UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

MARABASTAD: FROM ARRIVAL TO REVIVAL.

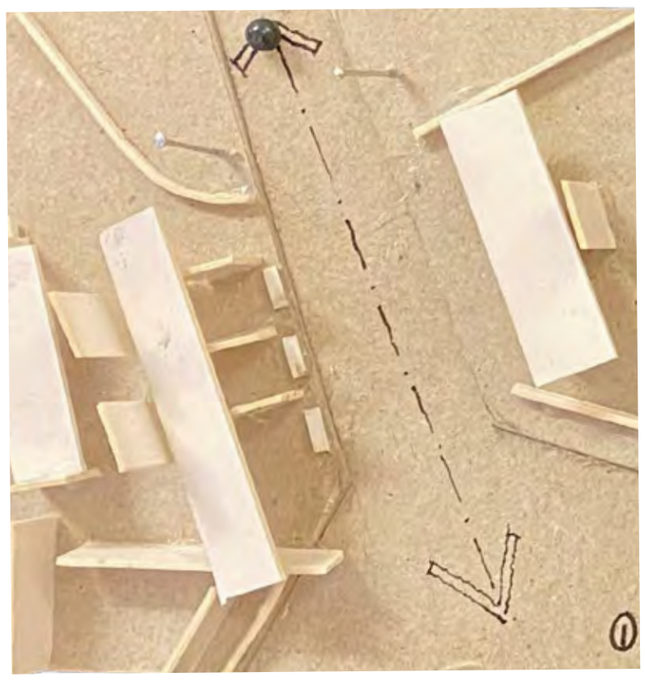
A multi-functional centre of opportunity in Marabastad for the socio-economic upliftment of marginalised groups

TARYN GLAZEBROOK

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

IMPACT OF MINI PROJECT 1

REFLECTION AND APPLICATION



OVERVIEW:

"Life is architecture and architecture is the mirror of life"- I.M. Pei

Architecture serves as a reflection of life and embodies the essence of a place. Architects act as mediators, navigating a web of variables while considering the users' spatial experiences. Through deep contextual understanding, architects can create enduring, environmentally responsive structures (socially, environmentally, economically). This approach acknowledges inhabitants as integral parts of a larger network, where architectural solutions contribute to its evolution.

Designers, as mediators, aim to enhance existing everyday life. They celebrate the intricacies of human existence, leaving a lasting, positive impact on an existing urban fabric.

This installation embodies these principles, addressing urban complexities and inequalities. It highlights the often-overlooked voices within vibrant social networks. Current power structures, driven by profit, often result in disconnected developments. By amplifying unheard voices, this installation unveils the genuine experiences and needs of city dwellers. Placing the viewer at the center reveals the designer's role as a mediator and connector. Conversely, 'ignorant development' on the other side of the installation underscores the disconnect from a place's identity. This installation prompts viewers to reconsider their roles within intricate social networks and raises awareness about urban issues and manifestations of inequality.

REFLECTION:

This exploration assisted in informing the point of departure for my main project this year which focused on designing an architectural intervention that facilitates emergent urbanism, celebrates the happenings of everyday urban environments and assists marginalised groups that often go overlooked.

By drawing careful attention to existing networks and activities one can reach a design result that facilitates socio-economic upliftment within these areas and promotes reintegration and reconnection of fragmented areas. The goal is, thus, to provide users with the necessary skills and training to establish their own identity and contribution within the rich urban fabric of the city.

By focusing on the missing voices that often fall through the cracks, one can design appropriately, responding to the true needs of a population and reach an authentic, layered product rooted in context.

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

INTRODUCTION

AN OVERVIEW OF THE SCHEME

ARRIVE.TRANSITION.THRIVE

THEN:

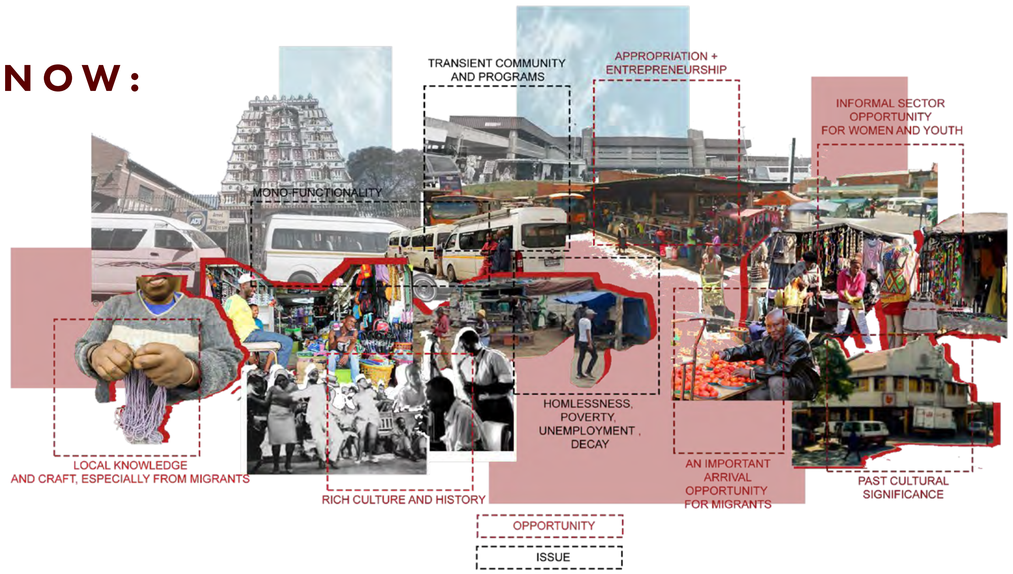
Designed as a multi-functional center for the assistance and support of both migrants and the existing informal traders in Marabastad, this project explores how architecture can foster a sense of community and define arrival.

Marabastad, situated in the north-west of inner-city Pretoria, is a dynamic urban environment characterized by its vibrant streets, rich diversity, and historical significance as a hub for migrants seeking a better life (Brandt, 2002). However, despite its vibrancy, the area faces numerous challenges, including poverty, unemployment, inequality, and decay. These issues have eroded its cultural significance and excluded marginalized groups, such as migrants, from realizing their full potential. Newcomers into Marabastad host a range of potential in terms of skills and knowledge systems. However, the current policies for the integration of migrants create many hindrances in their successful transition into society. When they arrive, they often lack the necessary resources and support to effectively transition into the community and break free from the "survivalist cycle".

This project, therefore, aims to harness the immense potential of Marabastad and its population to support existing networks and facilitate the successful integration of migrants into the community.

The project is strategically located at a prominent entrance point to Marabastad, focusing on promoting access and integration while addressing issues related to arrival and transition at various scales. The architectural design aims to facilitate the daily activities of Marabastad while providing spaces that fulfill basic needs in addition to offering longer-term support.

NOW:

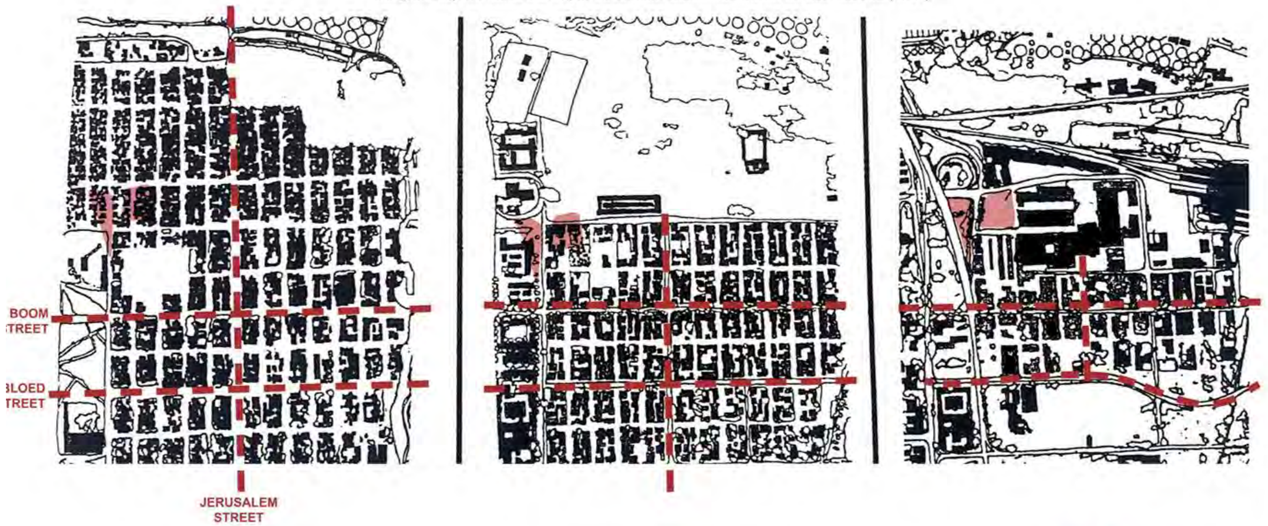


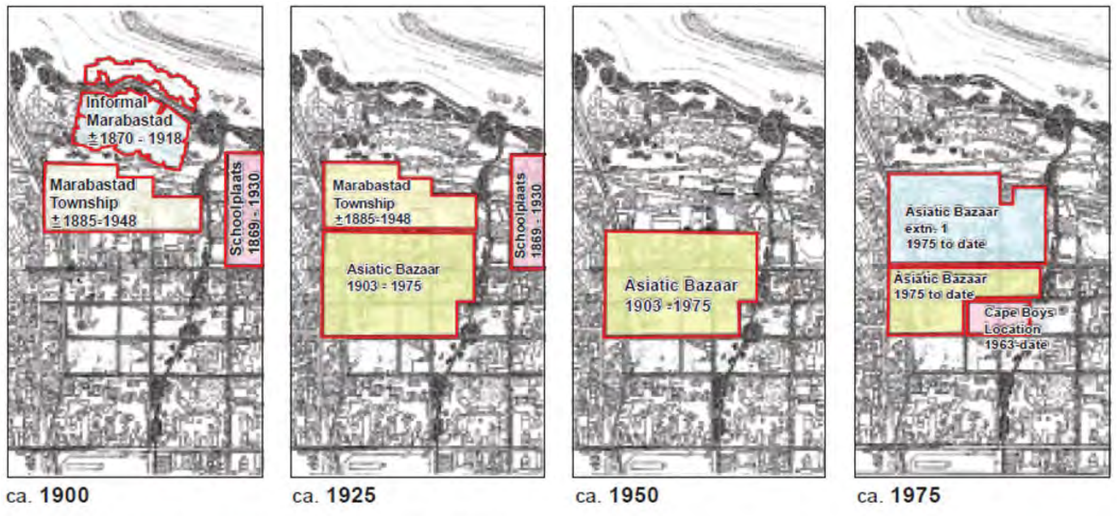
THE HISTORY OF MARABASTAD

ITS EVOLUTION OVERTIME

THE DEVELOPMENT OF THE URBAN FABRIC

Images adapted from Aziz Tayob Architects' urban framework for marabastad (1997)





Marabastad's change in composition over time (Brandt, 2002:224).

Marabastad: "Tshwane's very own kasbah, a shabby pearl of the working class, and a rumpus hive of activity and contradictions"

-

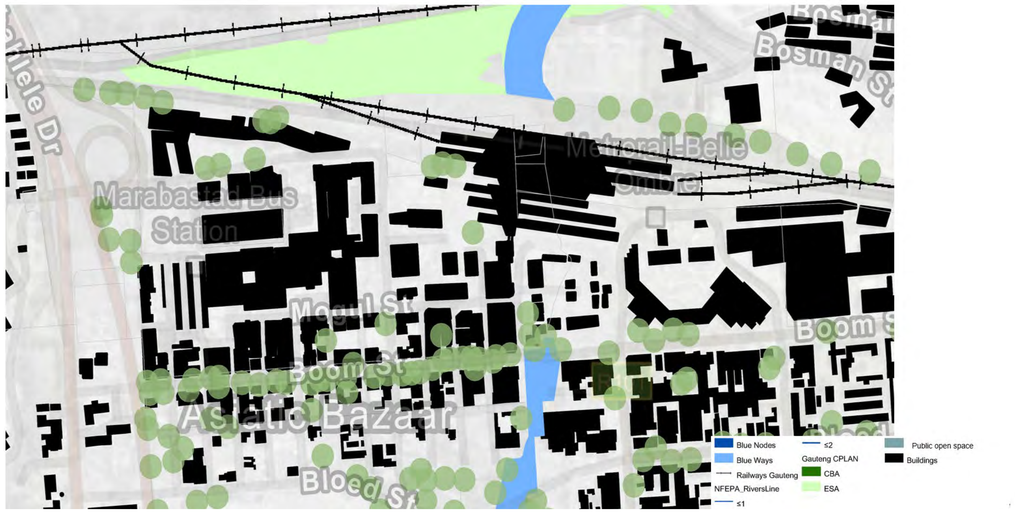
Percy Mabandu

THE CONTEXT

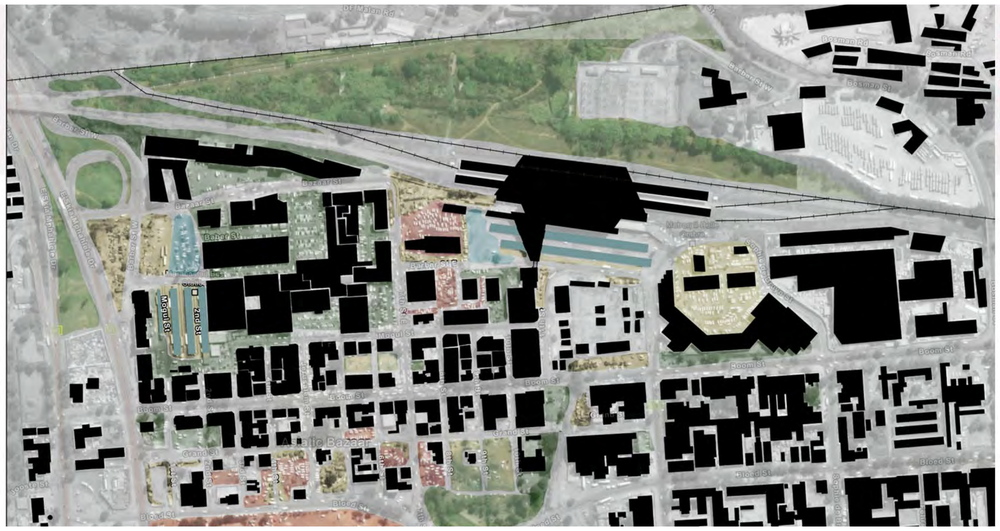
AT A MACRO SCALE

ALL VACANT LAND

NATURAL SYSTEMS



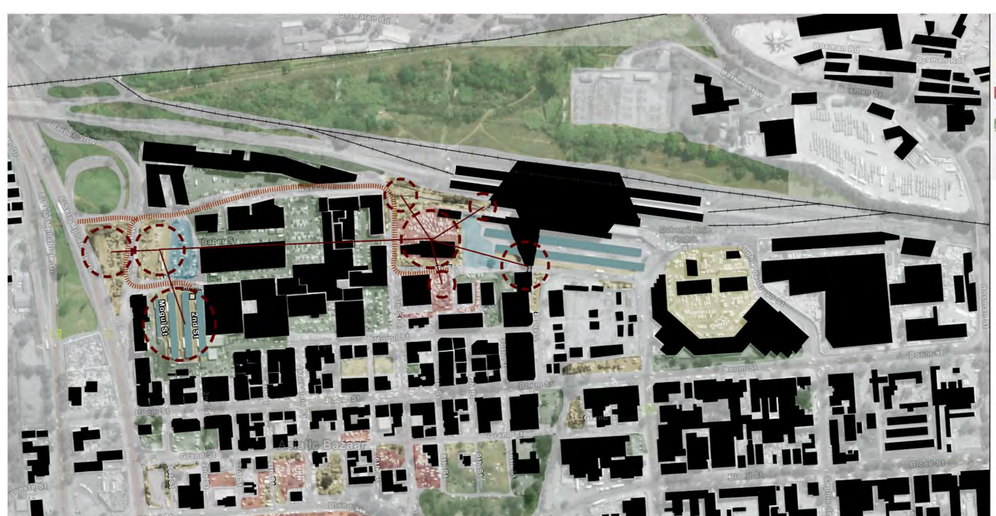
VACANT LAND: HOW IT IS UTLISED?



