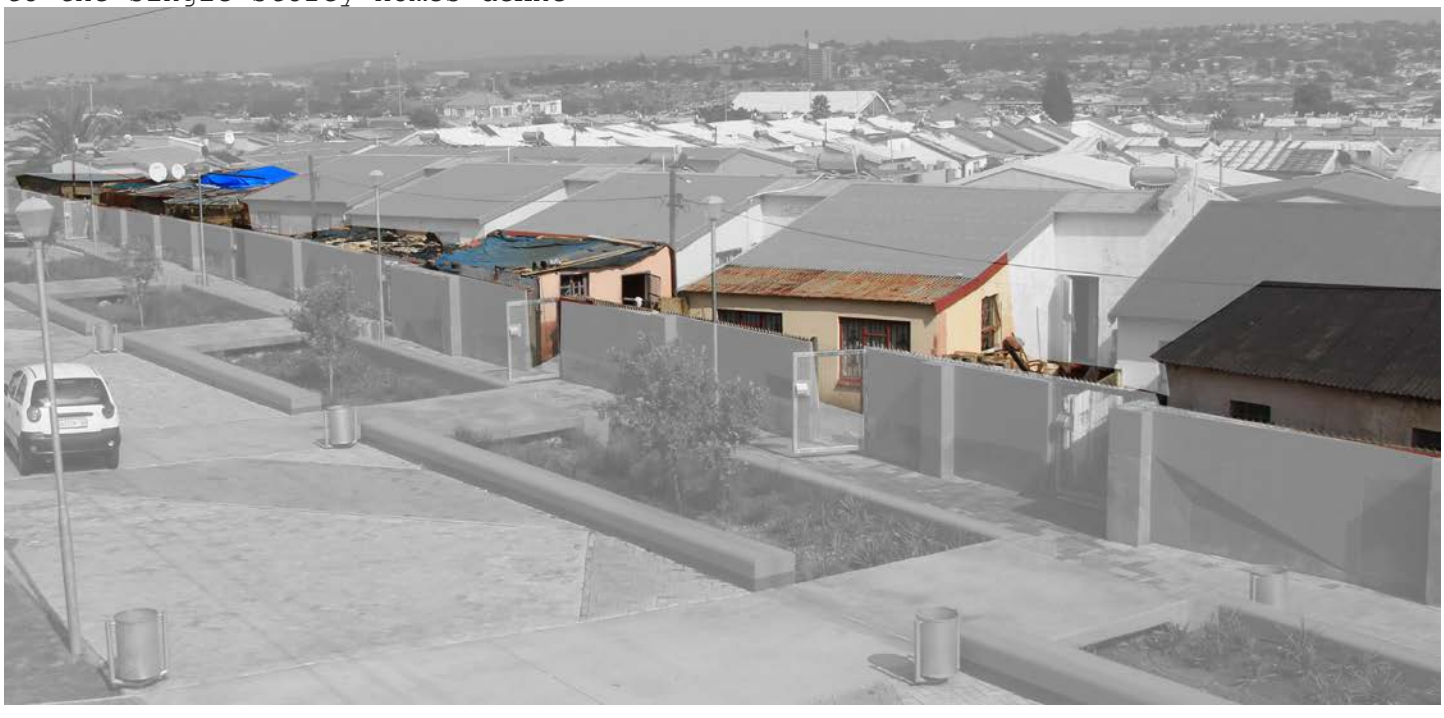


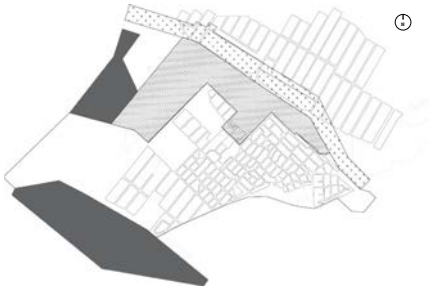
FIG 3.29. Extensions in relationship to public space Author, 2017

FIG 3.30. Site analysis, Extensions of the urban block, increasing floor area inhabited per plot from 87square meters to an average of 130 Author, 2017

4.

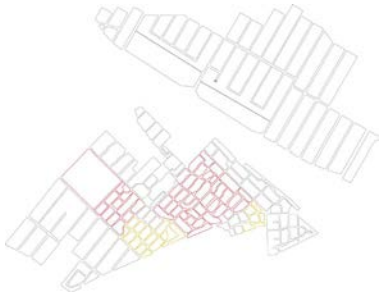
PROGRAM

programme



zoning

green areas



gang territories, minority=varados, majority = fast guns

area of inhabitants not paying rent

FIG 4.1. Urban analysis, How Westbury is activated. Groupwork, 2017

HOW WESTBURY IS ACTIVATED

The programmes were developed from a detailed analysis of the site and its context, and aim to facilitate growth in the community through the built environment and the spaces created. The selection of programs works at different levels in relationship to the existing and future context with the current community as drivers to be empowered through the process.

Activities associated with existing facilities in Westbury include a public swimming pool on Steytler Road, a community hall where dancing lessons, community meetings and private functions are held, a clinic, and a library (all located at the civic centre), the Sophia-town police station, a sport stadium, sports grounds, a metro-rail station, three primary schools, a secondary school and many churches.

Economic activities include small groceries stores on main roads or extensions to individual homes in areas of high pedestrian traffic. People living in apartments offer services or products from their apartments.

The new park developed on Fuel road provides a play area for children, an outdoor gym a performance stage and a seating area for onlookers. The pedestrian bridge also functions as a platform providing an overview of the whole of Westbury and beyond.

An event unique to Westbury is the annual Steven Pienaar soccer tournament for teams ranging from children to teenagers with support from the community and their parents.

The streets serve as a continuation of activities throughout the whole of Westbury; people walk and spend their times in the streets or on the edge of their homes and apartments which overlook the streets.

Parks also contribute to areas of activity, especially the new park developed on Fuel Road which is shared by children, grown-ups and the elderly from Westury and Coronationville.

OVERALL FRAMEWORK PROPOSALS

A number of Priority Precinct, and related catalytic projects, have been identified to provide a basis for the broader development strategy for the Precinct.
The precincts identified are:

- Western Central Community Precinct (Area 1 on the plan)
- Kathrada Park & Newclare Station T.O.D. (Area 6)
- Buffer T.O.D. Precinct (Area 2)
- Recreation Precinct (Area 3)
- Fuel Street T.O.D. Precinct (Area 4)
- Westbury Station T.O.D. (Area 5)

FIG 4.2. Newclare-Coronationville-Brixton Corridor Urban Design Framework, Klug, 2017

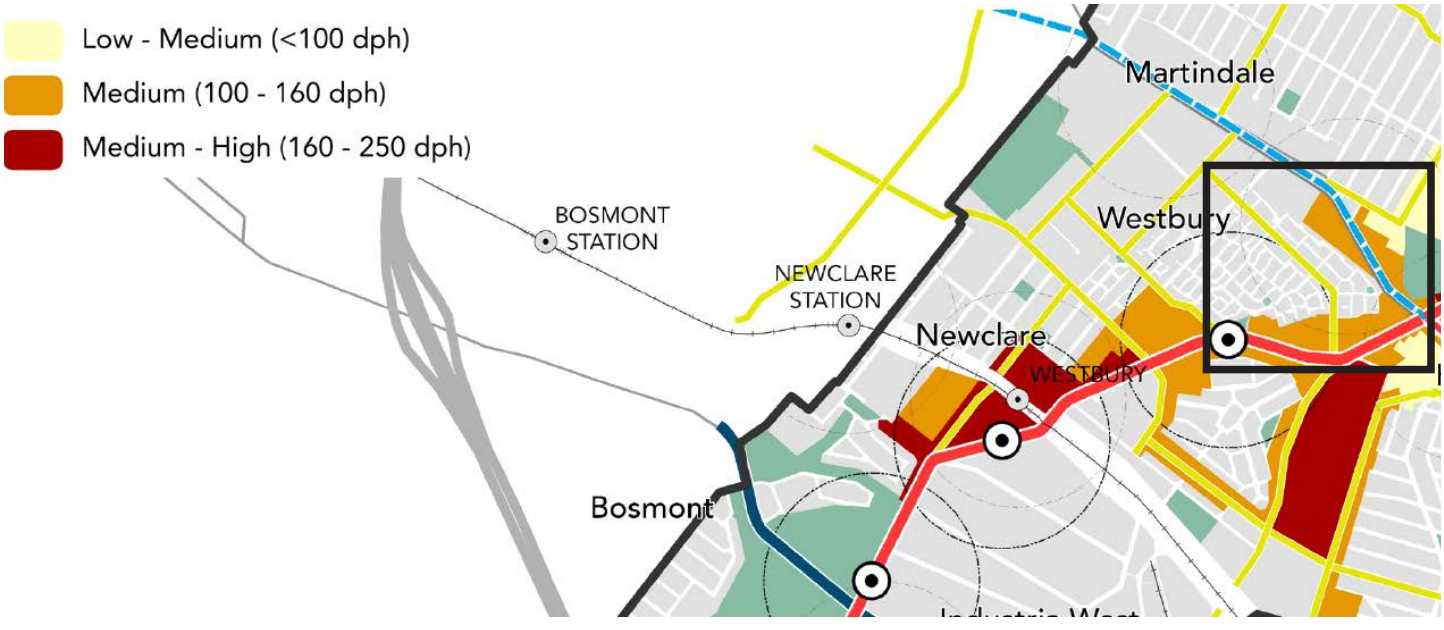


FIG 4.3. Empire Perth SAF, Klug, 2017

FUTURE DEVELOPMENT PLANS INCLUDE THE FOLLOWING:

The Newclare-Coronationville-Brixton Corridor Urban Design Framework commissioned by the City in 2008 effectively introduced the notion of a transport corridor and densification of the areas on either side of Fuel Road, including Westbury. It also proposed increased residential and mixed-use densities and commercial land uses along Fuel Road. While the UDF was a clear attempt to address the spatial disconnects created by apartheid planning, the key critique of the plan is that it merely laid out a list of proposals across the landscape of new roads and buildings, without any detail on implementation mechanisms - **particularly regarding the densification of private property**. (Klug, 2017, p. 39).

The Empire-Perth SAF densification plan proposes **100-160 dwelling units per hectare with a built form of four to six storey buildings** which is significantly higher than in the 2009 UDF proposal. Importantly, the SAF suggests approaches on how to densify areas and provides the most comprehensive vision of how this densification process could be incrementally implemented.

Westbury Precinct Development Plan
The aims of the WDP plan are to:

- identify well-located land parcels for housing projects
- supplement the existing social infrastructure
- create a public space system that would link the new social infrastructure to the existing housing by promoting and facilitating non-motorized movement and activity systems, and
- ensure that the physical form, land use and transportation are integrated (Klug, 2017, p. 45).

With the above in mind, the master plan proposes an open air market space as entry level for the people who already offer services and products from their homes, to attract people from other areas for support.

On a different level it is proposed that the 10m x 18m single plot be replaced by a model which enables the owner and occupants (in a house of maximum 3-4 bedrooms) to either run or sub-rent commercial space on the ground-floor facing a public space, as well as an additional apartment on the property - with two bedrooms for students or young professionals. In this way the piece of land would be used to its full potential in a flexible way to accommodate the owner.

This model improves the way owners are able to expand and create income through additional building. Instead of building from a single home in the centre of the plot outward, the building would start at the boundary edges facing the street or public space and grow inwards and upwards leaving a central communal courtyard space to ensure sufficient natural light and air to the interior. In addition the second floor above the apartment available for rent, would be owned by the developer/government with a flexible floor plan to either be used as emergency housing or bachelor units.

The commercial spaces mentioned above could serve as a stepping stone for the entrepreneurs who are successfully trading in the informal market.

With densification comes facilitation. A laundromat, internet café, canteen/ café, a second hand furniture store and a second hand book store is proposed to support the first stage of the densification plan. These commercial functions could change over time. In addition an after school learning centre to provide space for (pre-school,

primary, and secondary learners as an improvement on the current overcrowded dwelling typologies, is proposed.

The phased proposal to complete the master plan for the entire urban block, could include a cooking school, dancing school, a gym, office spaces and a formal restaurant/entertainment area with higher density apartments and more communal living typologies.

The programmes and activities proposed are aimed at improving the existing living conditions of Westbury as well as addressing future anticipated needs. The proposal is not fixed and could be adapted according to the community's needs.

It is believed that housing projects should be designed in relation to the type of city they propose, the relationship between the architecture and the way of living, which promotes:

- a compact city, instead of a dispersed city
- collective housing instead of individual homes, and
- interaction of uses instead of segregation of uses.

The interaction between agents, fluxes and territory is what defines density. The agents are identified as the owners of the land, rulers, urban planners, developers, architects and citizens. Fluxes include natural fluxes like climatic characters, virtual fluxes which are decision flows that occur outside the physical territory like political and economic decisions which effect the physical evolution of the territory, and finally material fluxes which relate to the mobility of people or goods determine the culture and activities of people usually constrained or facilitated by natural and virtual flows. (Mozas, et al., 2015)

THE PHASED APPROACH TO BUILDING THE MASTER PLAN:

Stage 1

The building of the first community facilities as "corner typologies" form the first phase of the master plan proposal. These facilities could include storage space, an administrative office, community meeting space and governmental support services. The facilities would be specified after having conducted community gatherings and meetings confirming the needs of the residents and ensuring successful community participation. The continuation of public space as indicated in the master plan would also be constructed in the first stage.

Stage 2

This stage entails building the proposed 10m x 18m row-house typology between the community facilities described in Stage 1 which will be located on the available land identified in the chosen urban block/buffer zone. The owners living in the areas to be demolished and rebuilt would move to these units with the option to remain there or to move to their previously owned land parcels.

Stage 3

This stage entails demolishing the identified homes and extensions which face existing or proposed public spaces within the master plan area.

Stage 4

This stage entails building the proposed urban block with community facilities and housing which face the recently developed park on Fuel Road.

Stage 5

This stage entails building the higher density residential units with office spaces on the ground floor which face the park with pedestrian ramp and bridge.

Stage 6:

This stage entails building the corner facilities as proposed in the second phase of the project to facilitate the densification and simultaneous construction of more row-house typologies.

In general the model is designed to always accommodate community facilities which can later be turned into commercial space/working spaces. Each row of houses is to be supported by facilities on at least one end. The model aims to create an urban environment in which pedestrians are prioritised. Different activities are expected to increase the diversity of the context and to contribute to the atmosphere of the place.

Now that the issues, opportunities and intentions have been described on various scales of influence, the next chapter discusses challenges/responses of projects in similar conditions. The proposal aims to continue the architectural language in line with these projects.

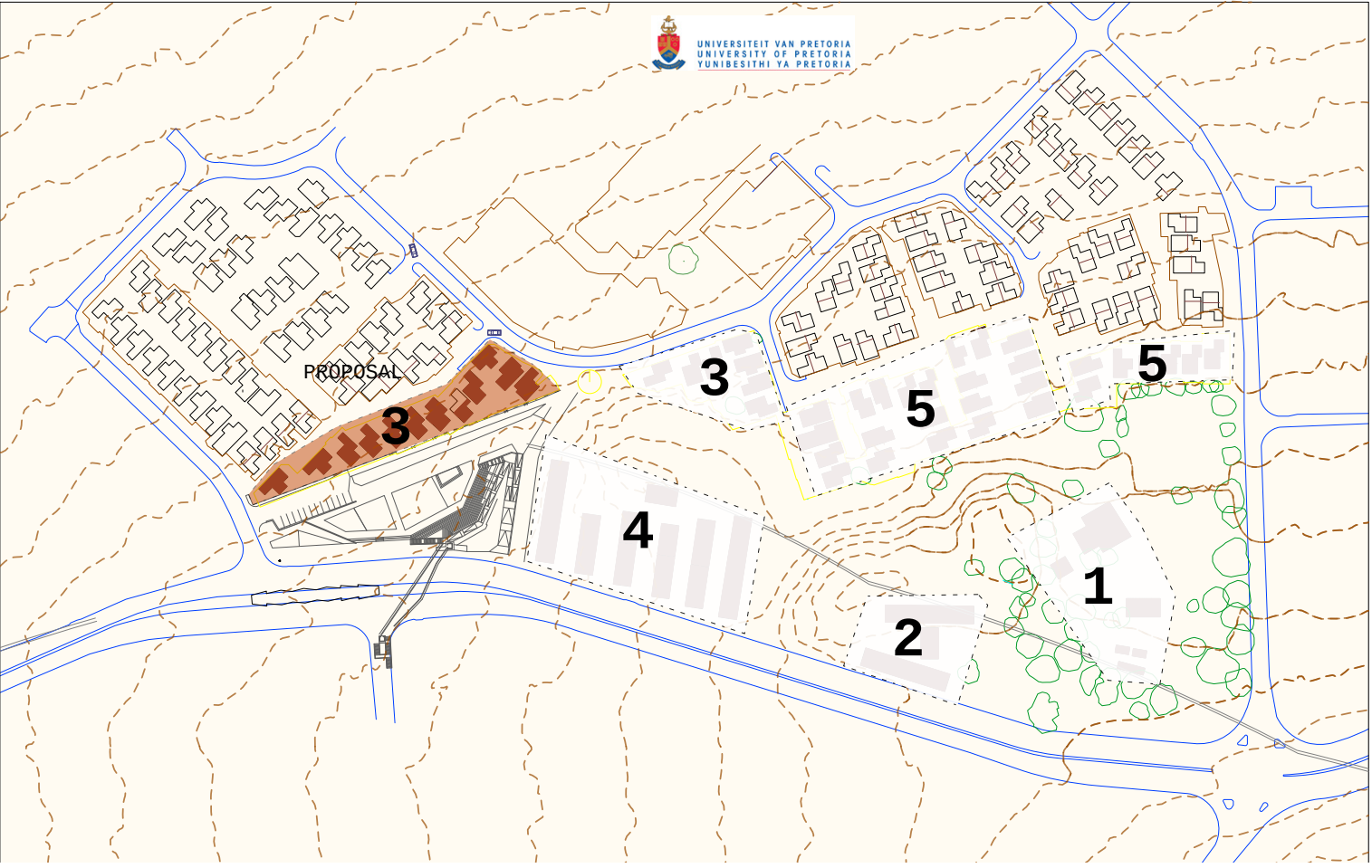


FIG 4.4. Masterplan, phased demolition plan, Author, 2017

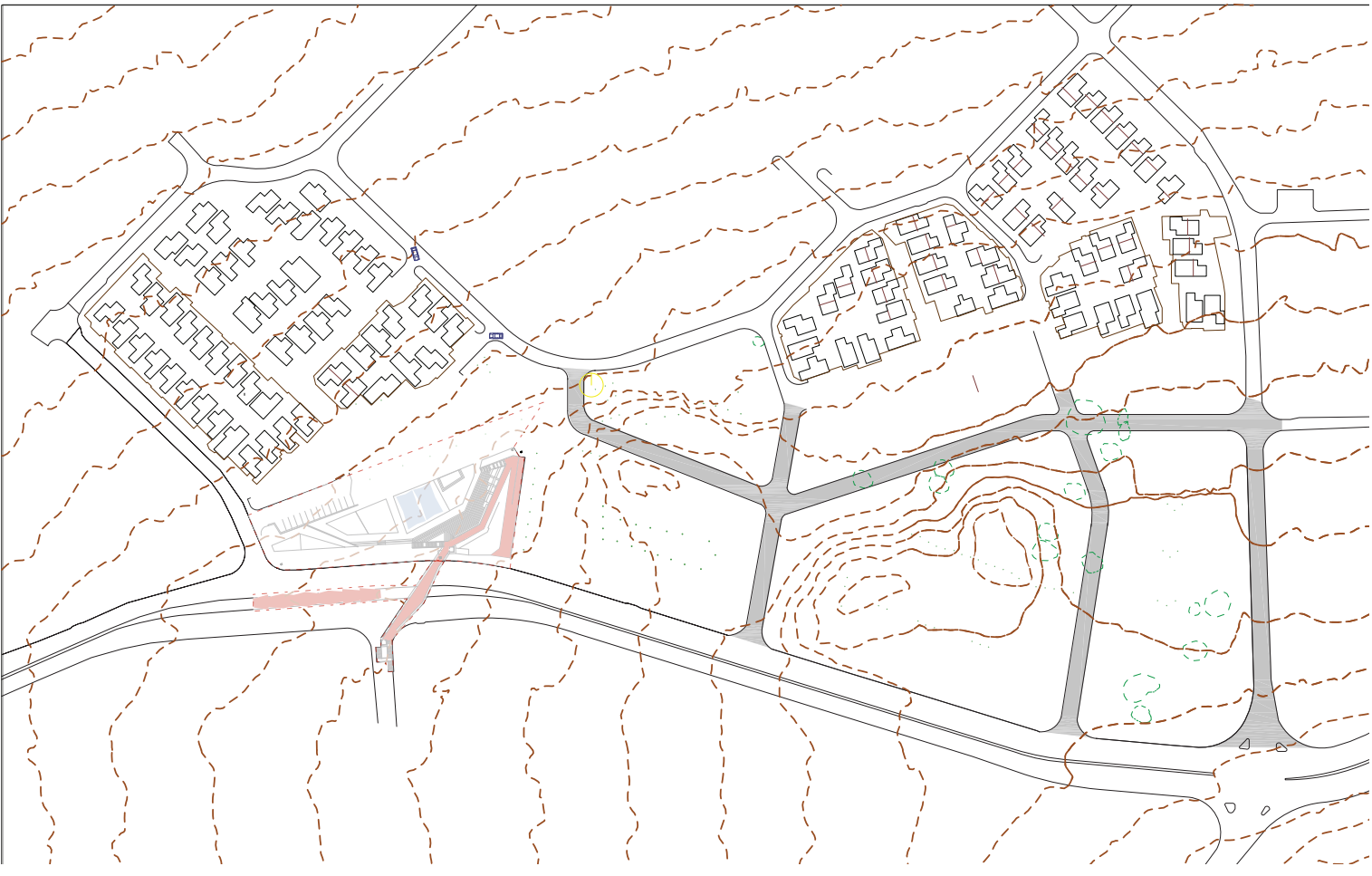


FIG 4.5. Masterplan, New roads proposed into the interior of Westbury, Author, 2017

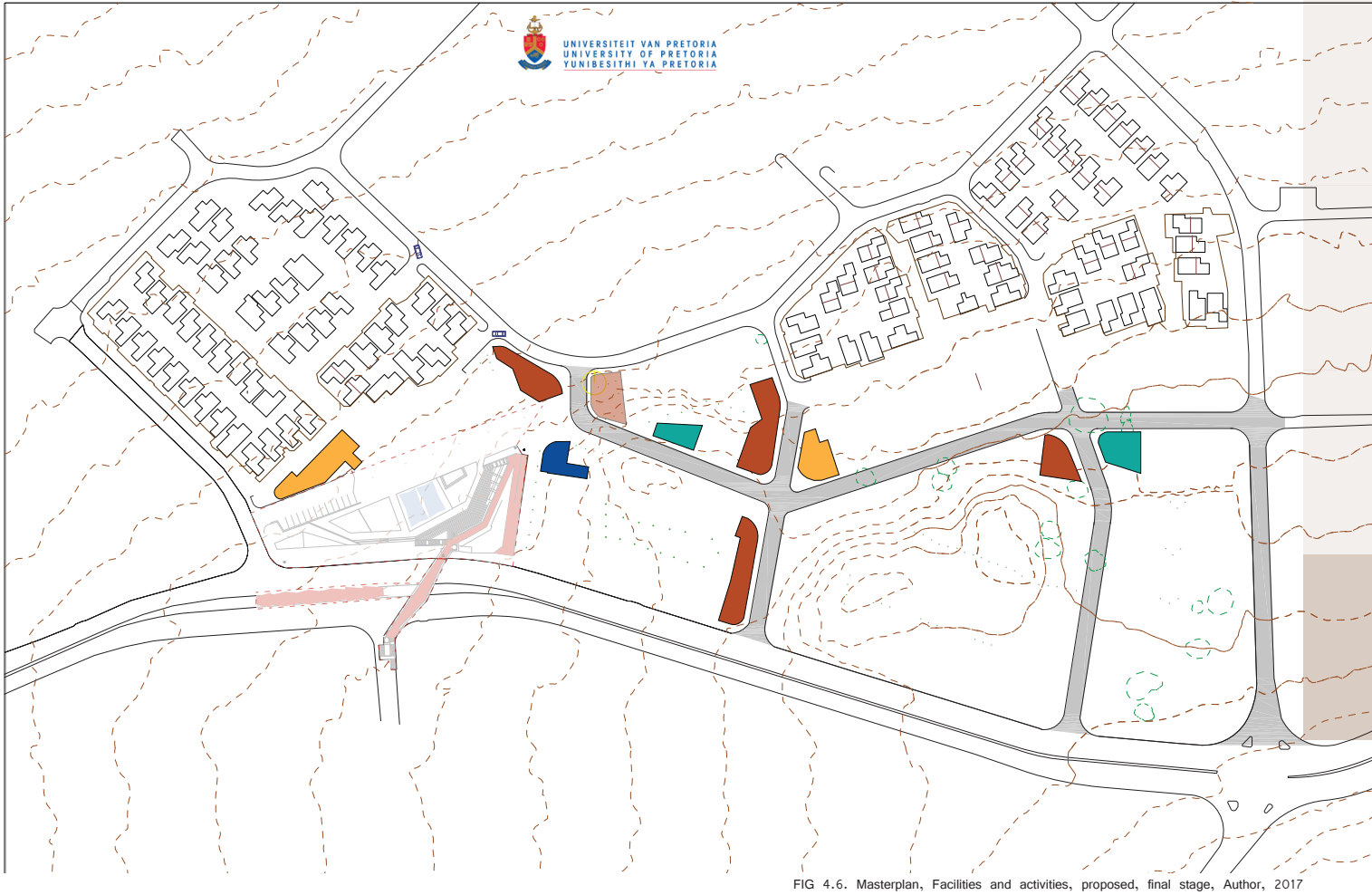


FIG 4.6. Masterplan, Facilities and activities, proposed, final stage, Author, 2017

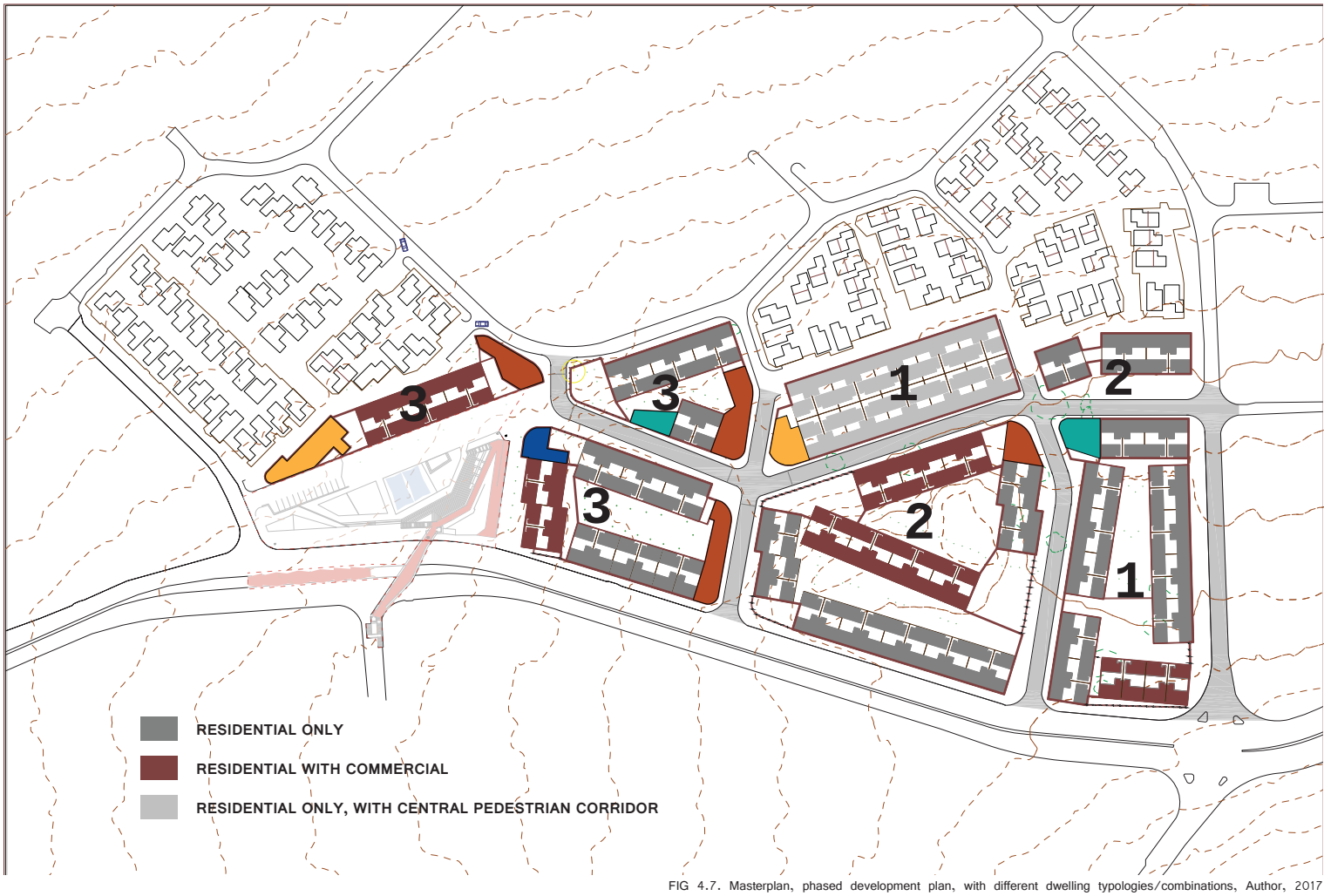


FIG 4.7. Masterplan, phased development plan, with different dwelling typologies/combinations, Author, 2017

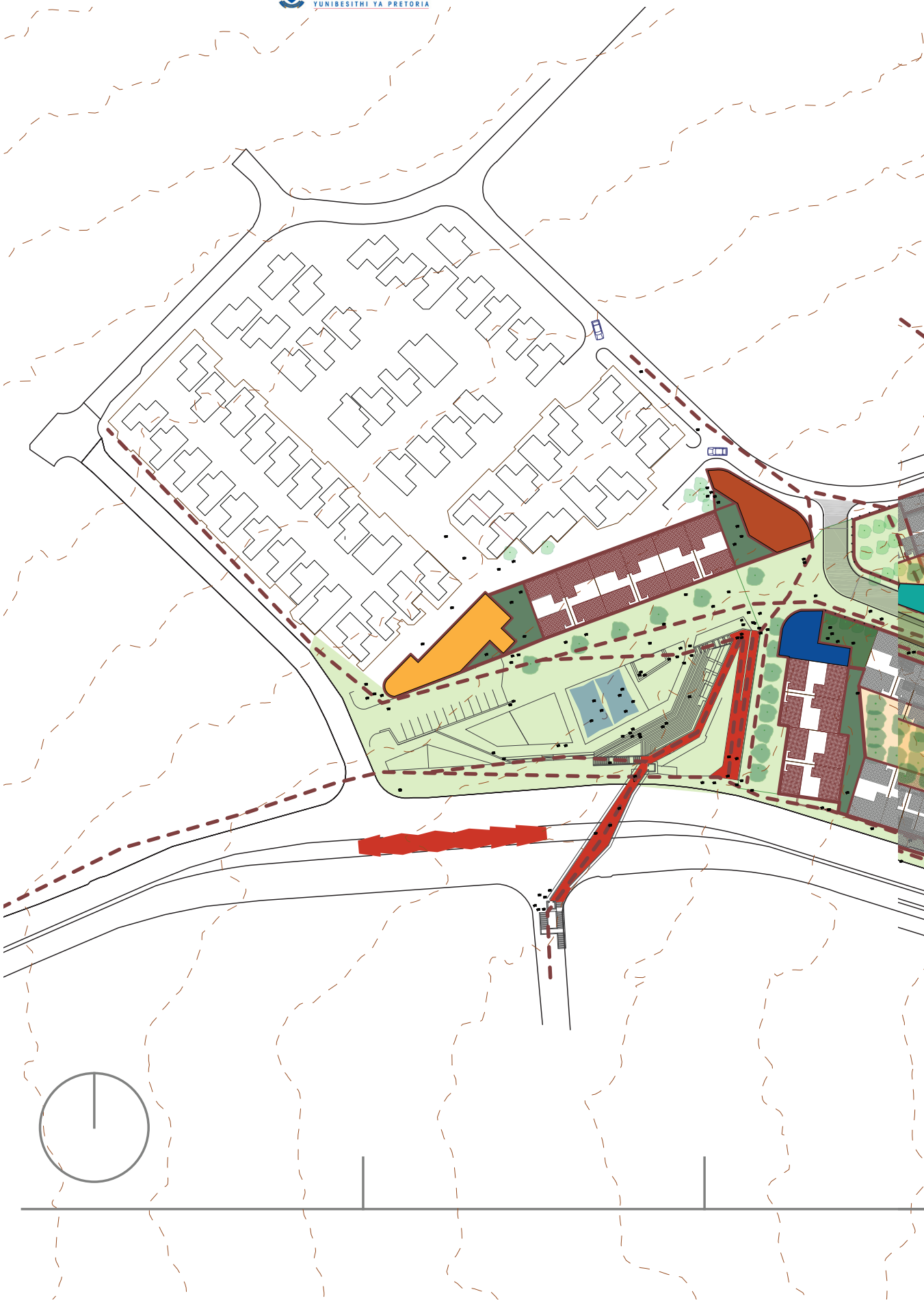
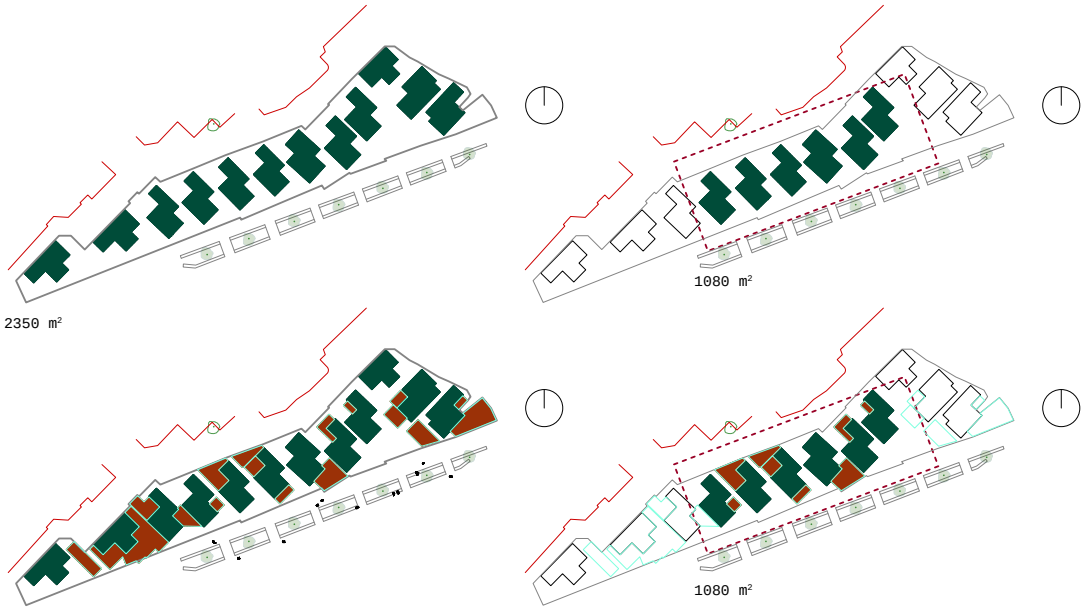


FIG 4.8. Masterplan, Final proposal with the existing public space of the urban block. Author, 2017