FORMAL VS INFORMAL TRADE

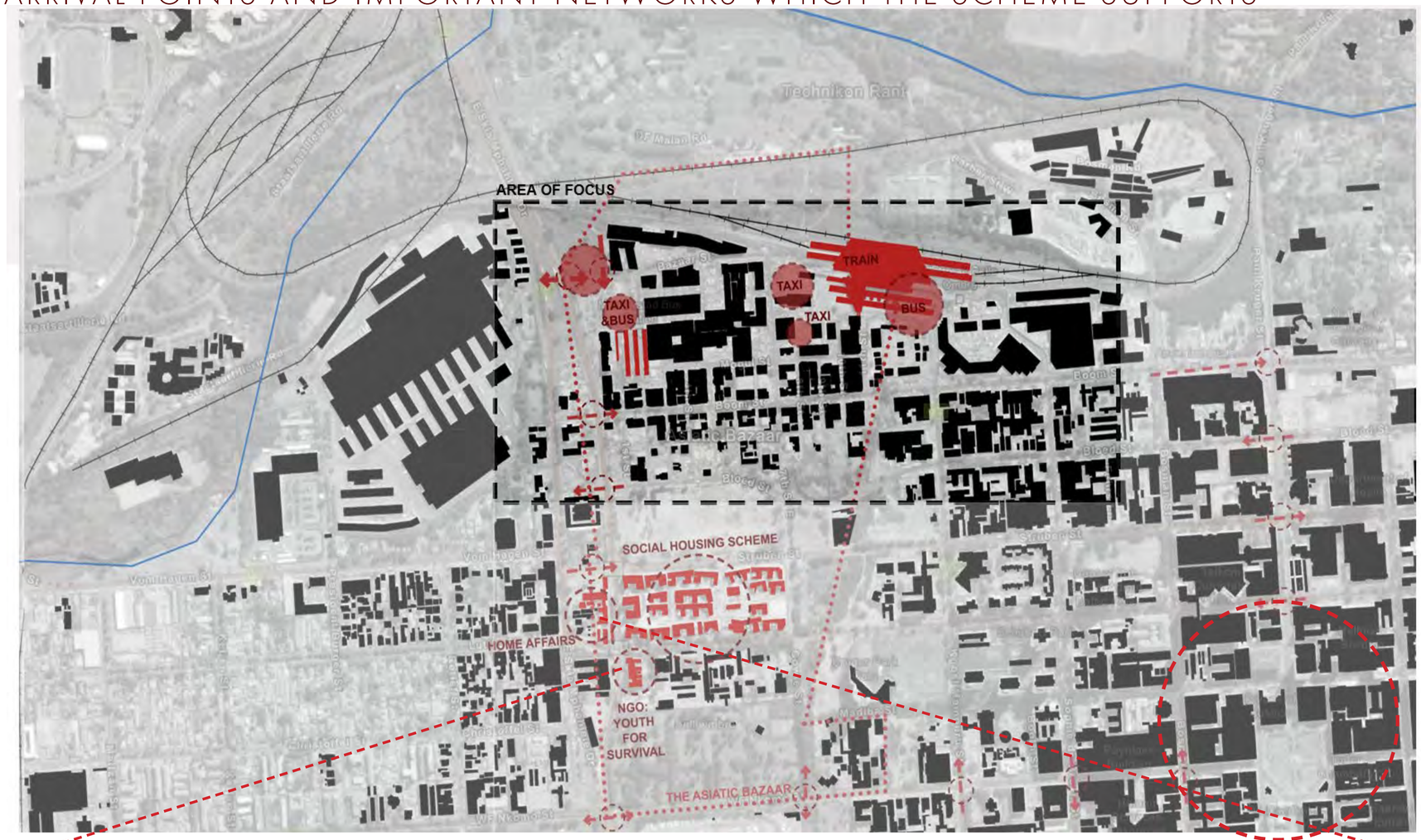
TRADE + TRANSPORT

NODAL DEVELOPMENT



THE CONTEXT

ARRIVAL POINTS AND IMPORTANT NETWORKS WHICH THE SCHEME SUPPORTS



"The history of Marabastad is about **change, relocation and urbanization.**
It is a history of **migrants, refugees, job-seekers, entrepreneurs and commuters** seeking a **new and better life** and of people who became the unwilling subjects of a political
ideology.
As such, Marabastad reflects the history of South Africa's racial, social and economic divisions, of white control of urban centres to the exclusion of other racial groups.
Marabastad was once an expanding township on the edge of the city of Pretoria. It was inextricably linked to Pretoria but, at the same time, it was never allowed to be an integral part of the city. The township slowly diminished in size as inhabitants were **forced to move** to new racially segregated residential areas that were established outside the city limits."
-CLARKE, 2008

NGO IN MARABASTAD: YOUTH FOR SURVIVAL

"Our mission is to address socio-economic challenges faced by women, children and youth in underprivileged communities, through provision of developmental programmes and providing a holistic support to women and children.
Youth for Survival's vision is to empower, while also placing unemployed beneficiaries into learner-ships, employment and helping some to become self-employed.
To facilitate, promote, create jobs and income generation opportunities for community development with specific focus on youth, women and children."
-YOUTH FOR SURVIVAL
This scheme aims to further support the youth for survival NGO by becoming an extension of the organisation. Upon contact with the NGO, it was stated that they are lacking the space and facilities to assist everyone. Therefore, this scheme aims to begin to support this NGO while connecting to the grater existing networks.



Some of the services they provide:
short stay shelter, creche, offices, skills training and counselling, soup kitchen, business advice and entrepreneurial training, events and community gatherings.

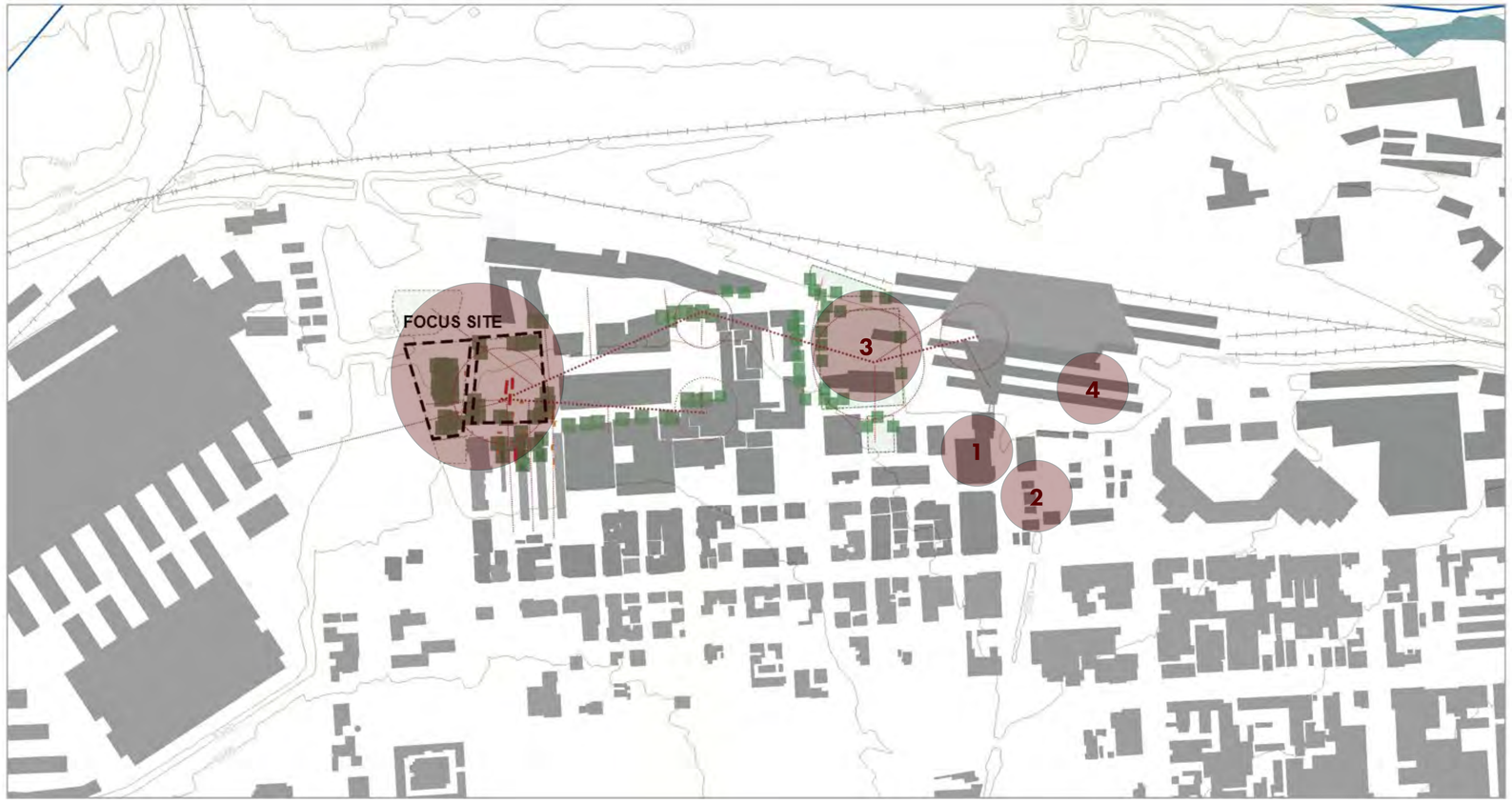
REFUGEE RECEPTION CENTRE

The refugee reception centre is an important landmark in a migrants journey into Marabatsad. However, policy limitations and the unwelcoming environment of the reception centre results in a growing amount of undocumented migrants. Current policies for the integration of migrants create many hindrances in their successful transition into society. When they arrive, they often lack the necessary resources and support to effectively transition into the community and break free from the "survivalist cycle".
Consequently, self-employment opportunities arise in the informal sector, which is crucial for generating jobs in underdeveloped regions with high poverty and unemployment rates (Schnachtebeck, 2017:131).
This project therefore provides support, yet also explores how one can harness the existing knowledge and skills people bring with them.

Images taken by the author upon visiting the refugee recepiton centre. The overall experience was uncomfortable, highlighting, some of the daily hardships migrants must face to even access the centres facilities.

SELECTING THE SITE

CRITERIA AND CONSIDERATIONS WHICH INFORMED THE SITE SELECTION



OPPORTUNITY:MACRO

-This site can become an anchor point in a larger scheme connecting existing trade and transport nodes and integrating them with the new training program

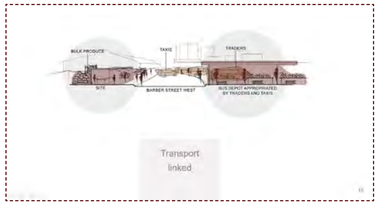
-Allows for greater connectivity and addition of a more permanent program that can facilitate the establishment of the surrounding transient programs

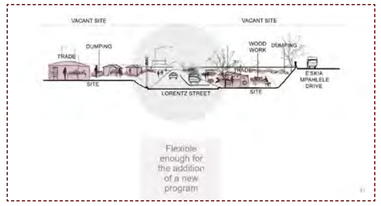
-Easiliy accessible from main roads- makes it more convenient for users from outside Marabastad to access the training facilities

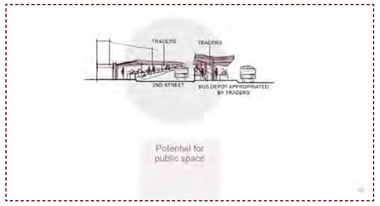
-Can be a catalyst to spark further development of Marabastad

Legend
Nodes and linkages
Buses
Taxis
Trade
Developable land

SITE CITERIA





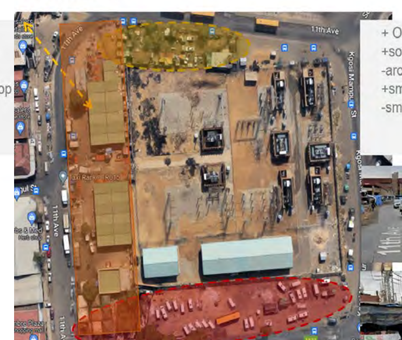


SITE OPTIONS

SITE 1

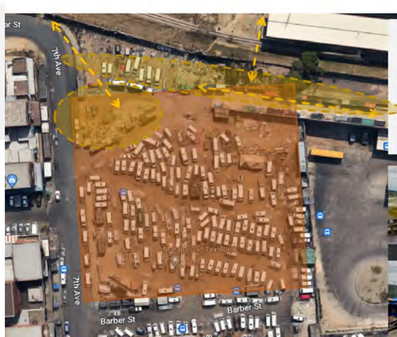
+ OPPURTUNITIES –ISSUES
-a little foot traffic (formal and informal trade)
+pedestrian connection to train station
-in between existing buildings, difficult to develop
-less trade than other
+can be connected to others
-already built up

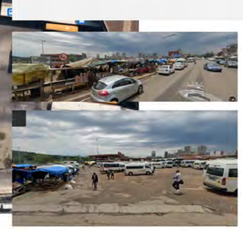
SITE 2



+ OPPURTUNITIES –ISSUES
+some informal trade on north
-around a sub station
+small taxi stopping area already on site
-small site

SITE 3





+ OPPURTUNITIES –ISSUES
+informal trade along boundaries
-already fairly established as a taxi rank
-too taxi focussed
+connection to train station

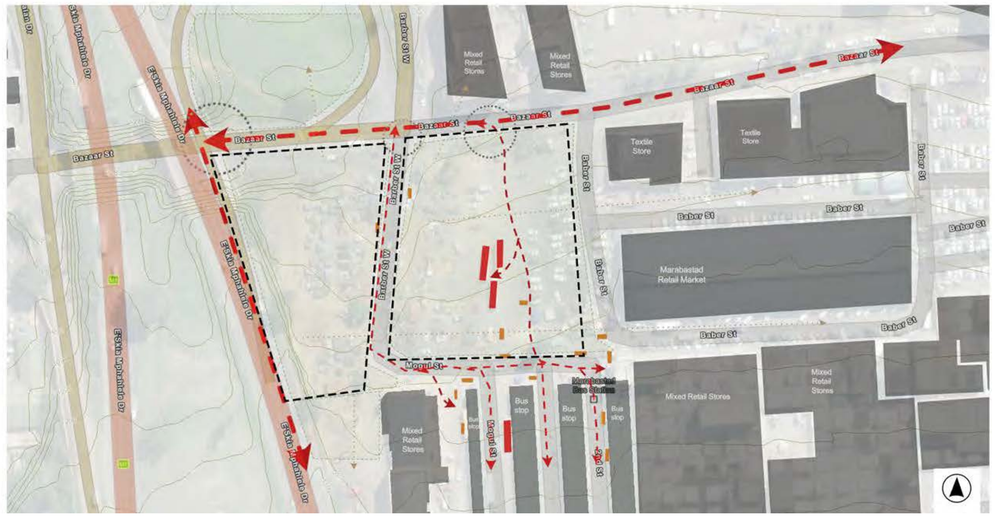
SITE 4

+ OPPURTUNITIES –ISSUES
+informal trade
-only a bus depot
-restrictive site
+connection to train station

FOCUS SITE ANALYSIS + JUSTIFICATION

ASSESSING THE CURRENT CONDITIONS OF THE CHOSEN FOCUS SITE

SWOT ANALYSIS OF THE CHOSEN SITE



STRENGTHS

-Orientation

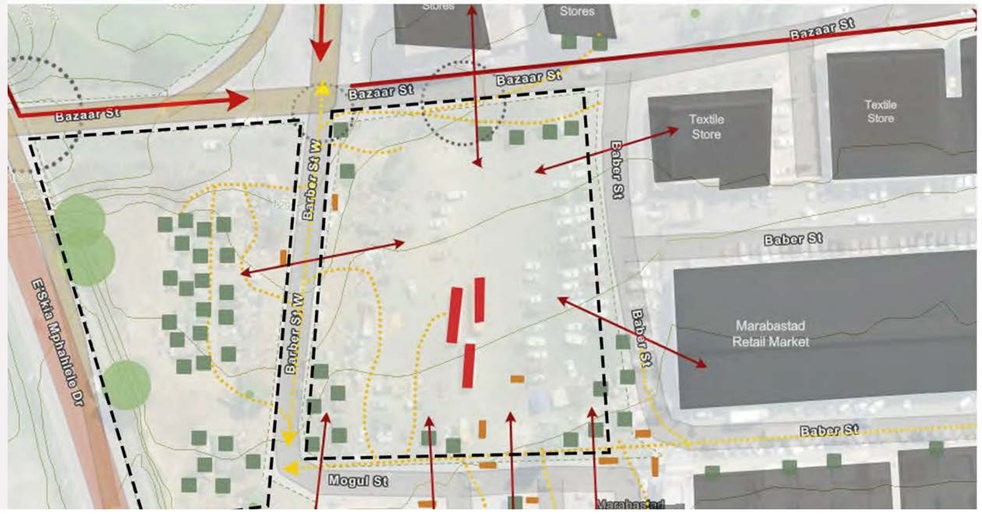
-Location: positioned near one of the main vehicvular entrances of Marabastad

-Located on prominant roads

-Easily accessible

-Active pedestrian and vehicular site

-In close proximity to bus and taxi stops



OPPORTUNITY: MICRO

-It is proposed by the COT for informal trade already

-Can establish & define a new gateway into Marabastad

-Potential links to the bus and taxi stops and surrounding programs

-Generally vacan land allows for more flexibility for the introduction of a new programmme of entrepreneurial training

-Large number of traders already on site- allows for further establishment of this existing program and link to new program

-Very active pedestrian site already can allow for further activation

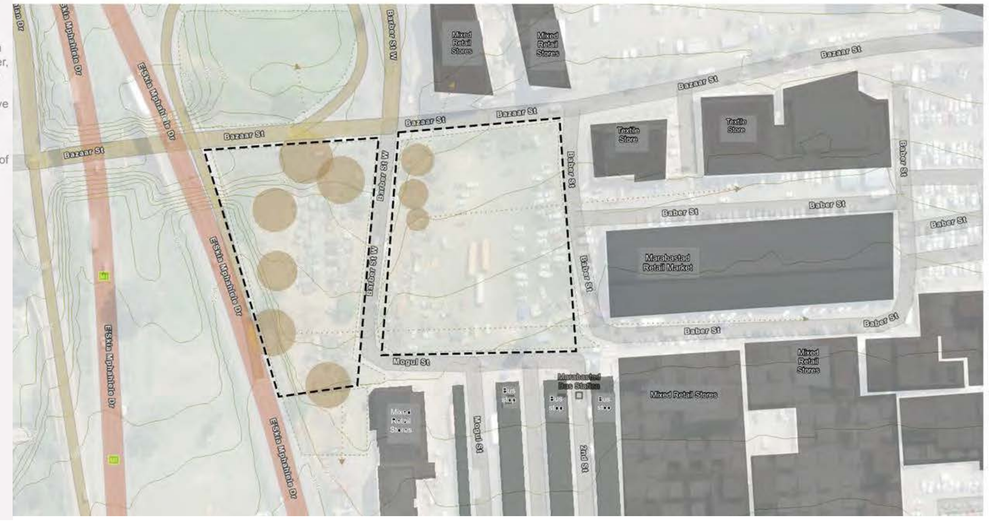
WEAKNESS

-Situated on edge of Marabastad away from main transport node around station, however, it os close enough to establish a connection

-"Dead Edge" on East- E'Skia Mpahlele Drive

-Lack of natural vegetation on site

-Dumping due to traders and general signs of decay



THREATS

-Lack of permanent programs places the site and greater Marabastad at risk of decay

-This can lead to the loss of Marabastad's rich culture, history and identity

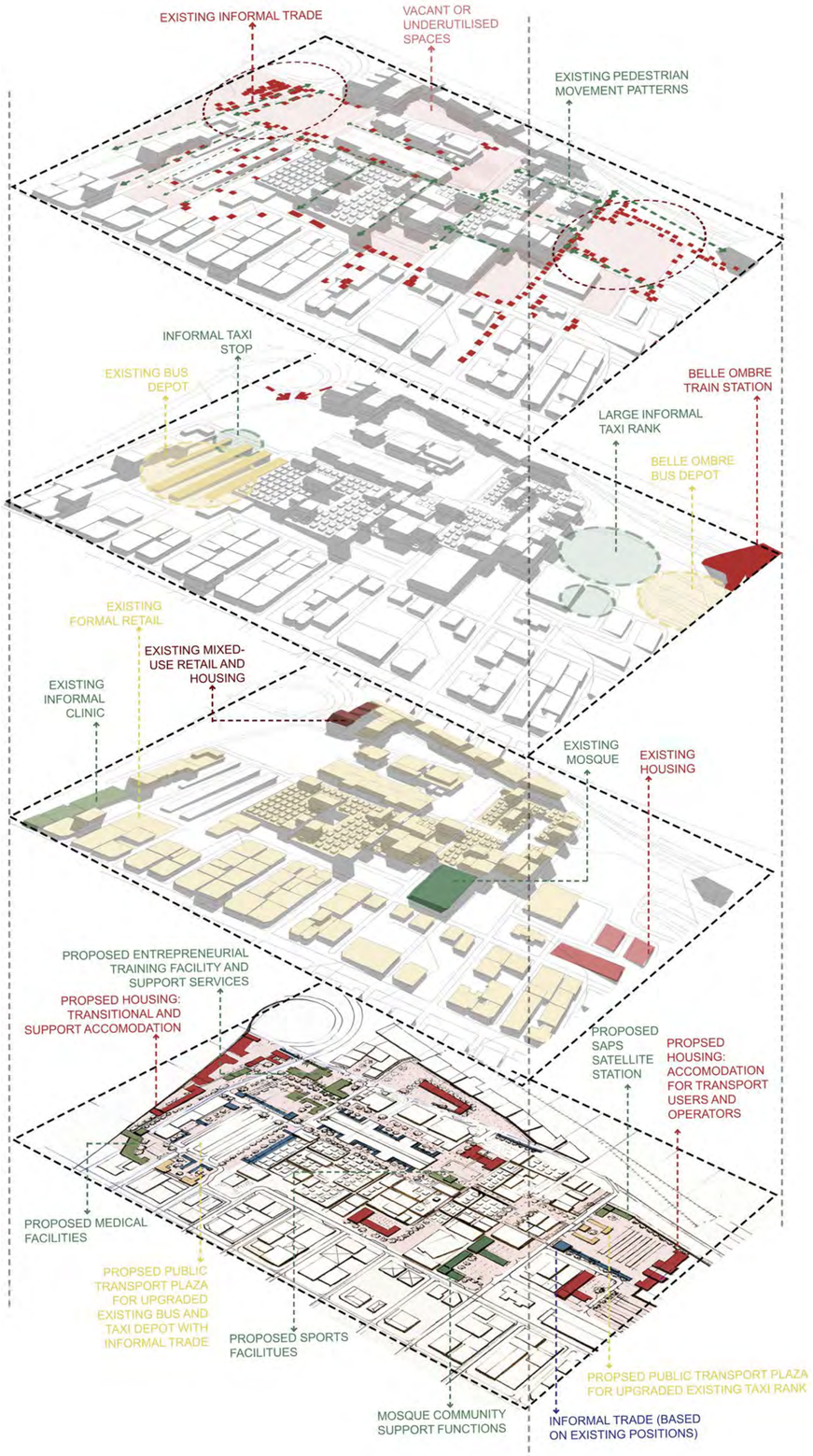
-The further spread of decay

IMAGES ON AND AROUND THE SITE

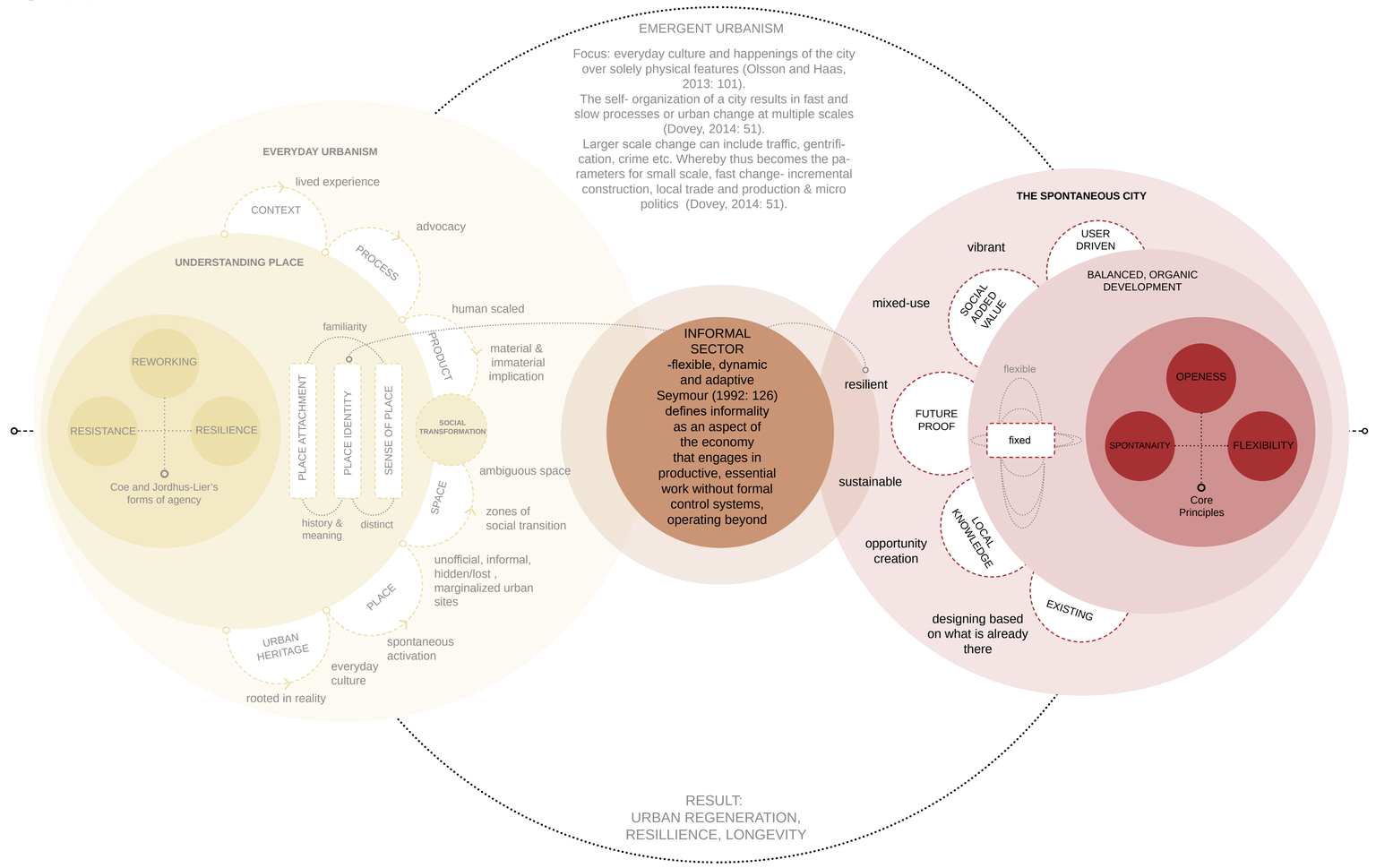
INFORMANTS + THEORETICAL PREMISE

EXISTING NETWORKS + THEORY

EXISTING NETWORKS INFORMING THE URBAN FRAMEWORK



THEORETICAL FRAMEWORK



LEARNING FROM MARABASTAD

INNOVATION, MAKESHIFT STRUCTURES THAT ARE ADJUSTABLE

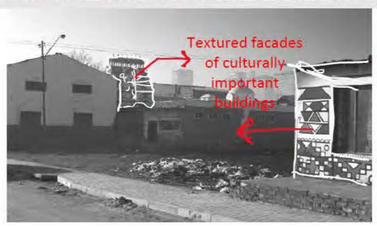
INTERNAL STREETS AND LIGHT WELLS FRAMING CIRCULATION- BLURRING INSIDE OUTSIDE

LOCAL SKILLS AND MATERIALS INFORMING THE USE OF BRICK (TRADITIONAL) AND PREFABRICATED CLT FROM RECYCLED TIMBER PALETTES (LOW-SKILLED CONSTRUCTION)

THE SITE CONTAINS A LARGE INFORMAL TRADE POPULATION, HOWEVER, DECAY AND DEGREDATION THREATENS THE FUTURE OF THE SITE AND MARABASTAD AS A WHOLE

WOOD-WORKER ON SITE: LOCAL SKILLS CAN BE HARNESSED DURING THE CONSTRUCTION PROCESS

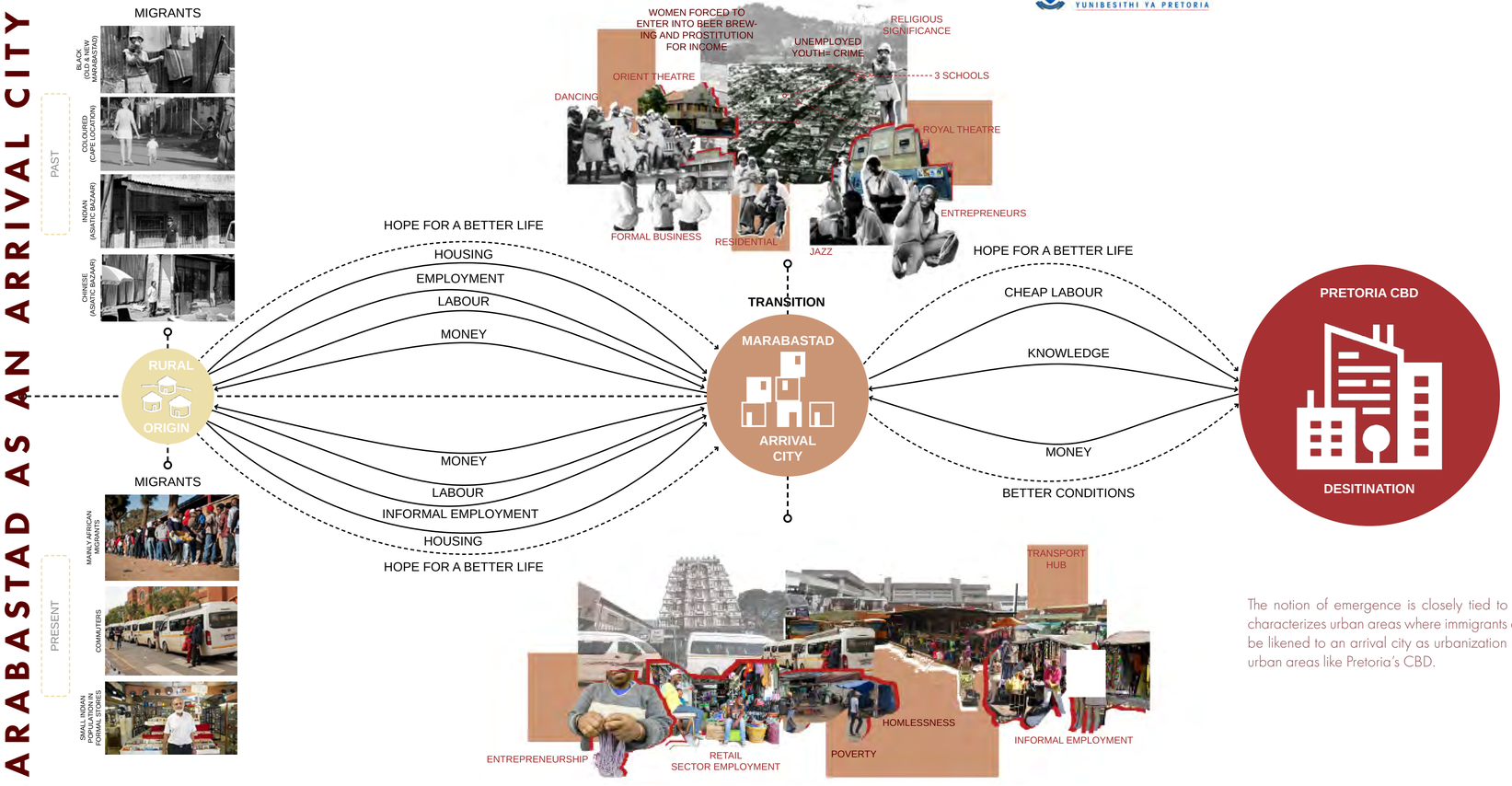
WHAT CAN BE IMPLEMENTED FROM THE HISTORICAL BUILDINGS OF MARABASTAD?



CONCEPT

ARRIVAL AND TRANSITION

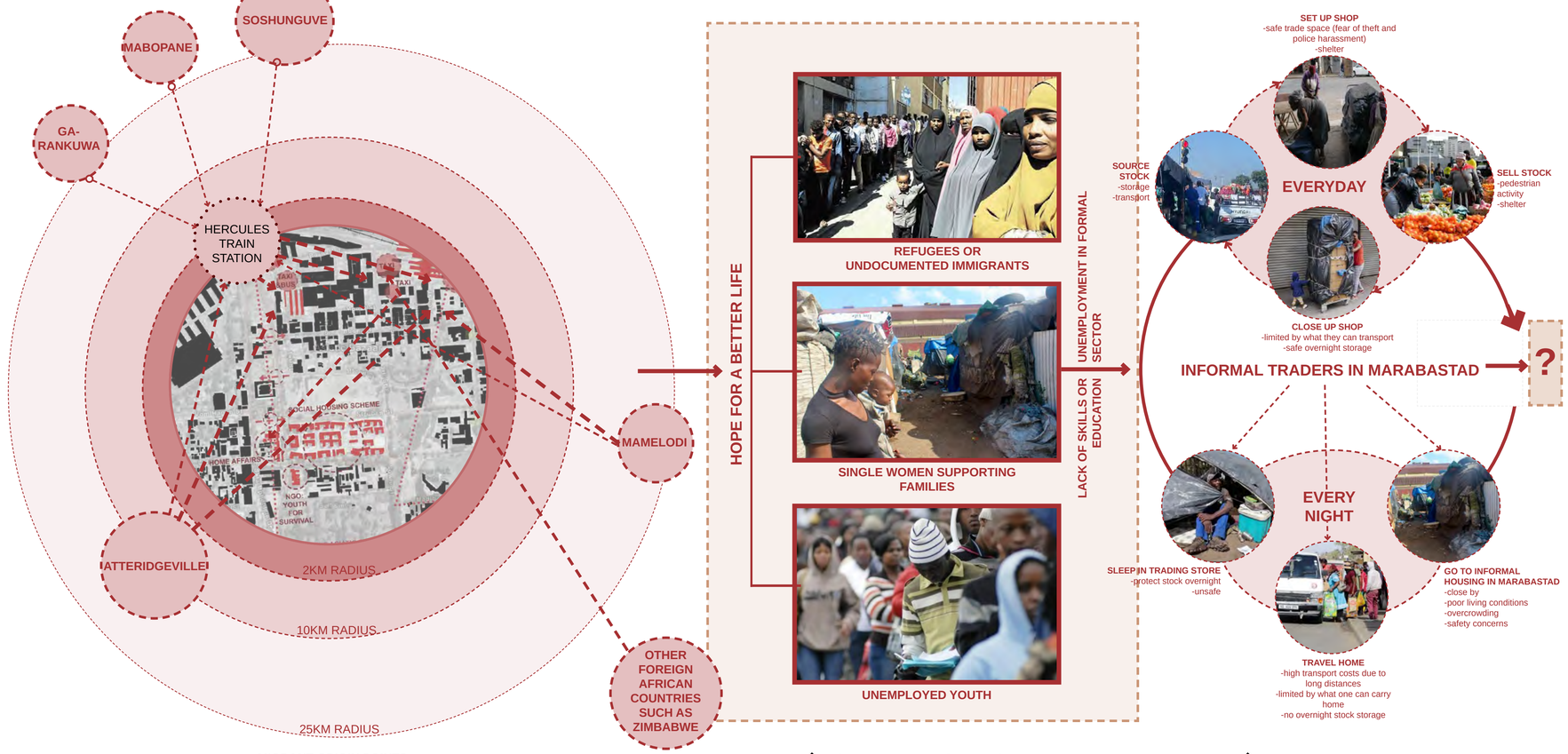
MARABASTAD AS AN ARRIVAL CITY



The notion of emergence is closely tied to the theory of the arrival city. Saunders' (2011) arrival city theory characterizes urban areas where immigrants or migrants initially settle when they arrive in a city. Marabastad can be likened to an arrival city as urbanization prompts opportunistic migrants from rural peripheries to relocate to urban areas like Pretoria's CBD.

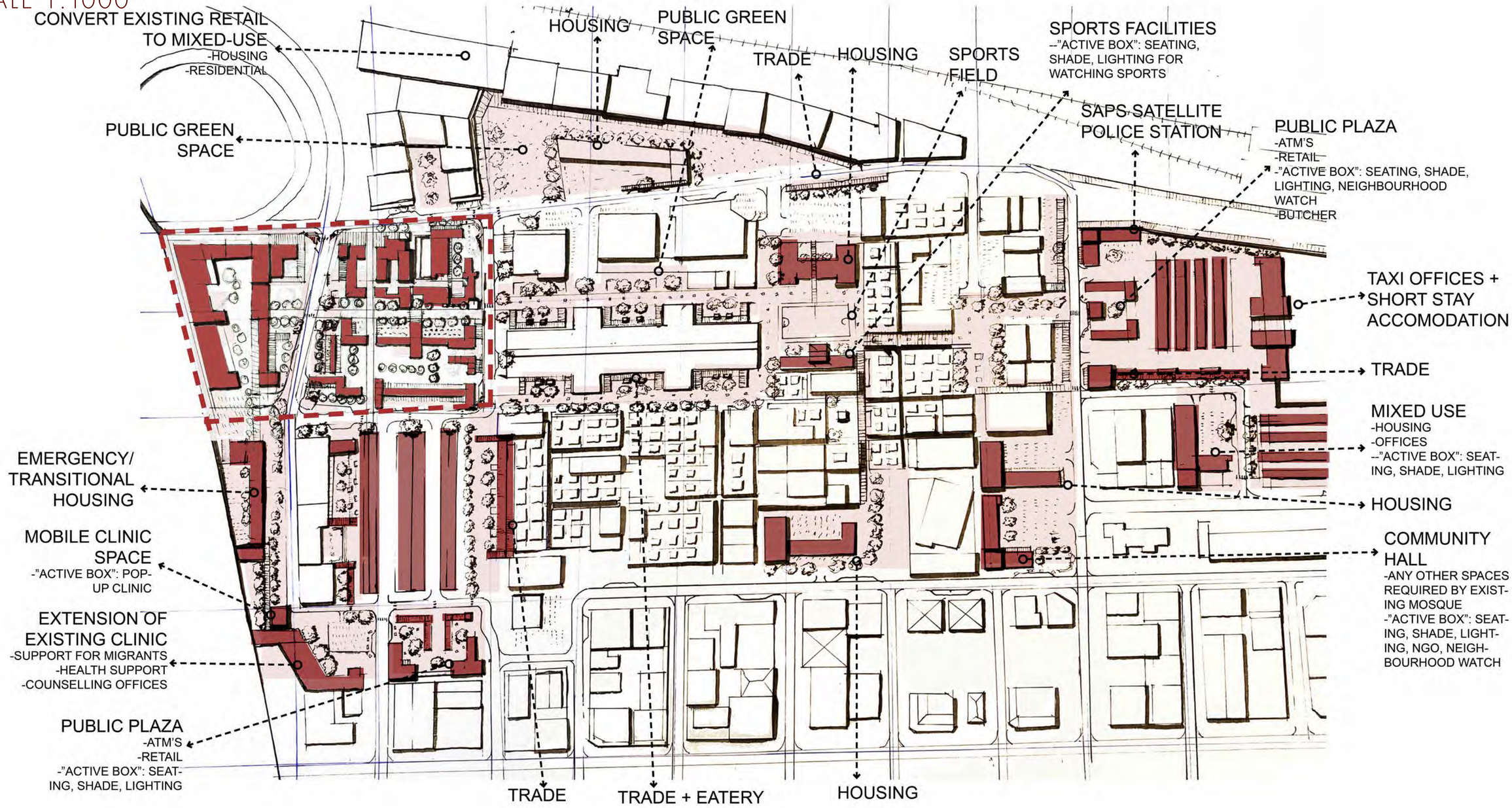
WHO IS ARRIVING?