GROSS RESIDENTIAL DENSITY:
NO. DWELLING UNITS DIVIDED BY THE TOTAL SITE AREA

NET RESIDENTIAL DENSITY:
NO. DWELLING UNITS DIVIDED BY THE AREA OF THE SITE TAKEN UP BY RESIDENTIAL USE ONLY

EXISTING MODEL



PROPOSED MODEL

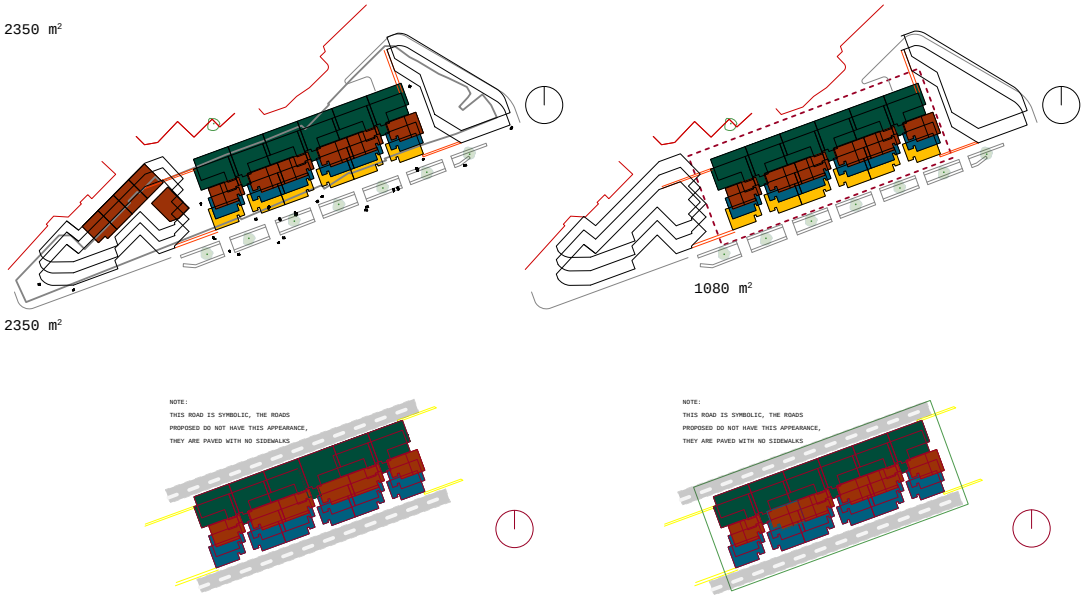


FIG 4.9. Density, Gross vs. Net. Author, 2017

EXISTING RESIDENTIAL MODEL OF WESTBURY

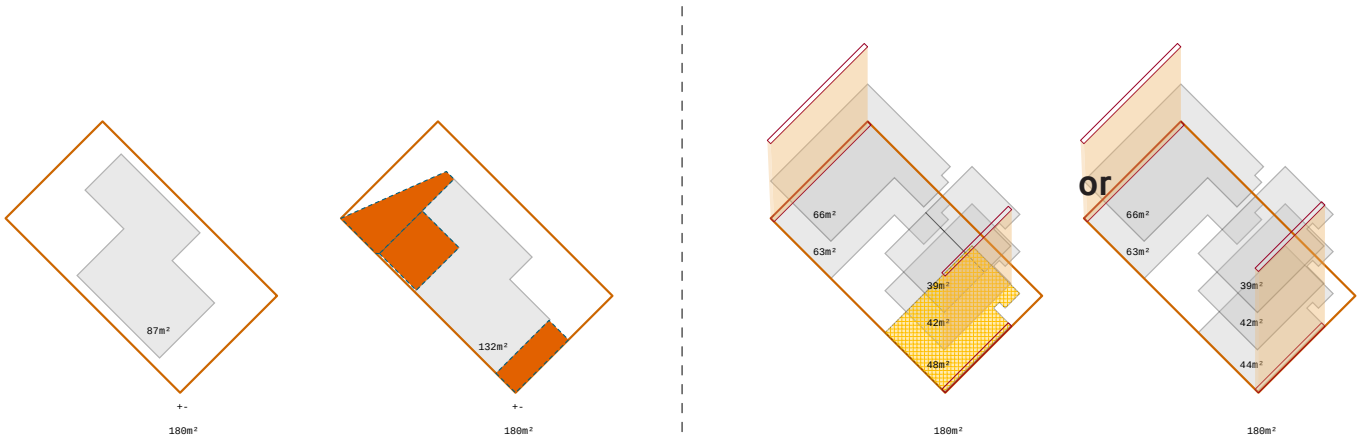
EXISTING RESIDENTIAL AS LIVED

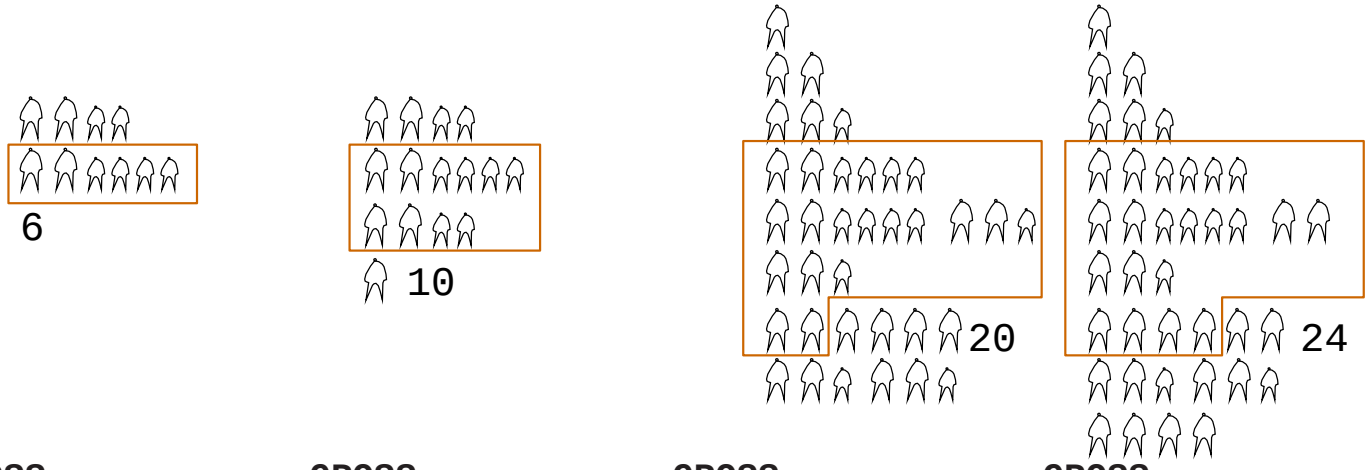
PROPOSED MODEL WITH COMMERCIAL UNIT FACING PUBLIC SPACE

PROPOSED MODEL WITH ONLY RESIDENTIAL UNITS

EXISTING MODEL

PROPOSED MODEL





GROSS DWELLING UNITS/ HECTARE:

51.06 du/ha

NET DWELLING UNITS/ HECTARE:

55 du/ha

GROSS DWELLING UNITS/ HECTARE:

72.34 du/ha

NET DWELLING UNITS/ HECTARE:

92 du/ha

GROSS DWELLING UNITS/ HECTARE:

79.49 du/ha

NET DWELLING UNITS/ HECTARE:

222.22 du/ha

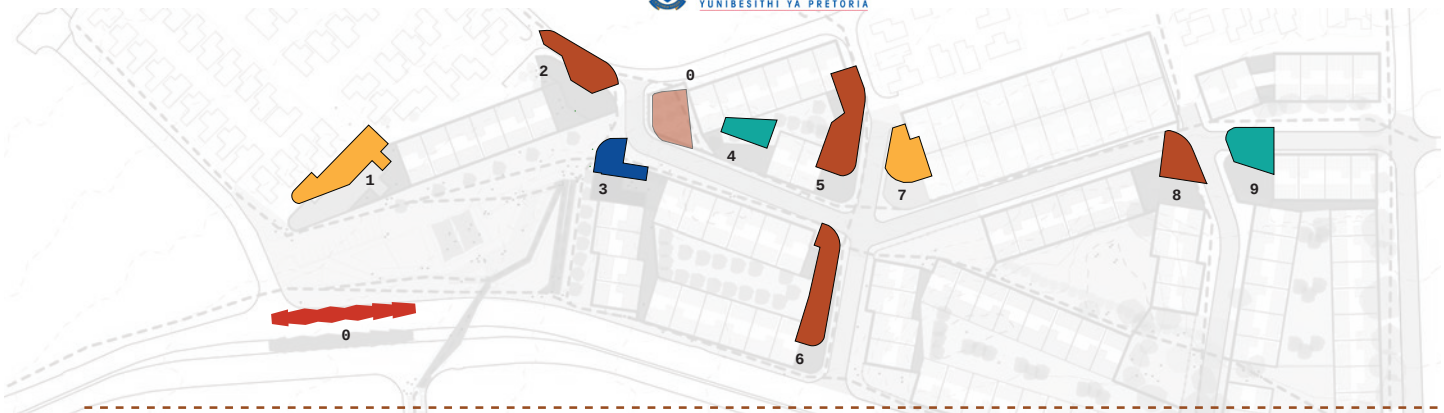
GROSS DWELLING UNITS/ HECTARE:

95.39 du/ha

NET DWELLING UNITS/ HECTARE:

277.78 du/ha

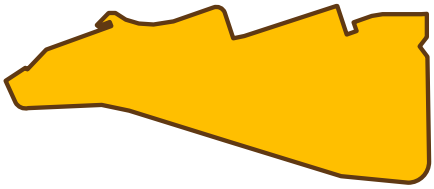
FIG 4.10. Density, Gross vs. Net. Author, 2017



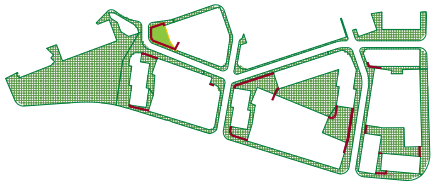
	GROUND FLOOR	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR
	WESTBURY'S REA VAYA BUS STATION			
0	OPEN AIR MARKET AND EVENT SPACE			
1	1: COMMERCIAL CORNER(GROCERIES) 2: EDUCATIONAL + COURTYARD 3: COMMERCIAL(LAUNDRY) 4: COMMERCIAL(INTERNET)	2:**EDUCATIONAL** + COURTYARD	**DWELLING UNITS,** DRYING AREAS AND A ROOF TERRACE	
2	1: COMMERCIAL(**2ND HAND FURNITURE**) 2: CANTEEN	1: COMMERCIAL(**2ND HAND BOOK STORE**) 2: ROOF EVENT SPACE		
3	1: COMMERCIAL/**RESTAURANT** 2: VERTICAL CIRCUALTION	1: **OFFICE SPACE** 2: VERTICAL CIRCULATION	1: **OFFICE SPACE** 2: VERTICAL CIRCULATION	**1: LOOKOUT TOWER** 2: VERTICAL CIRCULATION
4	1: COMMUNITY FACILITY,-PHARMACY	1: OFFICES		
5	1: COMMUNITY FACILITY, GYM, DANCING SCHOOL, OFFICES	1: OFFICES	1: **OFFICE SPACE** 2: VERTICAL CIRCULATION	
6	1: COMMUNITY FACILITY, COOKING SCHOOL	1: OFFICES	1: **OFFICE SPACE** 2: VERTICAL CIRCULATION	
7	1: COMMERCIAL, STORAGE FACILITIES	1: OFFICES	1: VERTICAL CIRCULATION	1: VERTICAL CIRCULATION
8	1: COMMERCIAL, ART AND CULTURE	1: OFFICES		
9	1: COMMUNITY FACILITY, YOUTH CLUB	1:OFFICES		

FIG 4.11. Masterplan, Proposed programs. Author, 2017

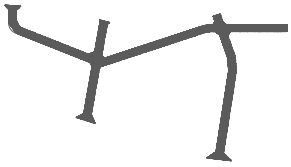
LAND_ OWNERSHIP _ FEASIBILITY



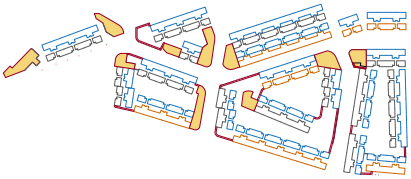
TOTAL
AREA:
50959 m^2



public
space:
24375 m^2 = 48%

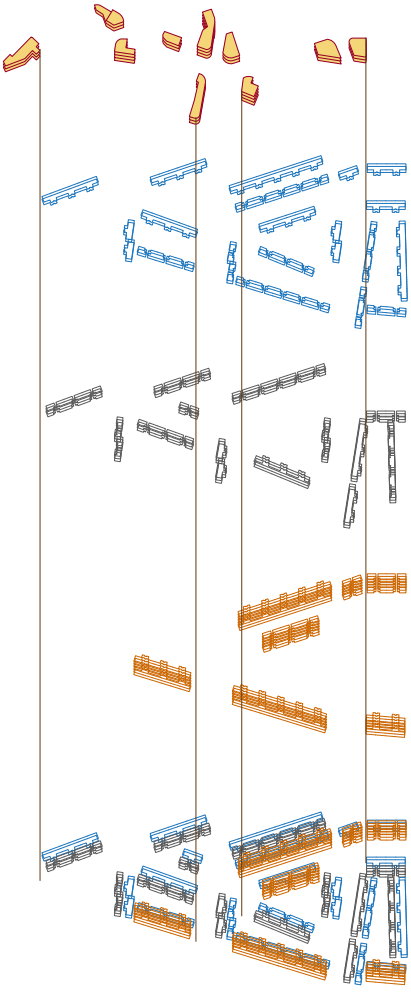


new roads:
4034 m^2 = 8%



proposed buildings:

ground floor area:22550 m^2 = 44%
total built area:45270 m^2



proposed buildings:

commercial & community facilities owned by developers:7546 m^2

dwelling units owned by residents: 13664 m^2
dwelling units owned by developers:24060 m^2

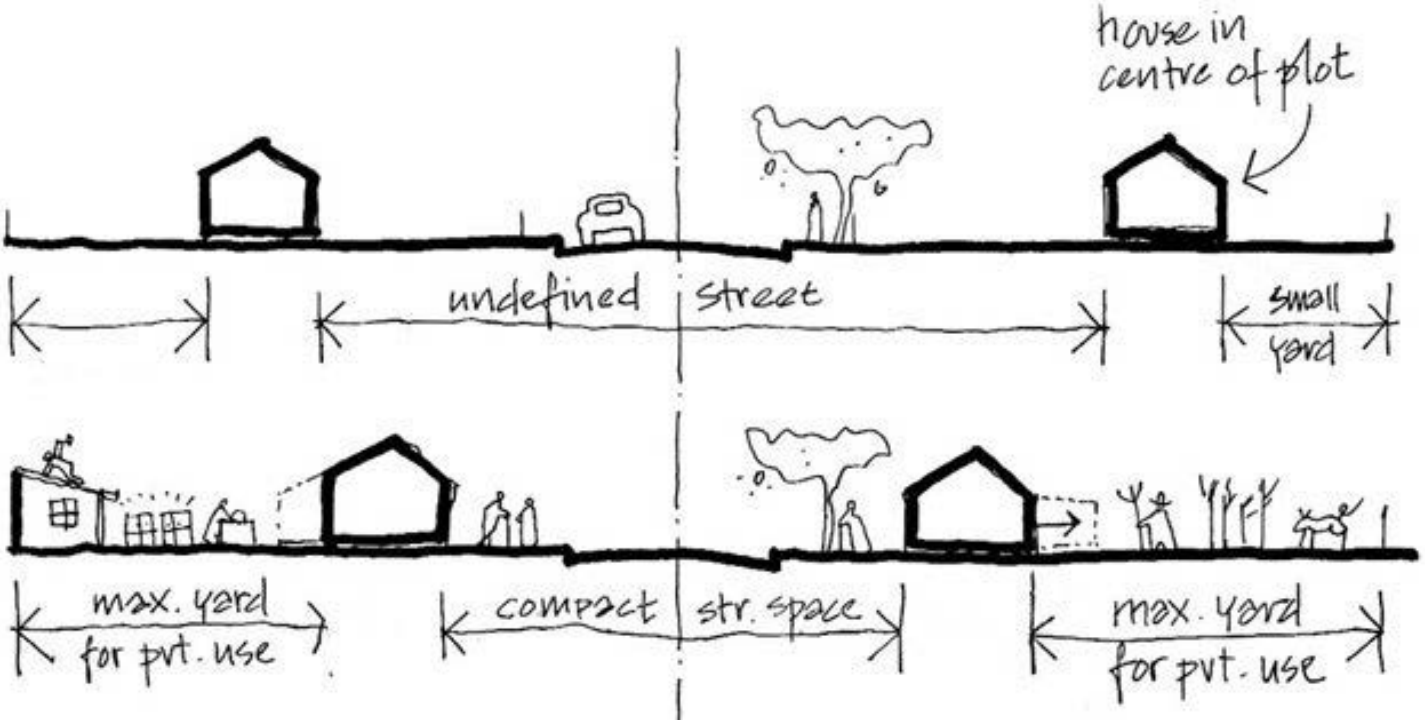
DWELLING UNITS OWNED BY THE COMMUNITY = 37%
DWELLING UNITS OWNED BY THE DEVELOPER/S = 63%

LAND OWNED BY COMMUNITY = 30%
LAND OWNED BY DEVELOPERS = 70%

FIG 4.12. Land ownership and development feasibility. Author, 2017

5.

PRECEDENTS



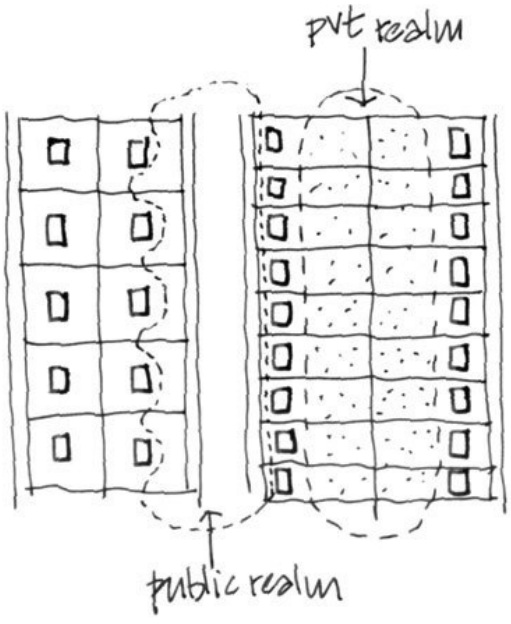


FIG 5.1–5.5. Lufhereng, (Photographed by Conrad Judson, Nic Huisman, Iwan Baan (2610south.co.za, 2017)

PRECEDENTS

Different precedents were selected to address the different scales of current challenges in the context of Westbury, highlighted with South-African and international examples.
The following precedents were studied and analysed:

South-Africa

- Springfield Terrace, Cape Town, Roelof Uitenbogaard and Rozendal(discussed below)

- Lufhereng, Soweto, 26'10 South Architects, 2004.
This project illustrates the development of an interactive street frontage. The grouping of buildings engage the street edge by developing up to the plot boundary. The entrances are designed in such a way to allow residents to sit and face the street thus allowing 'more eyes on the street'. The project further illustrates a densification model reaching two storeys.

- Philippi sustainable housing, Cape Town, Neoro Wolf Architects, unbuilt, 2006
This project illustrates an integrated sustainable systems approach with a unique approach to exchange between residents situated in an agricultural landscape. A dense inhabitable urban wall runs along the main road where most communal activities takes place. This contributes another variation to the row house typology with shared entrances.

International

- Quinta da Malagueira Housing Scheme. Evora, Portugal, Alvaro Siza (discussed below)

- Punt en Komma Project, The Hague, Netherlands, Alvaro Siza
This project illustrates shared entrances with one main entrance staircase leading to 8 different apartments. The project further illustrates the continuous language of the urban edge with unique corner conditions housing facilities.

- Hundred Mile City, London, Peter Barber (discussed below).

- Donnybrook Quarter, London, Peter Barber.
This project illustrates an urban block approach to defining the limitations of the housing scheme, the language of the whole and the creation of well-defined communal and private spaces within the urban block.

What these projects have in common is a strong urban edge, or the development thereof contributing to a positive urban atmosphere. They illustrate different typologies for living and unit sizes, and they all aim to densify and incorporate the facilities that go with densification. For the purposes of this paper only 3 will be discussed in depth. Short descriptions of the rest are given to show how they serve as examples.

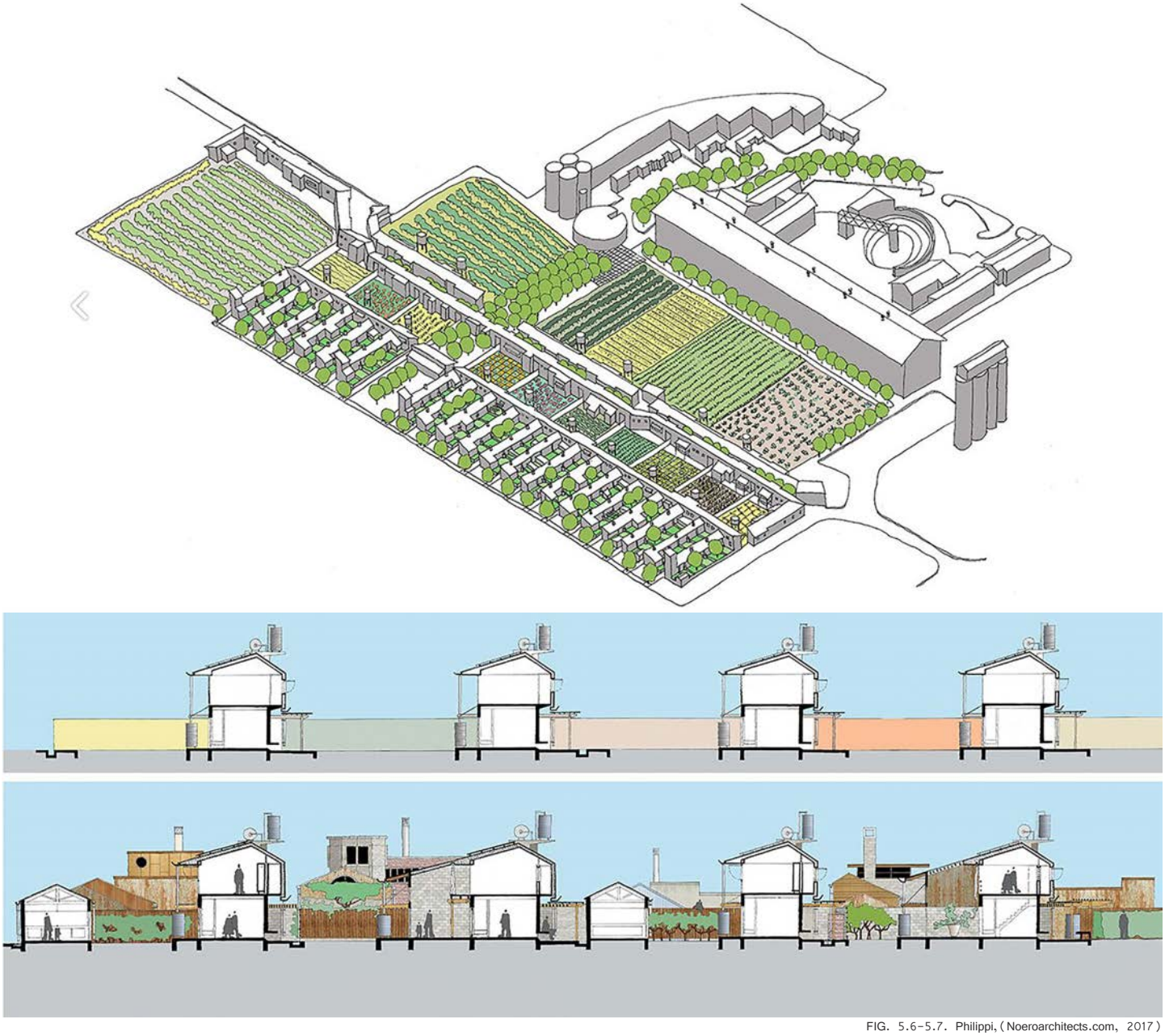


FIG. 5.6-5.7. Philippi, (Noeroarchitects.com, 2017)

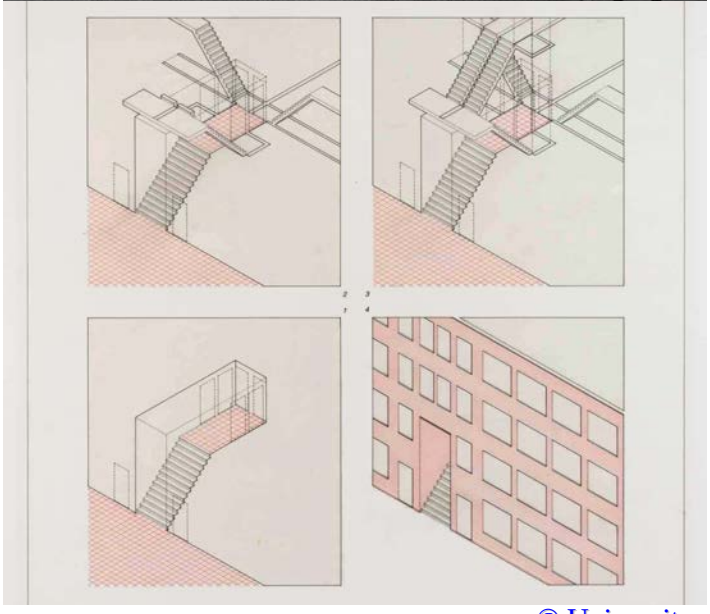
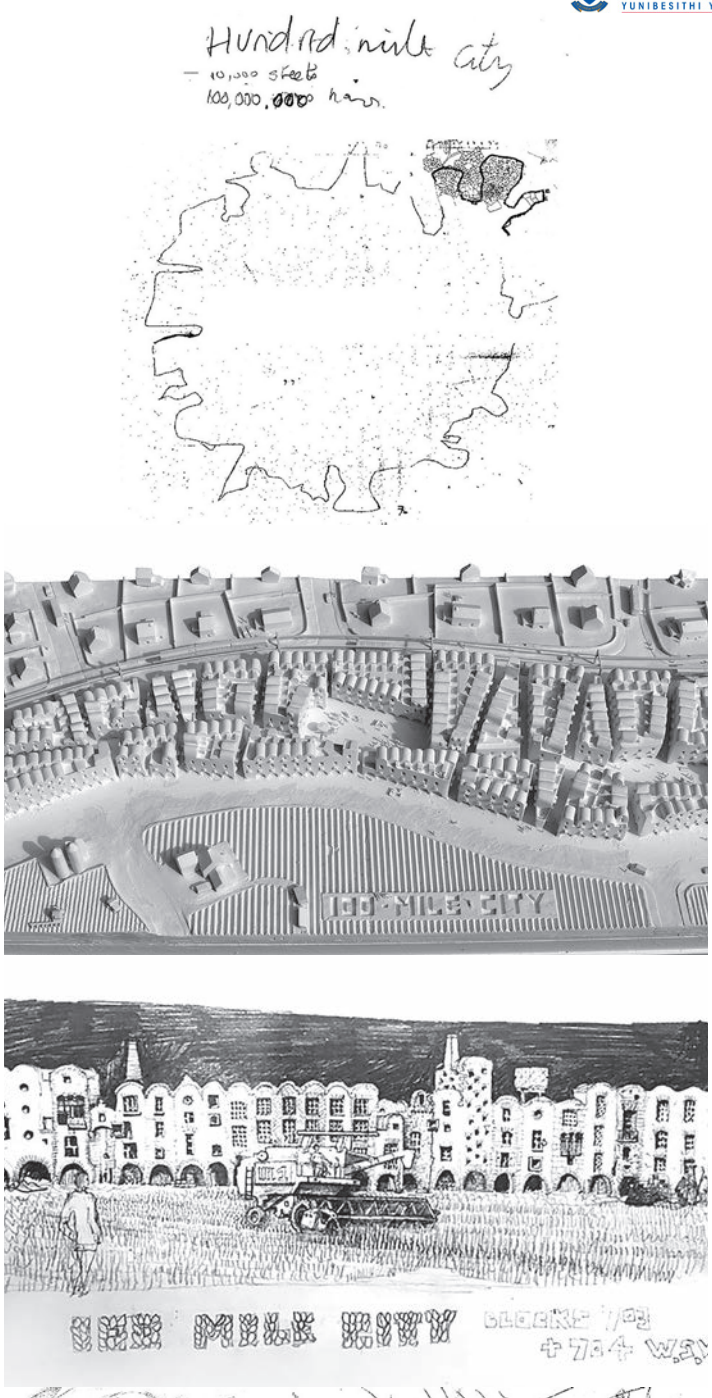


FIG 5.8-5.10. Punt en Komma (Castanheira, 2014), (Floornature.com, 2017)

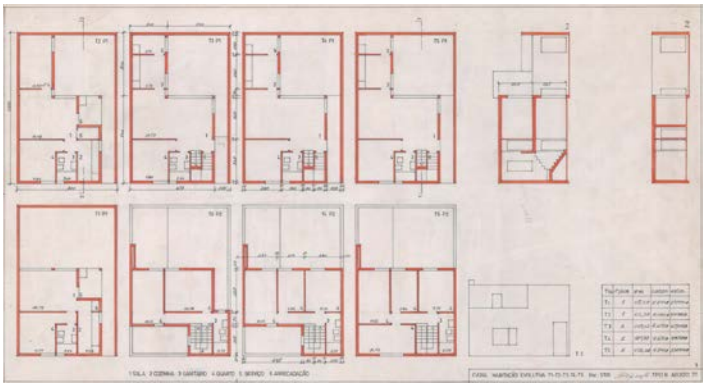
FIG 5.11–5.14. Donny Brook Quarter, (Peter Barber Architects, 2017)



The hundred mile city urban scheme.
London, by Peter Barber (Proposal stage)

This project entails the densification of an entire urban strip on the edge of London, where agricultural areas meet the urban. It informed the densification strategy/language of the entire buffer strip surrounding Westbury as an approach to create opportunities in both directions, to the interior of Westbury as well as to the surrounding urban areas. Densifying this area in a similar manner could improve the negative perception people have of Westbury as it is. This is the least invasive strategy. Since open land is available to be developed before the existing homes are demolished, people would not have to be relocated from the area. The current model allows for row-houses/apartments to determine the major part of the urban edge with community facilities on corner buildings - which relates to how the 100 mile city incorporates mixed use into the housing fabric. Both projects are located next to a public rapid transport system supporting pedestrian friendly urban residential environments; the projects share a similar city urban framework in the way they could densify.

FIG. 5.15-5.18. 100 Mile City, (Peter Barber Architects, 2017)



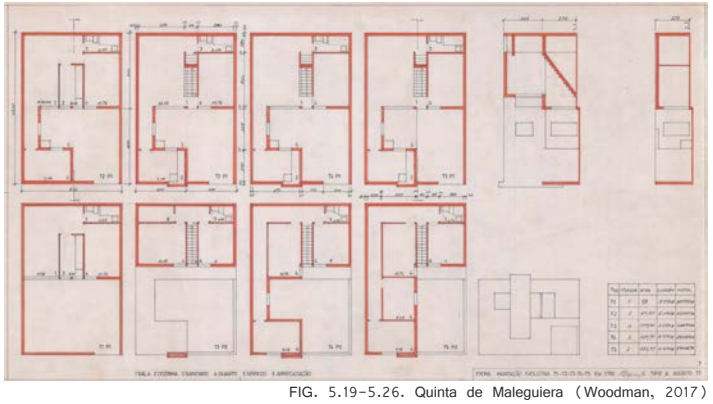
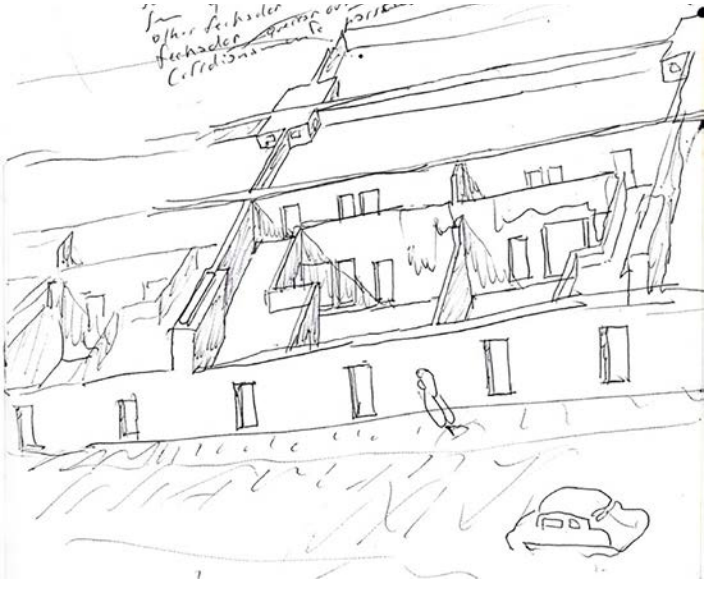


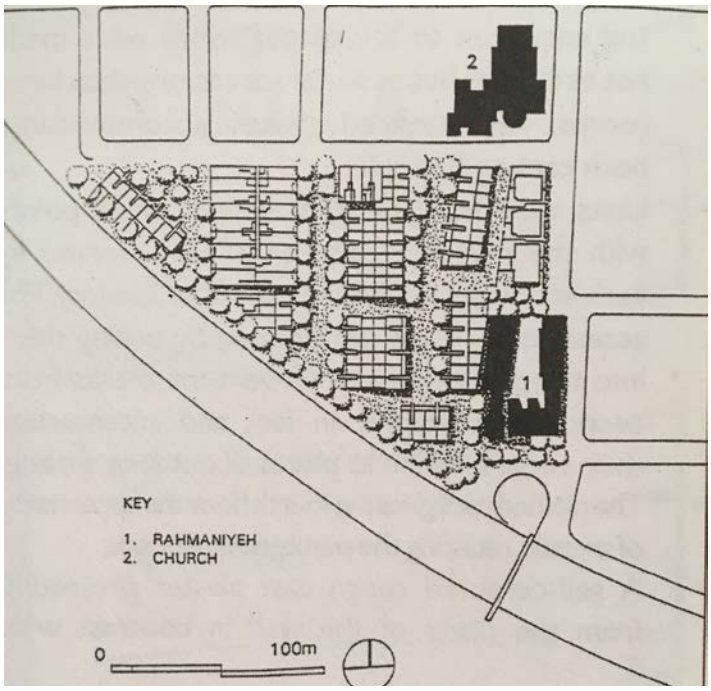
FIG. 5.19-5.26. Quinta de Maleguiera (Woodman, 2017)

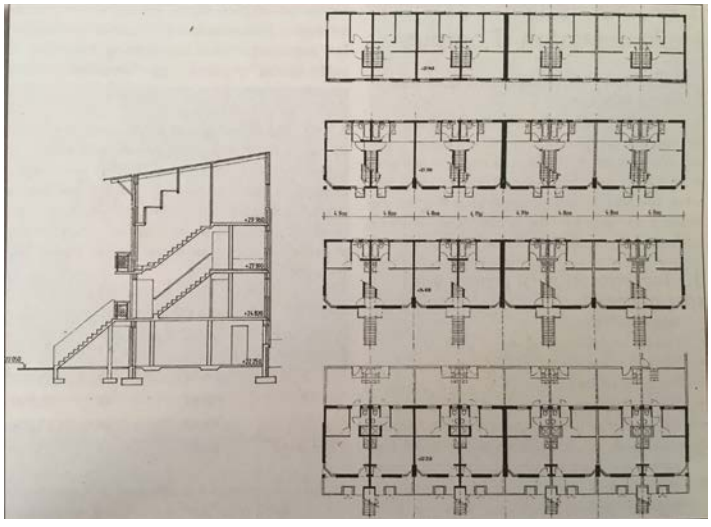
Quinta da Malagueira housing scheme. Evora, Portugal by Alvaro Siza, late 1970s

This project achieves a high degree of architectural variety addressing the different economical possibilities as well as different occupational typologies. The most important principle taken from this project is that it was designed to its greatest potential from the start. The houses are designed to be added on-to over time by the occupants; they begin in a simple two-room house built on one level that can be transformed into a much larger dwelling with several bedrooms, multiple baths, and roof terraces. The incomplete quality of the evolving houses within the walled volume helps to break down the strict repetition typical of most low cost housing projects (Sherwood, 2002). The manner in which this process is controlled contributes to the success of the project. People do not build and expand as they see fit but remain within per-determined expansion plans, methods and construction set up by the architect. In this way the urban environment can keep to the principles envisioned by the designers. Another unique aspect about this project is its system of raised concrete aqueducts which connect the separate residential clusters together and provide the infrastructure for water and electrical distribution. Raised channels made of exposed concrete blocks supported on columns form a more-or-less continuous loggia structure that connects neighborhoods while servicing each house in the neighborhood clusters. The aqueduct system was justified on the basis of cost, but also functions as a large-scale planning device that connects neighborhoods and forms public arcades defining entrances to groups of shops and other public facilities. Because it is built to the height of the roof of the second floor and is left as unfinished concrete, it provides visual and formal relief from the continuous white surfaces (Sherwood, 2002). This approach of service distribution which also defines the urban language is very effective.