Current policies for the integration of migrants create many hindrances in their successful transition into society. When they arrive, they often lack the necessary resources and support to effectively transition into the community and break free from the "survivalist cycle".
Consequently, self-employment opportunities arise in the informal sector, which is crucial for generating jobs in underdeveloped regions with high poverty and unemployment rates (Schnachtebeck, 2017:131).
This project therefore provides support, yet also explores how one can harness the existing knowledge and skills people bring with them.

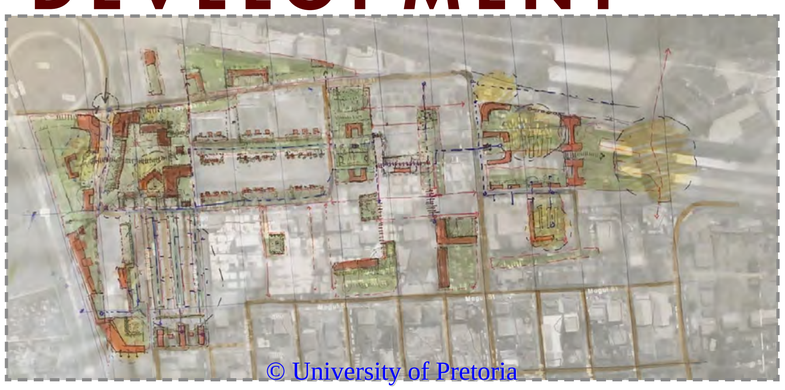


THE URBAN FRAMEWORK

SCALE 1:1000



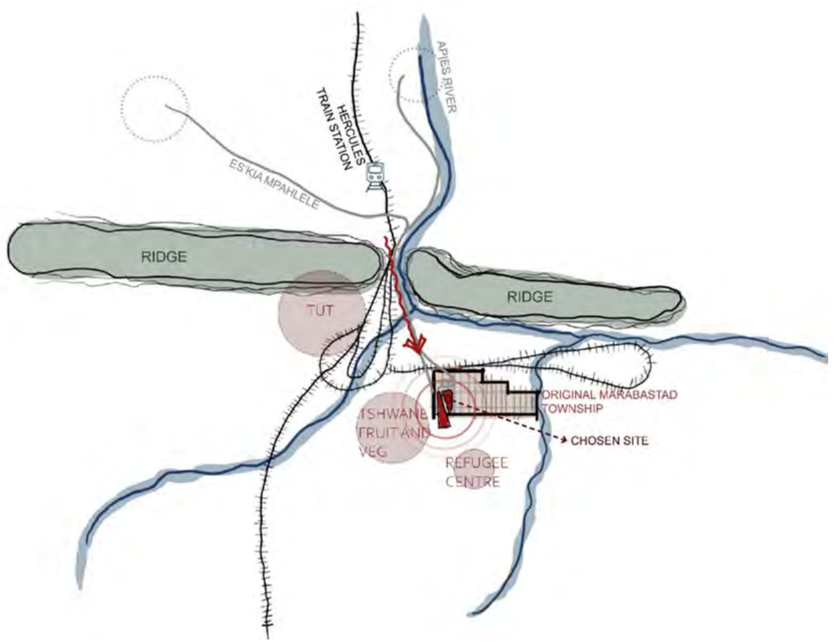
URBAN FRAMEWORK DEVELOPMENT



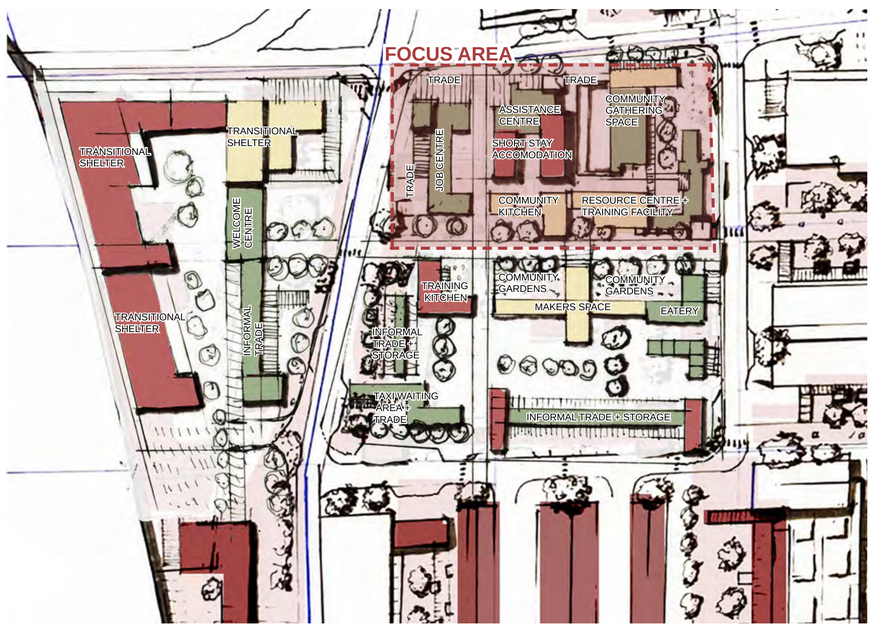
THE SITE OF FOCUS

INITIAL SITE MASSING AND AREA OF FOCUS

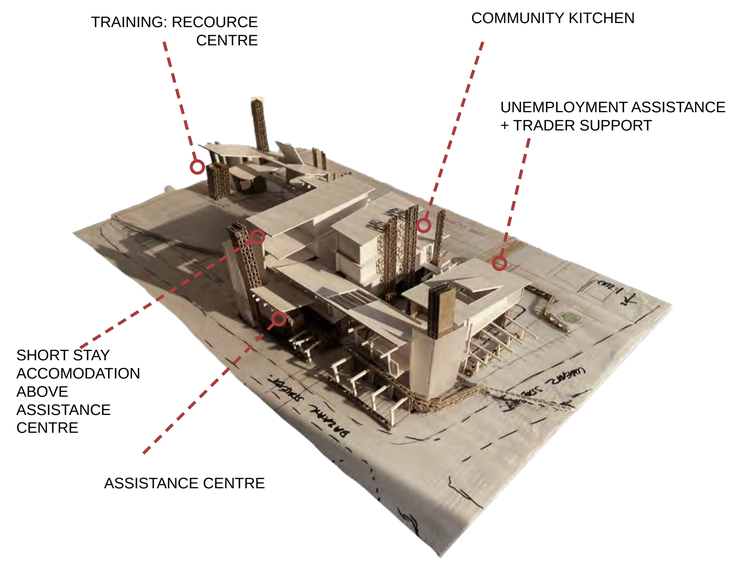
THE FOCUS SITE AS AN IMPORTANT ARRIVAL POINT INTO MARABASTAD



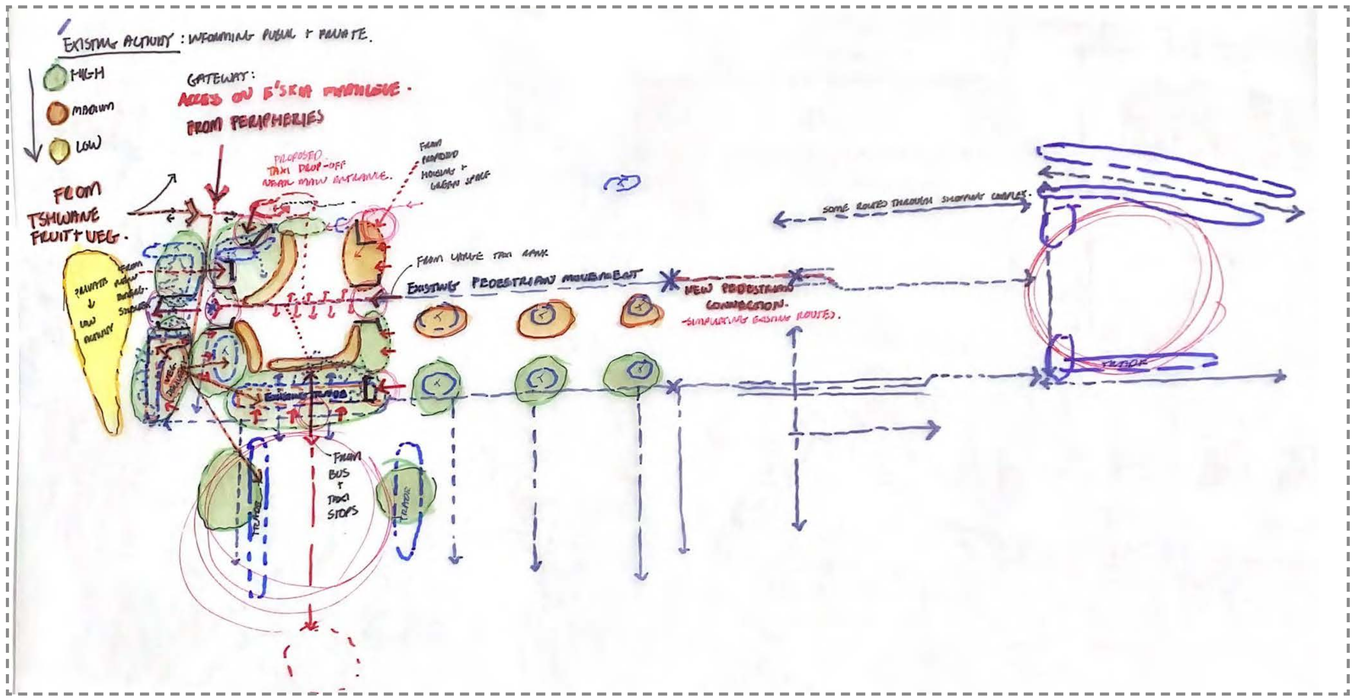
OVERVIEW OF SITE LAYOUT + FOCUS AREA- SCALE 1:500

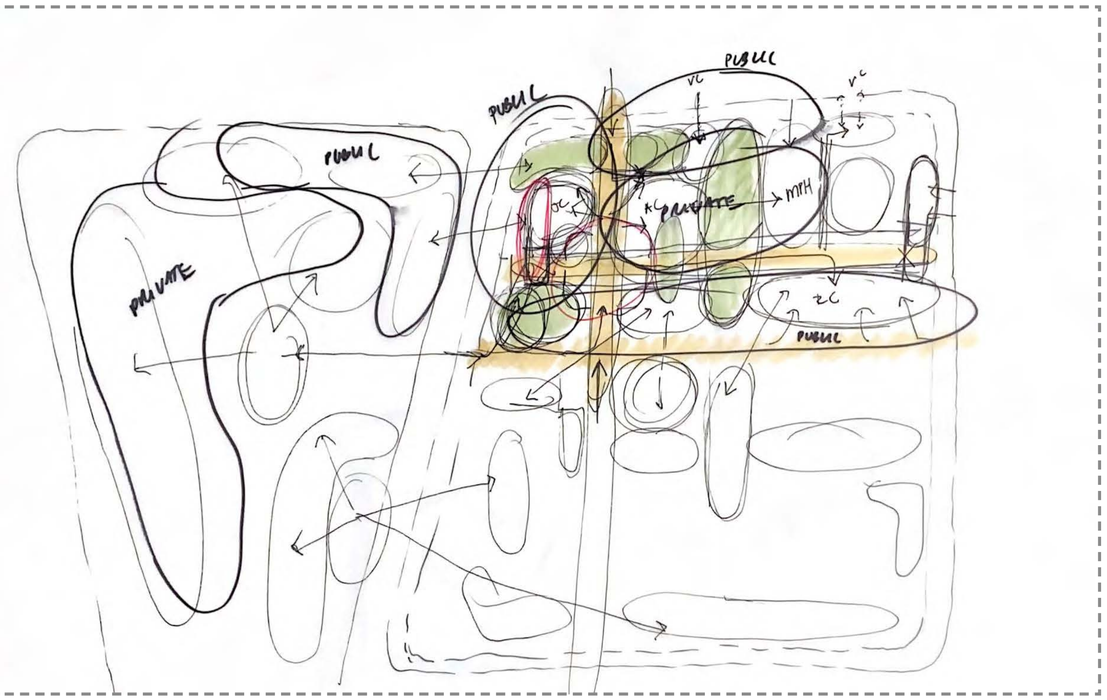


3-DIMENSIONAL ZONING OF FOCUS AREA



SITE LAYOUT INFORMANT SKETCHES





-EXISTING PEDESTRIAN ACTIVITY
-IMPORTANT NODAL CONNECTIONS
-ACCESS: PUBLIC AND PRIVATE (IN RELATION TO STREET EDGE AND CURRENT ZONES OF USE)
-WHERE ARE PEOPLE ARRIVING FROM?

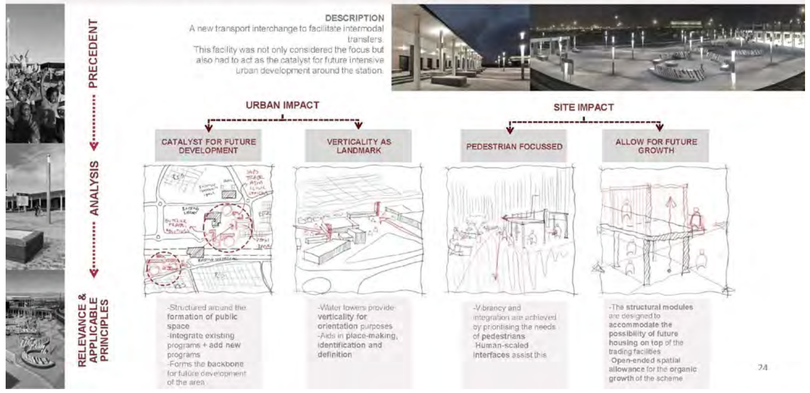
-PUBLIC-PRIVATE INTERFACES
-PEDESTRIAN CONNECTIONS BETWEEN PROGRAMS
-PUBLIC SPACE AS A CONNECTING DEVICE

SELECTED PRECEDENTS

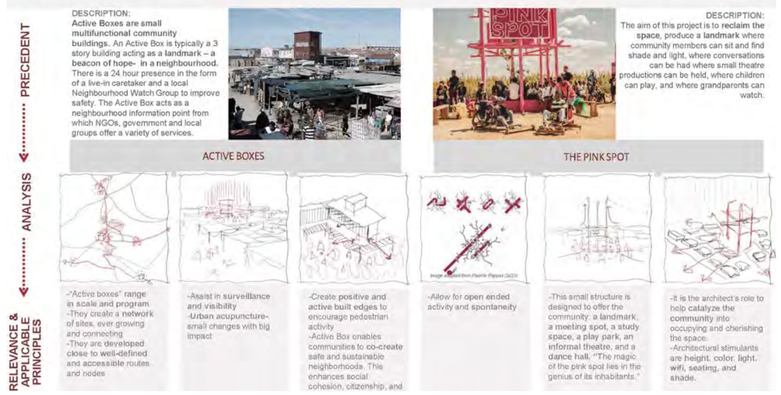
URBAN, PROGRAMMATIC, SPATIAL AND TECHNOLOGICAL

URBAN STRATEGY PRECEDENTS

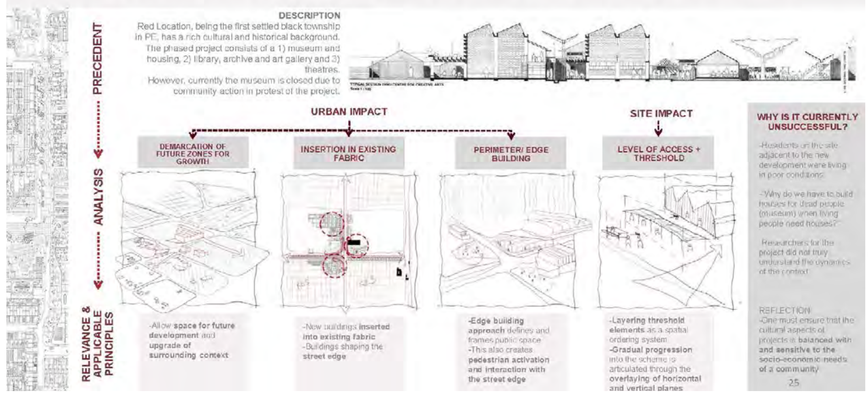
KUYASA TRANSPORT INTERCHANGE, CAPE TOWN- MEYER + VORSTER



ACTIVE BOXES, CPT- VPUU & THE PINK SPOT, DRIEZIEK- FRANKIE PAPPAS

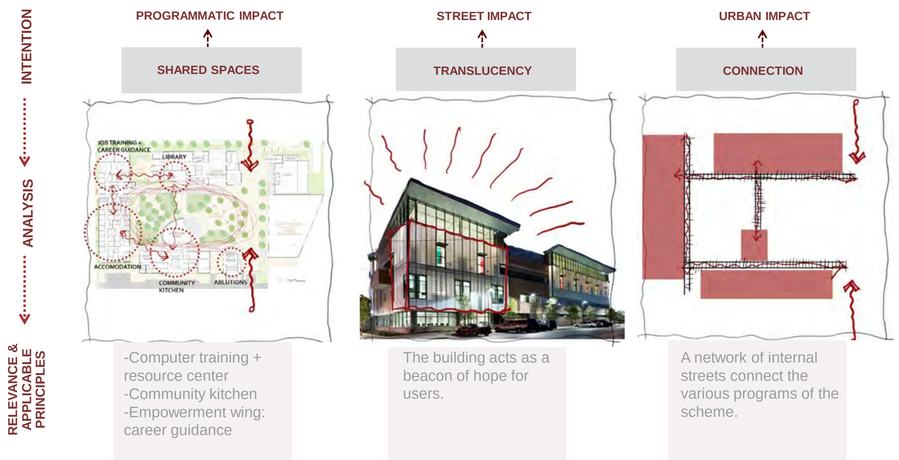


RED LOCATION CULTURAL PRECINCT, PORT ELIZABETH- NOERO ARCHITECTS

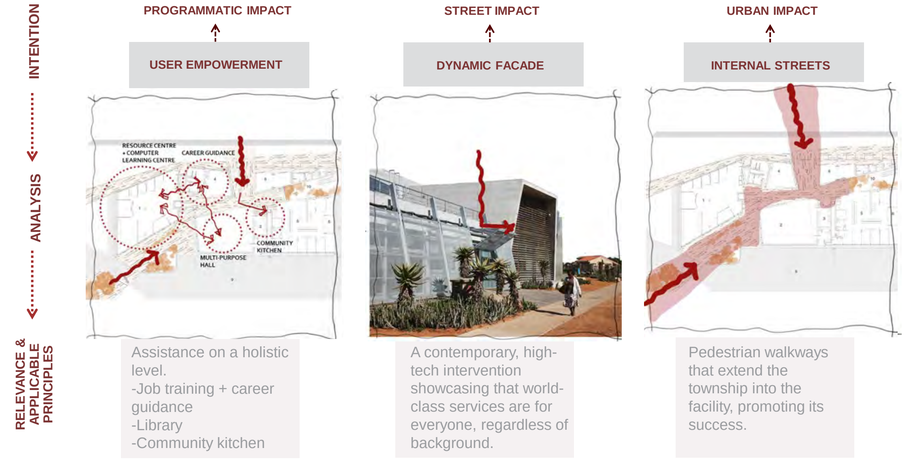


PROGRAMMATIC AND SPATIAL

BRIDGE HOMELESS ASSISTANCE CENTRE, OVERLAND PARTNERS, DALLAS



UBUNTU CENTRE, FIELD ARCHITECTURE, SOUTH AFRICA



TECHNOLOGICAL

PRECEDENT: URBAN WOODS, AMSTERDAM

A BUILDING MADE FROM RECYCLED TIMBER PALETTES

PRECEDENT: "HOUSE ON A BRICK BASE"

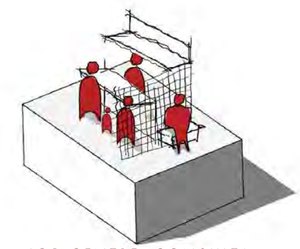
COMBINING CLT AND BRICK

The first floor volume is constructed from **prefabricated cross-laminated timber (CLT)**

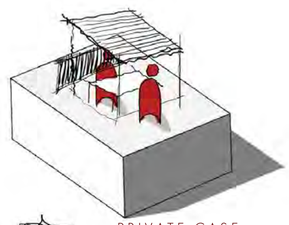
FOCUS AREA DEVELOPMENT

USERS, PROGRAMS AND MOVEMENT

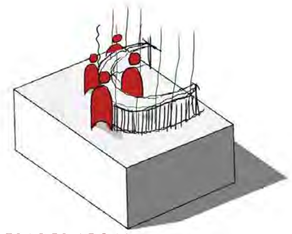
DIAGRAMMATIC REPRESENTATION OF PROGRAMS



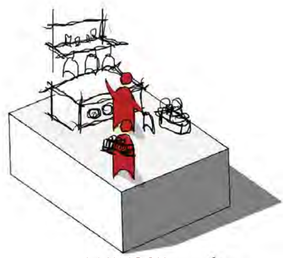
JOB CENTRE: CONSULTA-TIONS AND ASSISTANCE



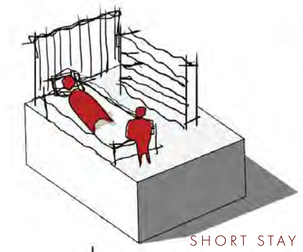
PRIVATE CASE OFFICES



TRADER LEGAL SUPPORT



LAUNDRY FACILITY

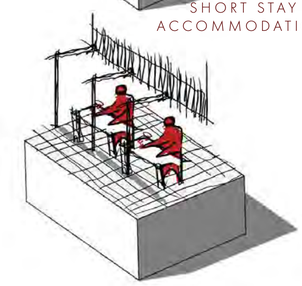


SHORT STAY ACCOMMODATION

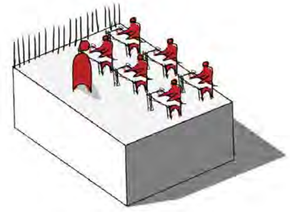
CHILD CARE FACILITY

YOUTH RECREATION CENTRE

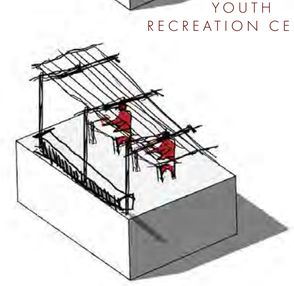
COMMUNITY KITCHEN



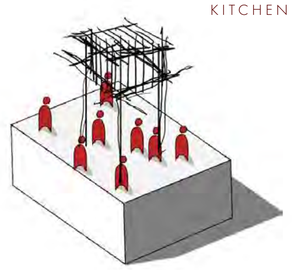
MAKERS SPACE



TRAINING + SKILLS FACILITY

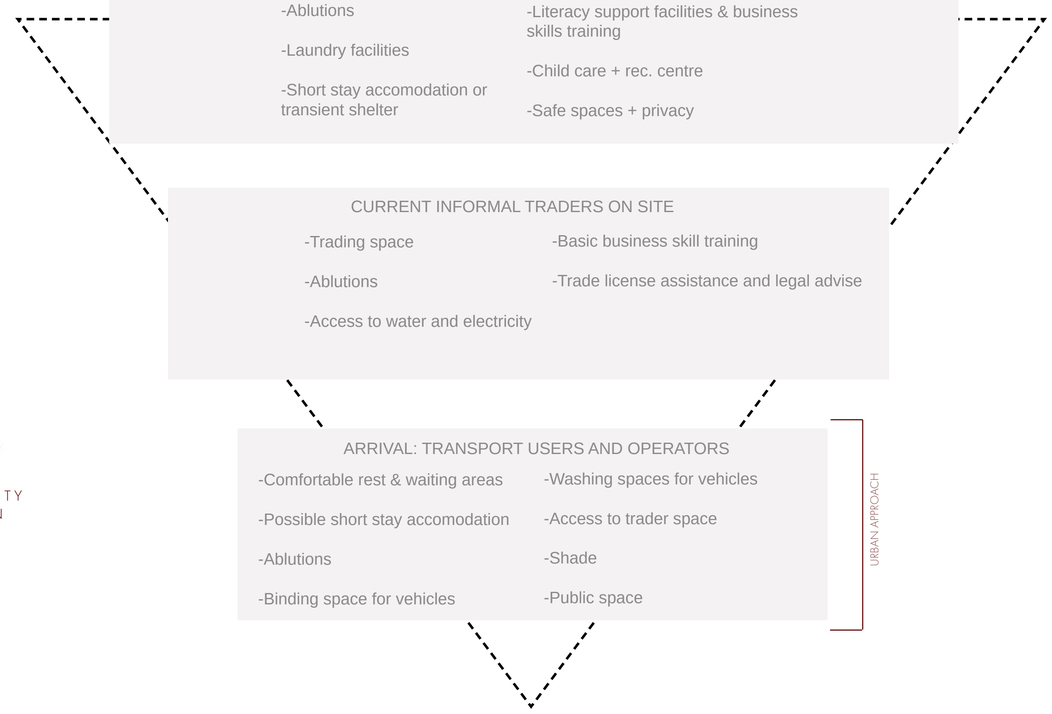


TRADE SPACE

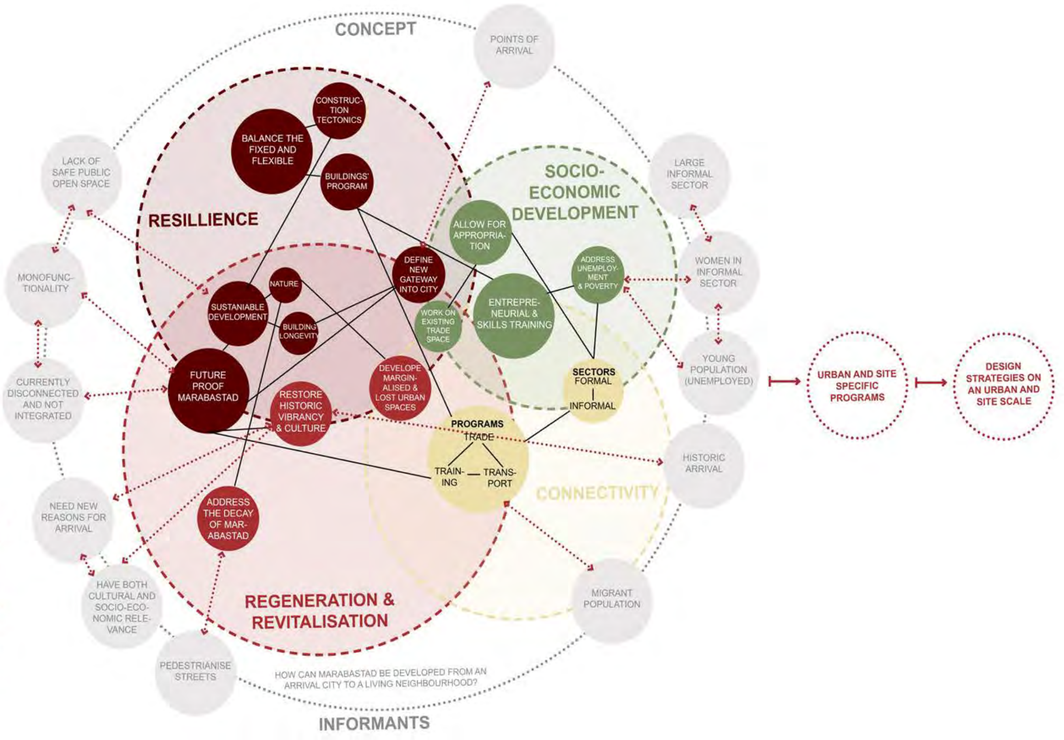


COMMUNAL GATHERING SPACE

HIERARCHY OF NEEDS



PROGRAM INFORMANTS DIAGRAM



INITIAL ITERATION OF USER JOURNEYS

USERS

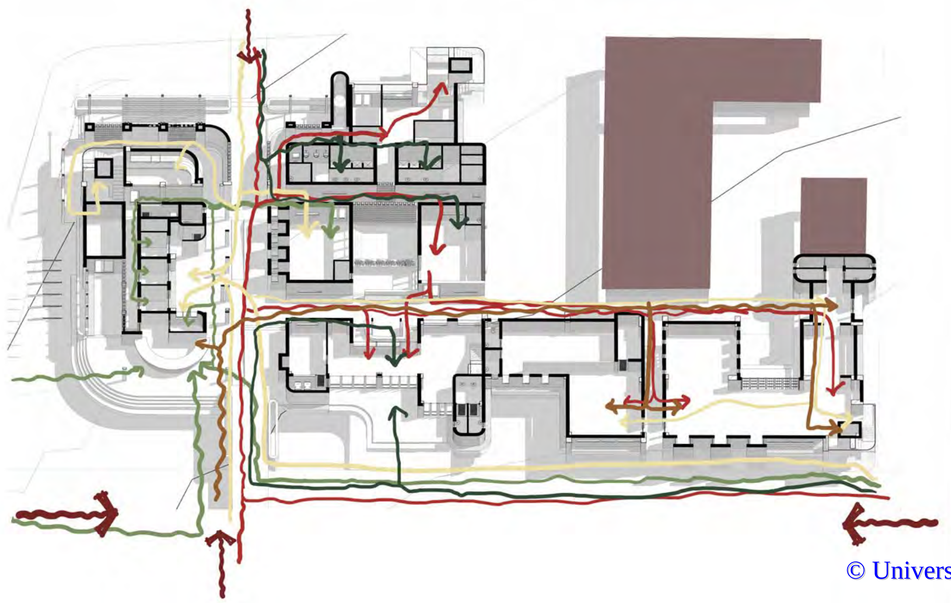
INFORMAL TRADER LOOKING FOR ASSISTANCE- LEGAL ADVICE, NHA TRADE LICENSES ETC.

UNEMPLOYED USER LOOKING FOR GUIDANCE, ADVICE AND ENTREPRENEURIAL SKILLS TRAINING

INFORMAL TRADER WANTING TO GROW BUSINESS BY LEARNING ENTREPRENEURIAL SKILLS

UNEMPLOYED WOMEN AND YOUTH ARRIVING IN MARABASTAD LOOKING FOR IMMEDIATE ASSISTANCE AND ECONOMIC ESTABLISHMENT THROUGH ENTREPRENEURIAL TRAINING

PERSON IN NEED LOOKING FOR DAILY ASSISTANCE- FOOD, ABLUTIONS, LAUNDRY ETC.



ITERATIONS

A SUMMARY OF THE DESIGN DEVELOPMENT PROCESS

OVERVIEW

As mentioned above, the design process has adopted a multi-scalar approach. Therefore, throughout the development of this project, there has been constant interchange between the urban scale, site scale and technological detail development. This has allowed for regular reflection between iterations to ensure the most appropriate solution both contextually and conceptually. After reflection, each iteration yielded a set of principles to contribute to the next iteration.

ITERATION 1: THE URBAN RESPONSE

The first approach to the project development looked at how one can shape safe public green space between the built form through the edge building and courtyard typology approach. Additionally, this iteration explored how one can formally define a main gateway into Marabastad. This iteration was performed on a macro-level, focusing mainly on the urban principles of the scheme.

Figure 38: Identifying underutilised or neglected sites as well as existing socio-economic systems to tap into (Author, 2023).

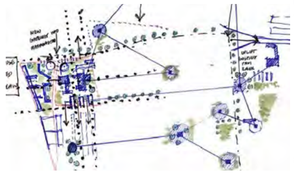


Figure 39: Formulating an initial urban response (Author, 2023).

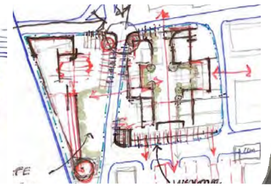


Figure 40: An intuitive exploration on shaping spaces on the focus site (Author, 2023).

Figure 41: First explorative, intuitive maquette(Author, 2023).

ITERATION 2

The next investigation looked at how to frame the specific points of arrival on the site. It also further developed links to the prominent public transport nodes around the site as those were identified as important arrival points. This iteration placed the street edge condition at the forefront to test building setback, programmatic layout based on access (public vs private), and the framing of axes.

Figure 42: Identifying important areas of response on the site (Author, 2023).

Figure 43: Diagrammatic exploration of framing points of arrival and important points of interface on the site (Author, 2023).

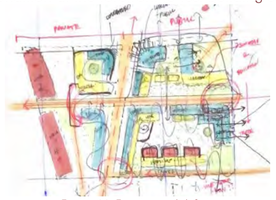


Figure 44: Framing and defining axes (Author, 2023).

Figure 45: Maquette exploring street edge interaction (Author, 2023).

ITERATION 3

The following iteration explored how one can bring a finer grain to the scheme by prioritising permeability and pedestrian movement. An investigation was also performed to discover how one can define public and private areas of the scheme. The idea of vertical landmarks in the landscape was also introduced in this iteration with the termination of axes also being explored.

Figure 46: Defining the various site programs and the urban response (Author, 2023).

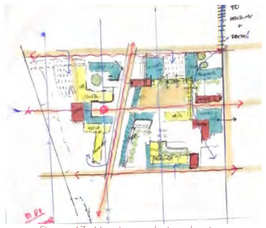


Figure 47: Massing exploring shaping private and public space(Author, 2023).

Figure 48: Maquette testing developing a finer grain to the scheme (Author, 2023).

ITERATION 4

This iteration looked at developing smaller pockets along a spinal development while developing a more seamless integration into the context and the proposed urban framework. This investigation also began to implement finer pedestrian connections between the programs to enhance programmatic linkages. The approach followed was to share common public spaces such as green space or circulation.

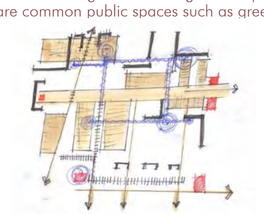


Figure 49: Shaping smaller spaces along a shared route (Author, 2023).

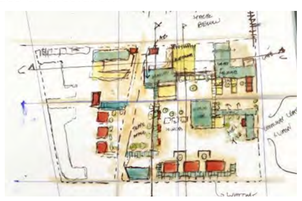


Figure 50: Developing finer pedestrian routes to connect the various programmes of the scheme(Author, 2023).

Figure 51: A maquette exploring integrating the site into its context on a finer scale. Additionally, exploring placing catalysts throughout the urban landscape.(Author, 2023).

ITERATION 5

The next stage of development included an experiment on how an angled built form can shape movement and define public open spaces. A closer look at technical and spatial integration was also performed through the development of a maquette at 1:250 scale and the development of a 1:20 detailed section of an important street interface. This maquette explored volume, initial material combinations, and street interfaces. Upon reflection, it was decided that this iteration could be refined and simplified to an extent in order to convey the essence of the project.

Figure 52: Detailed programmatic development and exploring how tilting the form could influence the design (Author, 2023).

Figure 53: A amquette exploring the form at a greater scale of 1:250 (Author, 2023).

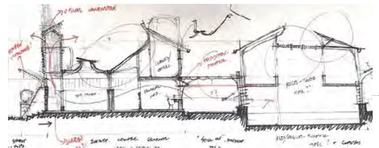


Figure 54: Exploring the different roof planes and spatial hierarchy (Author, 2023).

ITERATION 6

The process of refinement was instantiated in this iteration through the development of another maquette at a 1:200 scale. This maquette focussed on refining unnecessarily complex forms and spaces, such as the strong diagonal axis. More detailed floor plans and layout requirements were also developed with this iteration in order to fully grasp the programmatic requirements of the buildings. A constant revisiting of the initial technological and spatial intentions for this scheme informed the further distillation of this project for the final stages.

Figure 55: 1:200 Maquette exploring materiality and street interfaces (Author, 2023).