The dwellings at Malagueira are patio or atrium types with an “L”-shaped groups of rooms on two sides of a small interior patio. There are two similar types, both built on an 8m x 12m plot: one with the courtyard in front and the other with the courtyard at the rear. Both have living, dining and kitchen spaces at the courtyard level with an interior stair leading to the bedrooms and terraces above. The two types can be combined in several different ways resulting in different patterns of solid and void. This manipulation of paired combinations is a key to the rich concatenated rhythm that is achieved with a pallete of only two dwelling types. Wall heights vary from entry gate height to the second floor height, to a vent wall that is perpendicular to the street and extends to the height of the second floor roof. This range of wall heights coupled with alternating positions of patios and terraces results in a rich three-dimensional composition (Sherwood, 2002).





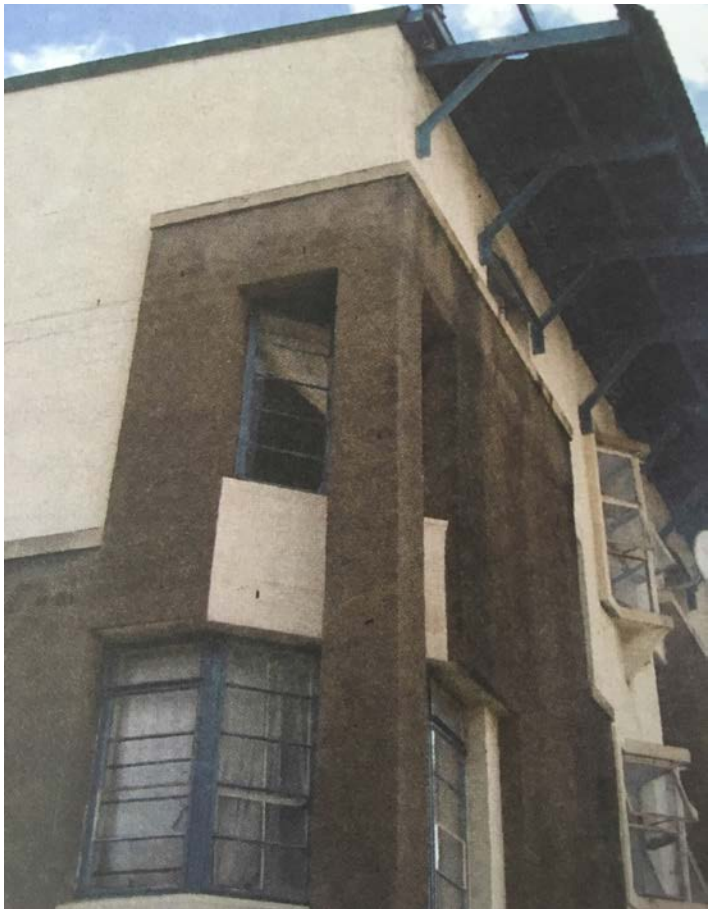


FIG 5.27-5.31. Springfield terrace, (Tonkin, 2009)

Springfield Terrace housing scheme. Cape-Town, Roelof Uitenbogaard and Rozendal, 1992.

This project is regarded as the first non-racial inner city infill project in South-Africa with the objective of providing well-located high density housing for the lower income market (Tonkin, 2008, p. 192). This is a low-rise (three storey with lofts) development categorized as medium density which offers a variety of dwelling units. The main aspect which defines the project is the way in which the architect dealt with urban edge contributing to public space and street atmosphere. The project is also used to compare unit sizes relevant to the context of South-Africa's housing standards. With a minimum size of 30m2 for a bachelor flat, 35-40 m2 for a 1 bedroom unit and 45m2 or larger for a 2 bedroom unit(specified by the Social Housing Regulatory Authority, 2017, September) Springfield Terrace offers 20, 3 bedroom units with an area of (67-73m2); 42, 2 bedroom units (50-64m2); 34, 1 bedroom units (30-43m2); and 28, bed-sitter units of (26-36m2) (Tonkin, 2008, p. 201).
Particular attention was paid to certain architectural elements to achieve different effects on both the larger and smaller scale:

- The units were structured vertically in a variety of combinations to provide a range of accommodation types, and therefore a social mix.
- The units are horizontally attached in a series of blocks to ensure efficient land-use.
- The blocks were consciously used to give scale and enclosure to the spaces which were made not as streets, but as social spaces or urban living rooms. These surfaced spaces accommodated both cars and people.
- The units were concentrated around access points with a minimum number of units served by each stairway to enhance a sense of security. The access points were accentuated by pulling them into the public space to prevent the blocks from having a monolithic feel, and to accentuate their function as places of outdoor seating.
- The pitched roof gives the fourth floor the appearance of an attic, reducing the perception of height.
- A self-colored rough cast plaster projecting from the plane of the wall in contrast with the unplastered block-work of the rest of the façade unifies the public facades of the blocks and creates a larger scale.
- The corner of each block is formed by a free-standing structural pier with a splayed corner window behind it. This brings about an unbroken transition from one public space to another, and apart from practical functions it provides three-dimensional articulation to the façade at the junctions between units. In the interior the tall corner windows allow light to flood the room and also larger wall space, creating a sense of spaciousness (Tonkin, 2008, p. 203).

The urban and architectural intentions of this project compares with the principles which this proposal aims to apply.

6.

CONCEPTUAL INTENTIONS p. 132-139

Art as communication medium to demonstrate the project's intentions

The relationship between an individual and the house (identity)

The relationship between an individual and the community (good and evil)

The relationship to the scale of the city

The relationship to the scale of the urban block

The relationship to the scale of a network of buildings

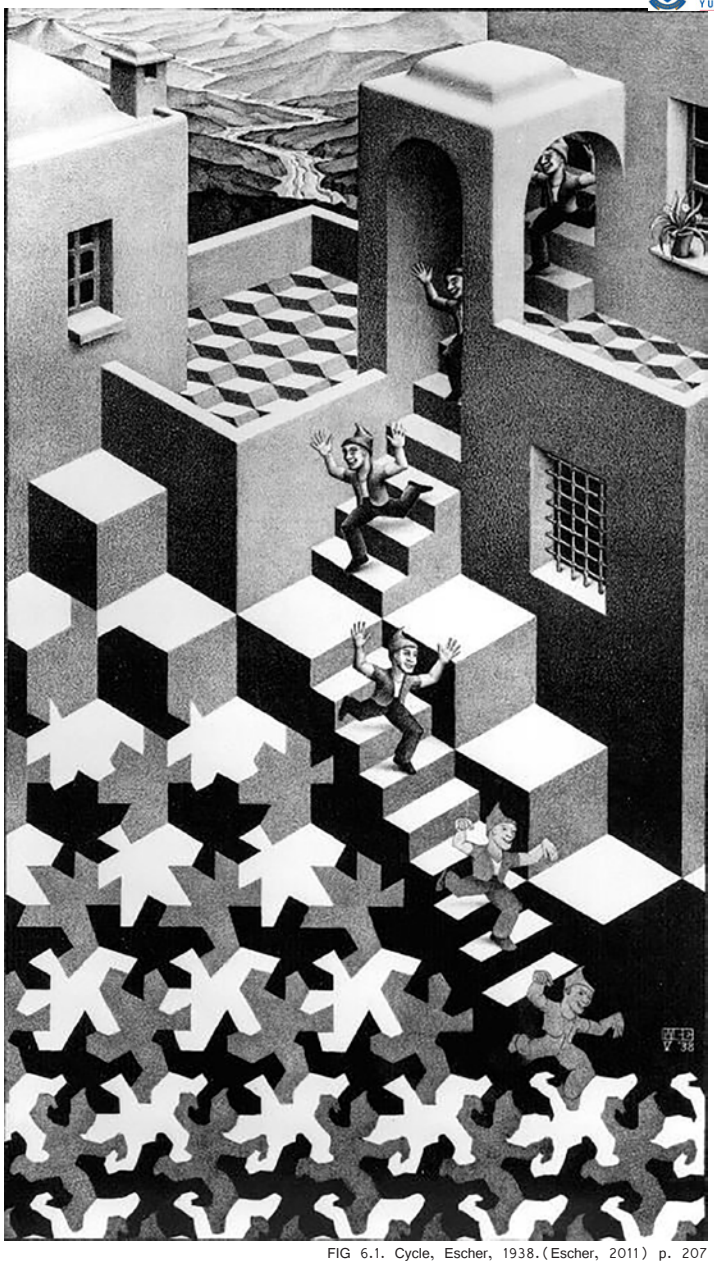


FIG 6.1. Cycle, Escher, 1938.(Escher, 2011) p. 207

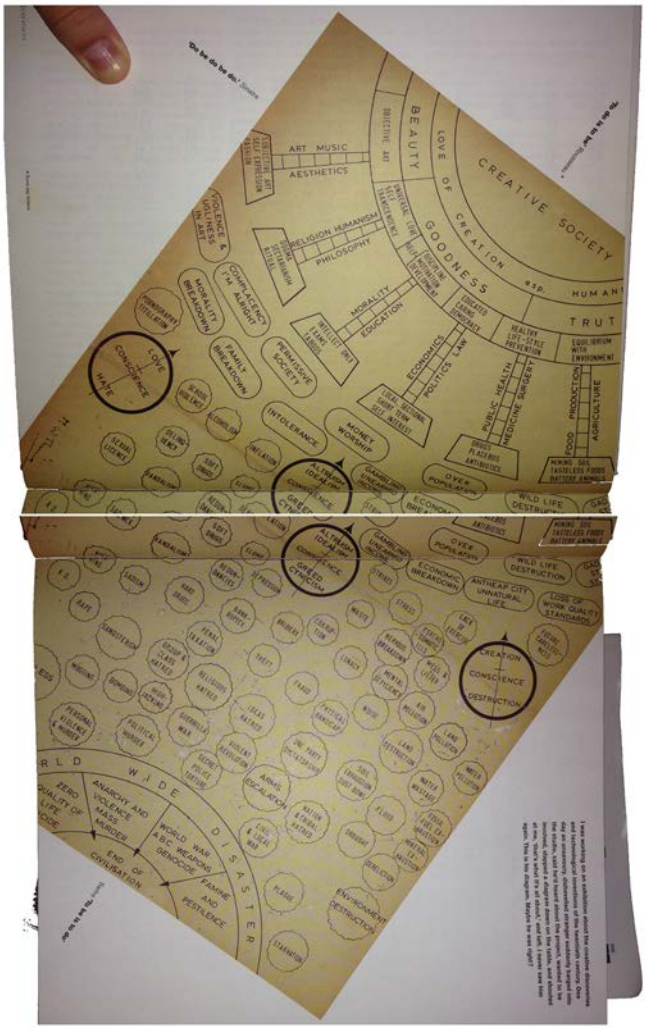


FIG 6.3. The role of the creative society, (Fletcher, 2001)

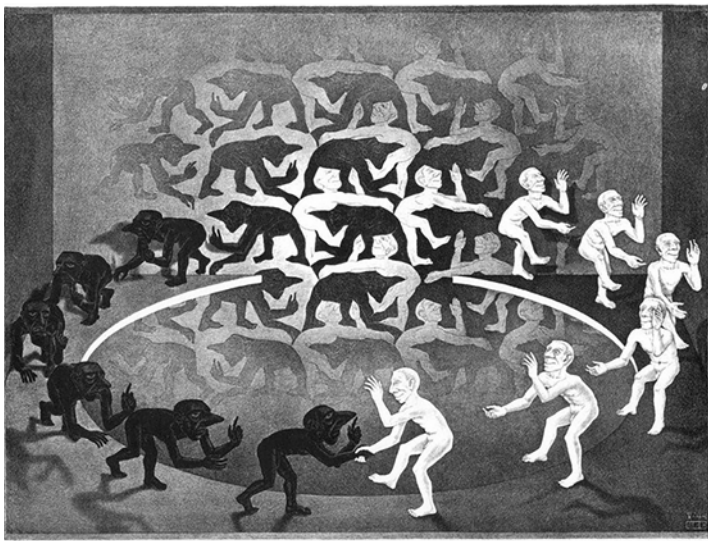


FIG 6.2. Encounter, 1944, (Escher, 2011) p. 184

The concept originated from a series of workshops and seminars attended by the author over the previous two years. Short summaries of these workshops which address the importance of the relationship between urban planning and architecture are included in the appendix. The proposal aims to make a contribution in this regard.

The wall is at once a connecting and separating element. Design decisions are framed by the idea of the potential which the boundary wall has in both separating and bringing together different conditions. Our relationship to a wall, window, door, or opening which frames and determines our relationship to what lies beyond, should be expressed and designed in unique ways to strengthen our relationship with the boundary condition and what lies beyond.

The artworks of Escher illustrates various thresholds, some invisible and some clear, moving from one world to another.

The first artwork as understood by the author captures the movement of an individual leaving a house, descending the stairs into a collection of individuals whose characters become less clear as they increase the distance from their homes. This image serves as motivation for the project to keep in mind the importance of the pride people feel in association with their homes. More importantly, we should design and plan environments in which people would want to make a living, in all aspects of the word. A place to work, interact, rest, and seek new opportunities; an environment that is defined and pronounced but flexible enough to allow its users to grow with it.

The second image illustrates the movement of an individual in a circular fashion, and the thought that comes to mind is the interactions we have with other humans as we grow up in a residential environment. There should be a balance between positive and negative influences in urban conditions, and Westbury is currently leaning towards the negative. With this in mind, new activities with new people could be drawn into Westbury with the possibility of changing this reality into one that is more balanced and fair. In a community, the movement between different realms and the exposure we recieive is what shapes us, and we in turn shape the environment which shapes other individuals. A strong urban condition is important, and regarded as o the most important contribution architecture can make.

This proposal aims to define spaces with their boundaries. The spaces range from private to public with degrees of communal, semi-private, or public spaces in between.
The intention of this proposal is for the user to always be aware of the kind of space being inhabited or the kind of space approached and the relationship that the space has to what lies beyond.

In other words, moving from the outside in, or from the inside out would offer different experiences. As the space, users change from extremely public with a high degree of protection(outside the boundary wall), to controlled public (inside the boundary wall), to public internal (interior), to communal, to defined collective, to individual. The language of the boundaries would adapt in scale and finish. The openings would also respond to these changes.

FIG 6.4. The Livingroomies, Marlene Steyn, 2016. (Commune.1, 2017)

Our relationship with the boundary goes beyond how we rationalize it. There lies hidden a secret message; one we speak, and one we hear. Like the clothes we wear, boundary walls could be compared to the expression we seek to present to outsiders. It is akin to reading societies through analyzing their windows. One can understand the needs of the people and the realities they relate to in any given context. The artwork presented here by Marlene Steyn is used to communicate this hidden reality. Because we are surrounded by this relationship we become blind to its beauty, like fish are the last to discover water.

> "Architects shouldn't think in spaces as private and public. If it is space it needs to be public. The only private space is the mind of the human and the great desire of human beings is that his mind should be made public, that it could be communicated. Without the others, we as individuals are nothing, and this needs to be reflected in the architecture." (Paulo Mendes da Rocha, Brazilian architect)

The phenomenological vision

Approaching the block one would read the edge as a continuous surface. The openings (entrances, doors, windows and balconies) would allow the opportunities for individual expression by the occupants. These moments are recessed so that the inhabitants may have a balance between expression and privacy. The continuous wall is what keeps everything intact and secure. A good urban atmosphere remains secure while giving a glimpse of the life-styles of the people living there. If one can see the quality of life which a place has to offer, one feels welcome and learns from the environment.

The wall is interrupted by pedestrian corridors connecting the park to the residential interior of Westbury. These openings can be closed and controlled when activity levels are too low to maintain a safe environment. This would allow people to permeate the urban block and to increase the commercial edges exposed to the public realm. The commercial spaces seek to be more than just that; to be an extension of the urban 'living room' shared by the community and capable of welcoming more people to take part in the space provided.

FIG 6.5. A relational series of urban blocks, Author, 2017

The concept applies on various scales and has informed relational decisions from selecting the appropriate urban block in Westbury to choosing the appropriate architectural site, to choosing the appropriate wall finish of the proposed spaces.

The relational issues in Westbury include its relationship to the city and its weak perception thereof, which determined the choice of urban block on the edge of Westbury's perimeter located within the continuous buffer zone. This choice presented an opportunity to develop a model able to grow in two directions; towards Westbury's interior and towards the buffer zone reaching the ultimate boundary of Westbury. With densifying the buffer zone comes many opportunities to improve access to Westbury. Located at the highest point overlooking Westbury, the site offers various opportunities for new activities for both residents and visitors.

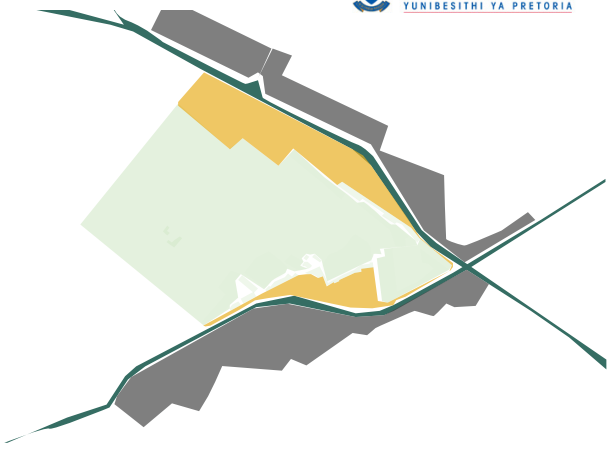
The next relational issue is the scale of the residential architecture and the public spaces it relates to. In most cases the edges of parks are faced by side or backyard elevations of residential homes. The area chosen as the site for the architectural proposal is thus a response to this. Located next to the recently developed park with a pedestrian bridge connecting Westbury to Coronationville, the park is faced by a boundary wall with steel gates accessing the individual backyards of the homes on the park.

The network of proposed buildings consists of row-houses replacing the existing 10m x 18m residential plots which separate the "backyard" edges from the "front-yard" edges with internal courtyards. The backyard now faces the park as a front yard. This model offers an opportunity to solve four main relational elevations. The row-houses are supported by community facilities at both ends. Between the facilities and the row-houses access is provided to the interior of Westbury. This spatial organization offers six relational elevations to solve.

Even though there are more elevations than outlined above, the point of this section is to explain how the concept informed the design decisions made at various scales.

These principles shape the response in design on a level that intends to add value where it is perceived to be most important. From the details to the construction process, where possible measures are taken to improve the relationship between the residents of Westbury and their built environment. Where the built environment aims to facilitate their needs as a community and as human beings who have more to offer to a greater community.

CURRENT



the existing relationship between Westbury and the city, devided by the buffer zone

THE LINE FROM WHICH TO GROW TOWARDS THE EXTERIOR / THE INTERIOR

connecting westbury to the buffer zone

THE EXTERIOR AREAS IDENTIFIED BY THE UNDERDEVELOPED BUFFER ZONE TO BE DENSIFIED

further development into the buffer zone connecting to the city

THE POSSIBILITY OF THE MODEL TO REPLACE THE LOWER DENSITY EXISTING DWELLING UNITS

further development into Westbury's interior densifying Westbury from the outside in

FIG 6.6. The relational potential of the buffer zone, Author, 2017

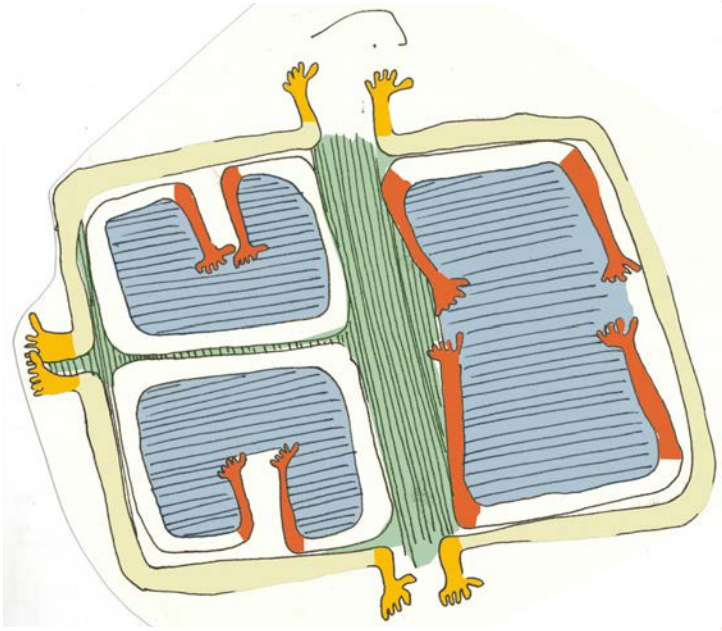


FIG 6.7. The relational potential of an urban block, Author, 2017

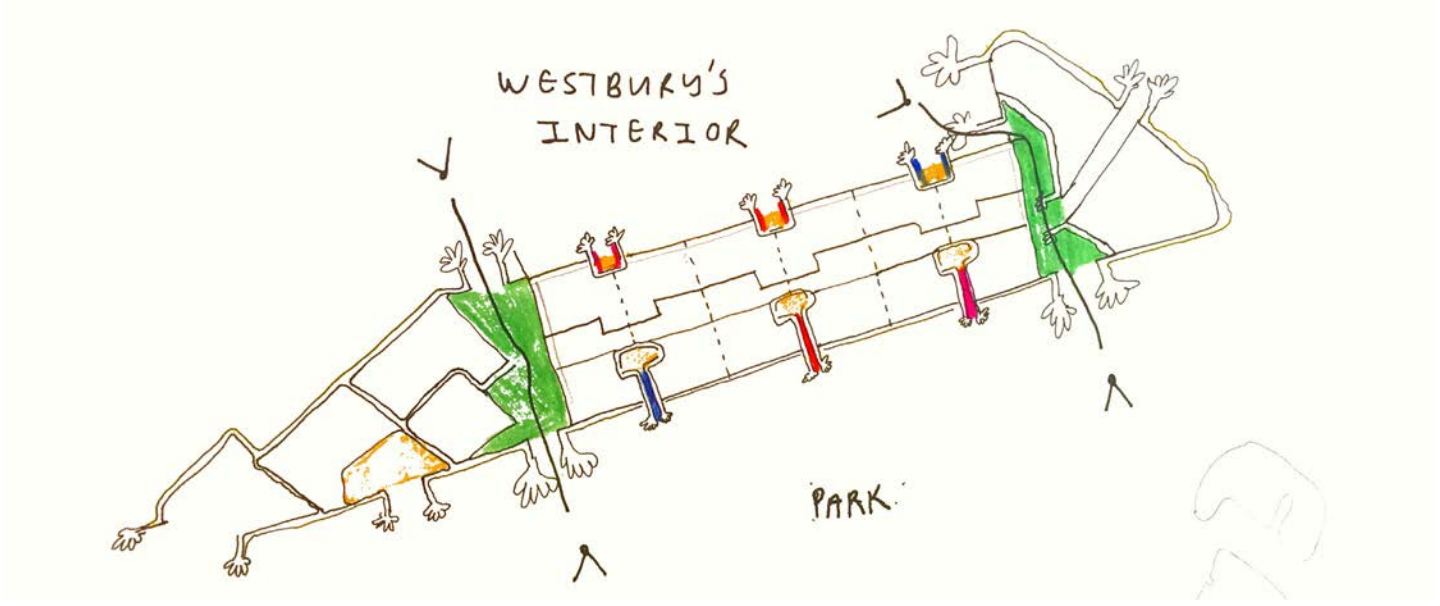


FIG 6.8. The relational potential of a network of buildings, Author, 2017

7.

DESIGN DEVELOPMENT SUMMARY

0. The shaping of the hypothesis

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1. Conducting an urban analysis for the purpose of site selection and urban vision
2. Choosing an appropriate urban block to make a contribution to the context of Westbury and to test the hypothesis
3. Choosing a specific area where the architectural proposal can inform the model of densification of the buffer area surrounding Westbury
4. Shaping the response to contextual issues including the weak relationship which the existing architecture has to public spaces, uncontrolled extensions, of the separation of Westbury from the city by buffer zones, and finally the threat of urban development plans which do not include or benefit the current inhabitants of Westbury.

In this chapter:

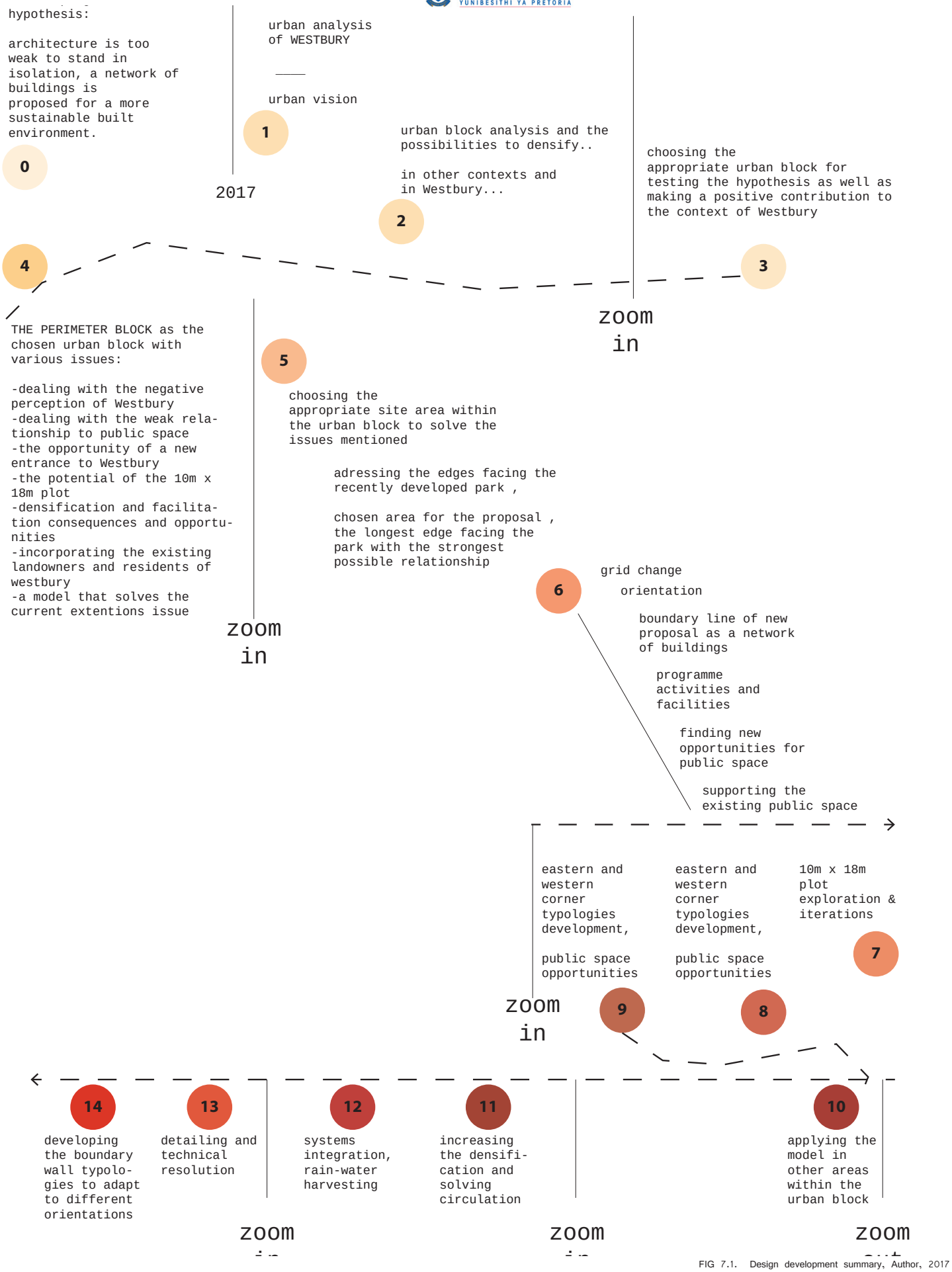


FIG 7.1. Design development summary, Author, 2017

The diagram to the left is a summary of the main stages in the design process indicating the relevant challenges associated with each stage.

It is important to note that this proposal is mostly driven by contextual analysis. The conceptual intentions and supporting theory relate to the issues identified in the context of Westbury and other places in South –Africa where the same issues or opportunities can be identified.

Reference to *Why Density*, by a + t research group has helped to assess the objectives and goals this proposal intends to realise.

There are characteristics of densities which are not measurable yet are still important, and according to the source can be summarised in two categories, nmaely Hard performances and Soft performances.

These performances are communicated via diagrams.

Hard performances originate from the design process shaped by the criteria laid out by the urban master plan. Soft performances are the ways in which the building allows for fluxes, different finishes and the way certain parameters are defined for privacy, safety, visual access (Mozas, et al., 2015).

Hard performances (objective): see pages x-x

- Insertion in the grid
- Uses
- Orientation
- Landscape
- Accesses
- Parking facilities
- Circulations
- Exterior spaces
- Communal spaces
- Types of dwellings

Soft Performances (subjective): see pages x-x

- Perception of the city
- Perception of the building
- Urban atmosphere
- Relation with nature
- Usability of the space
- Participation of users
- Appropriation of the space
- Flexibility
- Privacy
- Safety and security

The drawings illustrate the different phases of the design development in the order of the design process itself, starting with the initial drawings of the first experience on site to the development of the technical details. Descriptions of the challenges and opportunities are given next to the drawings.

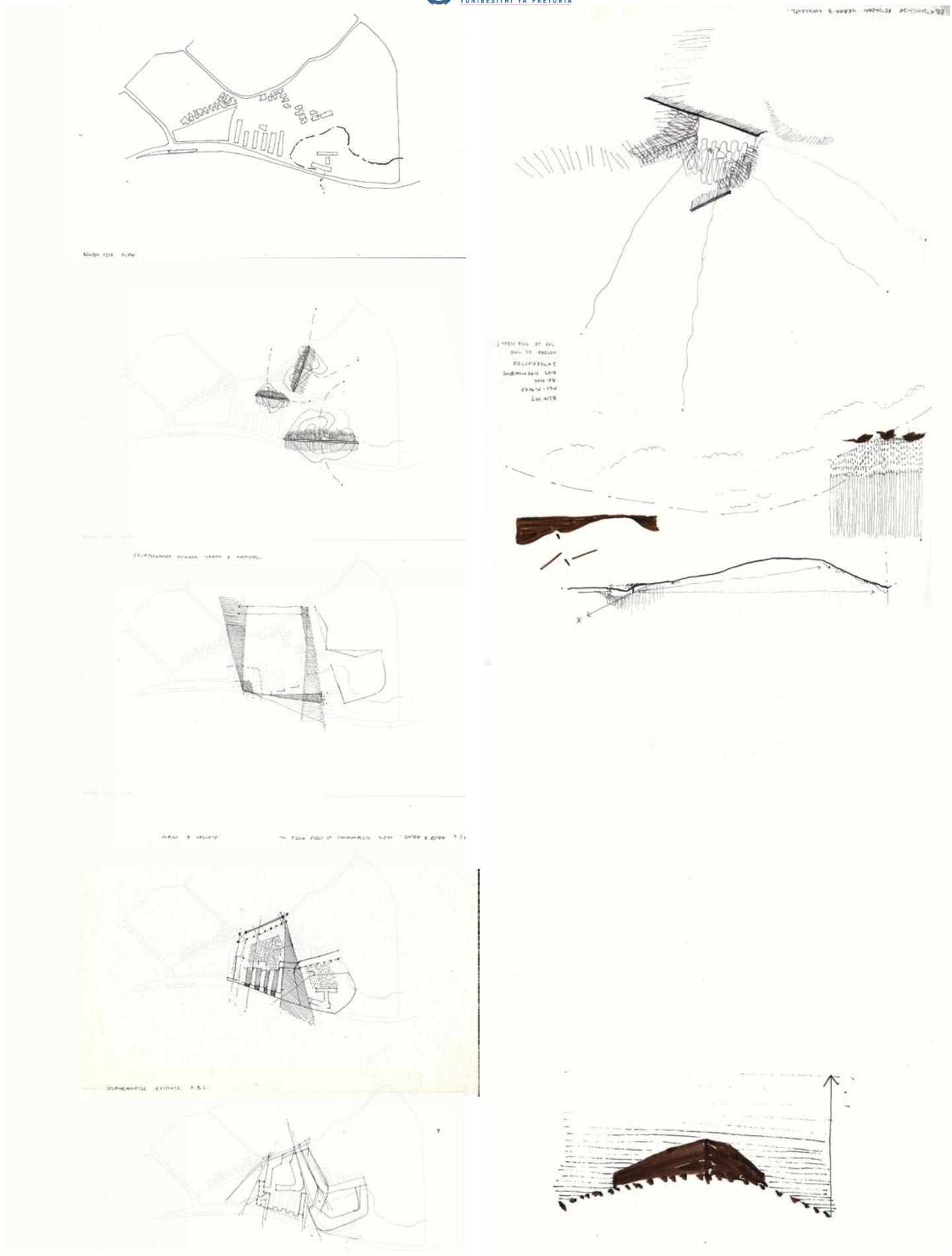


FIG 7.2. The first experience on site captured, Author, 2017

The first experience on the chosen site:

This series of drawings illustrate the various conclusions and perceptions made on the first site visit.

From top to bottom (left):

- Urban block on plan
- The relationship between urban and nature
- Public and private, to find commonality between these two different realms, linking movement through the block
- Possibility for new public space, and a new urban edge
- Possibility for new interior public space and views down the hill

From top to bottom (right):

- The relationship between the view and elevation within the area of Westbury and the unique opportunity the site provides to see across the entire Westbury.
- A drawing attempting to illustrate the effect a terrain has with a constant steep slope. When moving from the lower part to the top one is always aware of the sky in relationship to the built environment, different compared to walking down the hill.

FIG 7.3. Existing dwelling typologies in Westbury with extensions, Author, 2017

The plans to the left illustrate the existing residential plans with typical extensions of the homes on the 10m x 18m plots where the proposal is located in both directions as they occur facing the same street.
The ground floor and first floor of the apartment building facing the park on the eastern side is shown to the bottom left.

Below a plan indicates the position of the dwelling units in relationship to the urban block.

FIG 7.4. The location of the plans drawn on previous page in relationship to the urban block, Author, 2017

FIG 7.5. Design development of the 10m x 18m plot, Author, 2017

The plans to the left illustrate the existing residential plans of the homes on the 10m x 18m plots where the proposal is located in both directions as they occur facing the same street. The ground floor and first floor of the apartment building facing the park on the eastern side is shown to the bottom left.

Below a plan indicates the position of the dwelling units in relationship to the urban block.