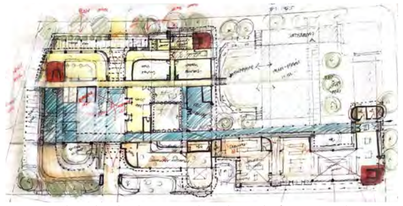


Figure 56: Floor plan development and initial spatial refinement (Author, 2023).

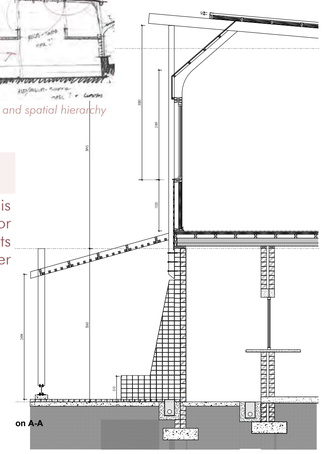


Figure 57: Developing the initial 1:20 edge section of the building (Author, 2023).

ITERATION 7

The final stages of iteration focused on the definition and further refinement of the project at a more detailed scale.

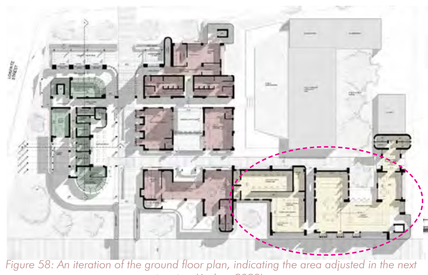


Figure 58: An iteration of the ground floor plan, indicating the area adjusted in the next iteraion (Author, 2023).

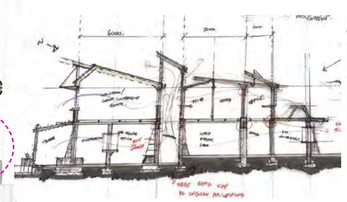


Figure 59: An iteration of thesectional development of the scheme (Author,

Figure 60: A series of technological sketches exploring various details in the project (Author, 2023).

ITERATION 8

At this point of develpment the focus was placed on safety as a design informant as well as further defining the north-eastern edge of the site. This was in order to bring in another layer of social engagement and communal public spaces into the scheme.

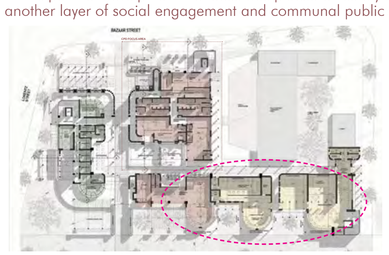


Figure 61: The next iteration of the ground floor plan, the north-eastern corner and highlighted area were refined for the final design (Author,

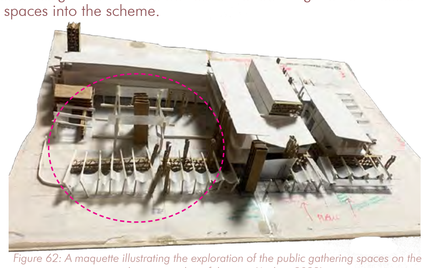


Figure 62: A maquette illustrating the exploration of the public gathering spaces on the north eastern edge of the site (Author, 2023).

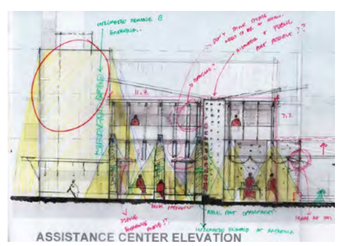


Figure 63: The northern assistance centre elevation with a focus on safety (Author, 2023).

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

BUILDING PERFORMANCE

ASSESSING THE PERCEIVED SAFETY OF THE CURRENT STREET EDGE CONDITION OF MARABASTAD

ON SITE: EXISTING SITE AND CONTEXTUAL CONDITIONS

A RECENT SITE VISIT WAS PERFORMED THROUGH THE LENS OF SAFETY. BOTH THE SITE AND SURROUNDING MARABASTAD CONTEXT WAS ANALYSED FOR SPACES AND INTERFACES WHICH CREATE A FEELING OF SAFETY OR NOT. NOT ALL AREAS WERE SUITABLE TO TAKE PICTURES CONSIDERING THE SENSITIVITY OF THE USERS AND SAFETY CONCERNS. HOWEVER, WHERE POSSIBLE, THE IMAGES HAVE BEEN OVERLAYED WITH SAFTEY ANALYSIS CALLOUTS. ELEMENTS WHICH FOSTER SAFETY HAVE BEEN HIGHLIGHTED IN GREEN, WHILE UNSAFE ELEMENTS HAVE BEEN EMPHASISED IN RED.

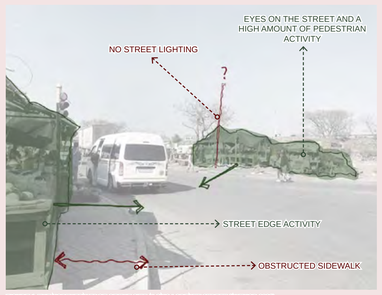


FIGURE 1: THE NORTHERN EDGE OF THE SITE ALONG LORENTZ STREET (AUTHOR,2023).

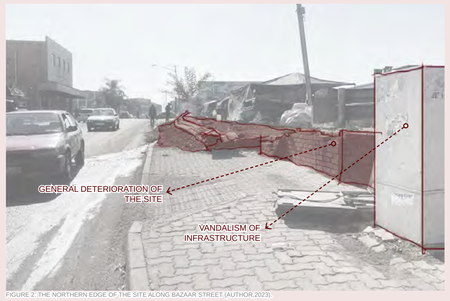


FIGURE 2: THE NORTHERN EDGE OF THE SITE ALONG BAZAAR STREET (AUTHOR,2023)

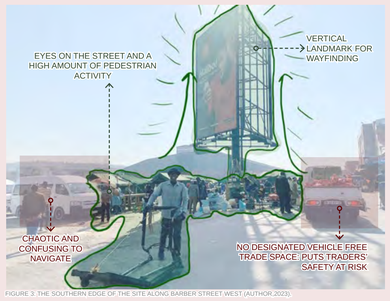


FIGURE 3: THE SOUTHERN EDGE OF THE SITE ALONG BARBER STREET WEST (AUTHOR,2023)

TYPICAL SITE SECTION REPRESENTING THE ACTIVITIES ON SITE ON THE NORTHERN EDGE

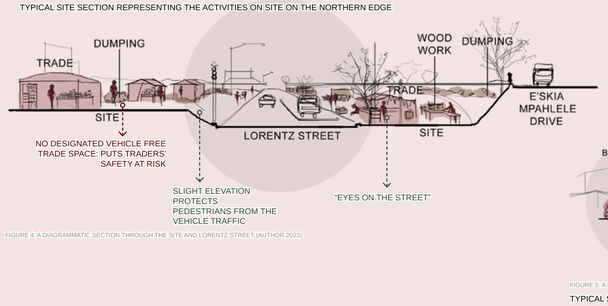


FIGURE 4: A DIAGRAMMATIC SECTION THROUGH THE SITE AND LORENTZ STREET (AUTHOR,2023).

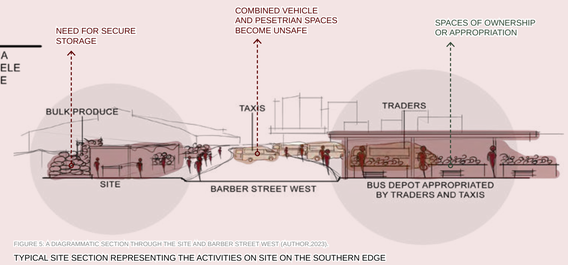


FIGURE 5: A DIAGRAMMATIC SECTION THROUGH THE SITE AND BARBER STREET WEST (AUTHOR,2023).

TYPICAL SITE SECTION REPRESENTING THE ACTIVITIES ON SITE ON THE SOUTHERN EDGE

AROUND MARABASTAD: THE MARABASTAD TYPOLOGY

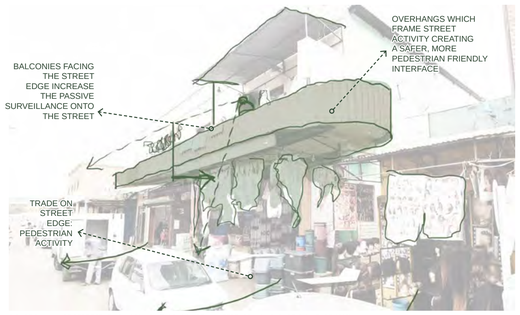


FIGURE 6: AN IMAGE REPRESENTING A COMMON TYPOLOGY OF AN INTERFACE IN MARABASTAD (AUTHOR,2023).

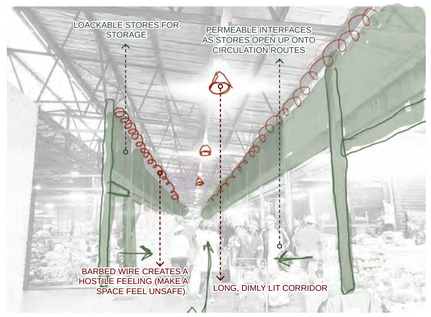


FIGURE 7: AN IMAGE TAKEN IN THE MARABASATAD MARKET STALLS (AUTHOR,2023).

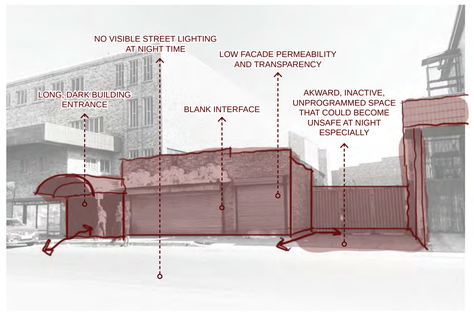


FIGURE 8: AN IMAGE TAKEN OF THE BLANK INTERFACE WHICH SITS ACCROSS FROM THE CHOSEN SITE (AUTHOR,2023).

FIGURE 9: AN IMAGE TAKEN OF AN UNKEMPT, UNPROGRAMMED SPACE ALONG BAZAAR STREET (AUTHOR,2023).

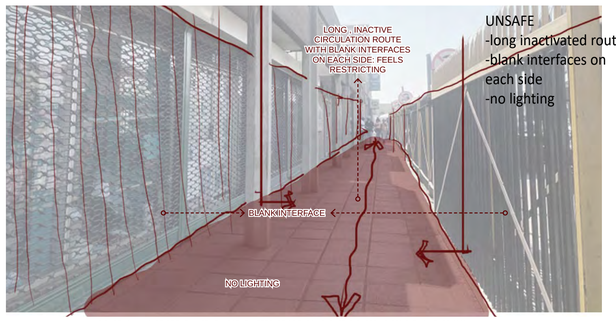


FIGURE 10: AN IMAGE OF THE INACTIVE, HOSTILE INTERFACE OF THE MARABASTAD SHOPPING COMPLEX (AUTHOR,2023).

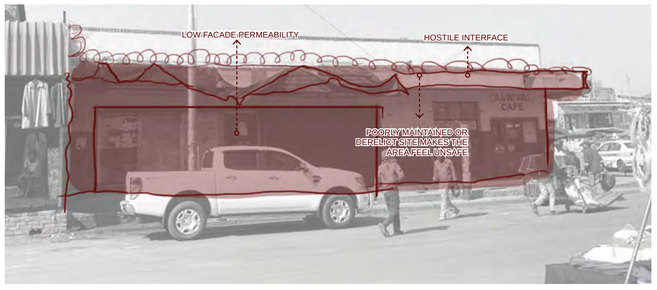


FIGURE 11: AN IMAGE OF A INACTIVE, HOSTILE, POORLY MAINTAINED INTERFACE IN MARABASTAD (AUTHOR,2023).

AROUND MARABASTAD: MARABASTAD AT NIGHT

FIGURE 12: ABANDONED TRADE AREAS AT NIGHT TIME IN MARABASTAD (WESSELS, 2015).

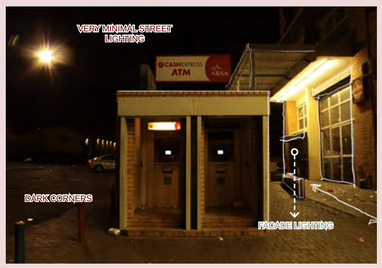


FIGURE 13: LOW STREET LIGHTING AND DARK CORNERS AT NIGHT TIME IN MARABASTAD (WESSELS, 2015).

FIGURE 14: 'LOW STREET LIGHTING' 'DARK ALLEYS' AND 'INACTIVE FACADES AT NIGHT TIME IN MARABASTAD (WESSELS, 2015).

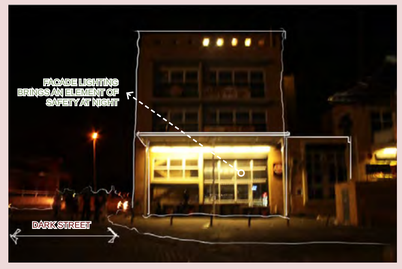


FIGURE 14: 'WELL' LIT FACADES WITH NO STREET LIGHTING AT NIGHT TIME IN MARABASTAD (WESSELS, 2015).

BENCHMARK: VARIOUS SAFETY INDICATORS AND SOURCES INFORMING THE PERFORMANCE ASSESSMENT

INTERFACE DEFINITION AND SAFETY

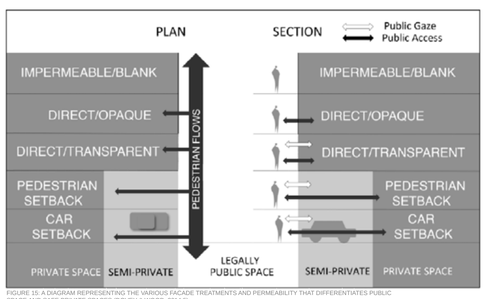


FIGURE 15: A DIAGRAM REPRESENTING THE VARIOUS FACADE TREATMENTS AND PERMEABILITY THAT DIFFERENTIATES PUBLIC SPACE AND SAFE PRIVATE SPACES (DOVEY & WOOD, 2014:5).

PASSIVE SURVEILLANCE AND VISIBILITY

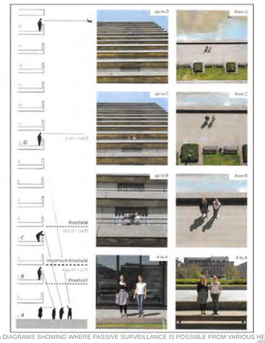


FIGURE 16: A DIAGRAMS SHOWING WHERE PASSIVE SURVEILLANCE IS POSSIBLE FROM VARIOUS HEIGHTS (GEHL, 2010).

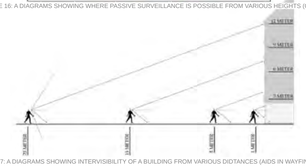
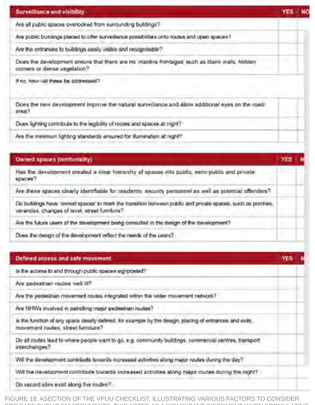


FIGURE 17: A DIAGRAMS SHOWING INTERVISIBILITY OF A BUILDING FROM VARIOUS DIDTANCES (AIDS IN WAYFINDING) (GEHL, 2010).

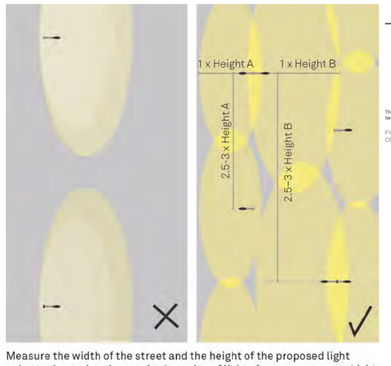
VPUU CHECKLIST: SAFE ENVIRONMENTS



Surveillance and visibility:	YES	NO
Are all public spaces overlooked from surrounding buildings?		
Are public buildings placed to offer surveillance possibilities onto routes and open spaces?		
Are the entrances to buildings easily visible and recognizable?		
Does the development ensure that there are no 'inactive frontages' such as blank walls, hidden corners or dense vegetation?		
If no, how will these be addressed?		
Does the new development improve the natural surveillance and allow additional eyes on the road/ area?		
Does lighting contribute to the legibility of routes and spaces at night?		
Are the minimum lighting standards ensured for illumination at night?		
Owned spaces (territoriality)	**YES**	**N**
Has the development created a clear hierarchy of spaces eto public, semi-public and private spaces?		
Are these spaces clearly identifiable for residents, security personnel as well as potential offenders?		
Do buildings have 'owned spaces' to mark the transition between public and private spaces, such as porches, verandas, changes of level, street furniture?		
Are the future users of the development being consulted in the design of the development?		
Does the design of the development reflect the needs of the users?		
Defined access and safe movement	**YES**	**N**
Is the access to and through public spaces signposted?		
Are pedestrian routes 'well-lit'		
Are the pedestrian movement routes integrated within the wider movement network?		
Are NPWs involved in patrolling major pedestrian routes?		
Is the function of any space clearly defined, for example by the design, placing of entrances and exits, movement routes, street furniture?		
Do all routes lead to where people want to go, e.g. community buildings, commercial centres, transport interchanges?		
Will the development contribute towards increased activities along major routes during the day?		
Will the development contribute towards increased activities along major routes during the night?		
Do vacant sites exist along the routes?		

FIGURE 18: ASECTION OF THE VPUU CHECKLIST, ILLUSTRATING VARIOUS FACTORS TO CONSIDER FOR SAFE PUBLIC ENVIRONMENTS. THIS ACTED AS A SIGNIFICANT INFORMENT WHEN FORMULATING THE ASSESSMENT FRAMEWORK FOR THIS PROJECT (VPUU, 2016).

SIDEWALK AND STREET EDGE LIGHTING GUIDE



Measure the width of the street and the height of the proposed light poles to determine the required spacing of lights for even coverage. Light poles that are spaced too far apart result in dark areas that leave street users feeling unsafe.

FIGURE 19: GLOBAL LIGHTING RECOMMENDATIONS FOR STREET LIGHTING (GDCI, 2023: ONLINE).

FIGURE 20: GLOBAL LIGHTING RECOMMENDATIONS FOR SAFE STREET LIGHTING (GDCI, 2023: ONLINE).