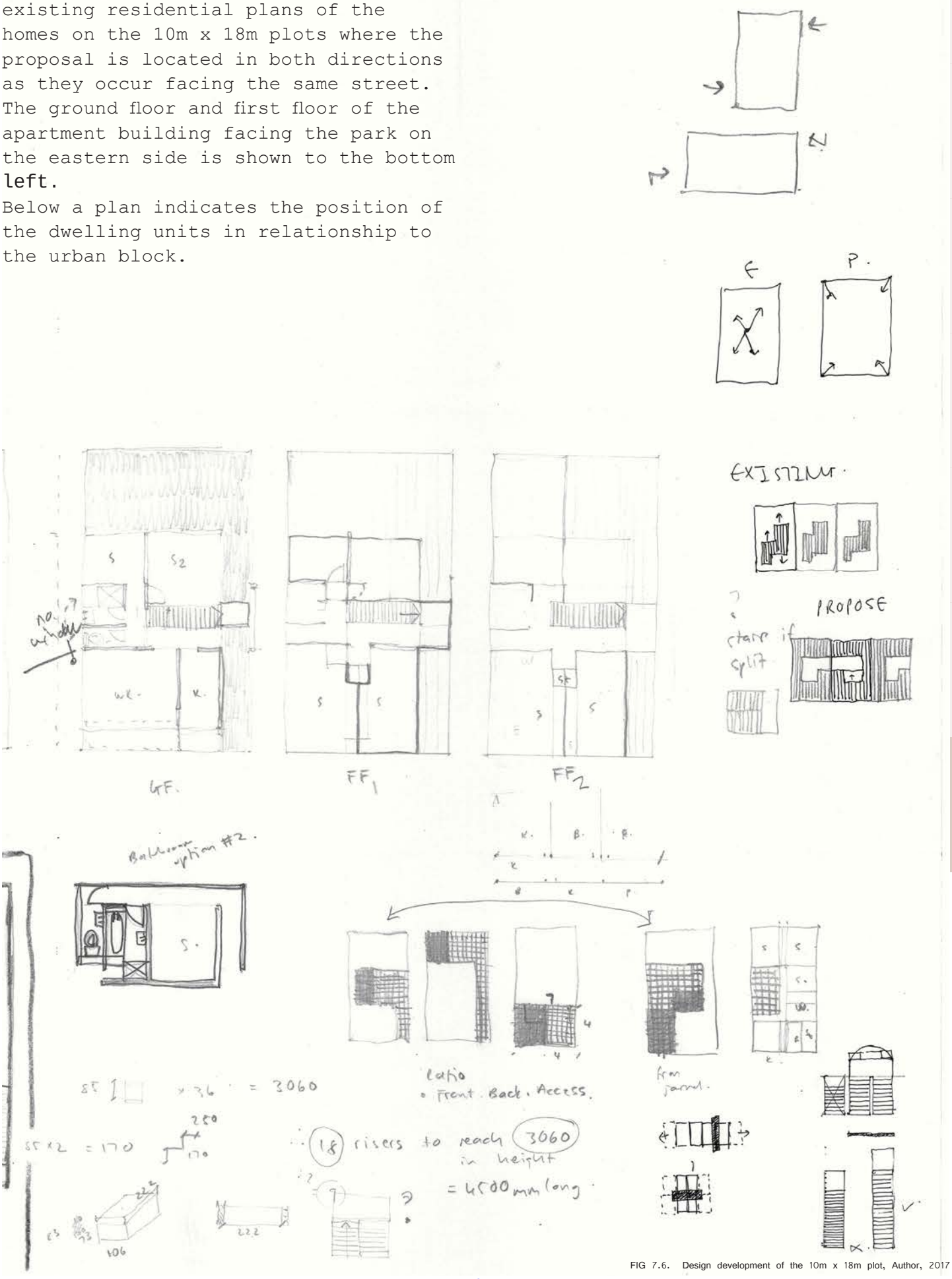


FIG 7.6. Design development of the 10m x 18m plot, Author, 2017

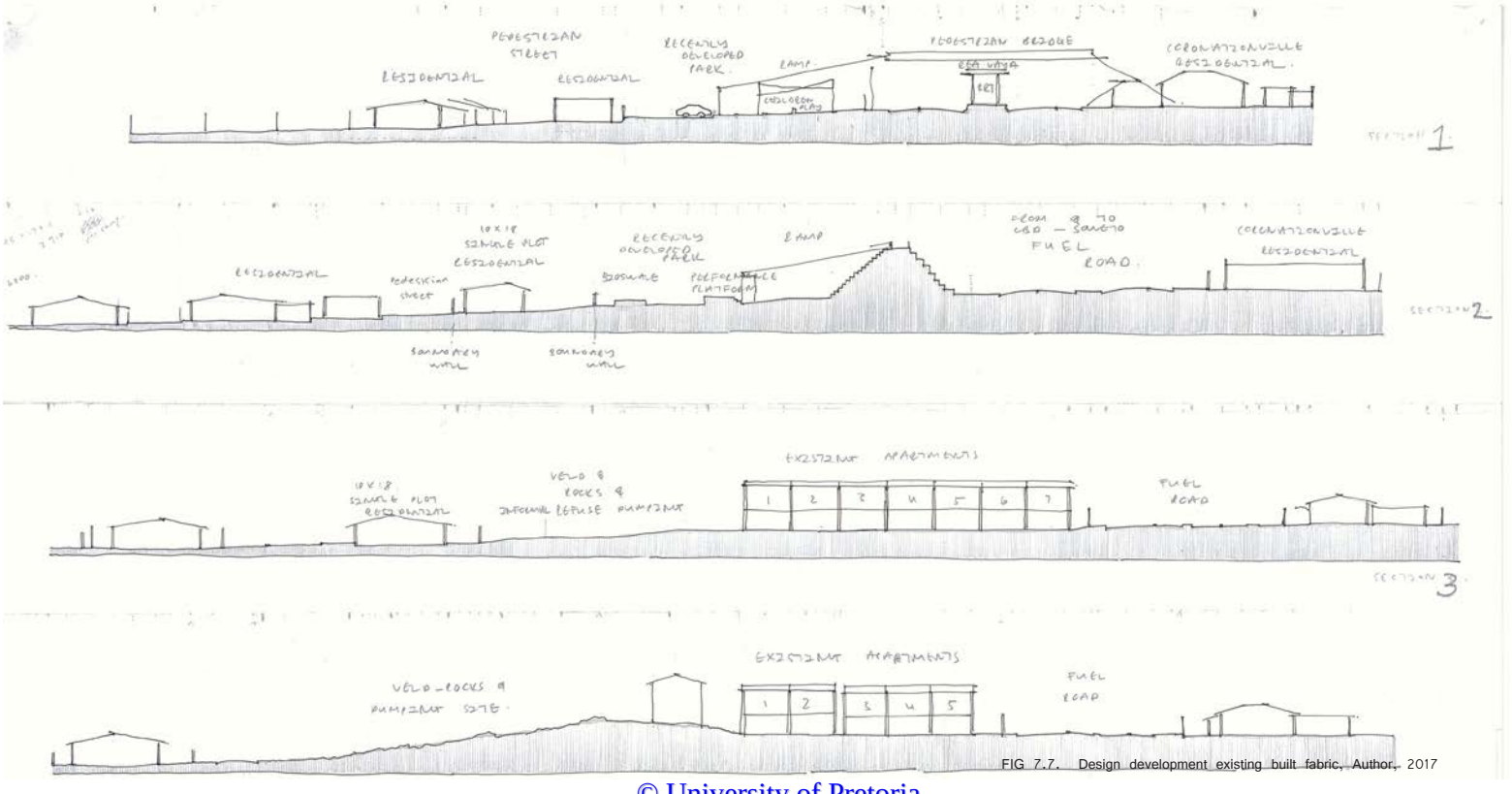


FIG 7.7. Design development existing built fabric, Author, 2017

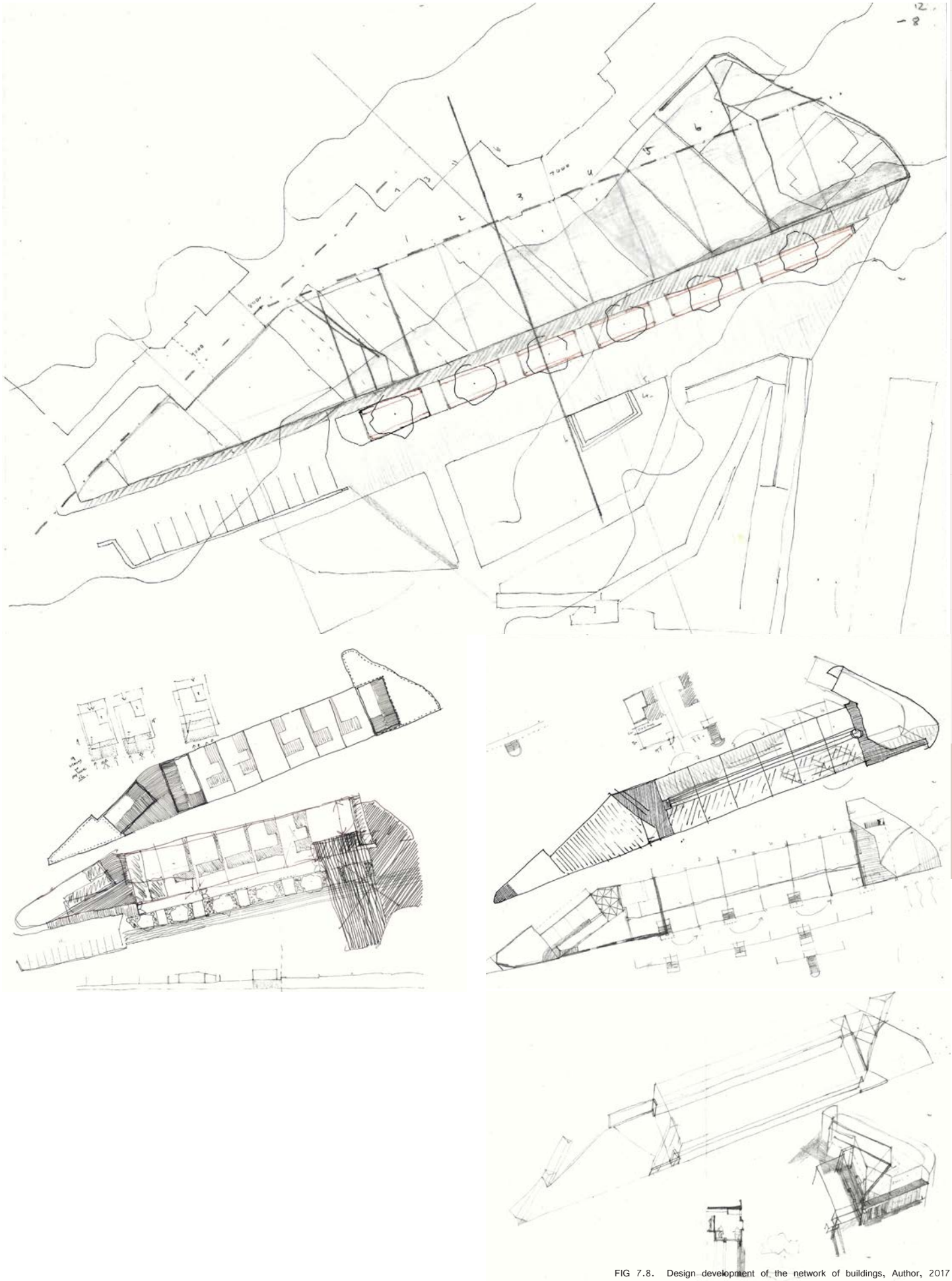


FIG 7.8. Design development of the network of buildings, Author, 2017

FIG 7.9. Design development of the proposal, June , Author, 2017

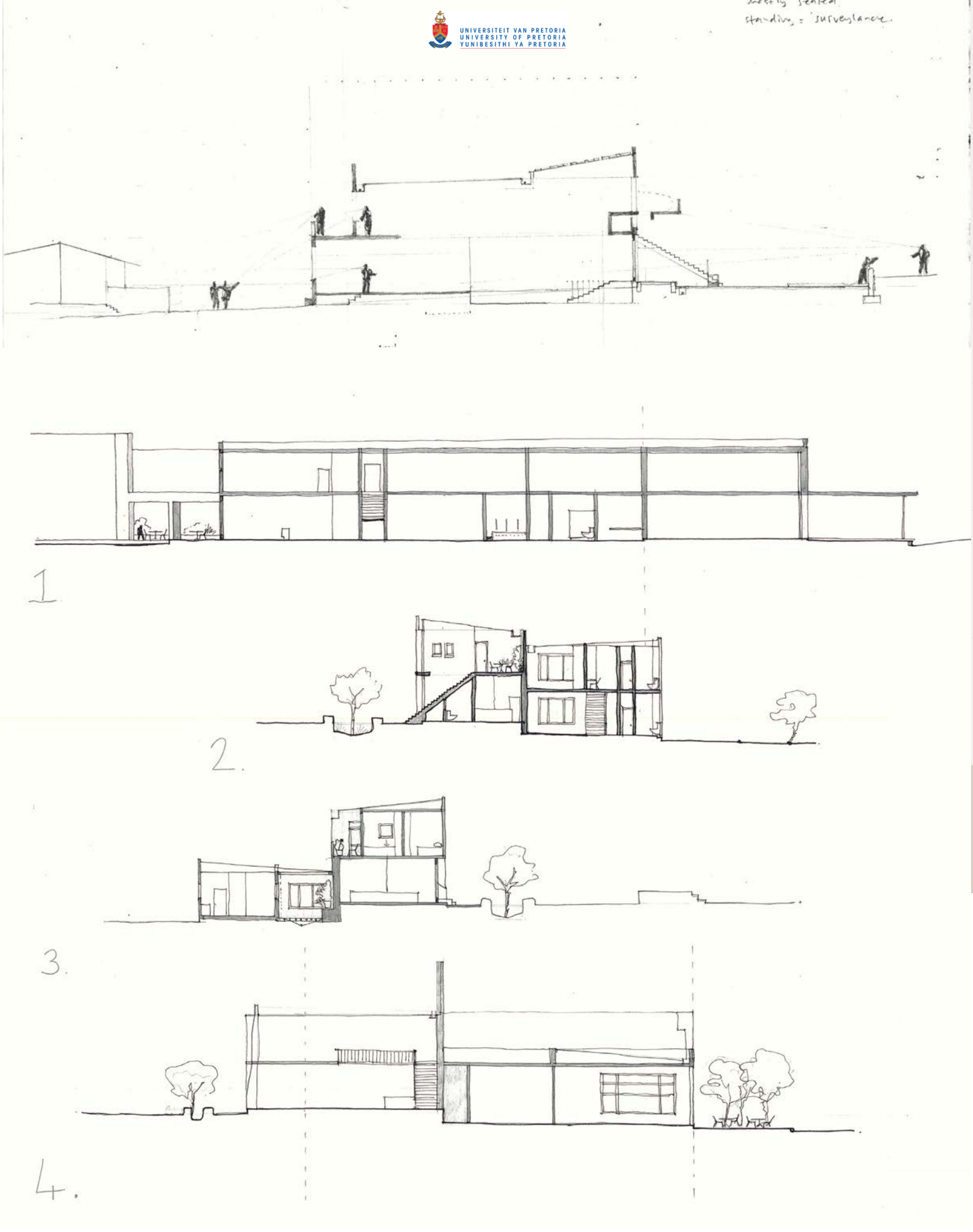


FIG 7.10. Design development sections, June, Author, 2017

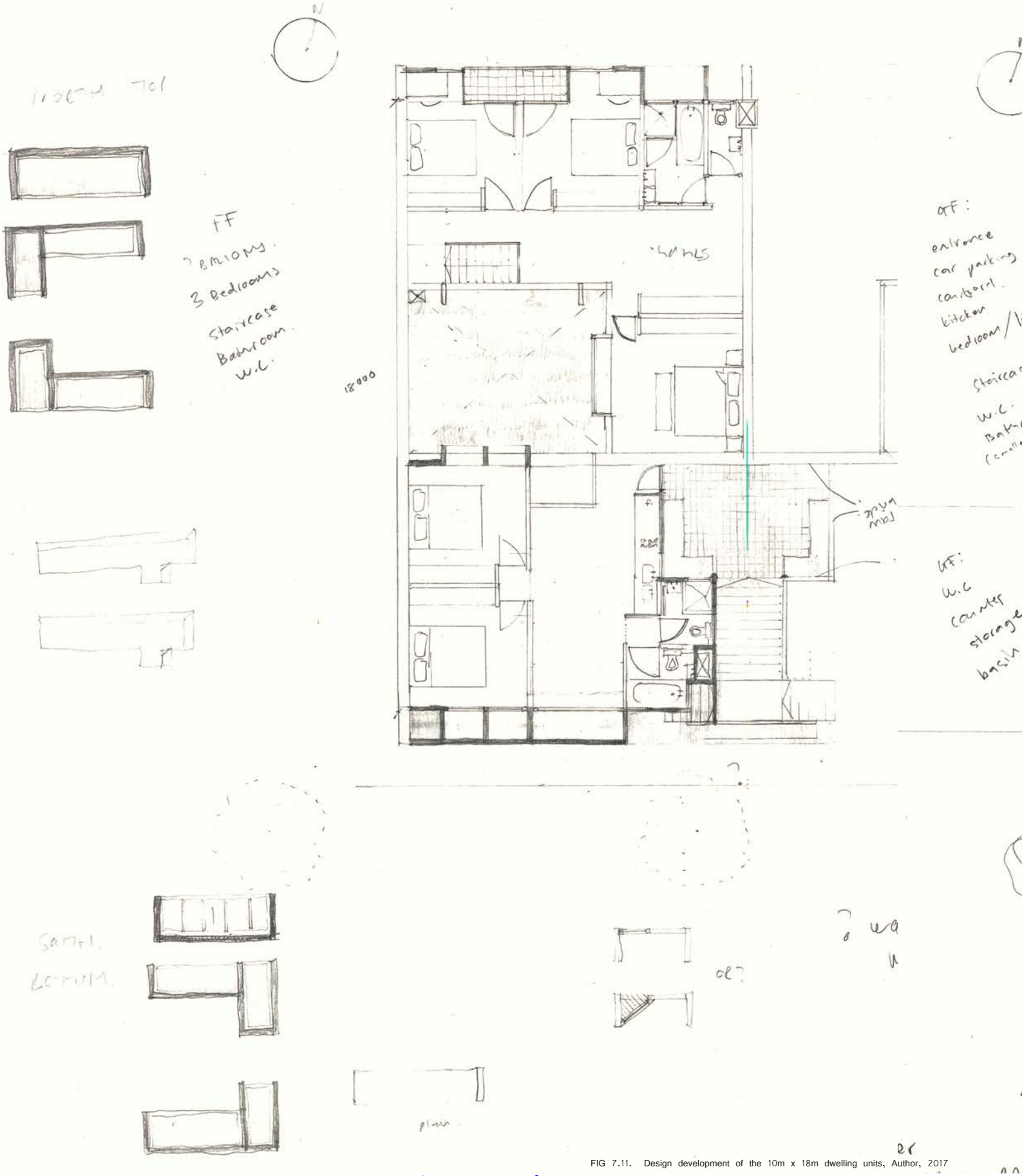


FIG 7.11. Design development of the 10m x 18m dwelling units, Author, 2017

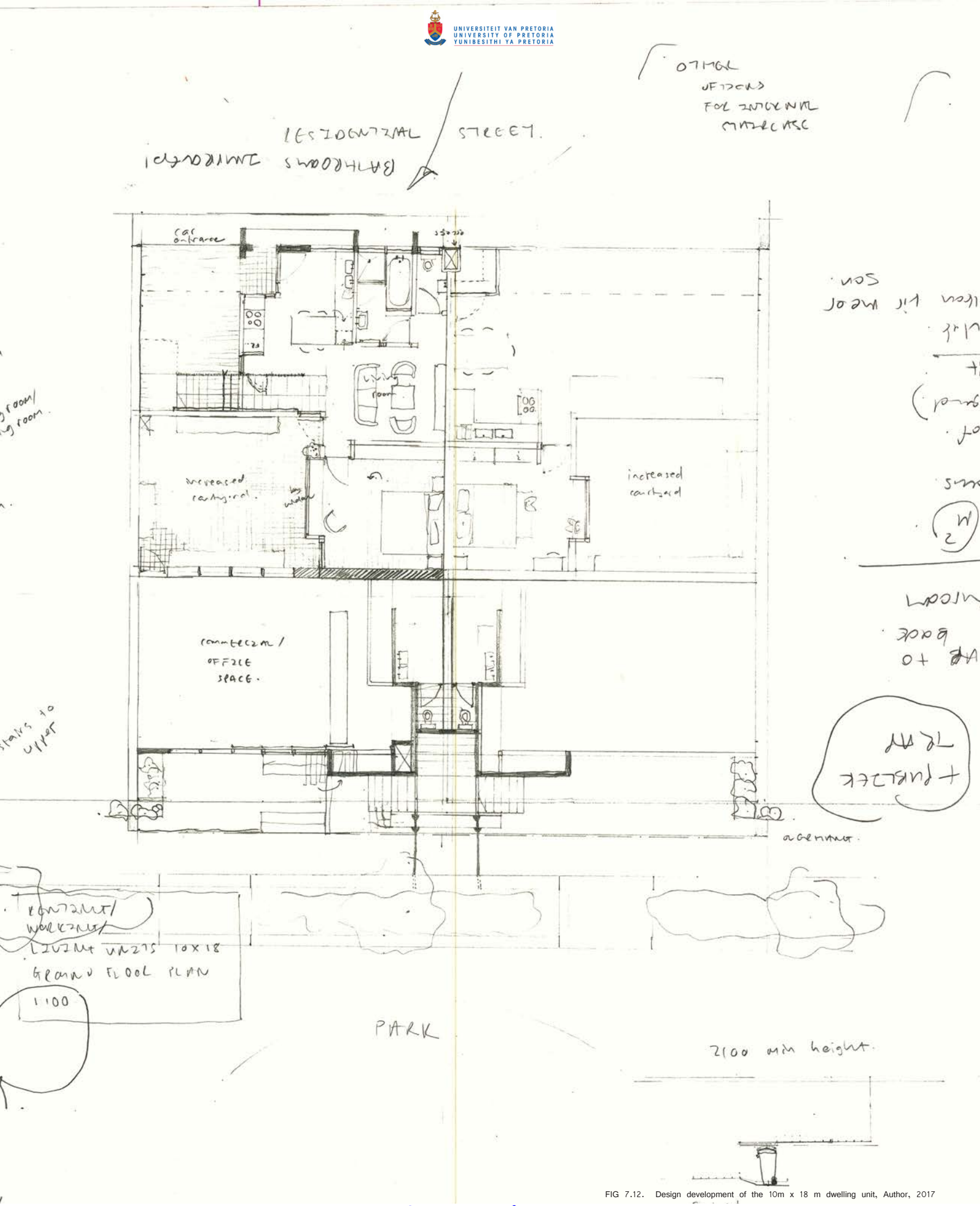


FIG 7.12. Design development of the 10m x 18 m dwelling unit, Author, 2017

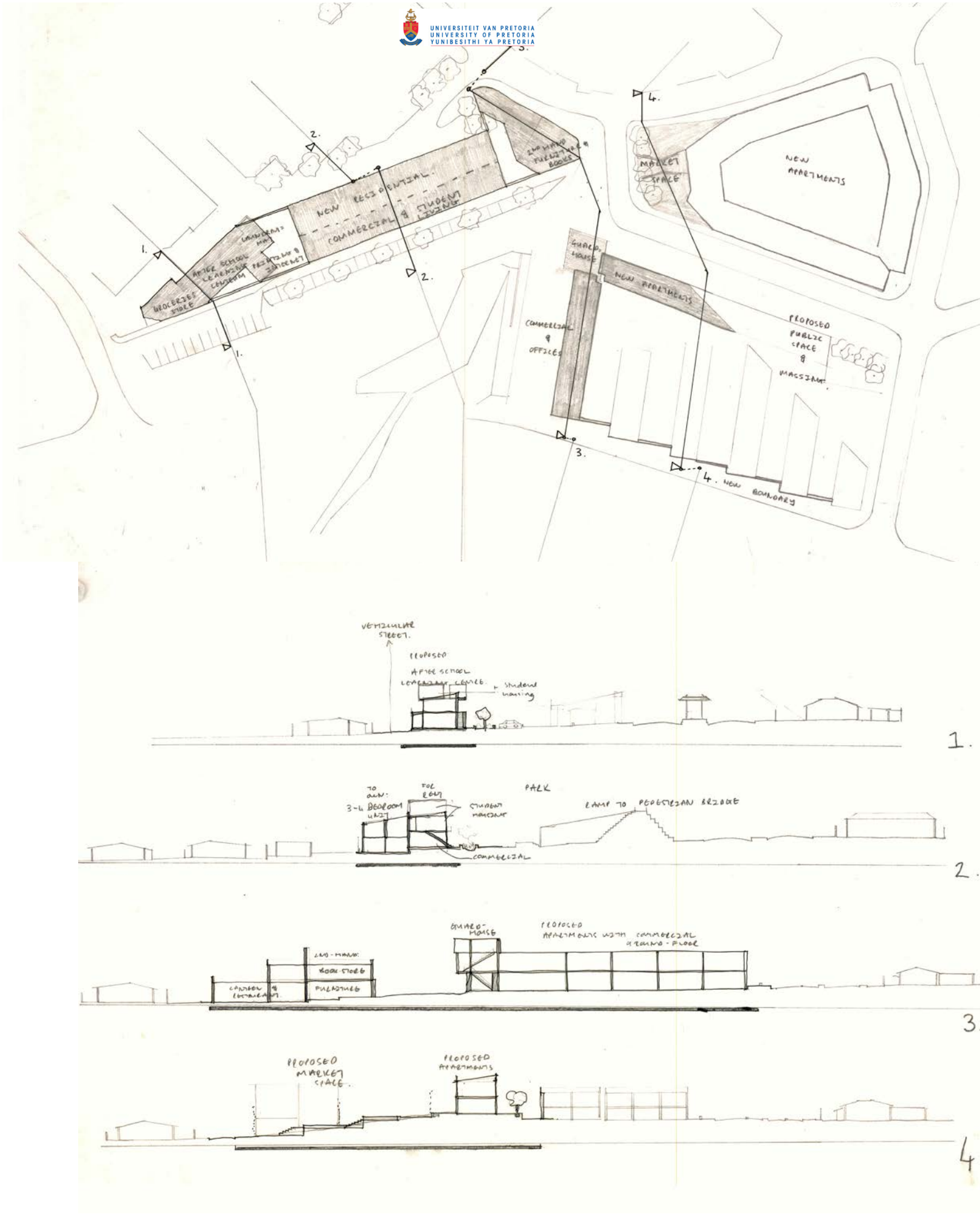
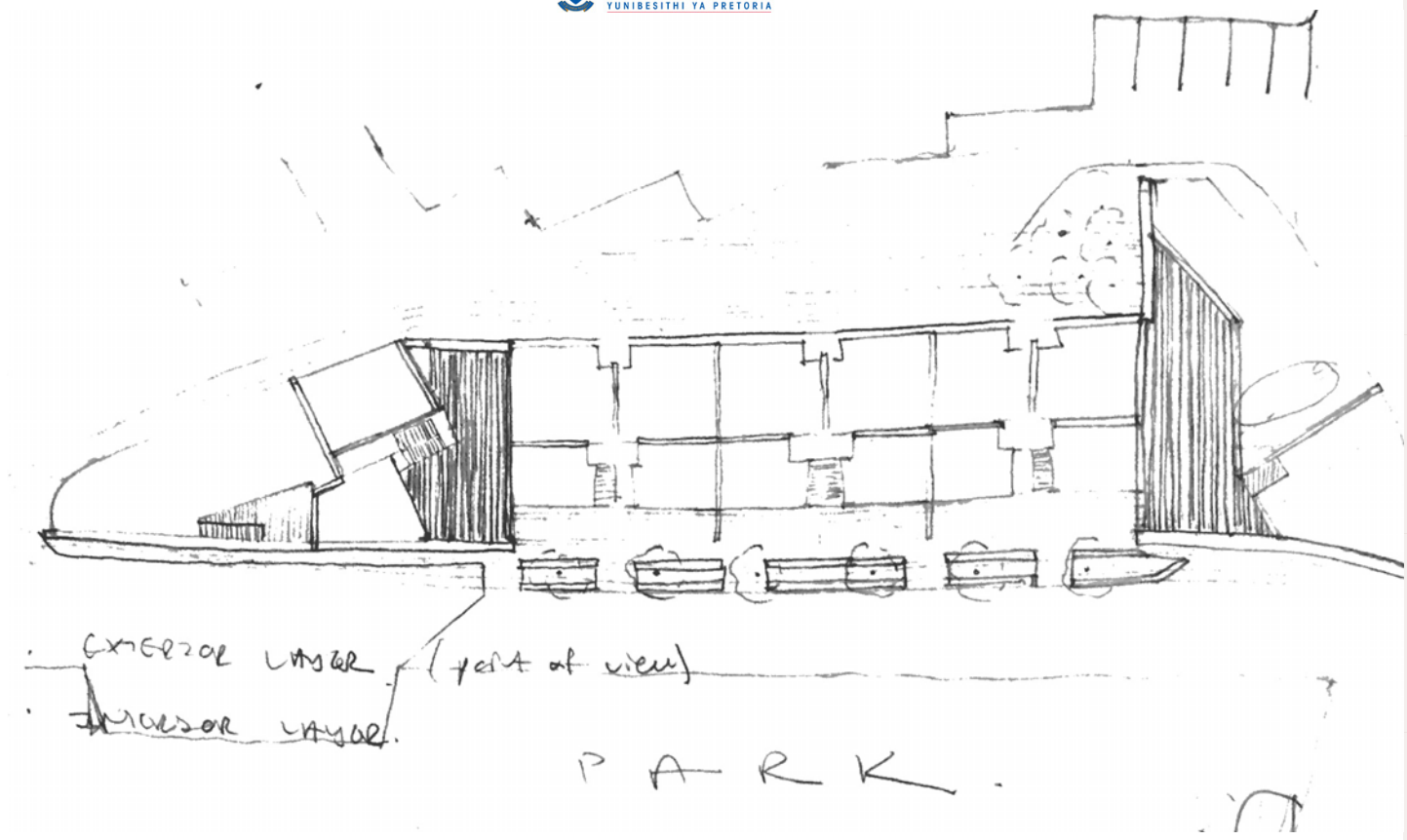
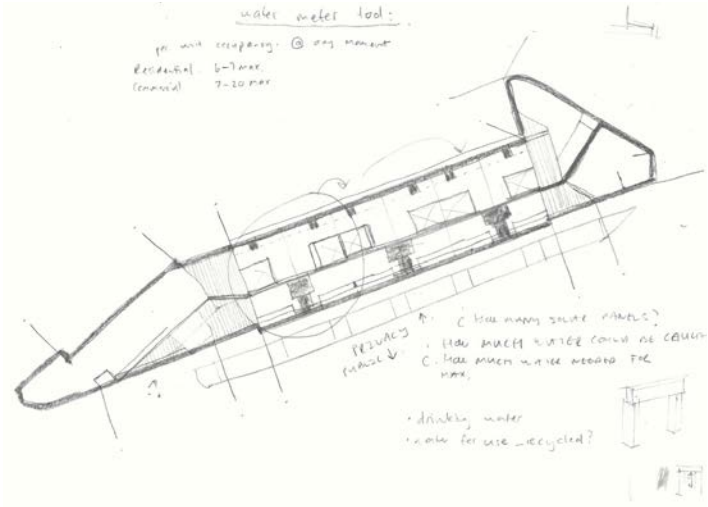
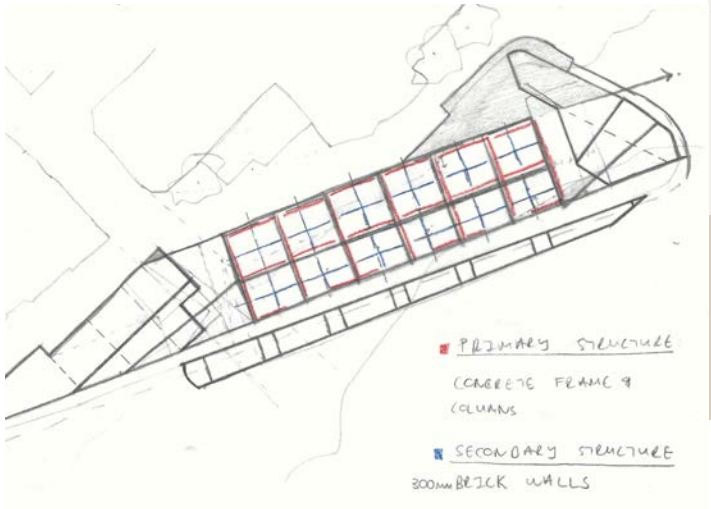
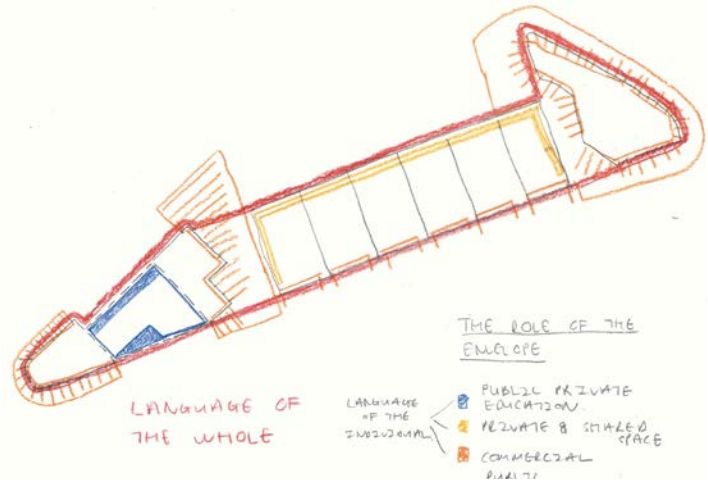


FIG 7.13. Design development of the proposal, Author, 2017









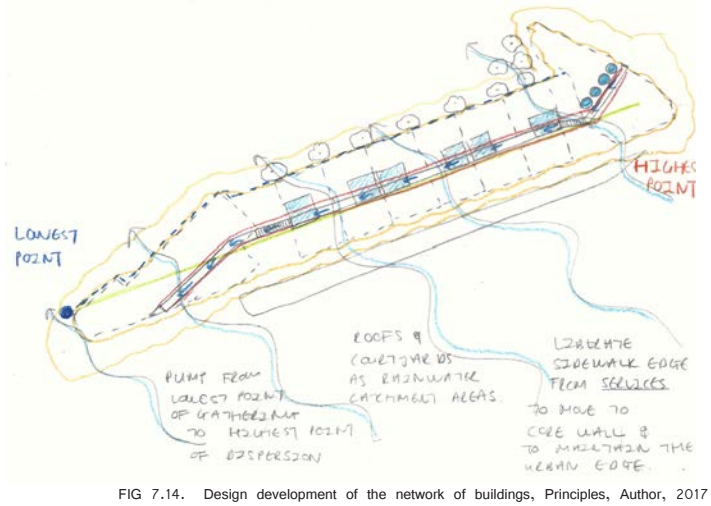


FIG 7.14. Design development of the network of buildings, Principles, Author, 2017

FIG 7.15. Design development, dwelling unit possibilities, Author, 2017

FIG 7.16. Design development, different unit possibilities, Author, 2017

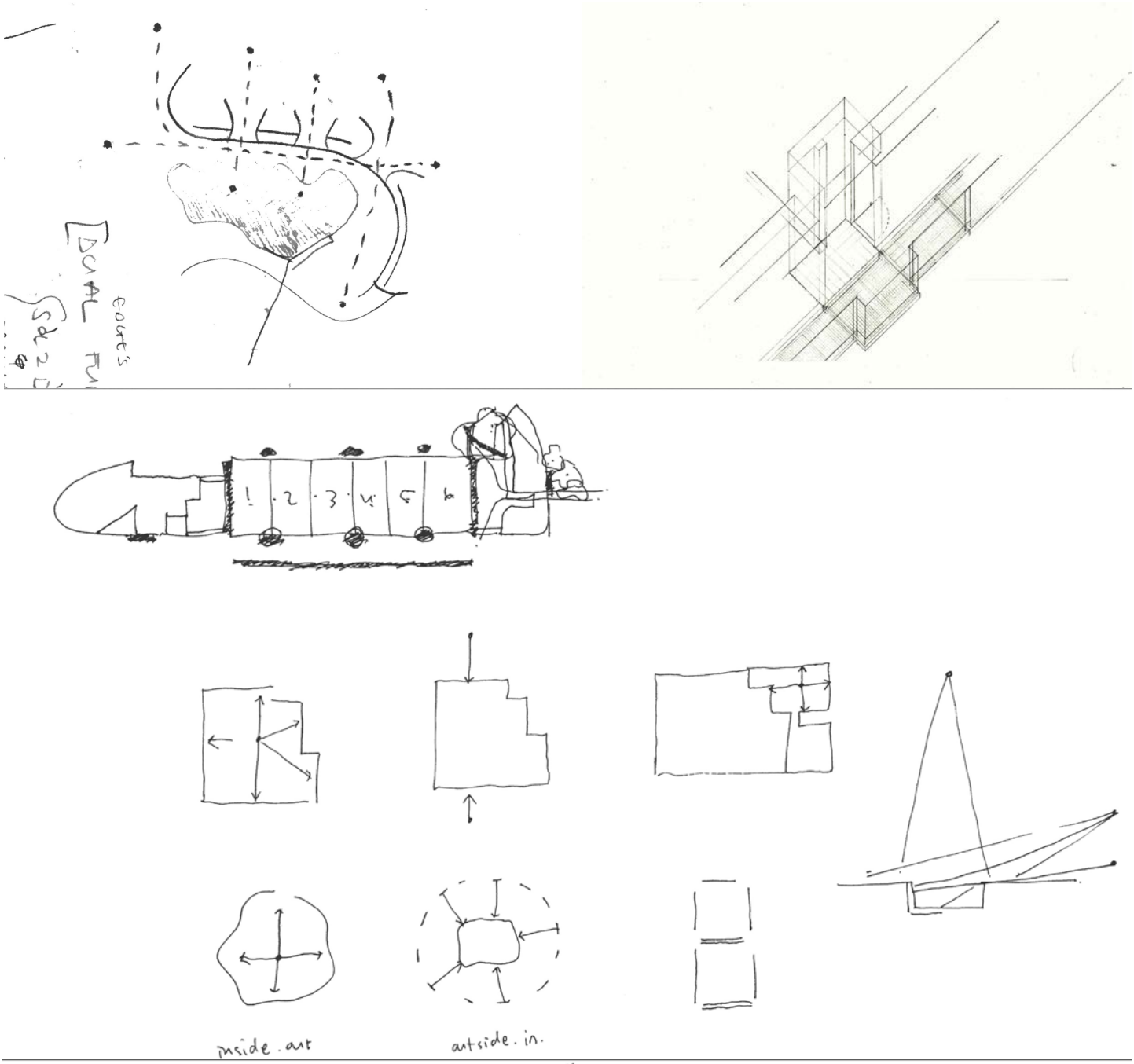


FIG 7.17 Design development of the network of buildings, Author, 2017

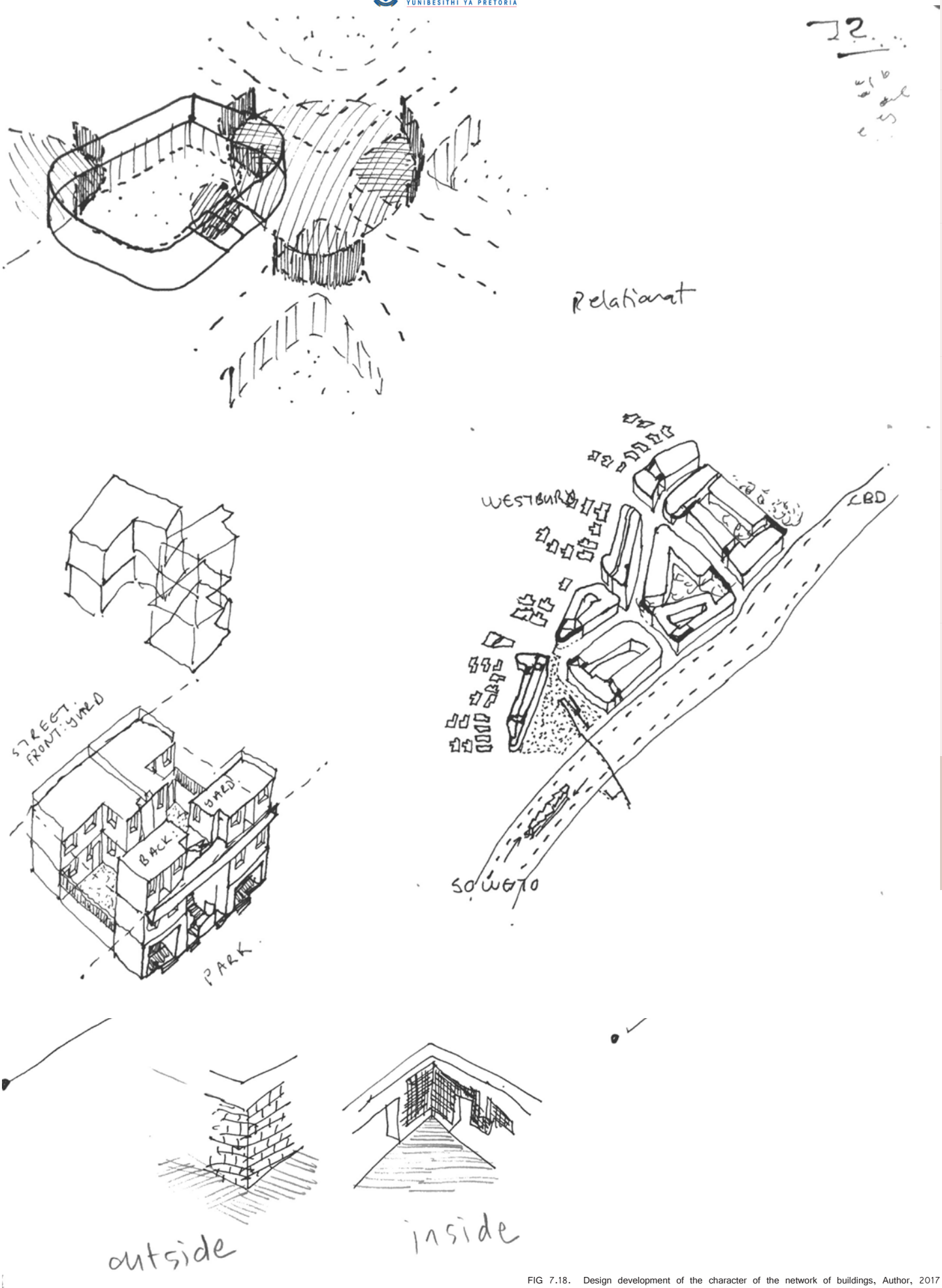
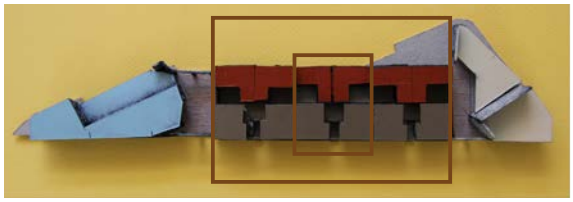


FIG 7.18. Design development of the character of the network of buildings, Author, 2017



POSITION IN NETWORK OF BUILDINGS

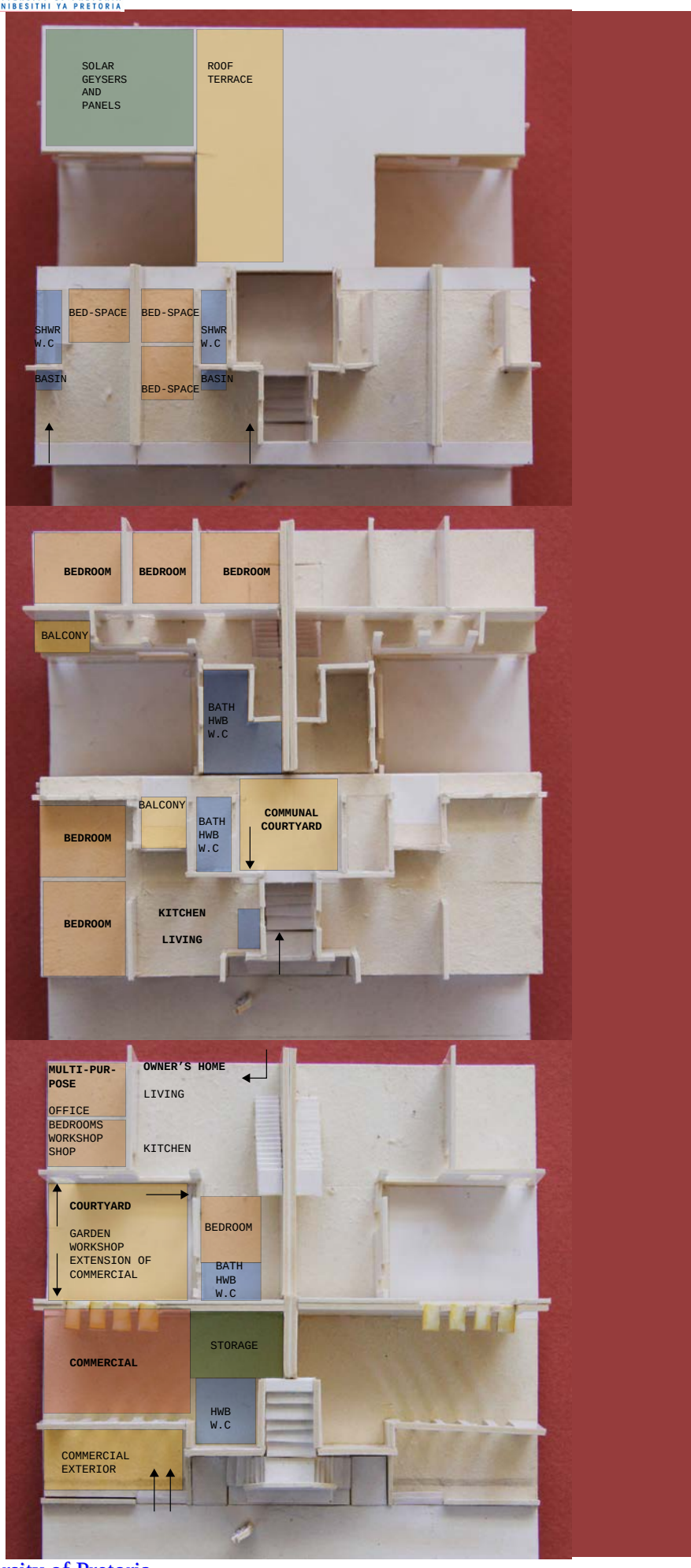
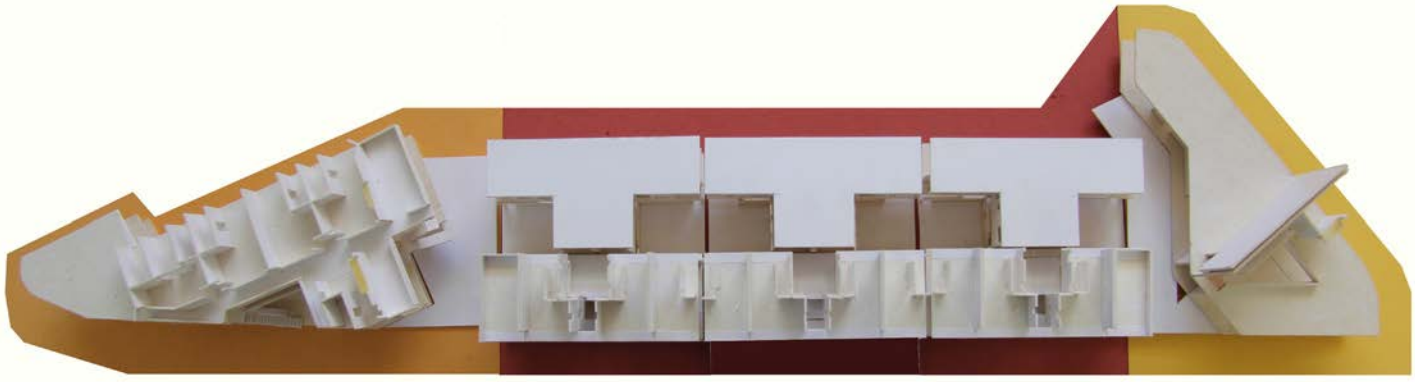
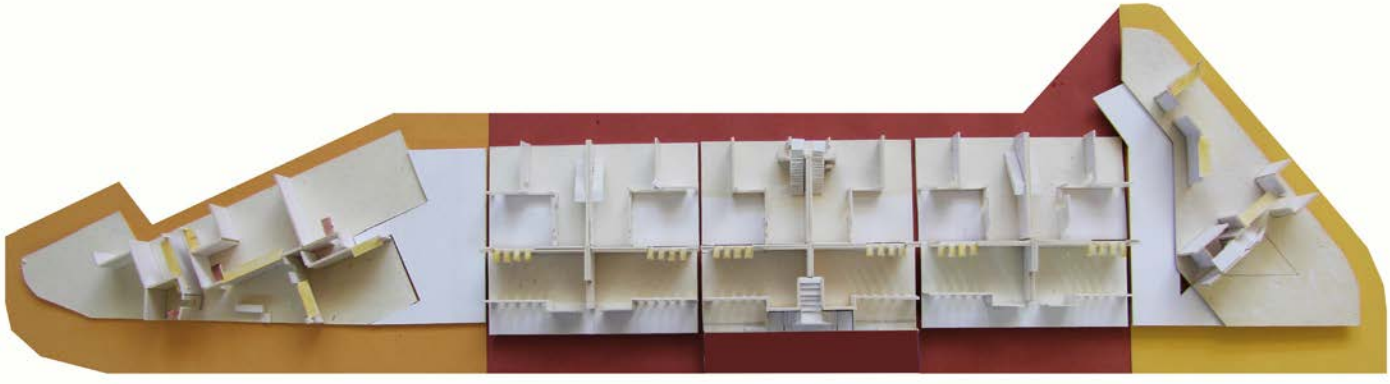


FIG 7.19. Design development, model illlustrating use. Author, 2017



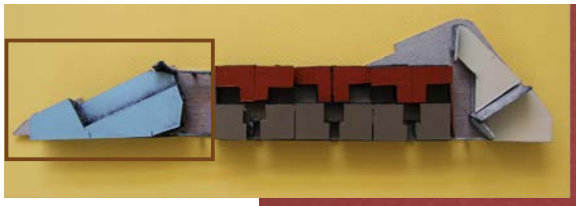
SECOND FLOOR PLAN

FIRST FLOOR PLAN



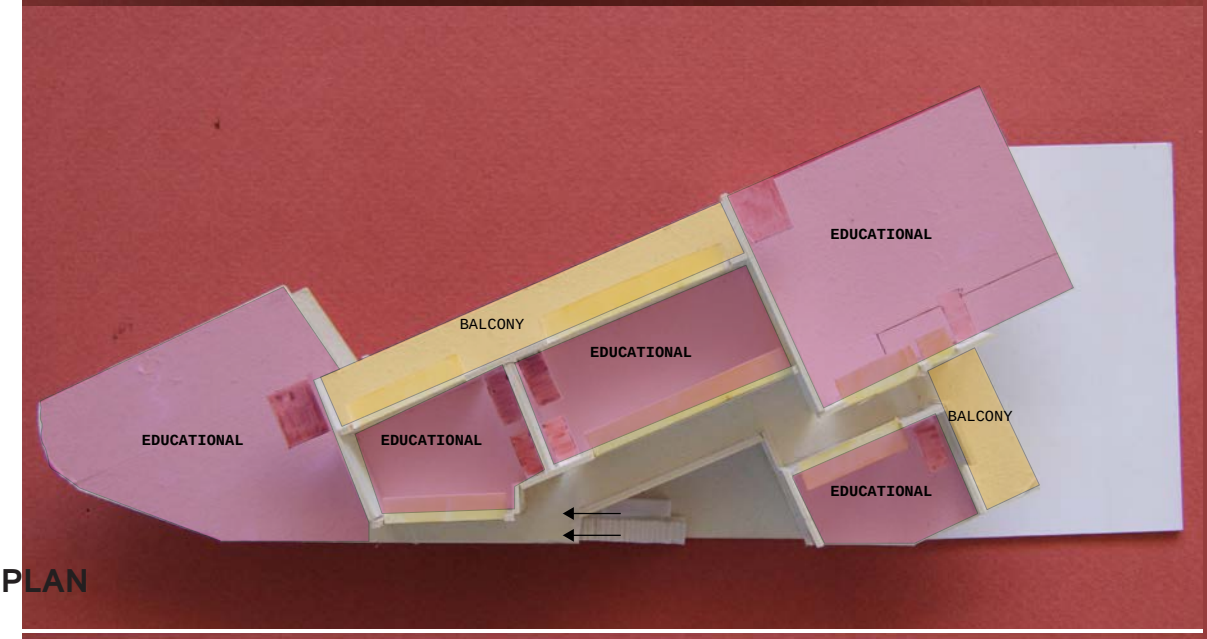
GROUND FLOOR PLAN

FIG 7.20. Design development, Model illustrating the network of buildings and interior spaces Author, 2017

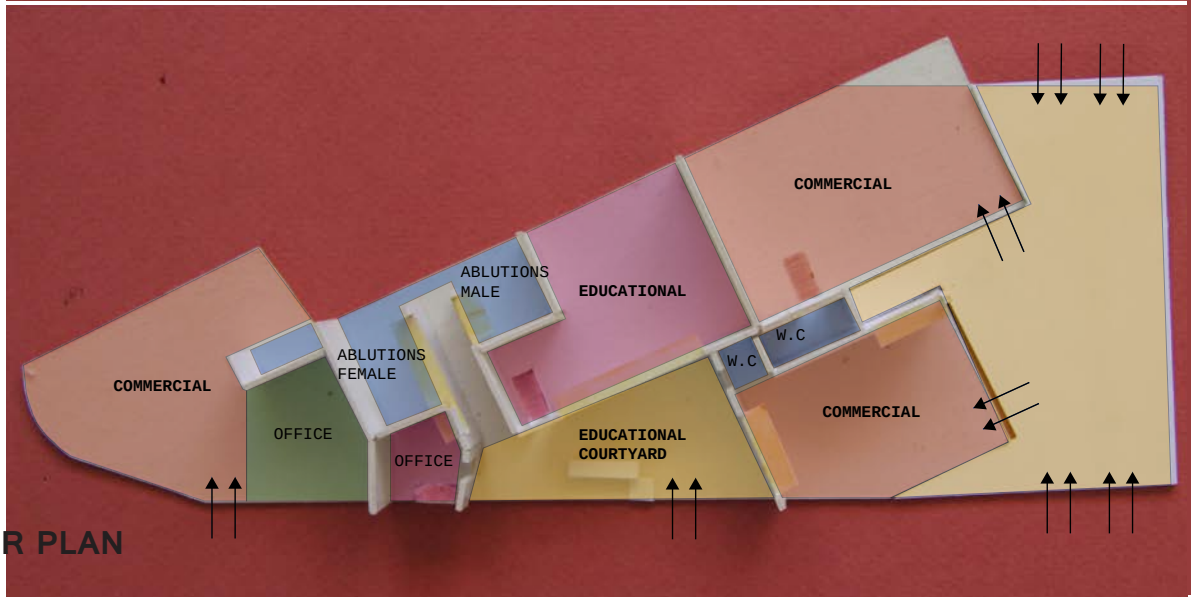


POSITION IN NETWORK OF BUILDINGS

SECOND FLOOR PLAN



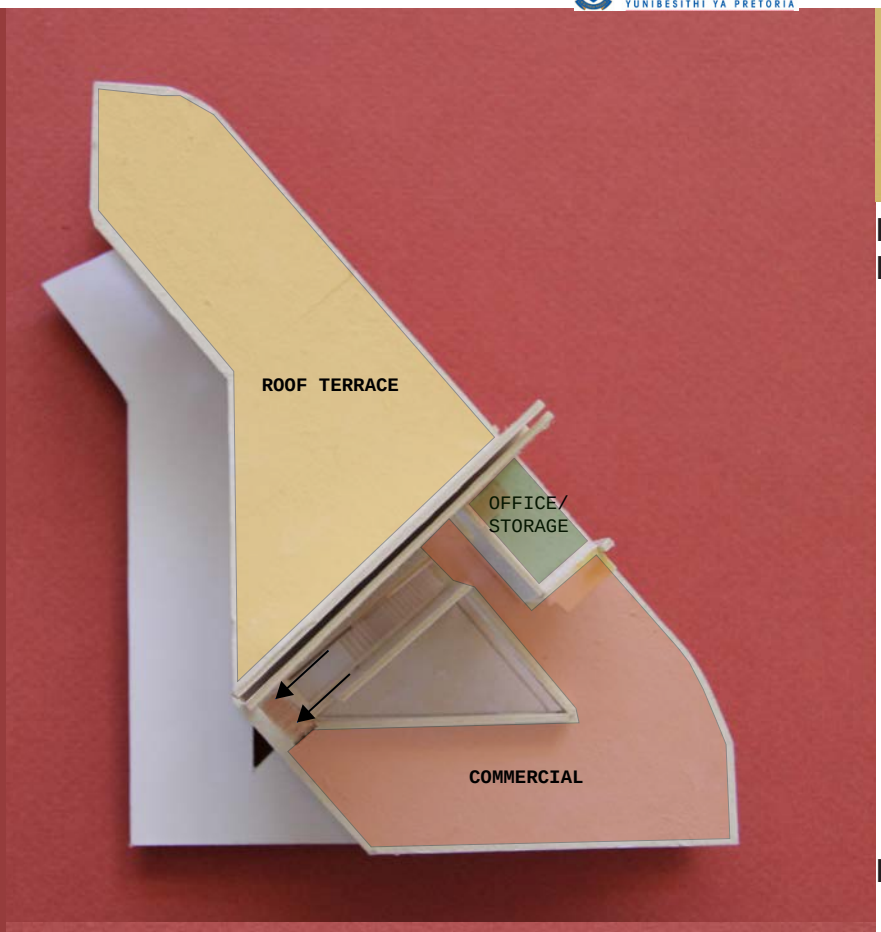
FIRST FLOOR PLAN



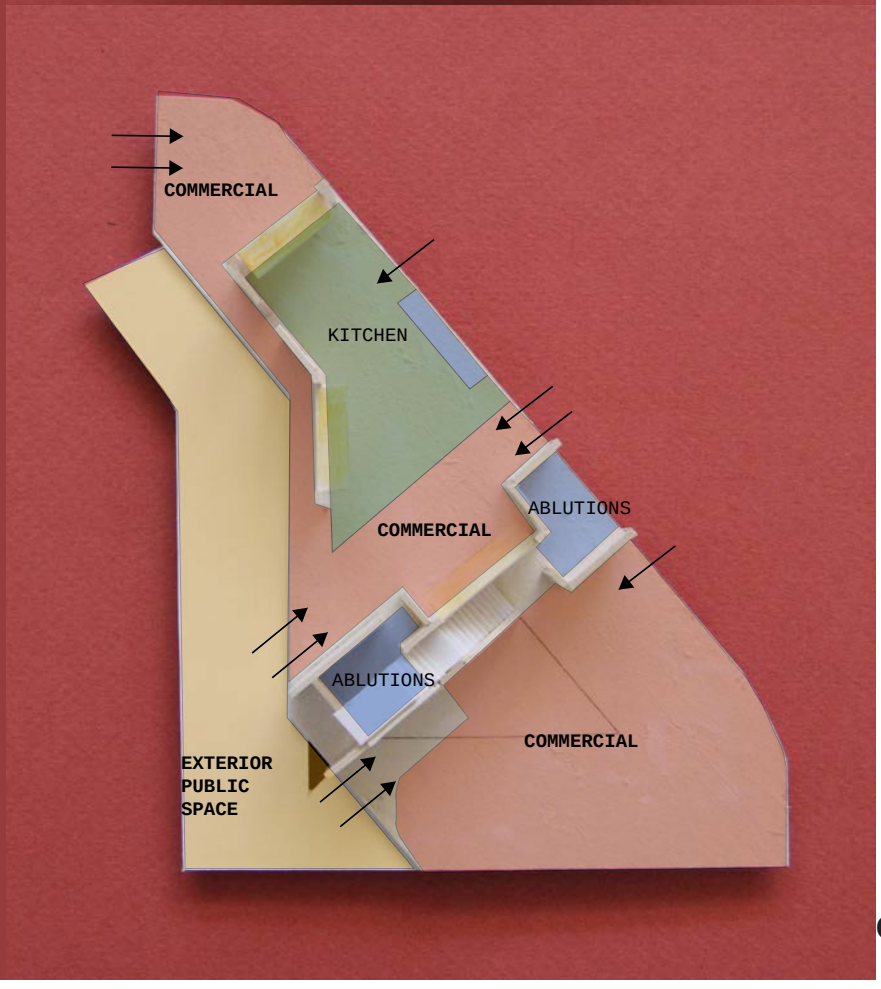
GROUND FLOOR PLAN

FIG 7.21. Design development, Model of the Western section, Author, 2017

POSITION IN NETWORK OF BUILDINGS



FIRST FLOOR PLAN



GROUND FLOOR PLAN

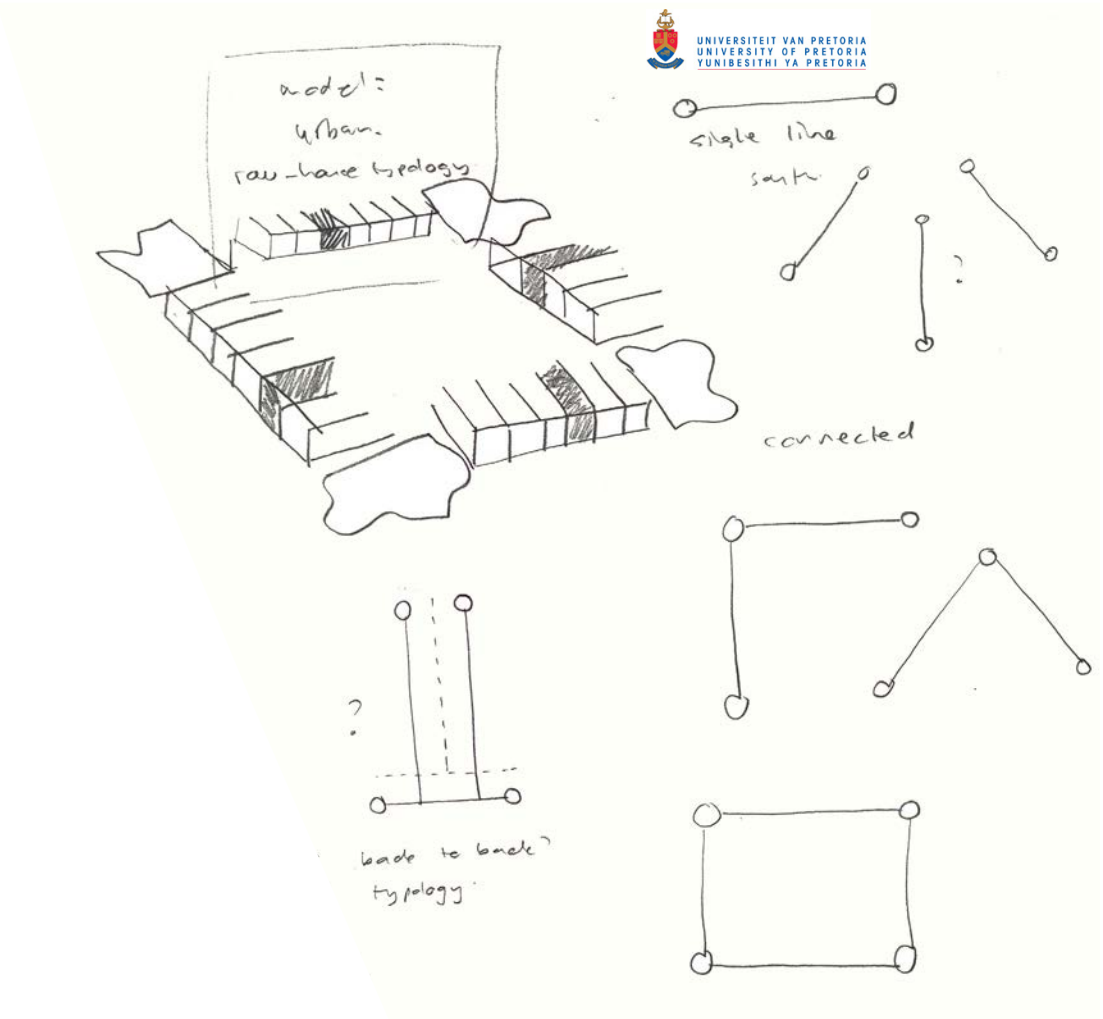
A

FIG 7.22. Design development, Model of the eastern section, Author, 2017

FIG 7.23. Design development models showing the position of new roads in the existing context, Author, 2017

FIG 7.24. Model of existing built fabric with extensions. Author, 2017

FIG 7.25. Design development of the master-plan, Author, 2017



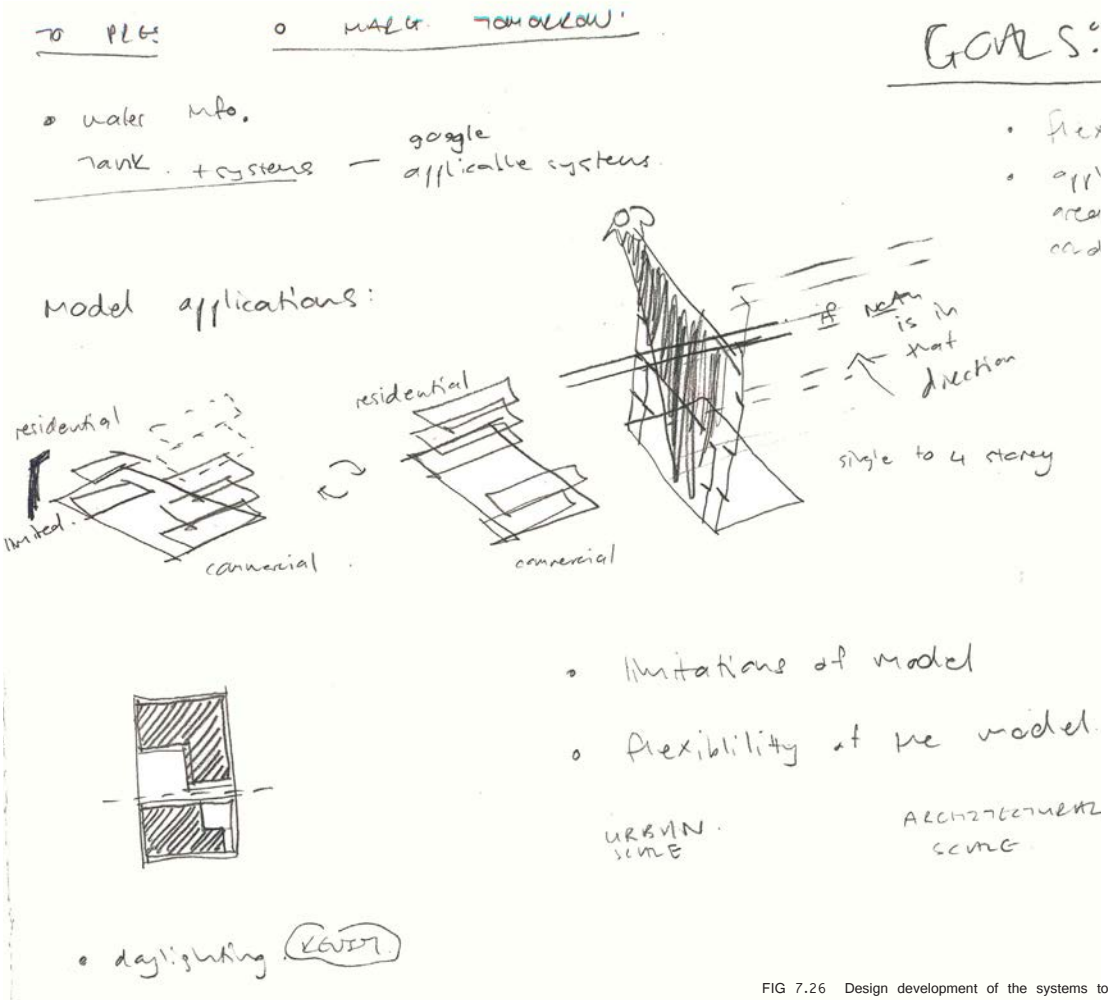
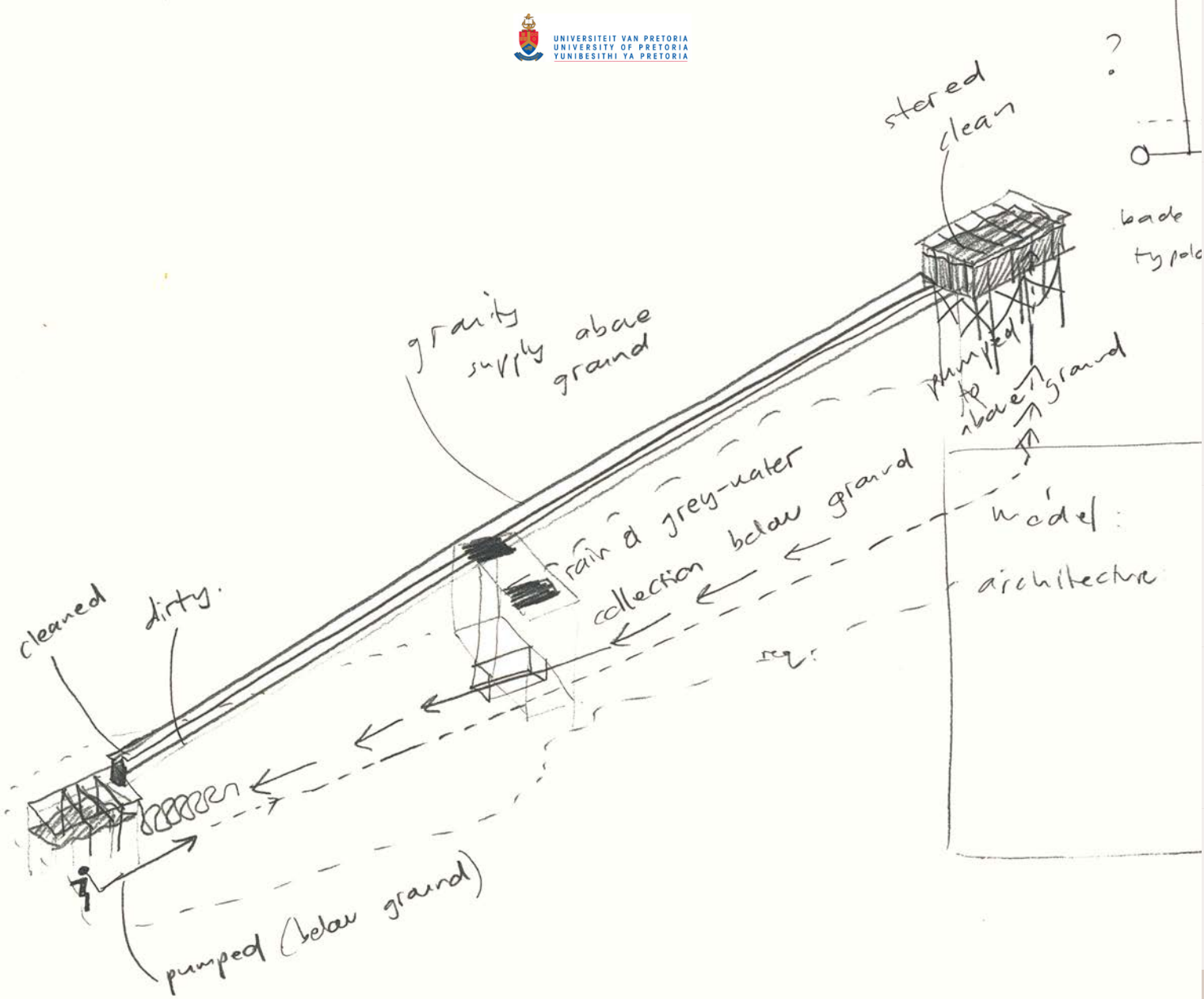
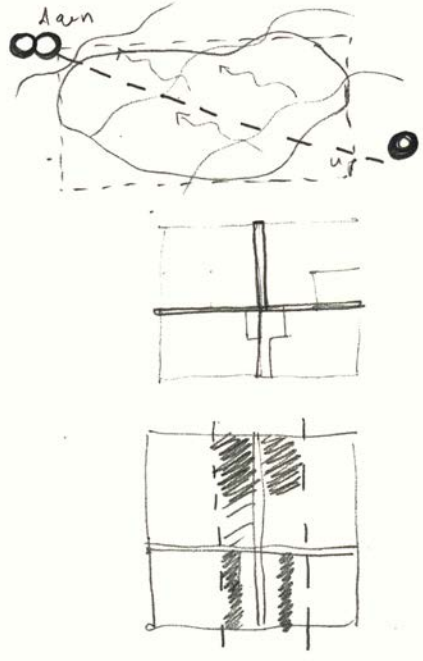


FIG 7.26 Design development of the systems to support the network of buildings, Author, 2017