FIGURE 21:ILLUSTRATION REPRESENTING A SAFE, ACTIVE AND PEDESTRIAN FRIENDLY STREET INTERFACE OF A BUILDING AT DAY AND NIGHT (MCALLISTER, 2020:ONLINE)

FACADE TREATMENT AND SAFETY

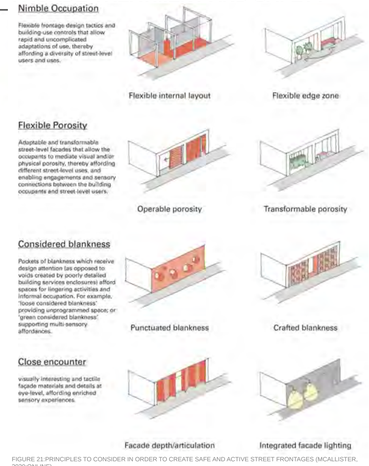


FIGURE 21:PRINCIPLES TO CONSIDER IN ORDER TO CREATE SAFE AND ACTIVE STREET FRONTAGES (MCALLISTER, 2020:ONLINE)

ITERATIONS

A SERIES OF ITERATIONS DEVELOPED IN ACCORDANCE TO THE SAFETY CHECKLIST

BASE CASE: INITIAL DESIGN TO BE ITERATED

PLAN: IDENTIFYING SAFETY ISSUES OR MISSED OPPORTUNITIES

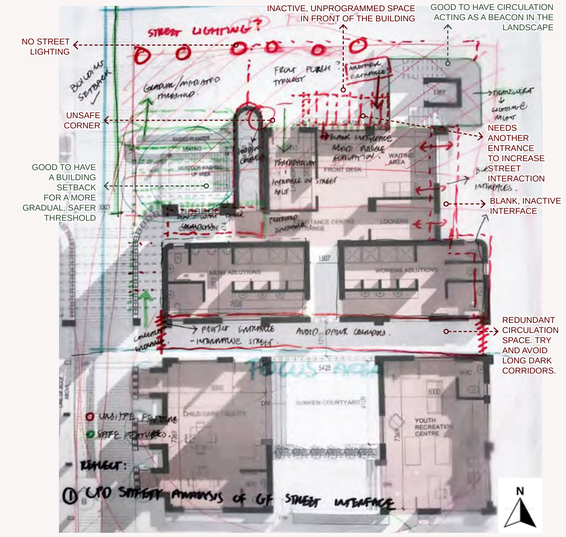


FIGURE 22: THE BASE CASE DESIGN PLAN OVERLAYED WITH AN INITIAL SAFETY ANALYSIS. THIS HIGHLIGHTS ANY PROS AND CONS ACCORDING TO THE CRITERIA (AUTHOR, 2023)

SECTION: IDENTIFYING SAFETY ISSUES OR MISSED OPPORTUNITIES

SCALE 1:100

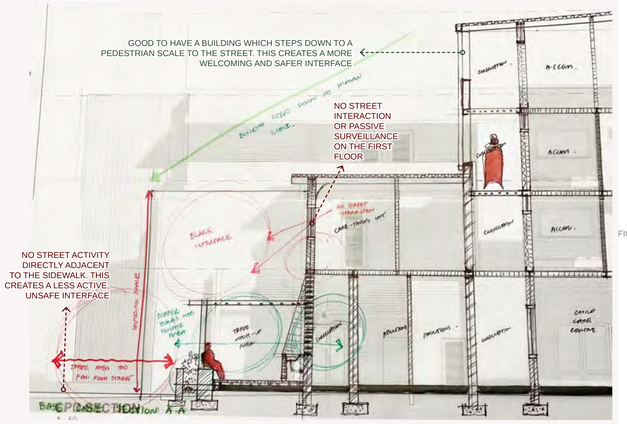
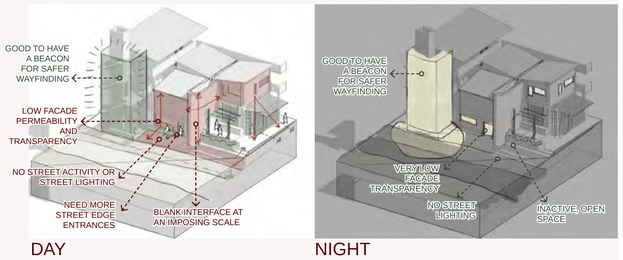


FIGURE 24: THE BASE CASE SECTION OVERLAYED WITH AN INITIAL SAFETY ANALYSIS. THIS HIGHLIGHTS ANY PROS AND CONS ACCORDING TO THE CRITERIA (AUTHOR, 2023)

3-DIMENSIONAL EXPLORATION: IDENTIFYING SAFETY ISSUES OR MISSED OPPORTUNITIES



DAY NIGHT

FIGURE 25: AN INITIAL 3-DIMENSIONAL REPRESENTATION OF THE BASE CASE'S STREET INTERFACE. THE ASSISTANCE CENTRE'S THRESHOLD HAS BEEN TESTED IN BOTH A DAY AND NIGHT SCENARIO. THIS REPRESENTS THE ANTICIPATED ACTIVITY AND LIGHTING OF THE SCHEME. (AUTHOR, 2023)

ITERATION 1

PLAN: MORE ACTIVATED STREET EDGE INTERFACE + SECURING PRIVATE SPACE

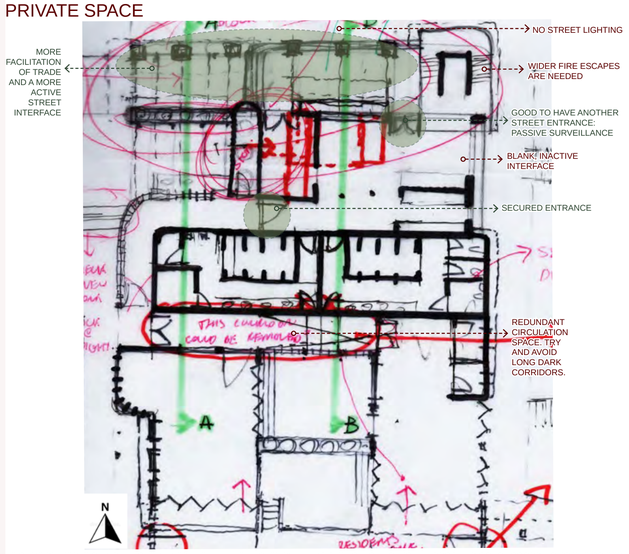
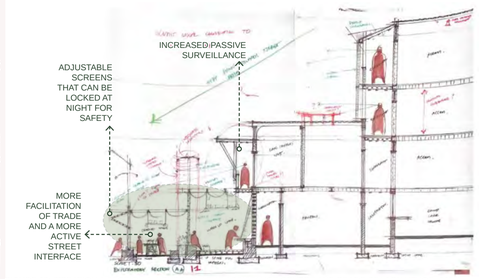


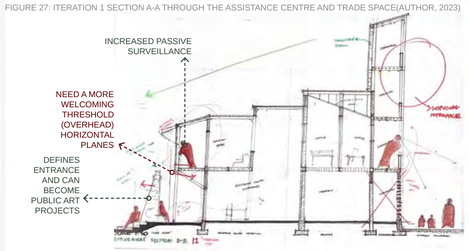
FIGURE 26: ITERATION 1 PLAN OVERLAYED WITH AN INITIAL SAFETY ANALYSIS. THIS HIGHLIGHTS ANY PROS AND CONS ACCORDING TO THE CRITERIA (AUTHOR, 2023)

SECTION: EYES ON THE STREET + WELCOMING THRESHOLD



SECTION A-A: MORE EYES ON THE STREET, ESPECIALLY FROM THE FIRST FLOOR

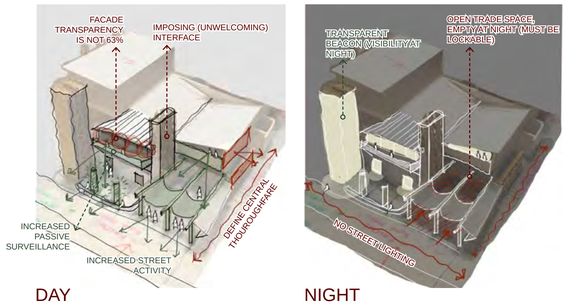
FIGURE 27: ITERATION 1 SECTION A-A THROUGH THE ASSISTANCE CENTRE AND TRADE SPACE(AUTHOR, 2023)



SECTION B-B: BRINGING THE STREET FACADE DOWN TO A PEDESTRIAN SCALE AND DEFINE THE ENTRANCE

FIGURE 28: ITERATION 1 SECTION B-B THROUGH THE ASSISTANCE CENTRE ENTRANCE AND FRONT THRESHOLD (AUTHOR, 2023)

3-DIMENSIONAL EXPLORATION: ENTRANCE DEFINITION + EYES ON THE STREET + PUBLIC ART INCORPORATION



DAY NIGHT

FIGURE 29: AN INITIAL 3-DIMENSIONAL OF ITERATION 1'S INTERFACE. THE ASSISTANCE CENTRE'S THRESHOLD HAS BEEN TESTED IN BOTH A DAY AND NIGHT SCENARIO. THIS REPRESENTS THE ANTICIPATED ACTIVITY AND LIGHTING OF THE SCHEME. (AUTHOR, 2023)

ITERATION 2

PLAN: FIRST FLOOR PLAN: FIRE SAFETY + ESCAPE ROUTES + REFINING PLAN LANGUAGE

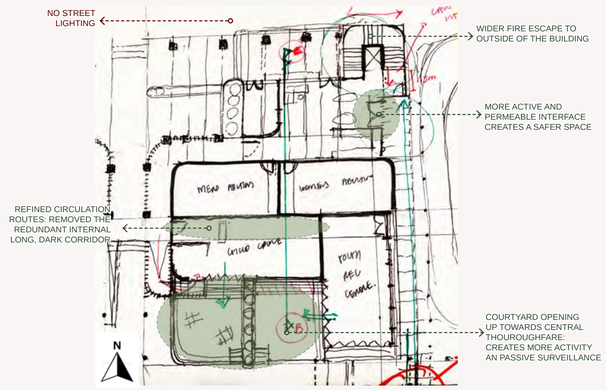


FIGURE 30: GROUND FLOOR PLAN OF ITERATION 2 FOCUSSING ON FIRE REGULATIONS, REFINING CIRCULATION AND THE CENTRAL COURTYARD (AUTHOR, 2023)

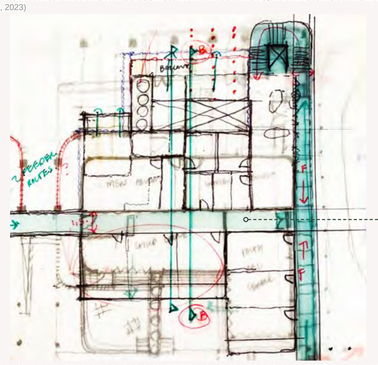


FIGURE 31:FIRST FLOOR PLAN OF ITERATION 2 FOCUSSING ON FIRE ESCAPES AND WIDEING EMERGENCY ROUTES (AUTHOR, 2023)

SECTION: SHIFTING SHORT STAY ACCOMMODATION AREA

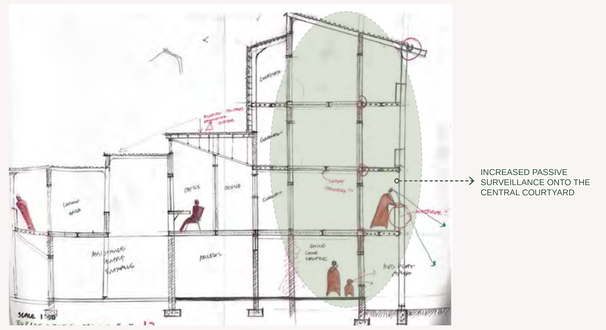


FIGURE 32:SECTION THROUGH ITERATION 2 (AUTHOR, 2023)

ELEVATION: REFINING THE LANGUAGE

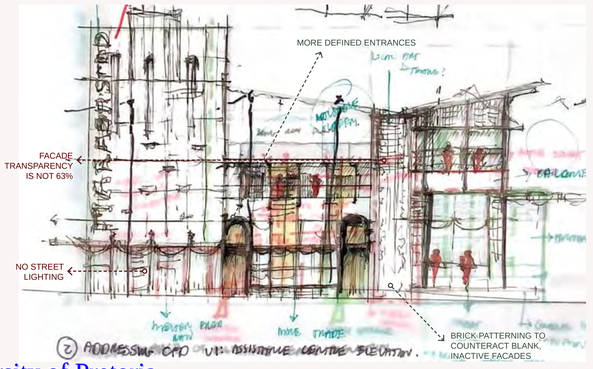


FIGURE 33:ITERATION 2 ELEVATION EXPLORING REFINING THE FACADE OF THE ASSISTANCE CENTRE (AUTHOR, 2023)

ITERATION 3

PLAN: LIGHTING

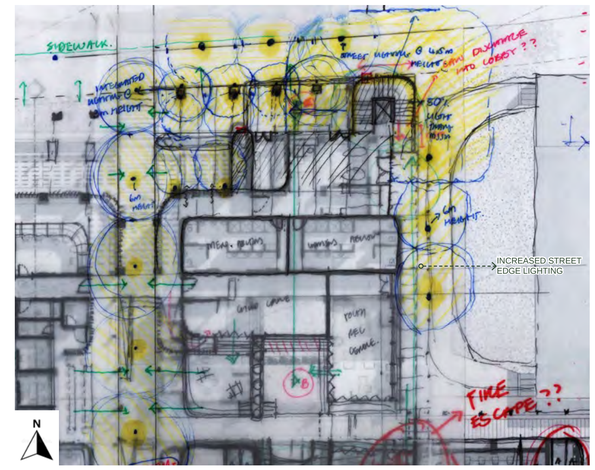


FIGURE 34:ITERATION 3 GROUND FLOOR PLAN FOCUSSING ON THE PLACEMENT OF LIGHTING. THIS ITERATION TESTED THE RADII OF LIGHTS, ENSURING NO DARK SPACES ALONG THE INTERFACE (AUTHOR, 2023)

SECTION: LIGHTING ON STREET INTERFACE

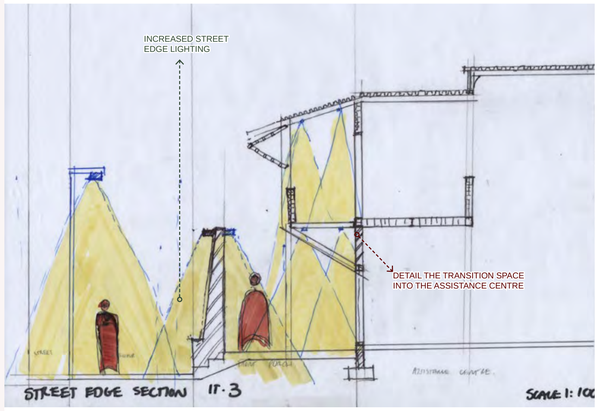


FIGURE 35:ITERATION 3 SECTION TESTING THE LIGHTING OUTSIDE OF THE ASSISTANCE CENTRE ACCORDING TO HEIGHT (AUTHOR, 2023)

ELEVATION: FACADE TRANSPARENCY PERCENTAGE + LIGHT

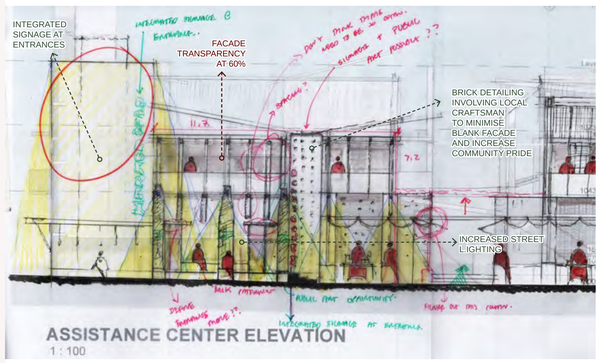


FIGURE 36:ITERATION 3 ELEVATION REFINING THE ELEVATION AND TESTING THE LIGHTING OUTSIDE OF THE ASSISTANCE CENTRE ACCORDING TO HEIGHT (AUTHOR, 2023)

FACADE TRANSPARENCY CALCULATION:
ESTIMATED TOTAL FACADE AREA (BASED OFF SKETCH):= 84.24 + 52.5
=136.74 m2

ESTIMATED TRANSPARENT AREA= VERTICAL CIRCULATION +FFL WINDOWS +DOORS ON GF + BRICK SCREEN WALL
=52.5 + 9,75+ 4,5 +7,3 +9.66
=82.71 M2

FACADE TRANSPARENCY PERCENTAGE: 82.71/ 136.74
=60,1%

THE FACADE TRANSPARENCY CALCULATION IS BASED OFF THE TOTALPERCENTAGE OF THE TOTAL FACADE AREA WHICH CONSITS OF TRANSPARENT OR TRANSLUCENT MATERIALS. THIS INCLUDES OPENINGS AND TRANSLUSCENT MATERIALS SUCH AS THE POLYCARBONATE SHEETING OR VENTILATED BRICK SCREEN WALLS