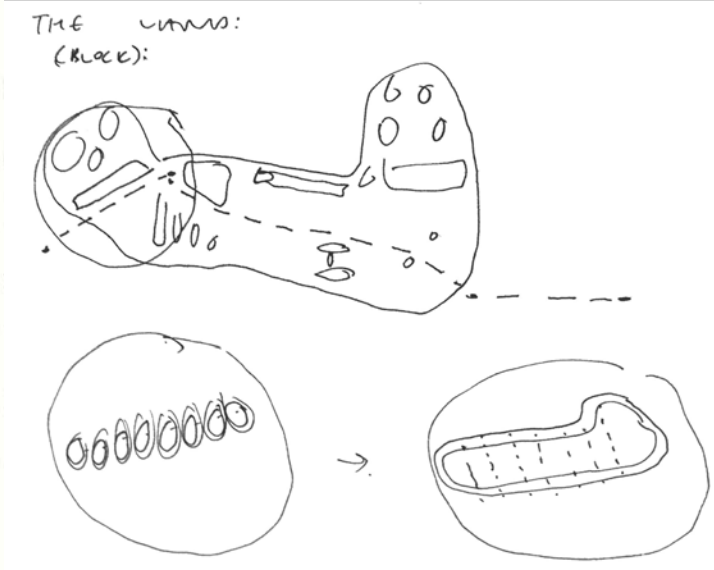


FIG 7.27. Design development of the network of buildings, Author, 2017

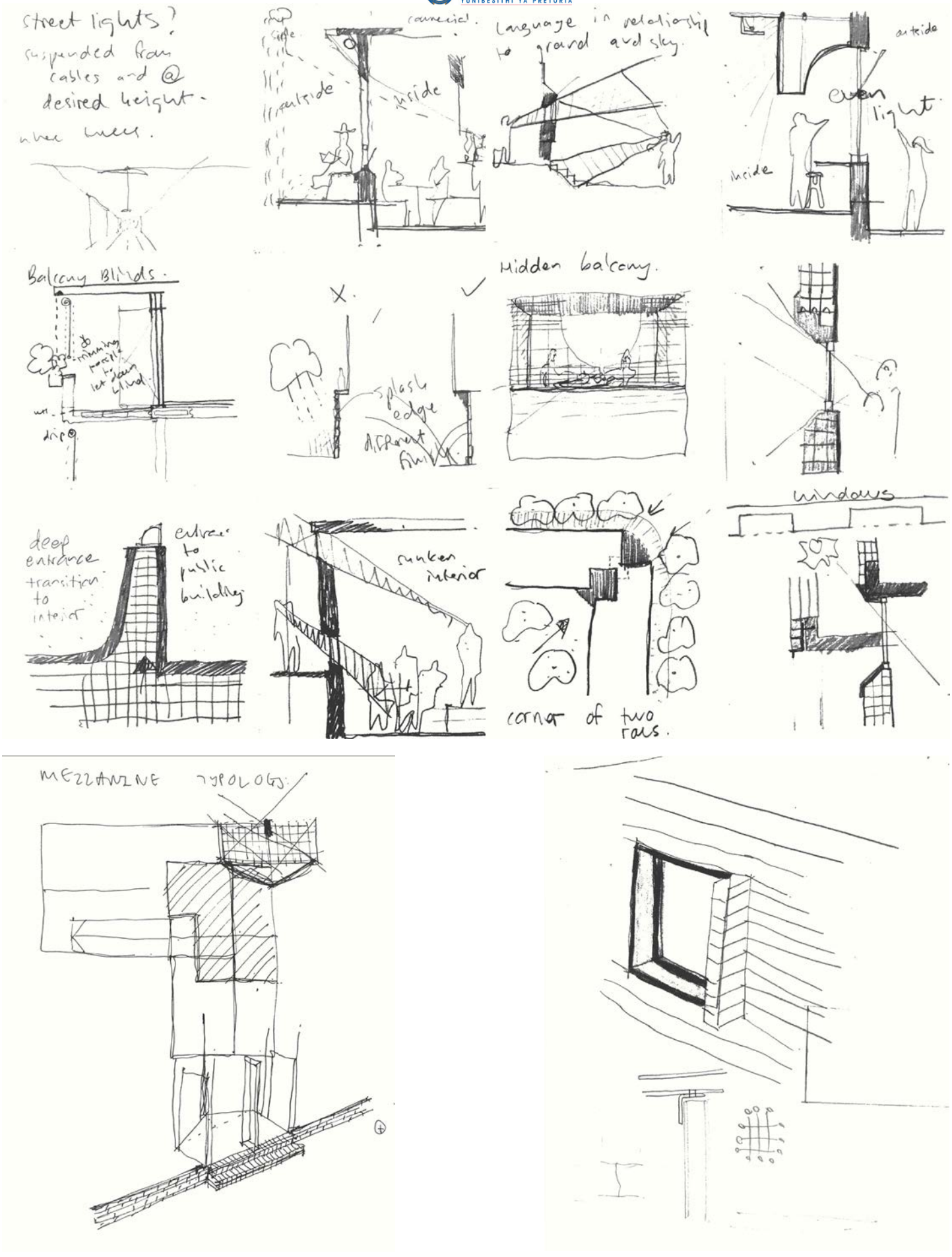


FIG 7.28. Design development, Details. Author, 2017

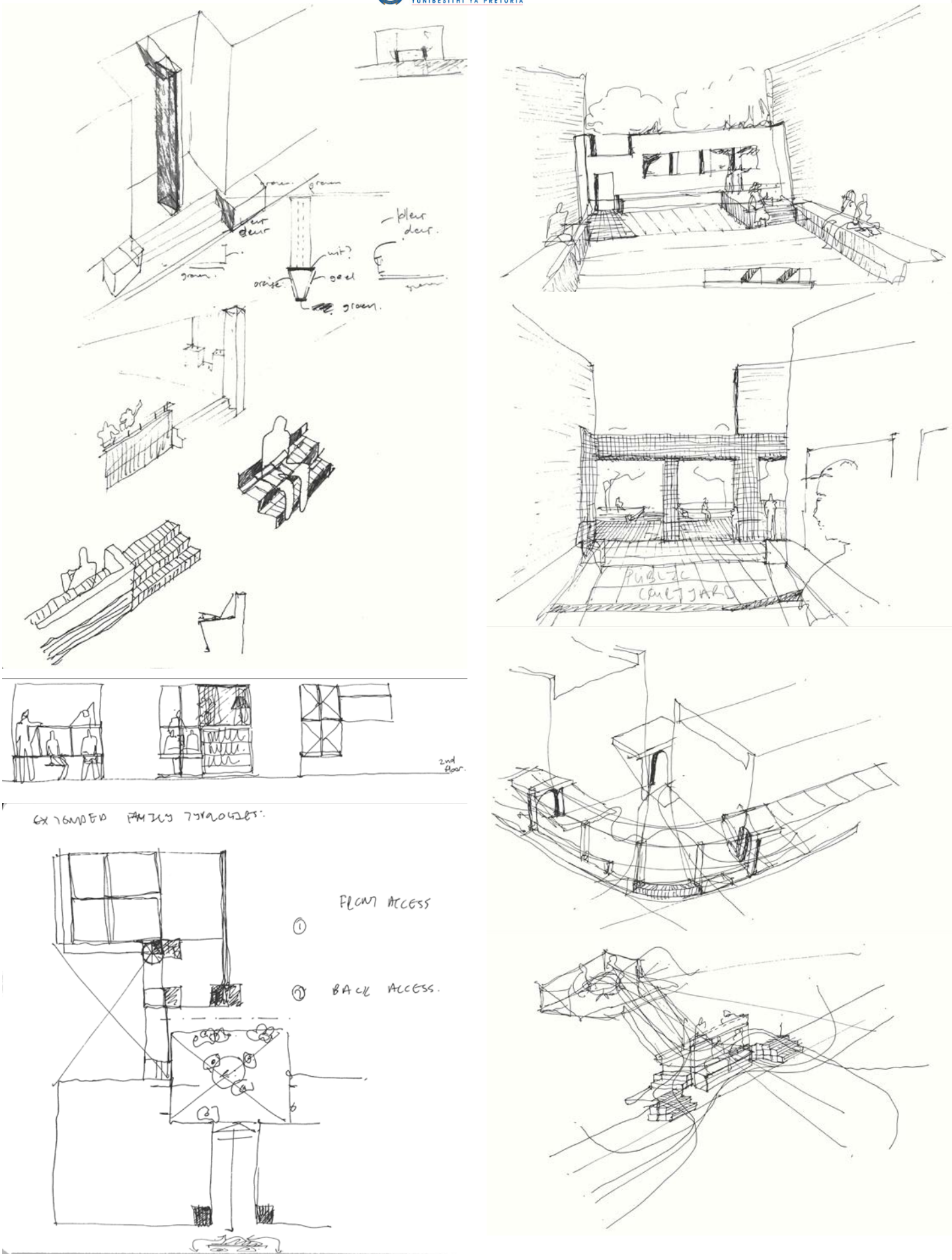


FIG 7.29. Design development, place making. Author, 2017

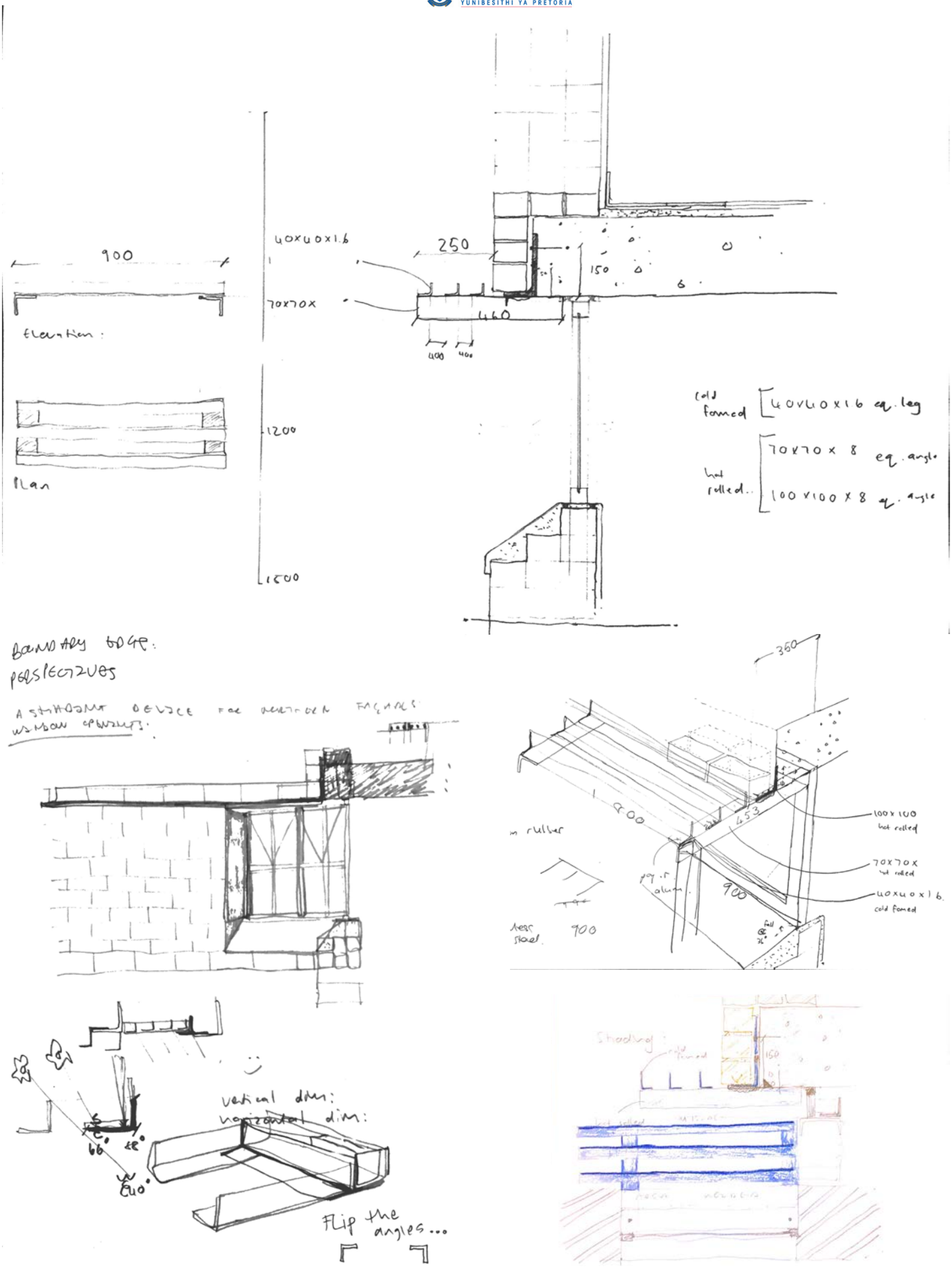


FIG 7.30. Design development, Details, Author, 2017

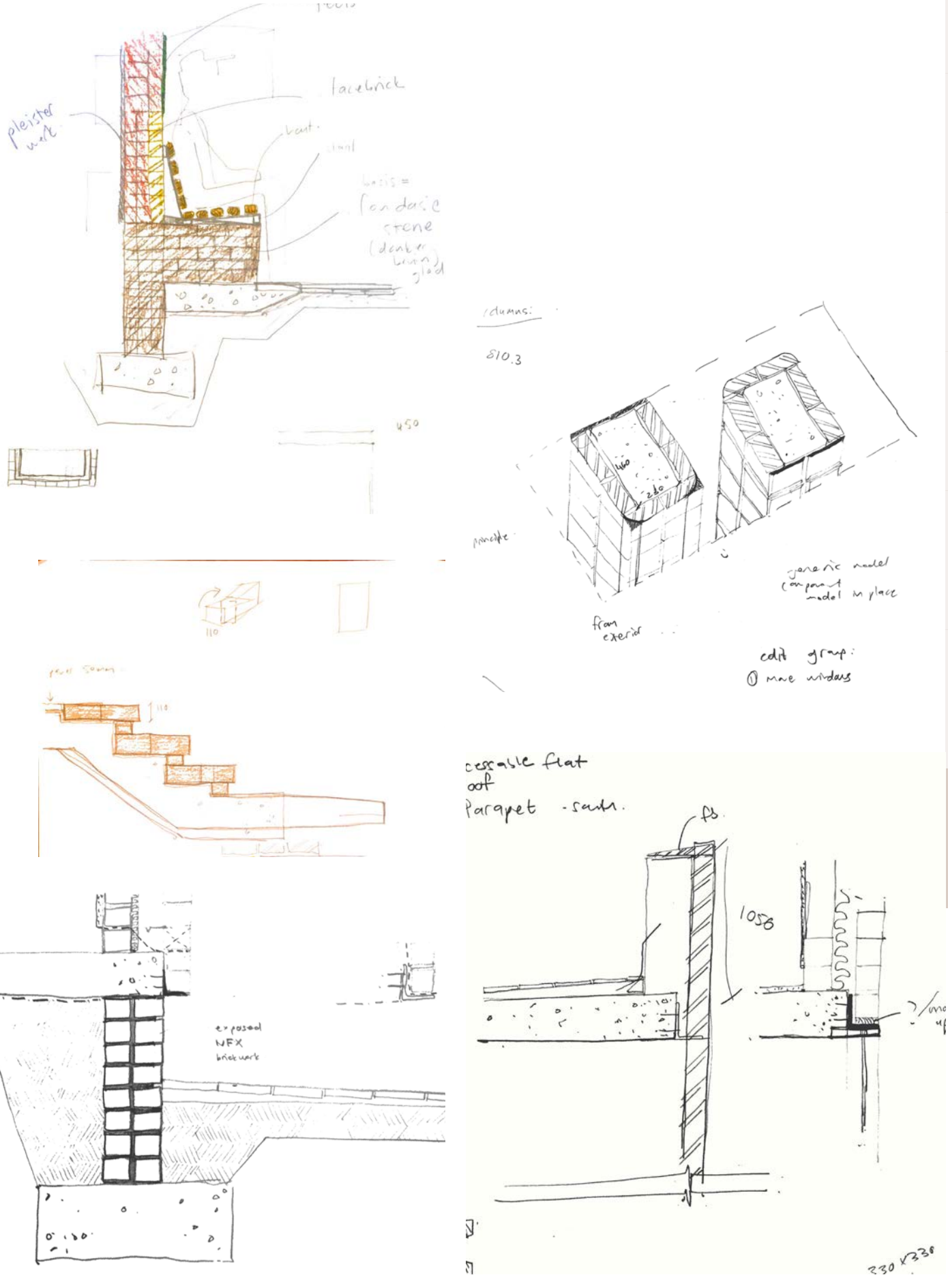


FIG 7.31. Design development, Details, Author, 2017

8.

TECHNIFICATION

The construction method and choice of materials respond to the design intentions and the context of Westbury.

Primary structure: With a concrete frame as the primary structure it is possible to apply the model on various topographical site conditions; the concrete slabs cast in situ allow more flexibility with the wet services that change with the different dwelling typologies provided. The aim is not to build this project at record speed. In fact it is important to allow enough time for both the existing residents to make their choices regarding dwelling typology and material finishes, as well as the community contractors and builders to take part in the project with sufficient time to train for the new proposed construction details. A structural grid with a maximum span of 6 m, and a minimum of 3.8 m accommodates the existing 10m x 18 m plots gathered into row-housing as well as the community facilities buildings supporting the edges of the row-houses. This combination provides maximum flexibility for the interiors of the dwelling units.

The principle of thermal massing as a basic rule of thumb was applied to the secondary structure. Professor Dieter Holm asserts that in the Highveld climatic zone, it is recommended that north facing brick walls are at 350mm thick to be thermally advantageous; walls facing east and west; insulated cavity walls, and walls facing south the standard thickness of 220mm (Holm, 1996, pp. 64-68). A case study in point, is the recently completed low-cost student housing for the Department of Health, Natalspruit, which falls within the same climatic zone and was completed by Holm Jordaan and Thomashoff and Partners for AfriArch. This solution was more economic, as the structure heats up sufficiently in winter and cools in summer so that the long-term energy demand is reduced. Masonry construction is chosen above all other construction methods for the reliable qualities associated with it; fire resistant, easily adaptable, requires low maintenance, and for being the most common construction method in this region also allowing skills development for the local consultants from Westbury.

Professor Holm also mentions that material properties on the external surfaces should be light colored or reflective to minimize solar heat gain in the overheated period. The bricks chosen for the proposal are supplied by Corobrick, from the Rosema Factory in Gauteng. The chosen Face brick is named: Buff Satin FBS and currently costs R07.03 per brick, more affordable compared to other bricks in the Satin category around R10.44 per brick. The satin finish is chosen above the Travertine for the smooth surface making it easier to keep clean.

The position of a given surface and its relationship to the context will determine the finish applied. Illustrated in Fig X, p. X. The exterior envelope facing public space will always be expressed in face brick, supported by a shelf angle at every floor slab level. The materials chosen are inspired by the way the residents of Westbury appropriate their homes. Brick as the most common material of choice, is now celebrated with the greatest surface area; the exterior envelope. Colour and alternative finishes are used on the surfaces associated with the entrances of the dwellings as well as the surfaces facing the interior courtyards.

Windows are placed directly under the floor slabs where possible to reduce the need for additional lintels and to ensure maximum daylight penetration to the interiors. “The higher a window is placed in relationship to the space the

more light penetrates the space. Windows placed within the top third provides the most daylight to the interiors" (Carew, 2017). It is recommended that summer sun is screened and winter sun be allowed to penetrate (Holm, 1996, p. 66). With the 350mm wall depth to window size ratio, this is achieved by turning the brick resting on the angle at 90° above the openings facing the equator. .

Construction: The model has been designed to ensure that the dwelling units start at the boundary edges, moving the living spaces towards the street's edge rather than keeping them to the interior of the plot. Thus building will commence at the northern and southern edges separated by an internal courtyard. This is to ensure a strong urban edge making a contribution to the interior of the dwellings as well as the streets or public space. The model accommodates growth within the section where the landowner lives, limited to two levels, to ensure sufficient light entering the courtyard separating the owner's dwelling from the backyard rental spaces. See illustration in Fig. X p. x. The backyard edge is built up to completion during the first phase of construction allowing interior flexibility while the owner's dwelling could start with one bedroom and grow into a dwelling consisting of five bedrooms.

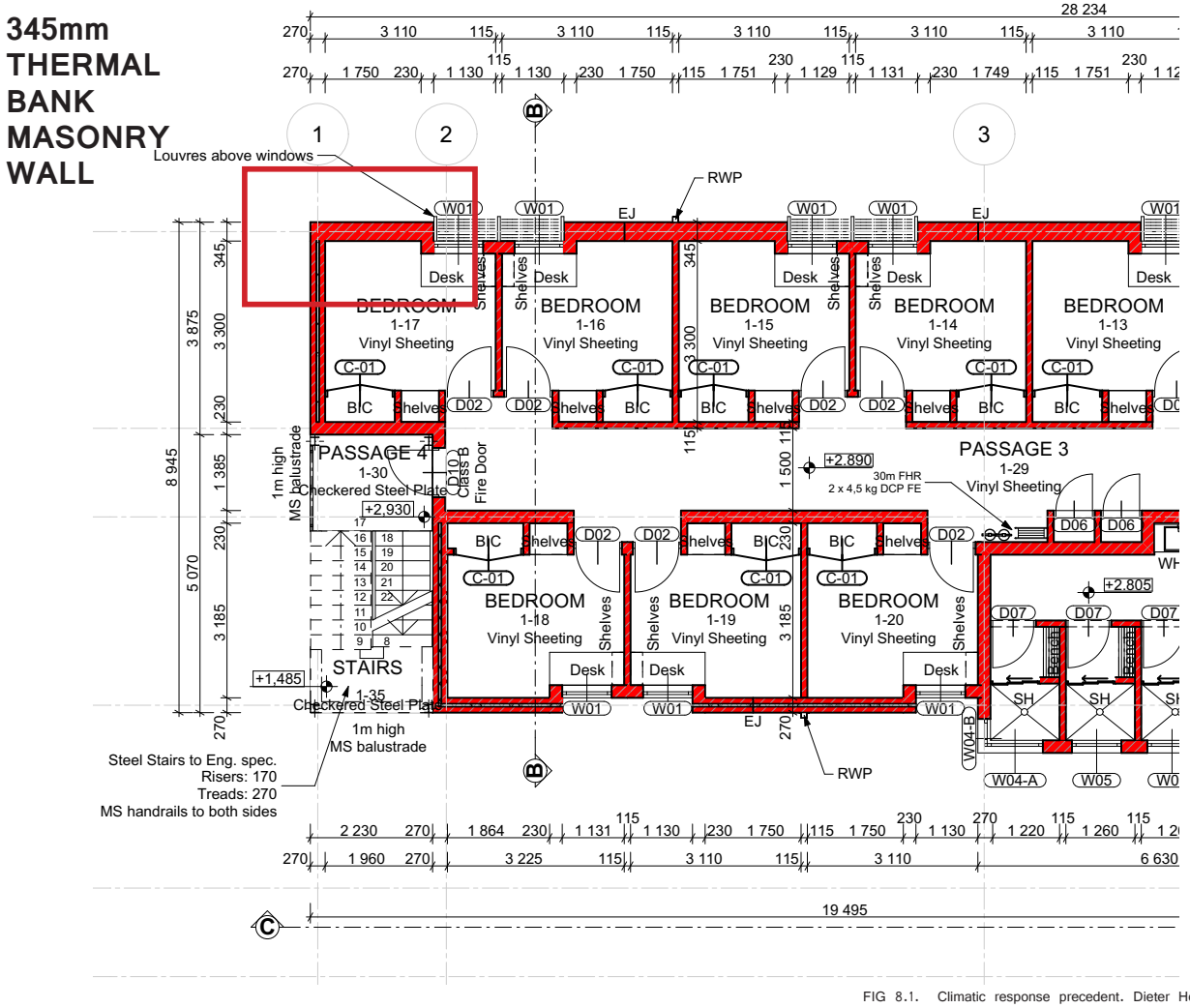


FIG 8.1. Climatic response precedent. Dieter Holm climatic principles

FIG 8.2. A typical Ground-floor unit plan. Author, 2017

TYPICAL SECOND FLOOR PLAN

FIG 8.3. A typical Second-floor unit plan. Author, 2017

TYPICAL FIRST FLOOR PLAN

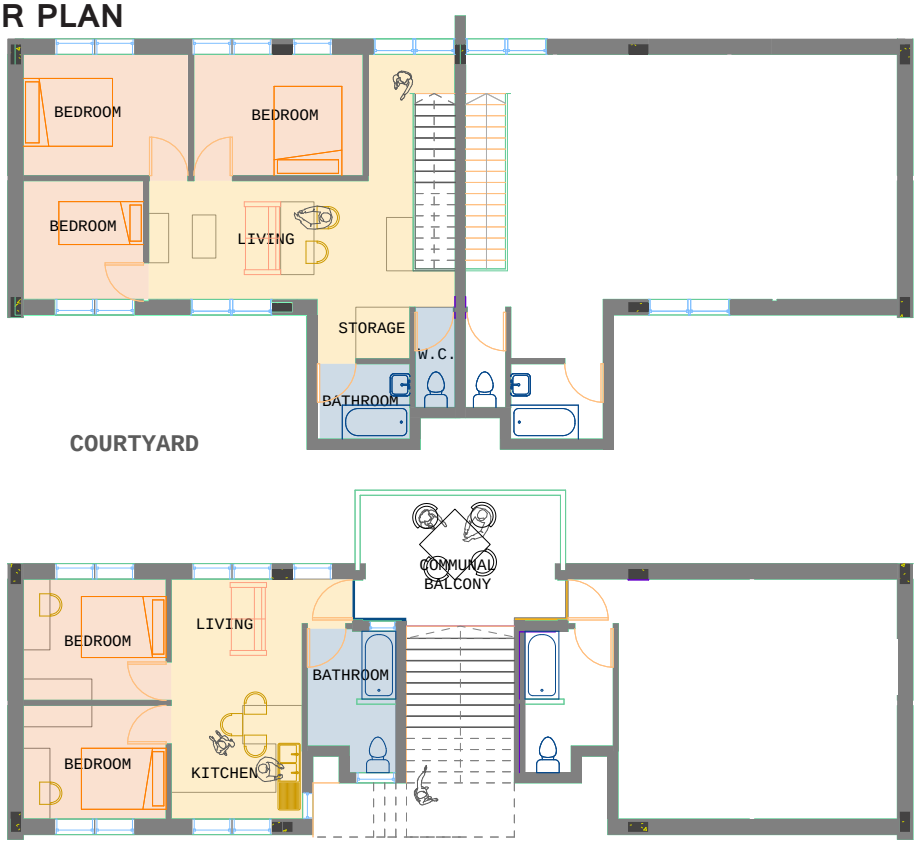


FIG 8.4. A typical First-floor unit plan. Author, 2017

GROWTH AND ADAPTATION OF THE DWELLING TYPOLOGIES

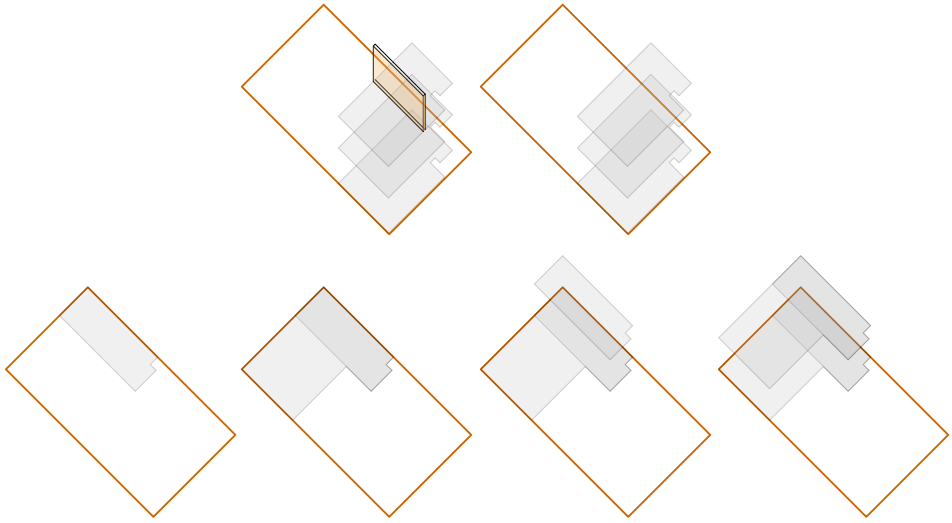


FIG 8.5. The possibility of the model to grow and adapt. Author, 2017

THE POSSIBILITY FOR THE MODEL TO ROTATE 180 DEGREES FOR WHEN PUBLIC SPACE IS ON THE NORTHERN SIDE

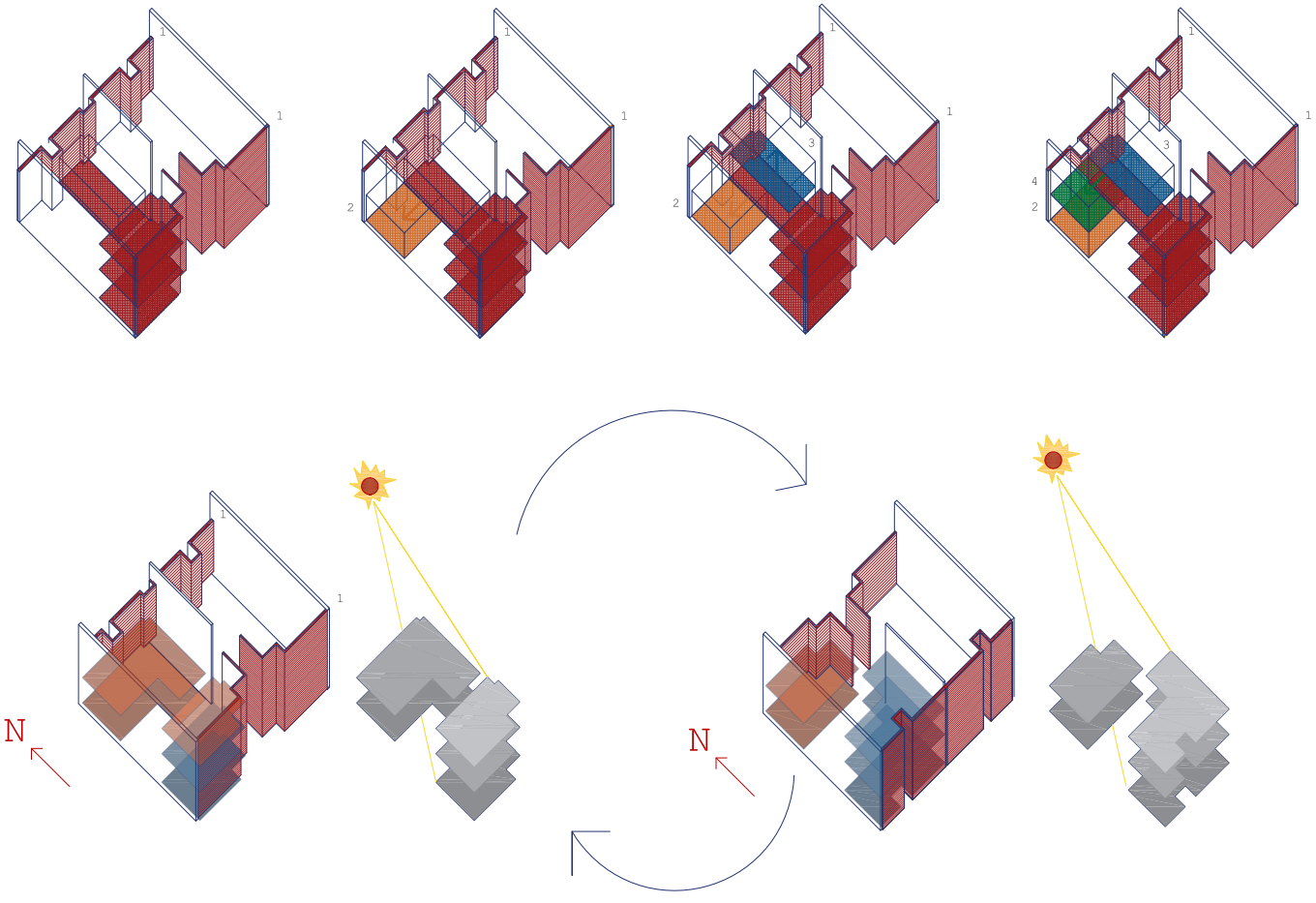


FIG 8.6. The possibility of the model to change orientation. Author, 2017

GRID, LEVEL DIFFERENCE, ENTIRE BOUNDARY WALL INCLUDED IN THE FIRST PHASE OF DEVELOPMENT

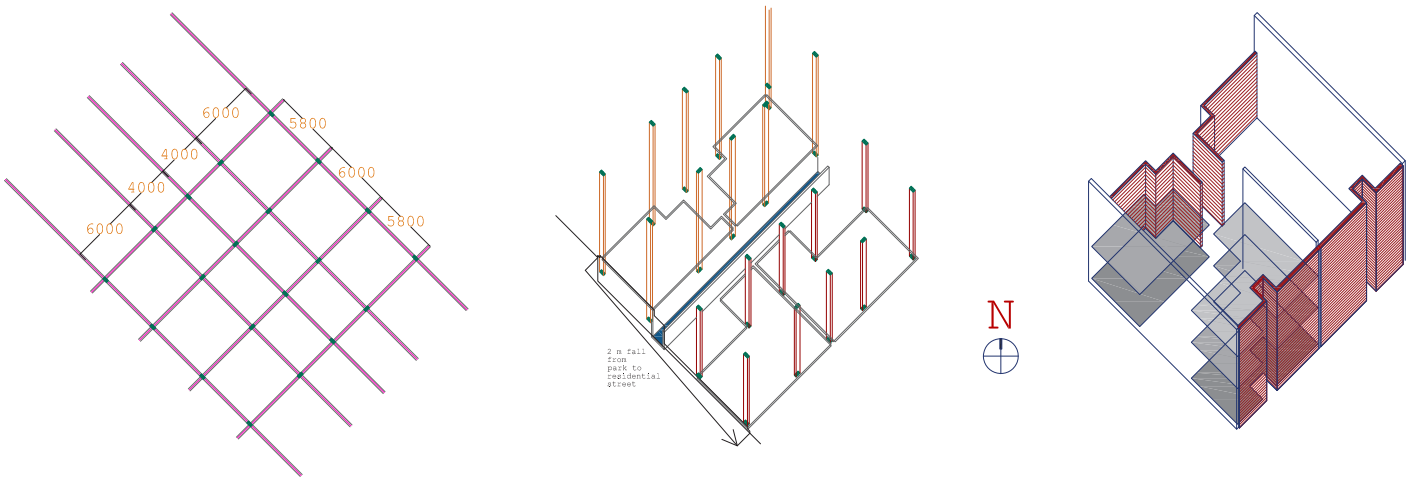


FIG 8.7. The grid, the level difference and the boundary wall to be completed in the first phase of construction. Author, 2017

THE INTENTIONS OF THE NETWORK OF BUILDINGS TO BE HELD TOGETHER BY A CONTINUOUS URBAN EDGE

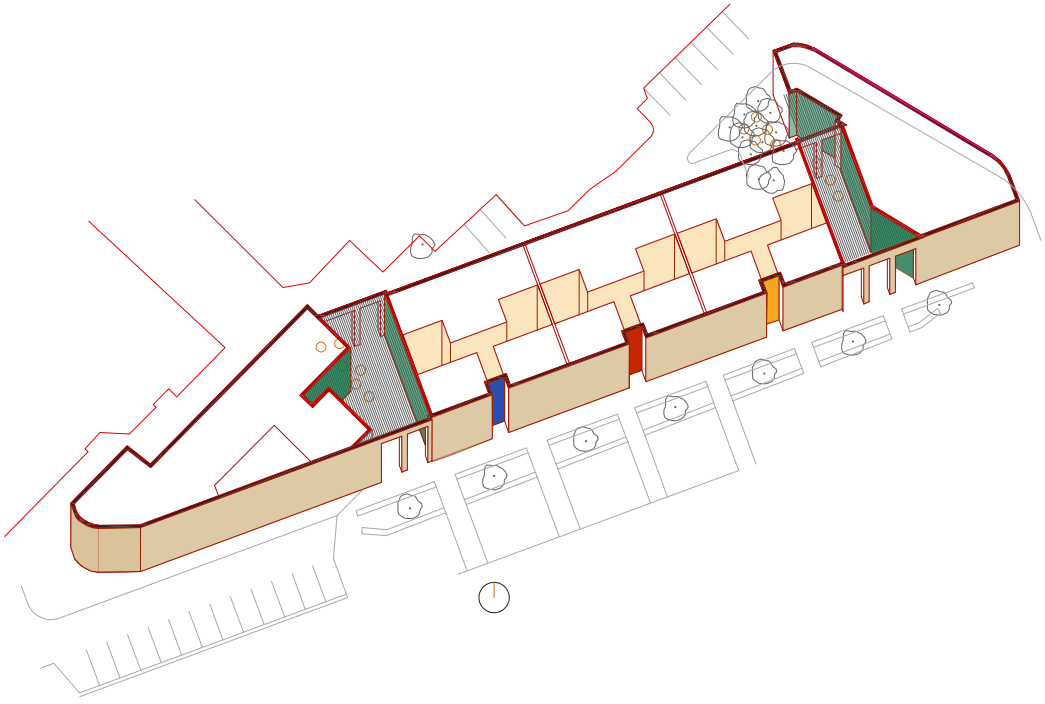


FIG 8.8. The continuous urban edge. Author, 2017

RAINWATER COLLECTION

AIR MOVEMENT

FIG 8.9. Water collection areas and air movement to the large family units from the southern side. Author, 2017

WATER MANAGEMENT MODEL

By Fourie Pieterse (October 2014)

A WATER RESOURCE INFORMATION (YIELD, m³)

A1 RAIN WATER HARVESTING DATA

DESCRIPTION	AREA (m²)	RUNOFF COEFF. (C)
Roof structures	1373	0.8
Paving A	565	0.8
Paving B	0	0.8
Lawn	0	0.1
Astro	0	0.4
TOTAL AREA (A)	1938.00	
WEIGHTED C		0.80

A2 RECYCLED / ALTERNATIVE WATER SOURCE

0

MONTH	SOURCE 1		SOURCE 2		TOTAL / MONTH (m³)
	WEEKLY YIELD (m³)	MONTHLY YIELD (m³)	WEEKLY YIELD (m³)	MONTHLY YIELD (m³)	
January	0	0.00	0	0.00	0.00
February	0	0.00	0	0.00	0.00
March	0	0.00	0	0.00	0.00
April	0	0.00	0	0.00	0.00
May	0	0.00	0	0.00	0.00
June	0	0.00	0	0.00	0.00
July	0	0.00	0	0.00	0.00
August	0	0.00	0	0.00	0.00
September	0	0.00	0	0.00	0.00
October	0	0.00	0	0.00	0.00
November	0	0.00	0	0.00	0.00
December	0	0.00	0	0.00	0.00
ANNUAL AVE.		0.00		0.00	0.00

A3 TOTAL WATER YIELD

MONTH	AVE RAINFALL , P (m)	CATCHMENT YIELD (m³) (Yield = PxAxC)	ALTERNATIVE WATER SOURCE (m³)	TOTAL WATER YIELD (m³)
January	0.13	195.66	0.00	195.66
February	1.13	1745.29	0.00	1745.29
March	0.02	38.60	0.00	38.60
April	0.04	55.66	0.00	55.66
May	0.02	26.20	0.00	26.20
June	0.00	1.55	0.00	1.55
July	0.02	31.01	0.00	31.01
August	0.00	3.10	0.00	3.10
September	0.06	86.82	0.00	86.82
October	0.77	1192.26	0.00	1192.26
November	0.19	293.03	0.00	293.03
December	0.18	282.17	0.00	282.17
ANNUAL AVE.	0.70	3951.35	0.00	3951.35

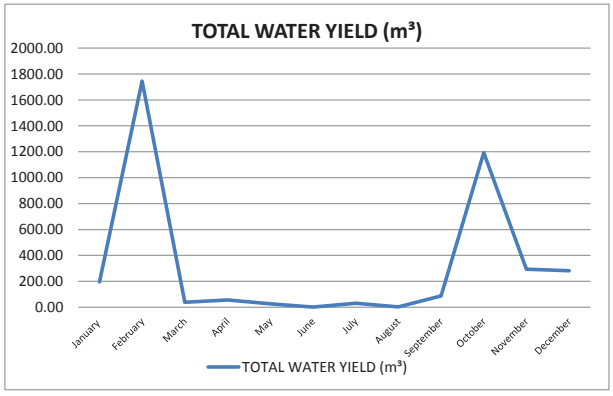


FIG 8.10. Water calculations, yield. Author, 2017

B WATER DEMAND

B1 LANDSCAPE IRRIGATION DEMAND (m³)

DESCRIPTION:	LAWN (m²):	0	AGRI (m²):	0	PLANTING (m²):	30	
MONTH	WEEKLY IRR. (m)	MONTHLY DEMAND (m³)	WEEKLY IRR. (m)	MONTHLY DEMAND (m³)	WEEKLY IRR. (m)	MONTHLY DEMAND (m³)	TOTAL MONTHLY IRR. DEMAND (m³)
January	0.02	0	0.025	0	0.005	0.6	0.6
February	0.02	0	0.025	0	0.005	0.6	0.6
March	0.02	0	0.025	0	0.002	0.24	0.24
April	0.02	0	0.025	0	0.002	0.24	0.24
May	0.01	0	0.025	0	0.002	0.24	0.24
June	0.01	0	0.025	0	0	0	0
July	0.01	0	0.025	0	0	0	0
August	0.02	0	0.025	0	0	0	0
September	0.02	0	0.025	0	0.005	0.6	0.6
October	0.02	0	0.025	0	0.005	0.6	0.6
November	0.02	0	0.025	0	0.005	0.6	0.6
December	0.02	0	0.025	0	0.005	0.6	0.6
ANNUAL TOTAL		0		0		4.32	4.32

B2 DOMESTIC / ALT DEMAND

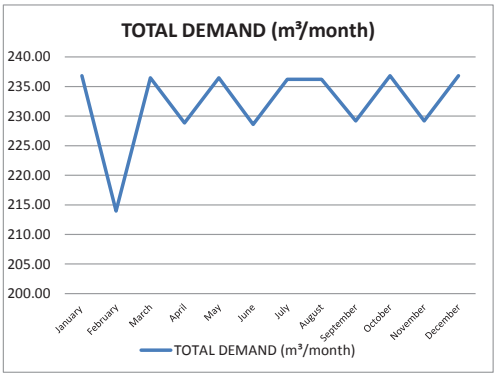
MONTH	PERSONS	WATER/ CAPITA/ DAY (l)	DOMESTIC DEMAND (m³/month)
January	254	30	236.22
February	254	30	213.36
March	254	30	236.22
April	254	30	228.6
May	254	30	236.22
June	254	30	228.6
July	254	30	236.22
August	254	30	236.22
September	254	30	228.6
October	254	30	236.22
November	254	30	228.6
December	254	30	236.22
ANNUAL TOTAL			2781.3

B3 EVAPORATION LOSS (For 'open' reservoirs)

35mm - 45mm/week in summer

AREA OF RESERVOIR (m²): 0

MONTH	EVAPORATION RATE (m/week)	EVAPORATION RATE (m/month)	TOTAL LOSS (m³/month)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
ANNUAL TOTAL	0.00	0.00	0.00



B4 TOTAL WATER LOSS & DEMAND

MONTH	TOTAL DEMAND (m³/month)
January	236.82
February	213.96
March	236.46
April	228.84
May	236.46
June	228.60
July	236.22
August	236.22
September	229.20
October	236.82
November	229.20
December	236.82
ANNUAL TOTAL	2785.62

FIG 8.11. Water calculations, demand. Author, 2017

C WATER BUDGET

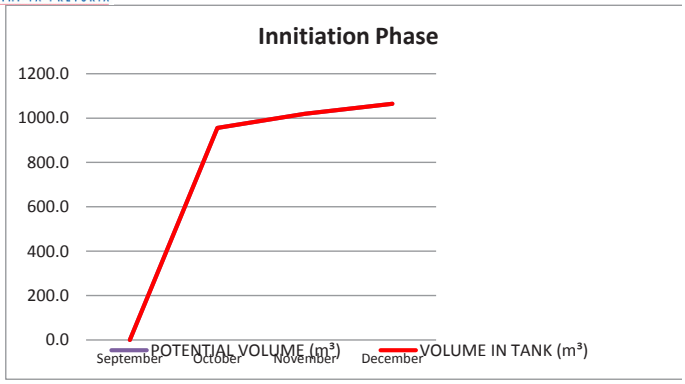
TANK CAPACITY (m³):	1600
MIN VOLUME (m³):	50

C1 WATER BUDGET INNITIATION PHASE

MONTH	YIELD (m³/month)	DEMAND (m³/month)	MONTHLY BALANCE	POTENTIAL VOLUME (m³)	VOLUME IN TANK (m³)
September	86.8	229.2	-142.4	**0.0**	**0.0**
October	1192.3	236.8	955.4	**955.4**	**955.4**
November	293.0	229.2	63.8	**1019.3**	**1019.3**
December	282.2	236.8	45.4	**1064.6**	**1064.6**
	1854.3	932.0	922.2		

C2 WATER BUDGET YEAR 1

MONTH	YIELD (m³/month)	DEMAND (m³/month)	MONTHLY BALANCE	POTENTIAL VOLUME (m³)	VOLUME IN TANK (m³)
January	195.7	236.8	-41.2	**1023.5**	**1023.5**
February	1745.3	214.0	1531.3	**2554.8**	**1600.0**
March	38.6	236.5	-197.9	**2356.9**	**1402.1**
April	55.7	228.8	-173.2	**2183.7**	**1229.0**
May	26.2	236.5	-210.3	**1973.5**	**1018.7**
June	1.6	228.6	-227.0	**1746.4**	**791.7**
July	31.0	236.2	-205.2	**1541.2**	**586.4**
August	3.1	236.2	-233.1	**1308.1**	**353.3**
September	86.8	229.2	-142.4	**1165.7**	**210.9**
October	1192.3	236.8	955.4	**2121.2**	**1166.4**
November	293.0	229.2	63.8	**2185.0**	**1230.2**
December	282.2	236.8	45.4	**2230.3**	**1275.6**
ANNUAL AVE.	3951.3	2785.6	1165.7		



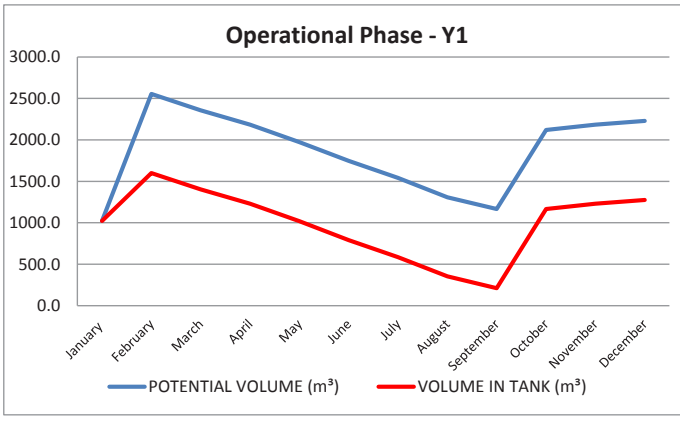


FIG 8.12. Water calculations. Author, 2017

RAINWATER COLLECTION

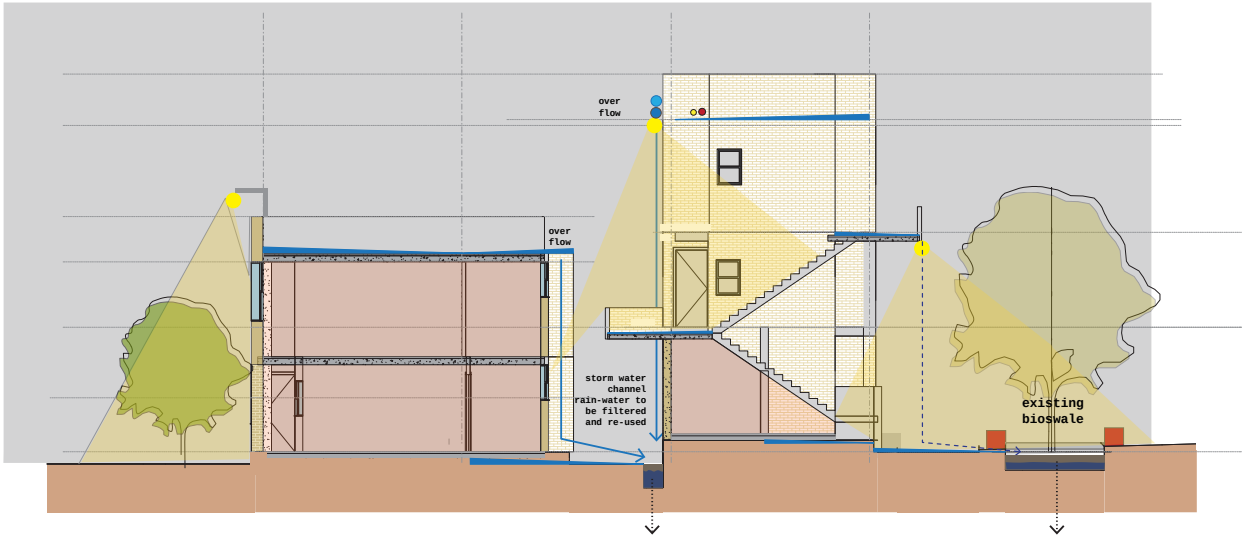
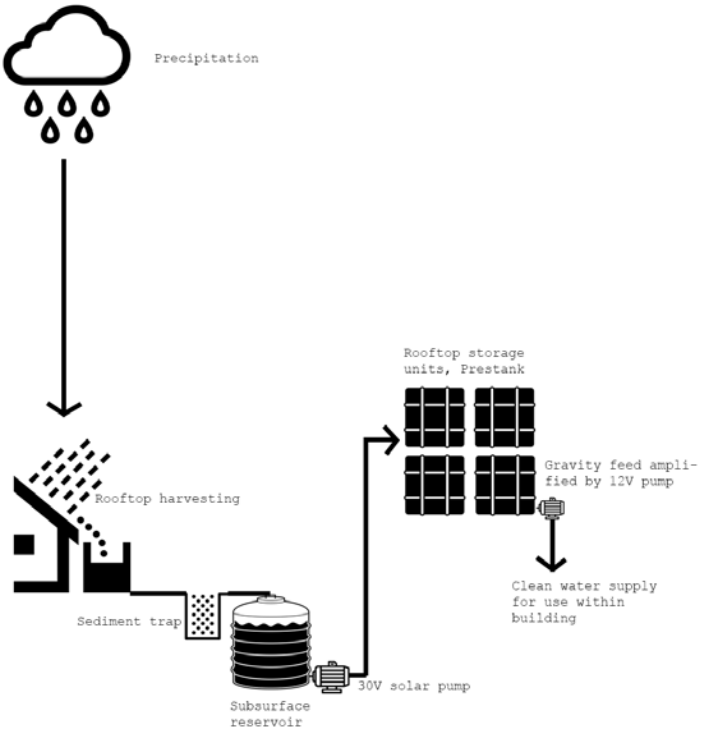


FIG 8.13. Section showing the storm water collection areas and direction of flow. Author, 2017



Although the roof area is sufficient, this study included the courtyard areas for optimum water capture. Roof area of 1373m² and courtyard areas of 565m², 1500 liters at a maximum can be captured and stored for the use of 254, occupants using 30 litres a day.

Therefore it is feasible to invest in the necessary rainwater collection, filtering and distributing systems to sustain the network of buildings in a self-sufficient way.

An estimate of 2 rain seasons is required to reach the conclusions stated above.

FIG 8.14. Water collection, filtering, distributions and storage. Author, 2017

PASSIVE VENTILATION

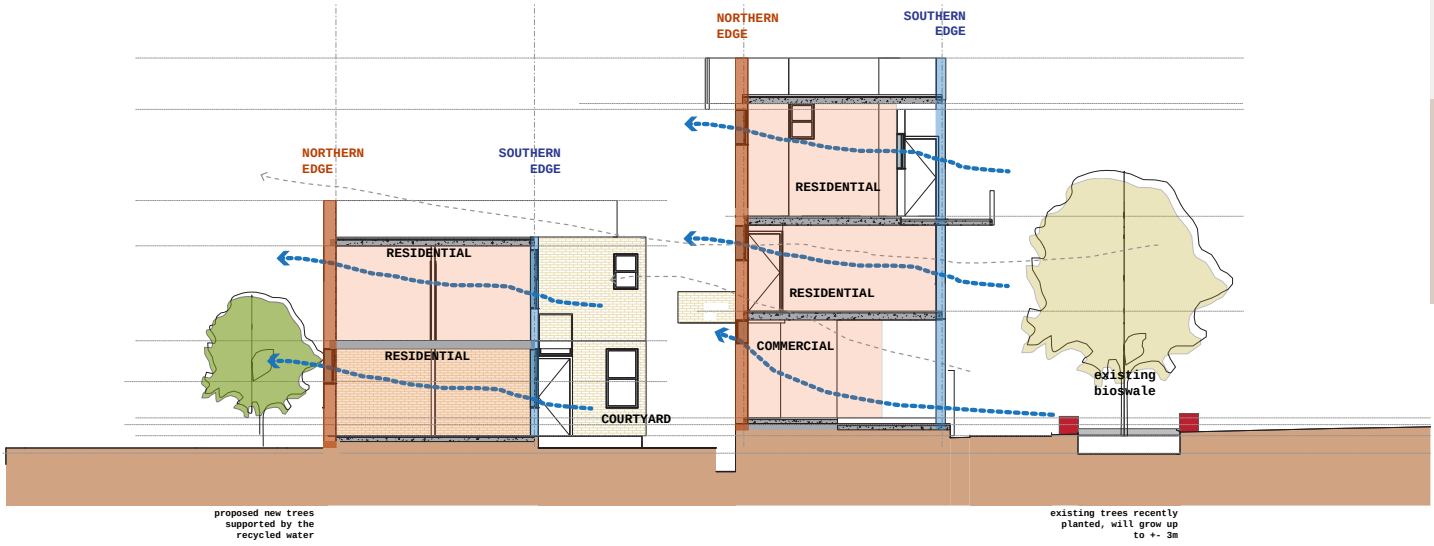


FIG 8.15. Section showing the distance for cross-ventilation and the different applications of masonry construction for the Northern(thermal bank wall) and the southern wall. Author, 2017

ROUNDFLOOR PLAN
:100

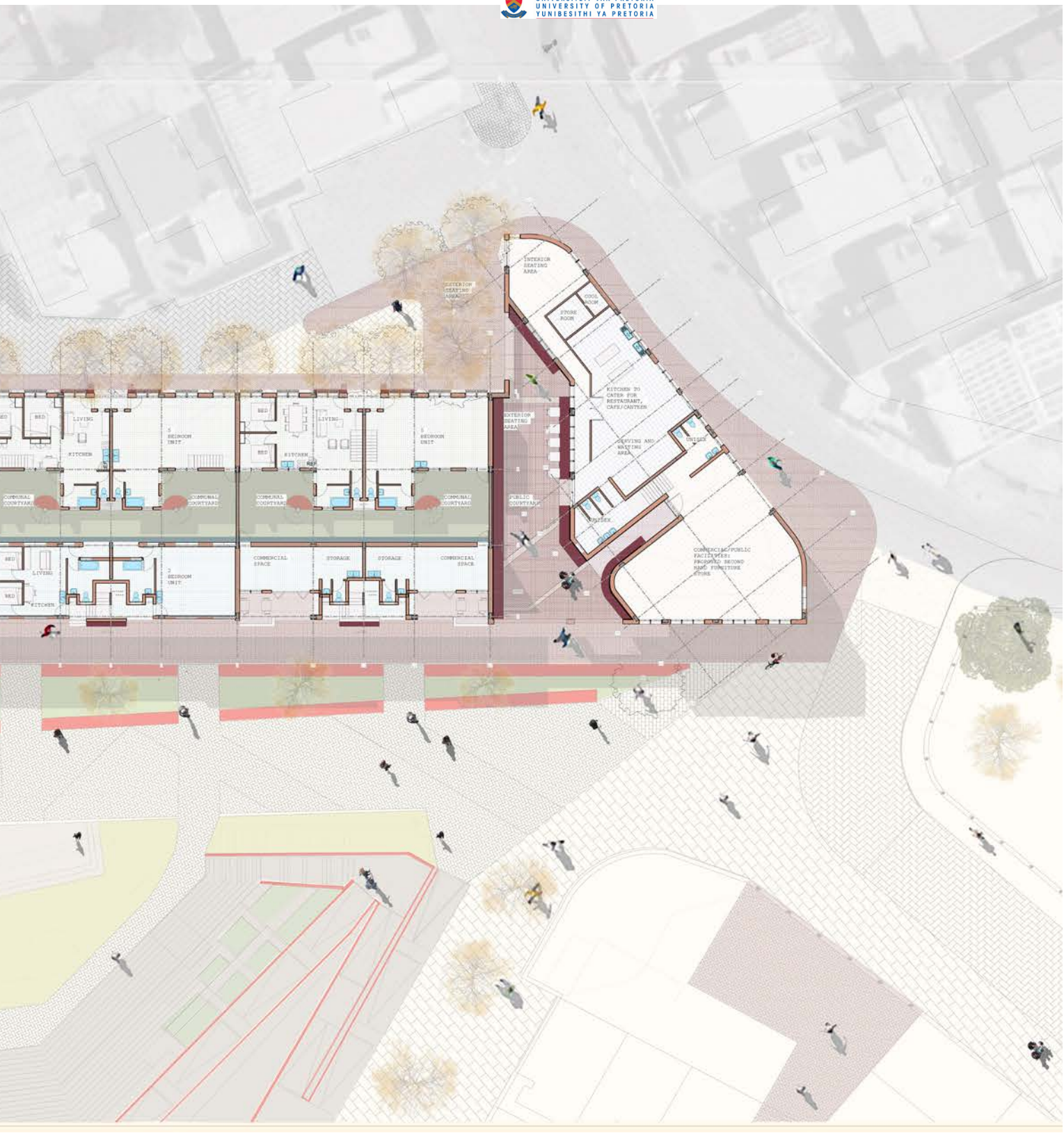
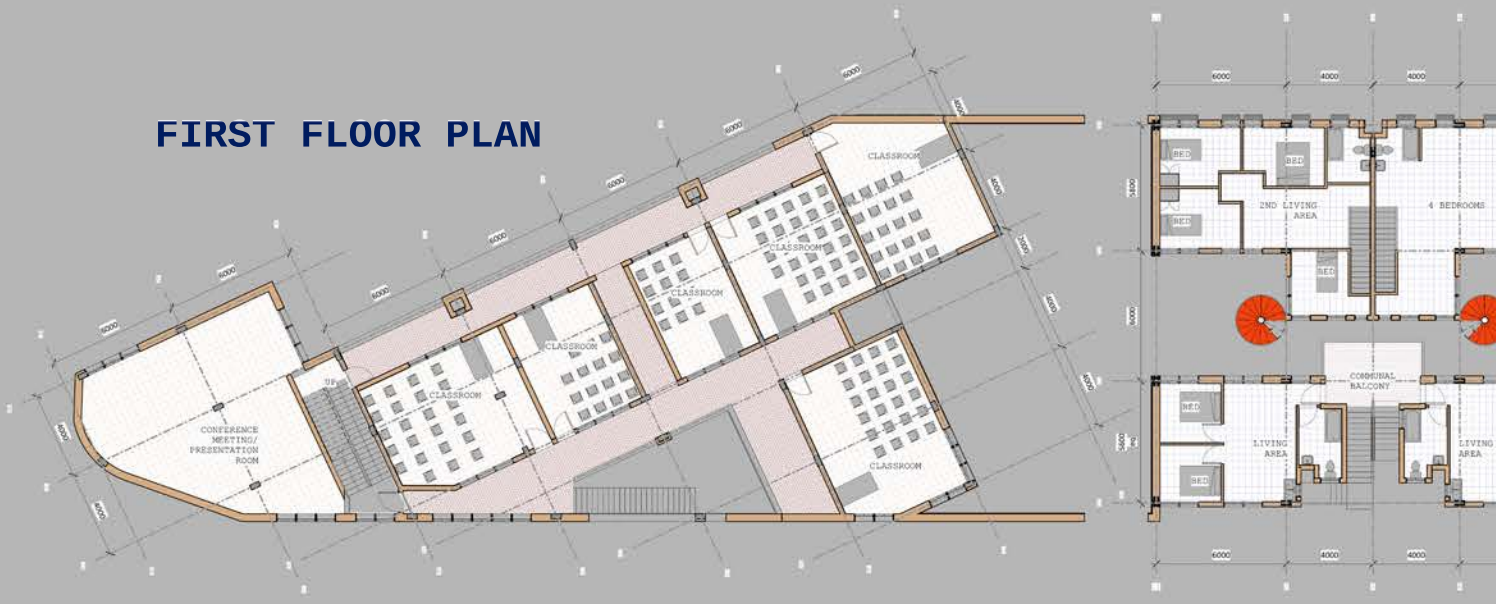


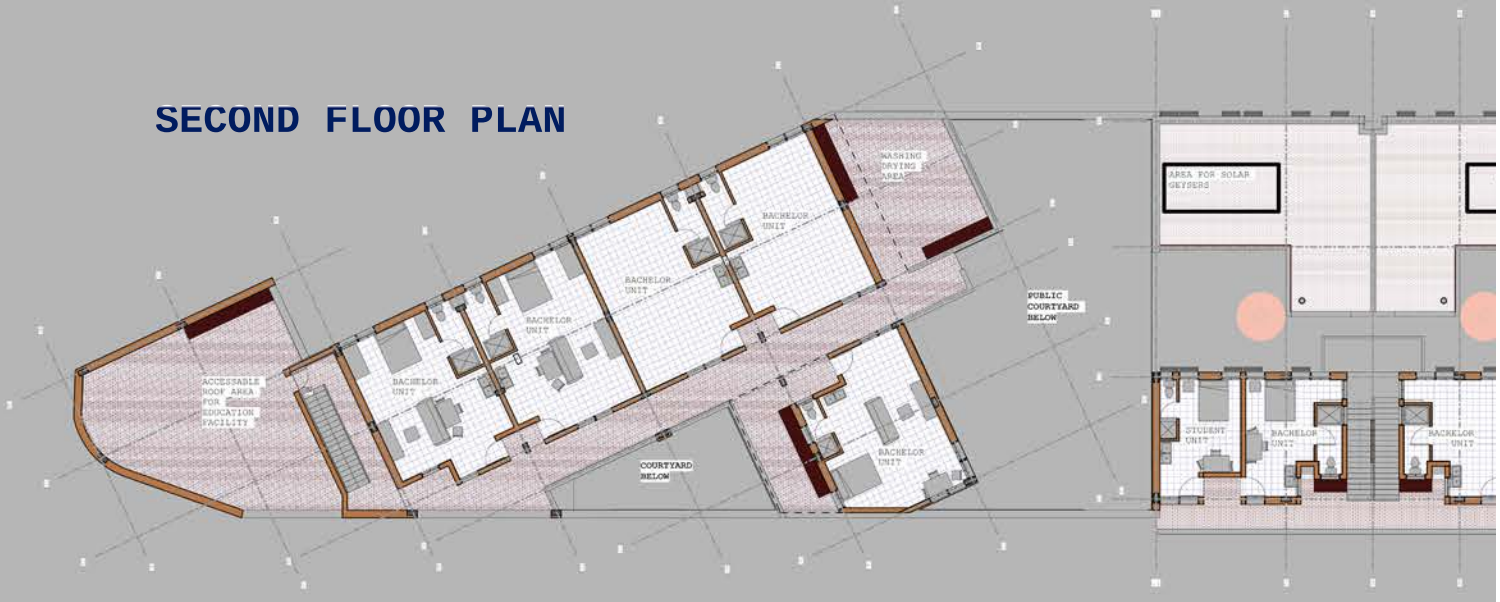
FIG 8.16. Ground-floor plan. Author, 2017

FLOOR PLANS: 1:100

FIRST FLOOR PLAN



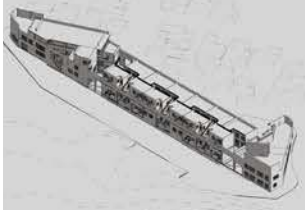
SECOND FLOOR PLAN



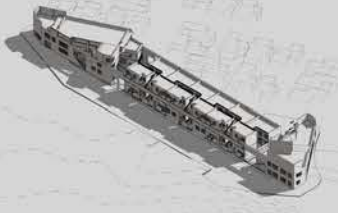
SECTION: RELATIONSHIP TO PARK

FIG 8.17. Floor-plans, Section through boundary condition. Author, 2017

SOUTHERN ELEVATION



SUMMER SOLSTICE
12:00



WINTER SOLSTICE
12:00

INSERTION IN THE GRID

PROJECT SUMMARY

EQUATORIAL ELEVATION

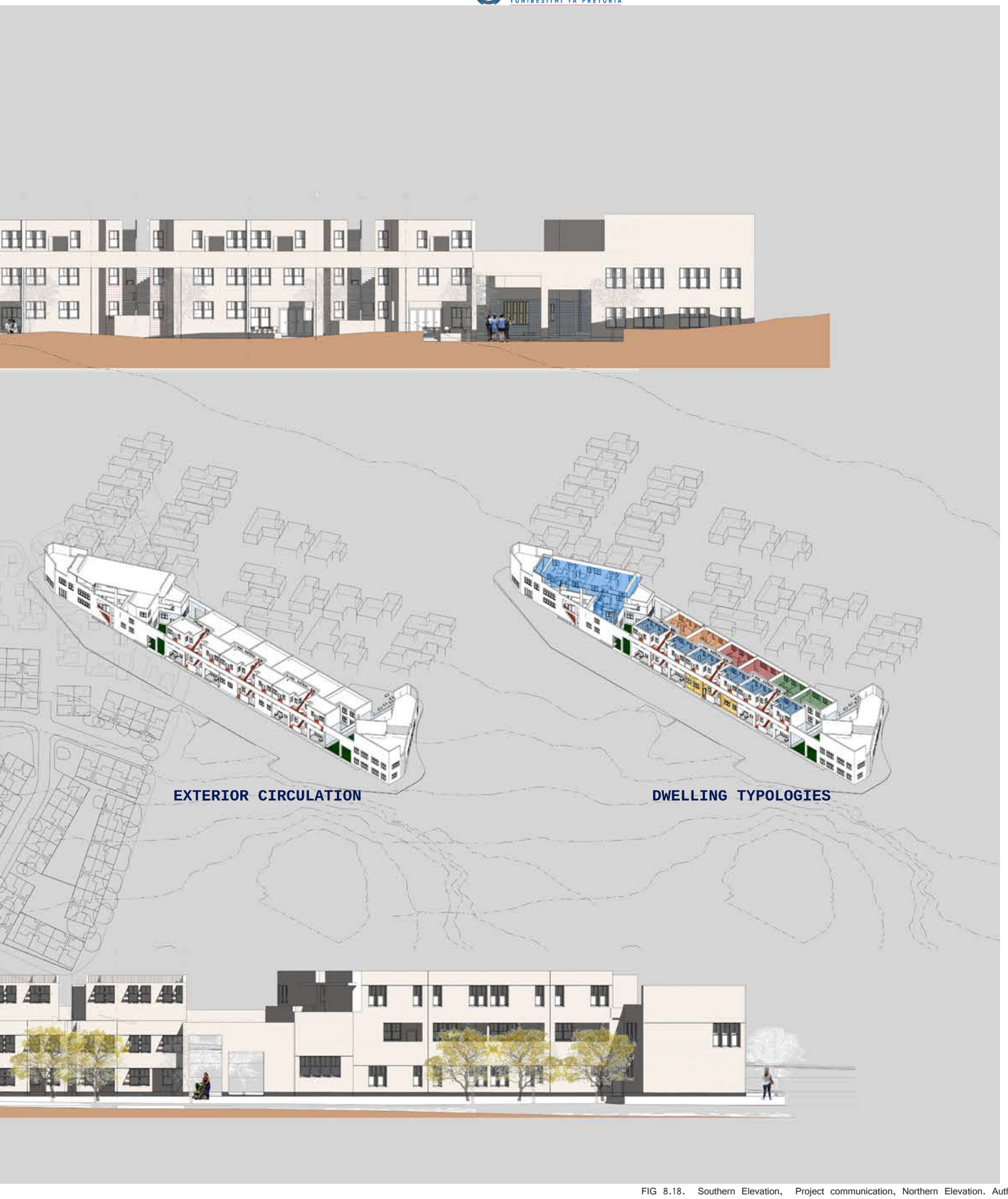


FIG 8.18. Southern Elevation, Project communication, Northern Elevation. Author, 2017

EQUATORIAL FACADE

SOUTHERN FACADE

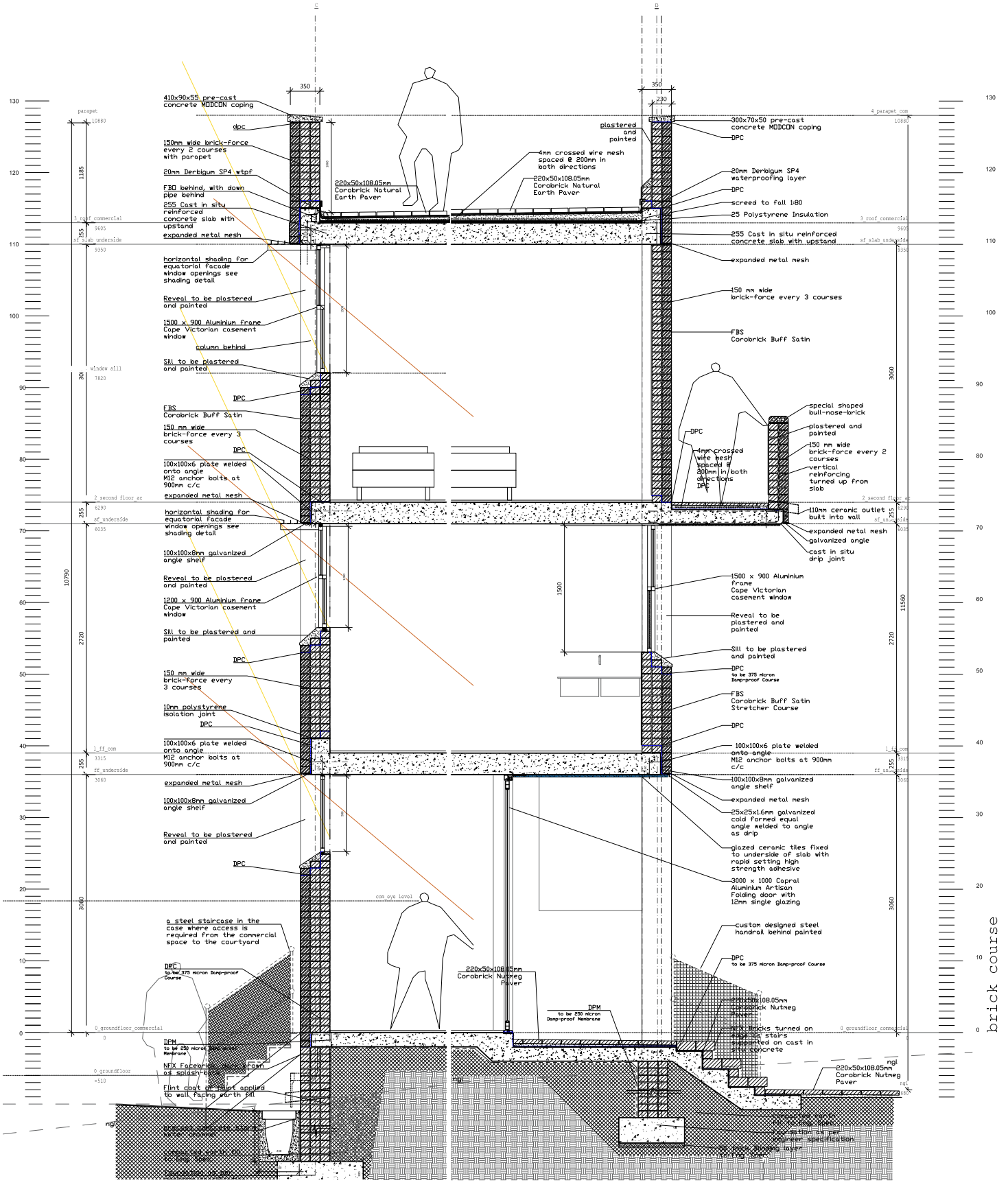
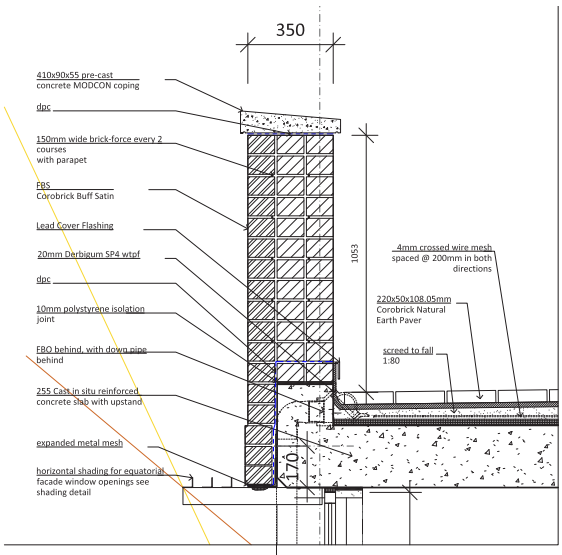
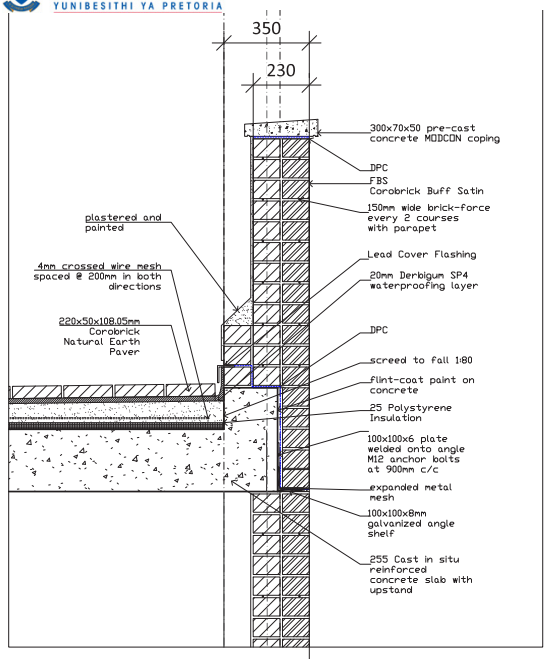
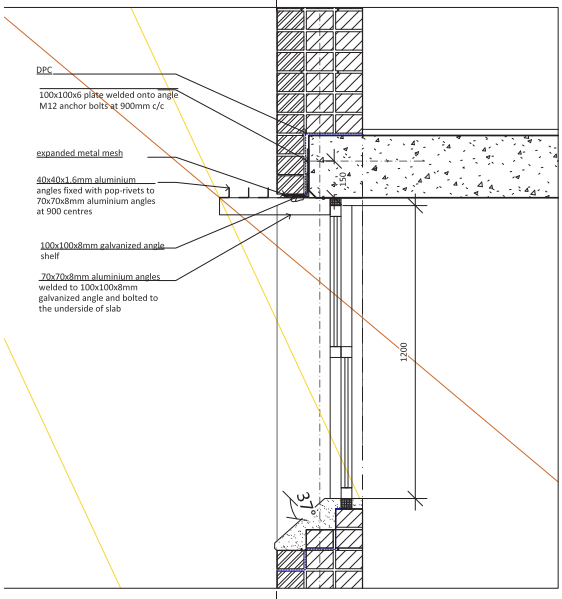
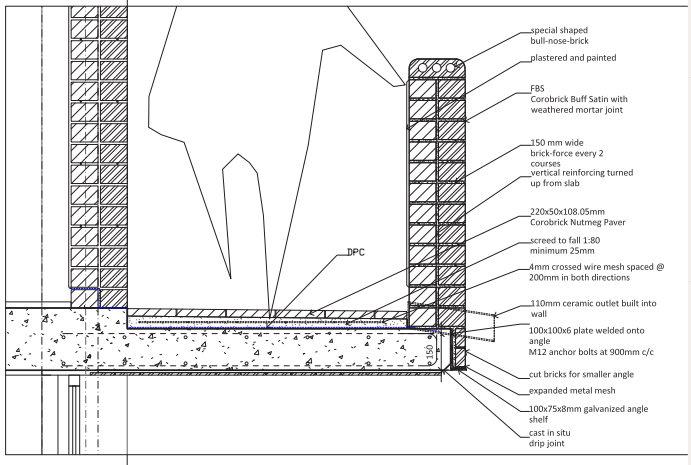


FIG 8.19. 1:20 Perimeter sections. Author, 2017









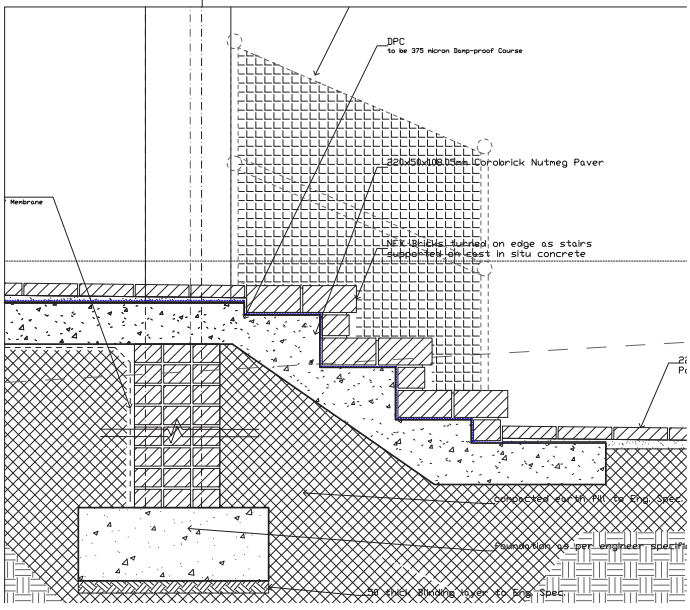


FIG 8.20. 1:10 Details. Author, 2017

FIG 8.21. Perspective, Towards the east from the sidewalk leading to the bus stop. Author, 2017

FIG 8.22. Perspective, Towards the education centre's interior courtyard. Author, 2017

FIG 8.23. Perspective, From Fuel road sidewalk towards the building. Author, 2017

FIG 8.24. Perspective, Towards the interior of Westbury from the park through the western public space. Author, 2017

FIG 8.25. Perspective, Approaching the park and bus station from the interior of Westbury through the western public space. Author, 2017

FIG 8.26. Perspective, The communal balcony overlooking the communal courtyards on ground-floor. Author, 2017

FIG 8.27. Perspective, towards the eastern commercial area from the base of the ramp towards the pedestrian bridge. Author, 2017

FIG 8.28. Perspective, towards the eastern commercial area from the park. Author, 2017

9.

CONCLUSION

In conclusion, the architecture should respond to various scales in order to successfully contribute to the context.
On the city scale, the architecture should:

- announce a new entrance to Westbury
- celebrate the opportunity of a display window for the people of Westbury
- facilitate a space for exchange
- support recent developments in the area, and
- connect the city to Westbury and Westbury to the city.

On the urban scale, the architecture should:

- define the urban block as a continuous habitable area contributing to the private as well as communal spaces it relates to (the network of buildings should communicate as a whole)
- divide the buffer zone into smaller urban blocks
- improve the pedestrian experience and security within and around the block
- increase access/permeability down and into Westbury (visually and physically), and
- use the collective to manage and use resources more efficiently.

On the interior occupation scale, the architecture should:

- improve the relationship the residential areas have to public spaces
- propose new possibilities for the 10m x 18m single plot preventing additional extensions to end up in unhealthy living conditions
- facilitate multi-use and diversification of space (land as an income generator), and
- densify and allow opportunities for personal expression/authorship/ ownership.

These objectives supported and guided the design process to inform the re-appropriation of this segregated urban block as part of the greater buffer zone surrounding Westbury. A network of buildings aim to facilitate the lives of the people currently living in Westbury as well as those of new residents that will come with densification. The aim is for people to want to live there, to be proud of the place they occupy and to have the opportunity to influence the built environment as much as it has an influence on them.
This proposal has taken in account the contextual formal and informal changes Westbury has undergone together with its current realities and possible future situations, and aims to create a neighborhood where people have the opportunity to be healthy individuals in a healthy community.
The proposed densification model to replace the existing 10m x 18 m plots of Westbury responds to the various issues and opportunities identified in the context of Westbury and other contexts suffering the same consequences of apartheid spatial planning. A continuous edge defines the urban block functioning as a collective network. This opportunity allows for better resource management and is more resilient compared to individual plots with individual resource management.

10.

REFERENCES

& APPENDIXES

References:

Anon., 2009. The berlage_Persons_Pier Vittorio Aureli. [Online]
Available at: http://www.theberlage.nl/persons/pier_vittorio_aureli
[Accessed 24 August 2017].

Barber, P., 2017. Peter Barber Architects. [Online]
Available at: http://www.peterbarberarchitects.com/hundred-mile-city/
[Accessed 10 July 2017].

Bognar, B., 1985. A phenomenological approach to architecture and its teaching in the design studio. In: D. S. e. a. (eds.), ed. Dwelling, Place and Environment. Dordrecht: Martinus Nijhoff Publishers, pp. 183-184.

Chapman, T., 2013. Occupying the Devide. 1st ed. Johannesburg: University of the Witwatersrand.

Commune.1. (2017). Commune.1. [online] Available at: http://www.commune1.com/2015-marlene-steyn [Accessed 10 Jun. 2017].

Daque, K., 2017. ArchDaily Mexico_En perspectiva: Paulo Mendes da Rocha. [Online]
Available at: http://www.archdaily.mx/mx/756164/paulo-mendes-da-rocha-en-perspectiva
[Accessed 10 May 2017].

Department, The Spatial Planning and Urban Design, 2009. Cape Town Densification Strategy Technical Report, Cape Town: s.n.

Escher, M. (2011). M.C. Escher y sus contemporáneos. México D.F.: Museo Nacional de Arte, pp.184 & 207.

Ewing, S., 2012. Reading the site in Sverre Fehn's Hamar Museum. In: Reading architecture and culture. 1st ed. London: Routledge, pp. 54-57.

Fletcher, A., 2001. The Art of Looking Sideways. First Edition ed. London: Phaidon.

Heidegger, M. & Krell, D. . F., 2010. Basic WritingsBuilding,dwelling, thinking. London: Routledge Classics.

Holm, D., 1996. Manual for Energy Concious Design. Pretoria: Department Minerals and Energy, Directorate of Energy for Development.

Johannesburg Development Agency, 2014. Empire Perth Development Corridor Strategic Area Framework, Johannesburg: Johannesburg Development Agency.

Johnson-Castle, P., 2014. South African History Online. [Online]
Available at: http://www.sahistory.org.za/article/group-areas-act-1950
[Accessed 27 07 2017].

Klug, N., 2017. The more things change, the more they stay the same. A case study, Johannesburg: University of the Witwatersrand.

Landman & Ntombela, 2006. Opening up spaces for the poor in the urban form: trends,challenges and their implications for access to urban land, Muldersdrift: CSIR Built Environment.

Mozas, J., Ollero, A. S., Deza, A. & Fernandez Per, A., 2015. Why Density?. Vitoria-Gasteiz, Spain: a+t architecture publishers.

Norberg-Schulz, C., 1971. Existence, space & architecture. 1st ed. New York: Praeger.

Norberg-Shulz, C., 1996. Genius Loci. New York: Rizzoli.

Paricio, I., 2017. Arquitectura Viva . Com_Fertile Dissidence, Fernando Ramon, in memoriam. [Online]
Available at: http://www.arquitecturaviva.com/en/Info/News/Details/10124
[Accessed 27 April 2017].

Seamon, D. & Mugerauer, R., 1985. Dwelling, place, and environment. Dordrecht Netherlands: M. Nijhoff.

Sherwood, R., 2002. Housingprototypes.org. [Online]
Available at: http://housingprototypes.org/project?File_No=POR003
[Accessed 07 September 2017].

Stefani, P. D., 2011. An Emancipatory Practice of Architecture? (draft). [Online]
Available at: https://artificialorder.wordpress.com/2011/12/14/an-emancipatory-practice-of-architecture/
[Accessed 24 August 2017].

Tonkin, A., 2008. Sustainable Medium Density Housing. Cape Town: Development Agency Group.

Woodman, E., 2017. Architectural Review. [Online]
Available at: http://www.architectural-review.com/essays/revisiting-siza-an-archaeology-of-the-future/8677551.article
[Accessed 20 April 2017].

PRECEDENT IMAGES:

2610south.co.za. (2017). 26’10 South Architects in Johannesburg. [online] Available at: http://www.2610south.co.za/gallery2.php [Accessed 8 May 2017].

Castanheira, C. (2014). Álvaro Siza; the function of beauty. London: Phaidon Press.

Floornature.com. (2017). Corner Block Neighbourhood Cities Álvaro Siza in Berlin and The Hague exhibition at the CCA | Floornature. [online] Available at: http://www.floornature.com/corner-block-neighbourhood-cities-alvaro-siza-in-berlin-and-the-hague-exhibition-at-the-cca-11035/ [Accessed 8 May 2017].

Noeroarchitects.com. (2017). Philippi Sustainable Housing | Noero Architects. [online] Available at: https://www.noeroarchitects.com/project/philippi-sustainable-housing/ [Accessed 11 Jul. 2017].

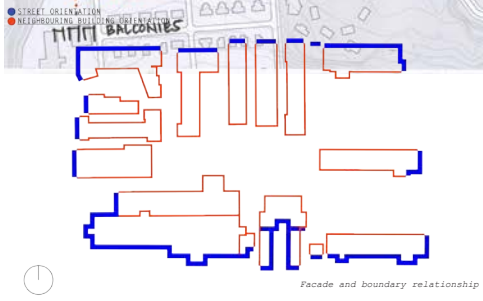
Peter Barber Architects. (2017). Donnybrook Quarter. [online] Available at: http://www.peterbarberarchitects.com/donnybrook-quarter [Accessed 13 Aug. 2017].

Peter Barber Architects. (2017). HUNDRED MILE CITY. [online] Available at: http://www.peterbarberarchitects.com/hundred-mile-city-1 [Accessed 11 Aug. 2017].

Woodman, E. (2017). Revisiting Siza: An archaeology of the future. [online] Architectural Review. Available at: http://www.architectural-review.com/essays/revisiting-siza-an-archaeology-of-the-future/8677551.article [Accessed 7 Apr. 2017].

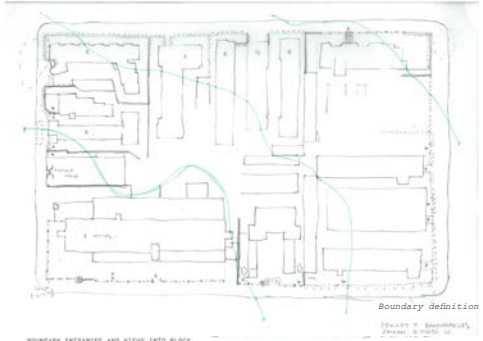
URBAN BLOCK ANALYSIS AND INFILL PROJECT _ HONOURS _ 2016

a series of drawings showing the urban block analysis approach.

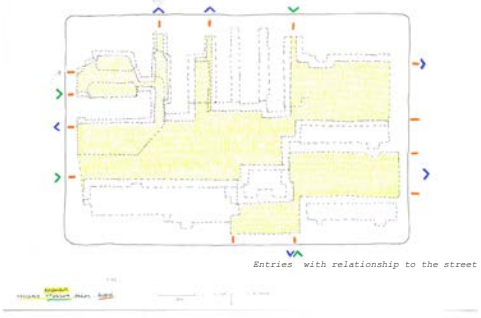


Facade and boundary relationship

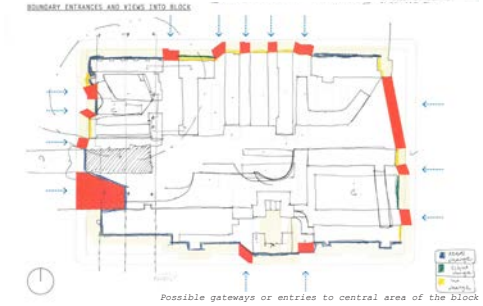
Resource areas, flat open roofs as well as ground floor areas not optimally used



Boundary definition



Entries with relationship to the street



Possible gateways or entries to central area of the block

A continuous boundary language

BACKGROUND FOR STUDY:

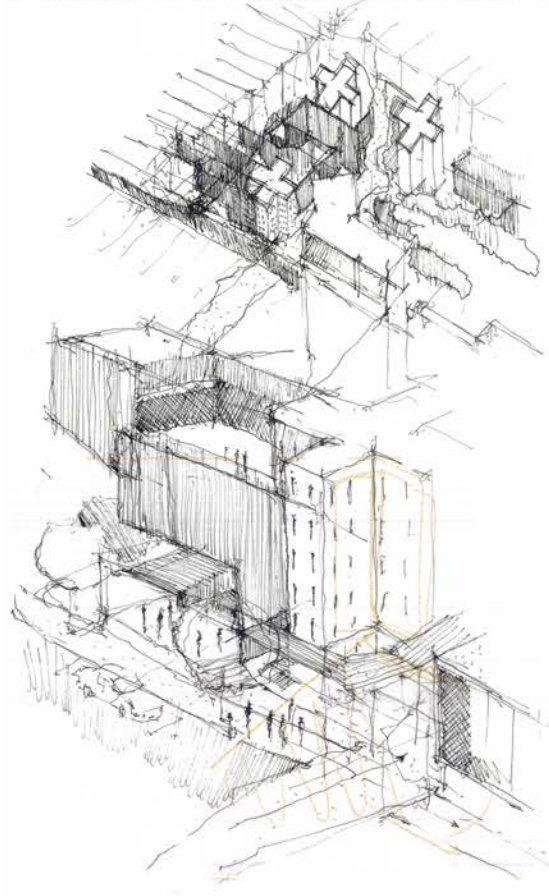
A mapping exercise completed in the Honours program at Boukunde in 2016, in the context of Pretoria, brought attention to the different boundary typologies and edge conditions that define the urban experience. This experience could be compared to a fish finally realising the value and condition of the water its swimming and living in. Being conscious of the boundary and edge conditions of various urban block typologies has started the process for this investigation.

INFORMANTS:

During the year 2016 all the workshops and conferences attended outside the curriculum of the school of architecture at the University of Pretoria, related to issues on both urban and architectural scales.
The proposals and problems/opportunities of the various schemes were all on the scale of the urban block as a singular language. It would be necessary to communicate the results or proposals that were produced at these various workshops in order to understand the potential of the urban block approach suggested. (This material is still in the process of being published)
The workshops and conferences attended:

- Urban design institute of South-Africa Conference _ Re-imagine Urbanism
- AZA Master-class with Stanley Saitowitz _ Student housing
- Co-Act Studio with Gerhard Bruyns and Peter Hasdell from Poly U, Hong Kong _ From Urban block to Interiors _ defining the living condition

UDISA CONFERENCE URBAN BLOCK INFILL WORKSHOP_ 2016



BOUNDARY _ AS SECURITY
(continuous line)(corners as landmarks or destination)

COURTYARD _ COMMUNITY
(interior)

PROGRAM

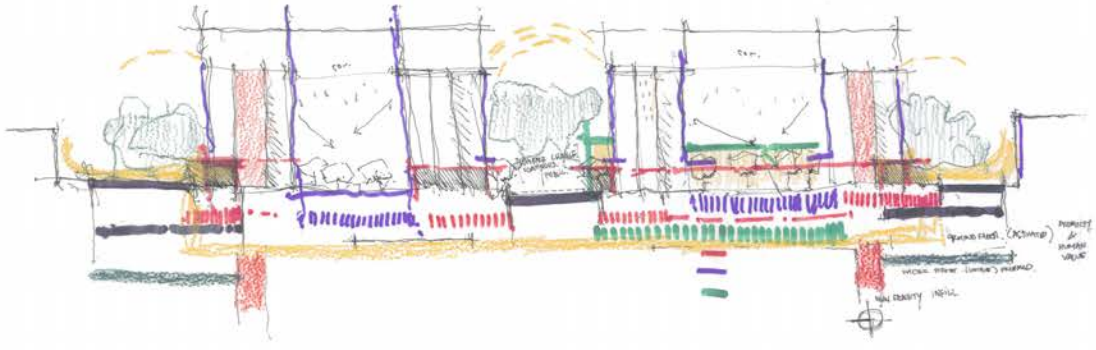
NATURAL HERITAGE
(protect interior and sidewalk areas)

ISSUES:

ISLAND
UNDEFINED EDGE(in relationship tp the street/sidewalk)

RELATIONSHIP BETWEEN PUBLIC AND PRIVATE
LACK OF DIVERSE PROGRAM

- street front infill
- residential
- existing entrance facades
- corner conditions (increased public activity)



AZA WITS MASTER-CLASS _ STUDENT HOUSING WITH STANLEY SAITOWITZ _ 2016

VREDEDORP PRECINT PROPOSAL
HIGH DENSITY (STUDENT) HOUSING

UNDER GRAD_POST GRAD_PROFESSIONAL

USER

COMMUNITY IN CONTEXT

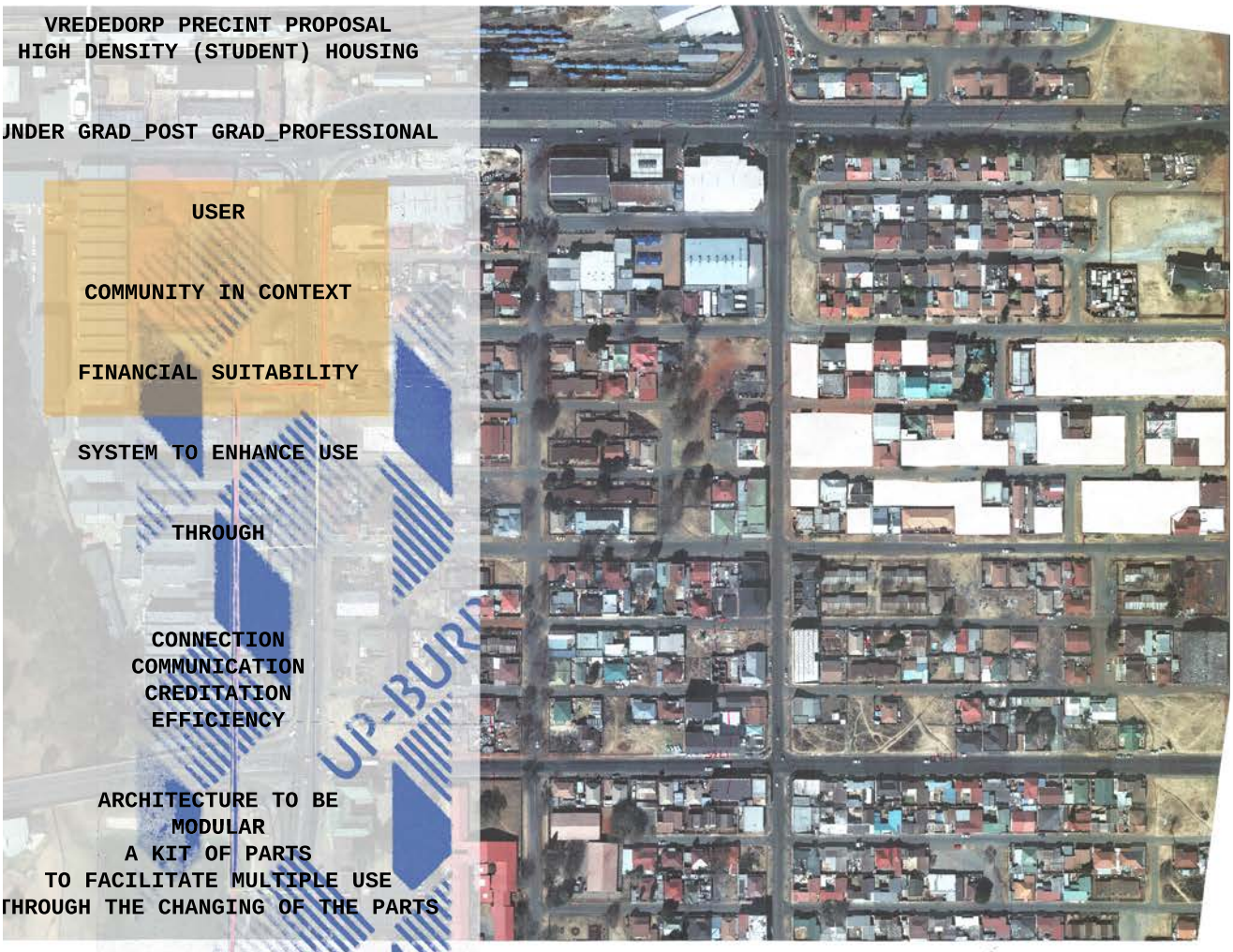
FINANCIAL SUITABILITY

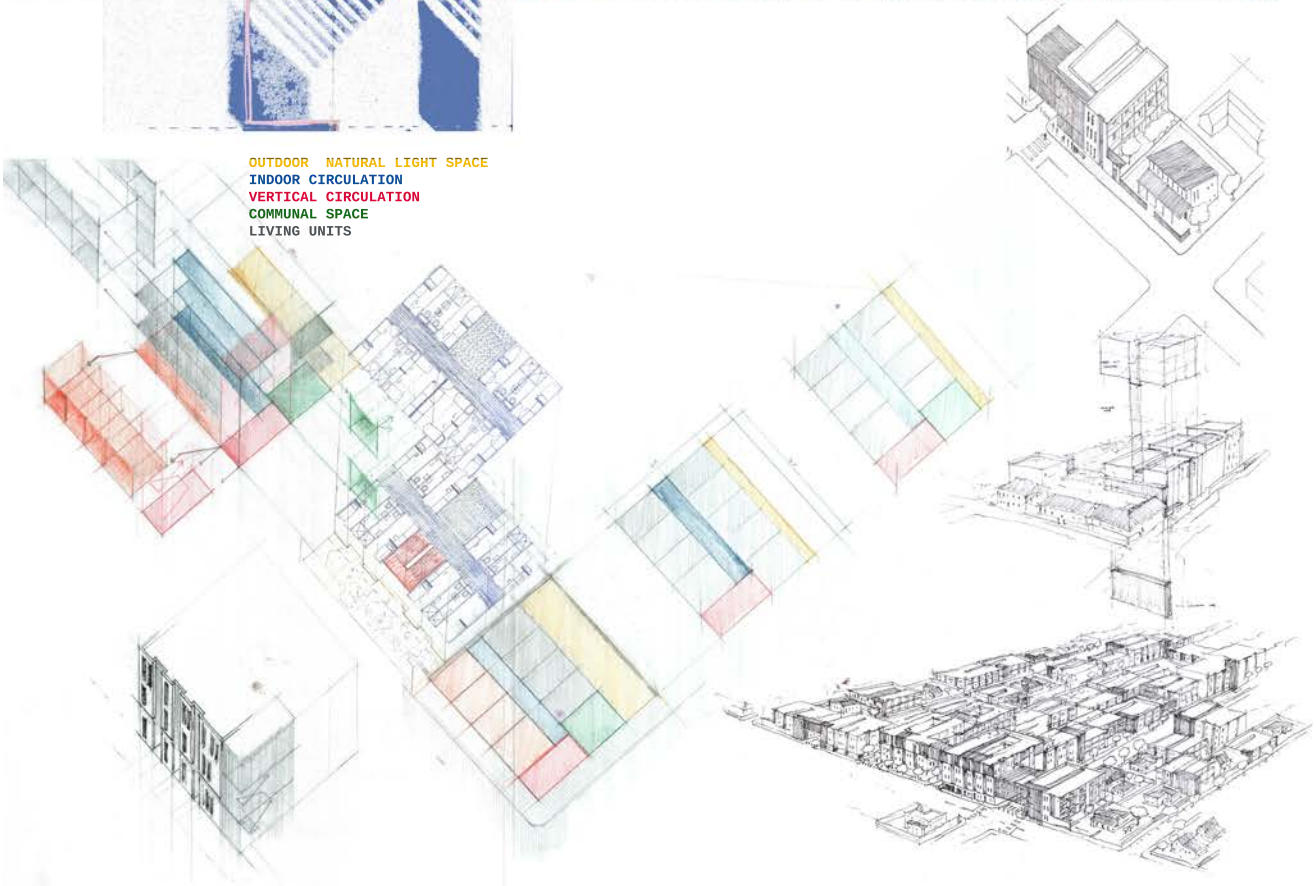
SYSTEM TO ENHANCE USE

THROUGH

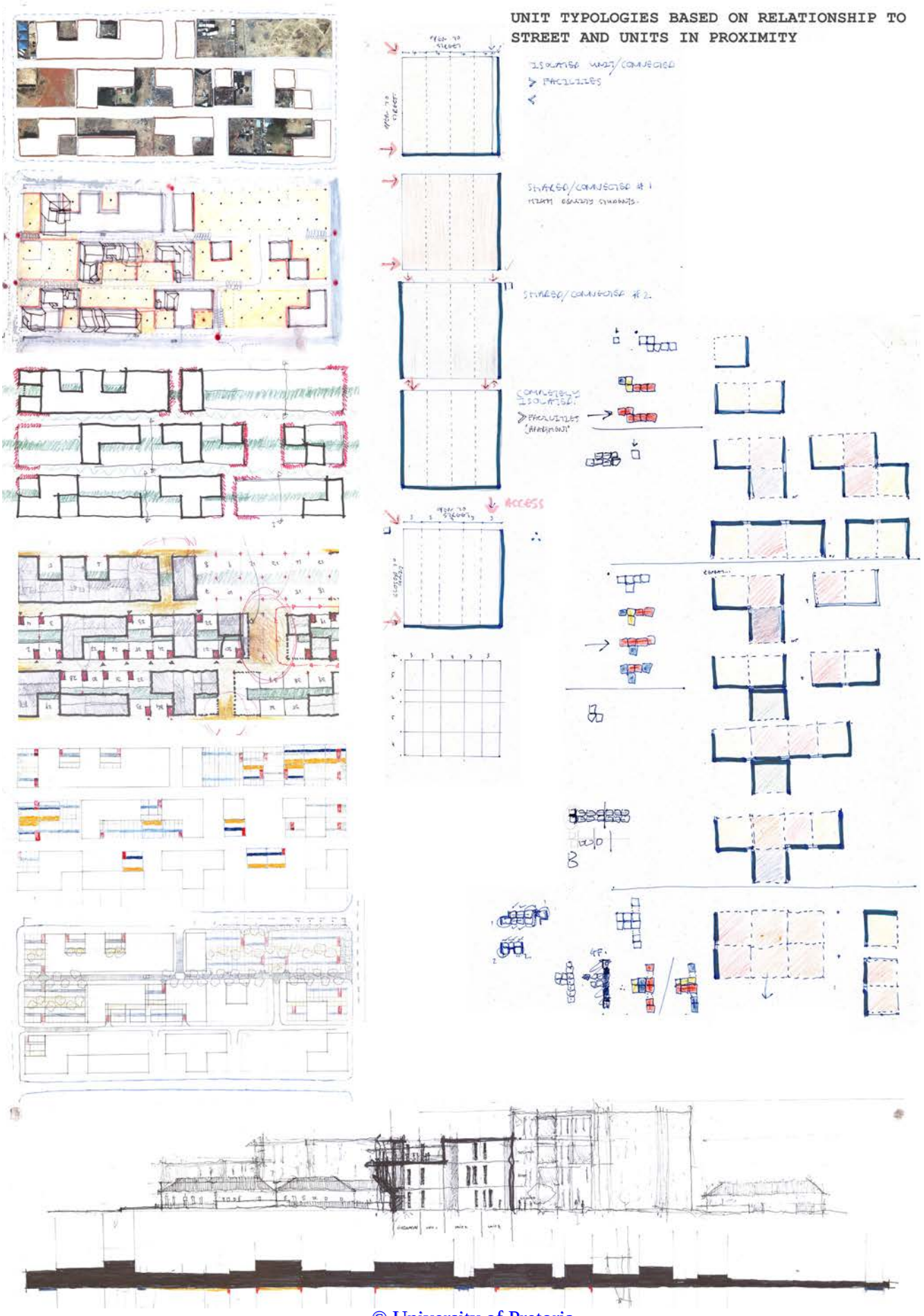
CONNECTION
COMMUNICATION
CREDITATION
EFFICIENCY

ARCHITECTURE TO BE
MODULAR
A KIT OF PARTS
TO FACILITATE MULTIPLE USE
THROUGH THE CHANGING OF THE PARTS





AZA WITS MASTER-CLASS _ STUDENT HOUSING WITH STANLEY SAITOWITZ _ 2016



BETWEEN DOGS AND WOLVES – GROWING UP WITH SOUTH AFRICA_Jodi Bieber

I was born, as were my parents, in South Africa and lived there most of my life. When Hector Peterson was killed in the Soweto uprising in 1976, I was ten years old. Living in a middle-class suburb, I didn't have much political understanding of what was really going on in our country. The townships, and the lives of the people there, seemed far removed. Yet, in the suburbs, as for many white children in South Africa at the time, there was always one black person with whom a close and special bond developed. For me it was with Betty Makhabela, who was like a surrogate mother. She had worked for my mother since I was 4 years old. I knew little about her life, she knew almost everything about mine.

Whilst growing up I had always felt like an outsider – rebelled at school and at home, chose boyfriends from the other side of the tracks – it seemed that I never followed the rhythm of how my life was supposed to be. I had gone on to study marketing management and was set for a life writing media strategies for brands that meant nothing to me. It was only by chance and great fortune that I found photography. With its discovery I found a vehicle to explore my country and the people I knew so little about.

I was selected as a trainee at The Star newspaper. This was in September 1993, during the run-up to the first democratic elections in 1994 – an important and historic time –intense, exciting, volatile, and traumatic. It pulled me deep into things I had been protected from throughout my youth. The coming of democracy brought jubilation but I was also to experience several deaths during that period. Ken Oosterbroek, former chief photographer at The Star and the man who gave me my first break, was killed, as was Abdul Shariff. Kevin Carter and Gary Bernard were to follow. Both took their own lives. All were colleagues of mine.

In 1995 I met David Jakobie, a 19-year-old living in Vredepark, Johannesburg – a predominantly conservative white lower-class Afrikaans area with strong ties at the time to the National Party and the extreme right, the AWB. The old regime had often looked after people in this community with jobs and housing, but now in the new democracy, this protection was becoming a thing of the past.

David was outspoken, living life on the edge. Many of the people I met through him had little to do. They smoked mandrax and crack cocaine, and involved themselves in crime; some made a fast buck by giving blow-jobs for R5 .(0.50c) in Braamfontein, an area frequented by rent boys. David's philosophy was 'why worry about tomorrow. I live for now. If I die I die. I enjoy life whilst I can. A coward dies a thousand deaths. A soldier dies only once.'

My time with David drew to a close when a friend of his family – a man who had been charged for murder and armed robbery – was released from jail. He believed that since David allowed me to take photographs of his life, then I should help him, the friend, to move some goods from one house to another. Over the years I would still occasionally visit David and his family. On one such visit I was told that the man who had wanted me to help 'move some goods' had been shot dead whilst trying to rob a house. David was obsessed with the Fast Guns, a notorious gang living in Westbury, an economically deprived 'coloured township' west of Johannesburg. That is where I went next.

At the time (1996) there were numerous articles in the press about the death of young gangsters in the area. I wanted to explore this world, but not in a superficial or sensationalist way. Who were they? What brought them to this? It was a closed community which detested the media for its inaccurate reporting of their situation, which they felt always depicted them as the 'other'. It took time to win their confidence. Rosie, one of the Fast Gun members, said to me when we first met: 'Where's your bullet-proof vest and your gun… A small white girl coming into our area unprotected…'

The community felt despondent about the new government. With

a black ruling party they felt they would be last in line for any opportunities and would be treated as black people had been in the past.

Putting personal prejudice aside, I worked closely with the gang members. I included them by giving them pictures to show what I was doing and took account of their views when making the final edit.

We all have two sides, one dark and the other light. At times it was confusing. An individual who has murdered and raped can still have wit and charm, and despite knowing what they had done I could find myself becoming fond of them. A photographer can move in and out of people's lives with relative ease, but many people are trapped in their own lives with little opportunity to improve or change their situation.

Whether rich or poor, we all come with our own baggage, our own internal struggle. As children we accept what is put before us – we are innocent and have little choice. The legacy of South Africa's past and poverty created an abnormality in our society. Choosing to photograph what I did will not change anything, but it did show me that for many, even in the harsh landscape of life, the human spirit is very powerful, with great courage and strength, and the will to keep on trying to move forward and make a better life.

Bieber, J. (2017). between dogs and wolves - growing up with south africa - jodi bieber. [online] jodi bieber. Available at: http://www.jodibieber.com/between-dogs-and-wolves-growing-up-with-south-africa/ [Accessed 12 Mar. 2017].