ITERATIONS

SCORING EACH ITERATION AGAINST THE SAFETY CHECKLIST

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

BASE CASE: INITIAL DESIGN TO BE ITERATED

CHECKLIST OF SAFETY INDICATORS (the physical characteristics are used for assessment of the intervention's safety. Wheras certain perceived safety indicators represent the overall intentions of the physical interventions and therefore cannot be measured but are necessary to stipulate as considerations).	YES/ NO	ANY NOTES WHERE APPLICABLE
BASE CASE		
Surveillance + Visibility		
a. Physical		
1. Are all public spaces overlooked from surrounding buildings, so as to offer surveillance opportunities along routes and open spaces (VPUU,2016)(Landman,2004)?	☑ TRUE	The street interface of the assistance centre is visible from the buildings across the road.
2. Are all of the entrances to buildings easily visible and recognizable (Sim, 2019:102)?	☐ FALSE	Although visible from the street, the entrance definition could be defined further in terms of their overhead definition. This may assist on leading people into the building.
a. Are there controlled entrance opportunities located every 7-9m (Al-Saaidy, 2022:1275)?	☐ FALSE	
3. Does the development ensure that there are no 'inactive frontages' such as blank walls, hidden corners or dense vegetation? (VPUU, 2016) (Al-Saaidy, 2022: 1265) Is the transitional edge (between public and private) a soft edge (active, permeable, social) not a hard edge (blank, impermeable, inactive) (Gehl 1987, Gehl & Gemzoe 1996)? /accommodate social activities?	☐ FALSE	Blank walls on elevation.
a. Is the facade transparency around 63% (Al-Saaidy, 2022, 1275)?	☐ FALSE	
4. Does lighting meet minimum standards to contribute to the legibility of routes at night? As recommended by Global Design in Cities regulations for street safety and SANS 10098 (GDCI, 2023: Online).	☐	No lighting currently.
a. **Height:** Standard poles for sidewalks and bike facilities are 4.5–6 m (GDCI, 2023: Online).		
b. **Spacing:** The spacing between two light poles should be roughly 2.5–3 times the height of the pole. Shorter light poles should be installed at closer intervals (GDCI, 2023: Online).		
c. **Light cone:** The light cone has roughly the same diameter as the height of the fixture from the ground. The height will therefore determine the maximum suggested distance between two light poles to avoid dark areas (GDCI, 2023: Online).		
d. SANS 10098-1: Table 2: Road type: c1(pedestrian only). Minimum horizontal illuminance: 3 lux. Minimum semi-cylindrical illuminance: 7,5 lux	FALSE	
5. Is the building below 5 storeys (ideal being max 3 storeys) to allow for street visibility and social interaction, whilst still containing elements that are visible from a distance (12m is visible from 24 km away) (Remali, 2014:344) (Al-Saaidy, 2022)?	☑ TRUE	The vertical circulation of the scheme has been highlighted to become taller beacons in the landscape. At around 10m in height, the beacons can be seen from around 20m away. This aids in user orientation and wayfinding.
6. Is there good passive surveillance opportunities along building edges and pedestrian movement routes (Sim, 2019:102)(VPUU,2016)(Landman,2004)?	☐ FALSE	Very few openings towards the street edge
7. Have activity nodes, that attract user activity throughout the entire day, been incorporated into the public space with sufficient means of passive surveillance or observation (e.g. play areas for kids with benches for adults to supervise) (Newman, 1996: 71)(UN Habitat,2020)?	☐ FALSE	No street trade has been accomodated for on the street edge.
8. Are the proposed circulation routes in line with current pedestrian desire lines, while also providing sufficient opportunities for rest, accessible to all users (Newman, 1996: 71)(VPUU,2016)?	☑ TRUE	The proposed circulation routes connect to existing pedestrian networks at an urban scale. Integrated seating space is also provided along the street edge and near the wash-up area.
Owned Spaces (territory)		
a. Physical		
9. Has the development created a clear hierarchy of spaces into public, semi-public and private spaces, so as to clearly define the differences thereof to the user (VPUU,2016)(AL-Saaidy, 2022, 1263)?	☐ FALSE	Could include more buffer zones from street.
10. Do buildings have 'owned spaces' to mark the transition between public and private spaces such as porches, verandas, changes in levels, street furniture (VPUU,2016)?	☐ FALSE	Could facilitate informal trade more on street interface.
11. Are public, semi-public, and private spaces designed in such a way to allow the user to exercise some measure of ownership/control over it, as to create a sense of defensible space and encourage community building (Newman, 1996: 75)?	☐ FALSE	Allow for user adjustability of façade or trade spaces.
12. Does the intervention have a public sidewalk adjacent to the street, acting as a transitional threshold into the site (Al-Saaidy, 2022: 1265)?	☑ TRUE	The interface is placed on the street edge to allow for public accessability.
b. Intention (Perceived Safety)		
13. Are there mechanisms in place that provide surveilled thresholds into the site (VPUU,2016)?	N/A	
14. Is the intervention designed in such a way so as to not exasperate possible power imbalances that might exist in the physical implementation of the desired programmes?	N/A	
15. Have you implemented a smallness or neighborhood scale to your project? (smallness brings about a sense of identity, ownership, user interaction and area of surveillance and proprietorship and therefore safety)?	N/A	
Defined access and safe movement		
a. Physical		
16. Is the access to and through public space signposted? For example, security measures and signage information, and emergency services (VPUU,2016)?	☐ FALSE	
17. Are pedestrian routes well lit (VPUU,2016)(Newman, 1996: 75)?	☐ FALSE	
18. Are the pedestrian movement routes integrated within the existing wider network of moving and gathering spaces (VPUU,2016)?	☑ TRUE	The proposed circulation routes link to existing arrival points on site, at an urban scale. The permeability of the scheme allows for it to seamlessly integrate into the context and be easily accessible.
19. Are the number of circulation routes optimized so as to not provide redundant routes, thus diluting pedestrian activity, whilst still providing alternatives for escape (Newman, 1996: 68) ?	☐ FALSE	Could refine or privatise some routes for safer and more defined movement.
20. Are circulation routes unobstructed designed so as to include demarcated lanes reserved for specific types of circulation/activities (Newman, 1996: 44) (Gehl,2010) ? eg. Waiting/walking/running/biking	☑ TRUE	All pedestrian routes and trade is recessed from sidewalk.
21. Have you made provision for emergency vehicle access? (This includes entry portals made available from arterial roads - these roads must be located on the border to ensure outsider wayfinding into the project area) (Newman, 1996: 44)?	N/A	This project focuses on pedetrian movement
22. No visual connections to neglected/unprogrammed/unkempt spaces to exist along movement routes (Vacant sites add to the perceived lack of safety) (GEHL, 2010).	☑ TRUE	All spaces are intentionally designed to avoid unprogrammed or unkempt spaces leading to deterioration.
Image and Aesthetics		
a. Physical		
23. Does the development use consistent (non-identical) design language with regards to the choice of street furniture, signage, lighting, materials, and building forms; this will help the user orientate themselves within the development (VPUU,2016)?	☐ FALSE	Language can be more consistent/ refined.
24. Is there provision made for protected areas from harsh climatic events (VPUU,2016)?	☐ FALSE	Many routes are currently uncovered
b. Intention (Perceived Safety)		
25. Has public art been incorporated into the design, creating a sense of community ownership and pride (UN Habitat,2020)(VPUU,2016)?	☐ FALSE	None exists currently.
26. Are visual connections to surrounding buildings and lots mitigated successfully as to minimize visual exposure to damaged and vandalized buildings and lots (VPUU,2016)?	☐ FALSE	
27. Is the building reflecting a certain culture of inclusion through materials and design (VPUU,2016)? e.g. different demographics/cultures	☐ FALSE	Materials need further definition.
Maintenance and Management		
a. Physical		
28. Do the materials used allow for minimal maintenance requirements, decreasing the chance of a building becoming unkempt and derelict (VPUU,2016)?	☐ FALSE	Translucent glazing system may break often and requires regular maintenance. Timber requires maintenance.
29. Are the materials used easily sourced or locally available, allowing for an easy maintenance process (VPUU,2016)?	☐ FALSE	Materials need further definition.
30. Does the intervention comply with SANS fire regulations and requirement, Part T?	☐ FALSE	
Physical Barriers		
a. Physical		
31. Has target hardening strategies been implemented successfully so as to not alienate the public from what's happening inside? For example, are the fences surrounding buildings or public open spaces such that one can see through them (Landman,2004)?	☑	Permeability and visual connection is a priority- brick screening, translucent materials, etc. These translucent materials create soft boundaries that ensure security, but, not the isolation of users.
b. Intention (tion (Perceived Safety)		
32. Are these physical barriers designed in such a way so as to not echo the segregation and exclusionary practices of the Apartheid regime?	N/A	
TOTAL SCORE	7	/28

TABLE 1: THE ASSESSMENT OF THE BASE CASE ACCORDING TO THE FRAMEWORK FOR TESTING SAFETY (AUTHOR, 2023)

TOTAL SCORE:7/28

THE BASE CASE FOR THIS PROJECT WAS THE INITIAL DESIGN PROPOSED FOR THE SITE. THIS PROPOSAL WAS FORMULATED BEFORE THE SAFETY FRAMEWORK WAS INTRODUCED. THEREFORE, IT CAN BECOME THE BASIS FOR IMPROVEMENT FOR THE PROJECT.

ITERATION 1

CHECKLIST OF SAFETY INDICATORS (the physical characteristics are used for assessment of the intervention's safety. Wheras certain perceived safety indicators represent the overall intentions of the physical interventions and therefore cannot be measured but are necessary to stipulate as considerations).	YES/ NO	ANY NOTES WHERE APPLICABLE
ITERATION 1		
Surveillance + Visibility		
a. Physical		
1. Are all public spaces overlooked from surrounding buildings, so as to offer surveillance opportunities along routes and open spaces (VPUU,2016)(Landman,2004)?	■ TRUE	
2. Are all of the entrances to buildings easily visible and recognizable (Sim, 2019:102)?	■ TRUE	Could possibly be developed further.
a. Are there controlled entrance opportunities located every 7-9m (Al-Saaidy, 2022, 1275)?	■ TRUE	Overhead structures and columns added to define the entrances further.
3. Does the development ensure that there are no 'inactive frontages' such as blank walls, hidden corners or dense vegetation? (VPUU, 2016) (Al-Saaidy, 2022: 1265) Is the transitional edge (between public and private) a soft edge (active, permeable, social) not a hard edge (blank, impermeable, inactive) (Gehl 1987, Gehl & Gemzoe 1996)? /accommodate social activities?	■ TRUE	The addition of extra trading space creates more street activity.
a. Is the facade transparency around 63% (Al-Saaidy, 2022, 1275)?	■ FALSE	Still needs to be developed.
4. Does lighting meet minimum standards to contribute to the legibility of routes at night? SABS 098 Part 1&2 SANS 10114, SANS 10400 Part O.	■	Lighting still needs to be developed.
a. **Height:** Standard poles for sidewalks and bike facilities are 4.5–6 m (GDCI, 2023: Online).		
b. **Spacing:** The spacing between two light poles should be roughly 2.5–3 times the height of the pole. Shorter light poles should be installed at closer intervals (GDCI, 2023: Online).		
c. **Light cone:** The light cone has roughly the same diameter as the height of the fixture from the ground. The height will therefore determine the maximum suggested distance between two light poles to avoid dark areas (GDCI, 2023: Online).		
d. SANS 10098-1: Table 2: Road type: c1(pedestrian only). Minimum horizontal illuminance: 3 lux. Minimum semi-cylindrical illuminance: 7,5 lux	FALSE	
5. Is the building below 5 storeys (ideal being max 3 storeys) to allow for street visibility and social interaction, whilst still containing elements that are visible from a distance (12m is visible from 24 km away) (Remali, 2014:344) (Al-Saaidy, 2022)?	■ TRUE	The addition of balconies on the street creates more social interaction with the street from the levels above ground floor.
6. Is there good passive surveillance opportunities along building edges and pedestrian movement routes (Sim, 2019:102)(VPUU,2016)(Landman,2004)?	☐ FALSE	Central throughfare could have more passive surveillance opportunities.
7. Have activity nodes, that attract user activity throughout the entire day, been incorporated into the public space with sufficient means of passive surveillance or observation (e.g. play areas for kids with benches for adults to supervise) (Newman, 1996: 71)(UN Habitat,2020)?	■ TRUE	Integrated seating on the street edge and more trade has been incorporated.
8. Are the proposed circulation routes in line with current pedestrian desire lines, while also providing sufficient opportunities for rest, accessible to all users (Newman, 1996: 71)(VPUU,2016)?	■ TRUE	
Owned Spaces (territory)		
a. Physical		
9. Has the development created a clear hierarchy of spaces into public, semi-public and private spaces, so as to clearly define the differences thereof to the user (VPUU,2016)(AL-Saaidy, 2022, 1263)?	■ TRUE	Layered interfaces create more mediatory spaces and therefore create a more gradual definition between public and private space.
10. Do buildings have 'owned spaces' to mark the transition between public and private spaces such as porches, verandas, changes in levels, street furniture (VPUU,2016)?	■ TRUE	Trade space wraps the building with level changes leading up to the assistance center to create a "front porch" typology where people feel comfortable to rest if they are uncertain about immediately entering the building.
11. Are public, semi-public, and private spaces designed in such a way to allow the user to exercise some measure of ownership/control over it, as to create a sense of defensible space and encourage community building (Newman, 1996: 75)?	■ TRUE	The open trade spaces allow for appropriation by the users with adjustable lockable screens.
12. Does the intervention have a public sidewalk adjacent to the street, acting as a transitional threshold into the site (Al-Saaidy, 2022: 1265)?	■ TRUE	
b. Intention (Perceived Safety)		
13. Are there mechanisms in place that provide surveilled thresholds into the site (VPUU,2016)?	N/A	
14. Is the intervention designed in such a way so as to not exasperate possible power imbalances that might exist in the physical implementation of the desired programmes?	N/A	
15. Have you implemented a smallness or neighborhood scale to your project? (smallness brings about a sense of identity, ownership, user interaction and area of surveillance and proprietorship and therefore safety)?	N/A	
Defined access and safe movement		
a. Physical		
16. Is the access to and through public space signposted? For example, security measures and signage information, and emergency services (VPUU,2016)?	☐ FALSE	
17. Are pedestrian routes well lit (VPUU,2016)(Newman, 1996: 75)?	☐ FALSE	
18. Are the pedestrian movement routes integrated within the existing wider network of moving and gathering spaces (VPUU,2016)?	■ TRUE	
19. Are the number of circulation routes optimized so as to not provide redundant routes, thus diluting pedestrian activity, whilst still providing alternatives for escape (Newman, 1996: 68) ?	☐ FALSE	"Internal streets" could possibly be refined further to avoid redundancy and confusion in way-finding.
20. Are circulation routes unobstructed designed so as to include demarcated lanes reserved for specific types of circulation/activities (Newman, 1996: 44) (Gehl,2010) ? eg. Waiting/walking/running/biking	■ TRUE	All pedestrian routes and trade is recessed from sidewalk.
21. Have you made provision for emergency vehicle access? (This includes entry portals made available from arterial roads - these roads must be located on the border to ensure outsider wayfinding into the project area) (Newman, 1996: 44)?	N/A	
22. No visual connections to neglected/unprogrammed/unkempt spaces to exist along movement routes (Vacant sites add to the perceived lack of safety) (GEHL, 2010).	■ TRUE	All spaces are intentionally designed to avoid unprogrammed or unkempt spaces leading to deterioration.
Image and Aesthetics		
a. Physical		
23. Does the development use consistent (non-identical) design language with regards to the choice of street furniture, signage, lighting, materials, and building forms; this will help the user orientate themselves within the development (VPUU,2016)?	☐ FALSE	Language can be further refined.
24. Is there provision made for protected areas from harsh climatic events (VPUU,2016)?	FALSE	Central throughfare remains uncovered.
b. Intention (Perceived Safety)		
25. Has public art been incorporated into the design, creating a sense of community ownership and pride (UN Habitat,2020)(VPUU,2016)?	☐ FALSE	A limited amount is being introduced. Investigation into any further opportunities could be performed.
26. Are visual connections to surrounding buildings and lots mitigated successfully as to minimize visual exposure to damaged and vandalized buildings and lots (VPUU,2016)?	☐ FALSE	
27. Is the building reflecting a certain culture of inclusion through materials and design (VPUU,2016)? e.g. different demographics/cultures	■ TRUE	
Maintenance and Management		
a. Physical		
28. Do the materials used allow for minimal maintenance requirements, decreasing the chance of a building becoming unkempt and derelict (VPUU,2016)?	☐ FALSE	Translucent glazing system is being replaced with polycarbonate sheeting; low maintenance, affordable, local material. Timber maintenance must be considered.
29. Are the materials used easily sourced or locally available, allowing for an easy maintenance process (VPUU,2016)?	■ TRUE	Brick has been chosen for its local availability, low maintenance, and ease of construction. Mass timber is also included for its innovation, sustainability and ease of construction due to prefabrication. However, its treatment plan and/or protection from the elements still needs to be defined.
30. Does the intervention comply with SANS fire regulations and requirement, Part T?	☐ FALSE	
Physical Barriers		
a. Physical		
31. Has target hardening strategies been implemented successfully so as to not alienate the public from what's happening inside? For example, are the fences surrounding buildings or public open spaces such that one can see through them (Landman,2004)?	■	
b. Intention (Perceived Safety)		
32. Are these physical barriers designed in such a way so as to not echo the segregation and exclusionary practices of the Apartheid regime?	N/A	
TOTAL SCORE	16	/28

TABLE 2: THE ASSESSMENT OF ITERATION 1 ACCORDING TO THE FRAMEWORK FOR TESTING SAFETY (AUTHOR, 2023)

TOTAL SCORE: 16/27

EACH ITERATION SUCCEEDING THE BASE CASE FOCCUESSED ON IMPROVING THE PROJECT FURTHER. WITH EACH ITERATION, THE PROJECT BEGAN TO FULFILL MORE CRITERIA UNTIL REACHING THE FINAL DESIGN. EACH CAHNGE BETWEEN THE ITERATIONS HAS BEEN HIGHLIGHTED ONT HE TABLES IN RED. THIS SHOWCASES WHAT CRITERIA EACH ITERATION AIMED TO FULFILL.

ITERATION 2

CHECKLIST OF SAFETY INDICATORS (the physical characteristics are used for assessment of the intervention's safety. Wheras certain perceived safety indicators represent the overall intentions of the physical interventions and therefore cannot be measured but are necessary to stipulate as considerations).	YES/ NO	ANY NOTES WHERE APPLICABLE
ITERATION 2		
Surveillance + Visibility		
a. Physical		
1. Are all public spaces overlooked from surrounding buildings, so as to offer surveillance opportunities along routes and open spaces (VPUU,2016)(Landman,2004)?	☑ TRUE	
2. Are all of the entrances to buildings easily visible and recognizable (Sim, 2019:102)?	☑ TRUE	Could the street interfaces be articulated further in the next iteration?
a. Are there controlled entrance opportunities located every 7-9m (Al-Saaidy, 2022:1275)?	☑ TRUE	
3. Does the development ensure that there are no 'inactive frontages' such as blank walls, hidden corners or dense vegetation? (VPUU, 2016) (Al-Saaidy, 2022: 1265) Is the transitional edge (between public and private) a soft edge (active, permeable, social) not a hard edge (blank, impermeable, inactive) (Gehl 1987, Gehl & Gemzoe 1996)? /accommodate social activities?	☑ TRUE	Any blank facades include textures and are intentionally designed for "considered blankness". This avoids areas that look neglected.
a. Is the facade transparency around 63% (Al-Saaidy, 2022, 1275)?	☐ FALSE	Still needs to be developed.
4. Does lighting meet minimum standards to contribute to the legibility of routes at night? As recommended by Global Design in Cities regulations for street safety and SANS 10098 (GDCI, 2023: Online).	☐ FALSE	Implement integrated façade lighting in the next iteration.
a. **Height:** Standard poles for sidewalks and bike facilities are 4.5–6 m (GDCI, 2023: Online).		
b. **Spacing:** The spacing between two light poles should be roughly 2.5–3 times the height of the pole. Shorter light poles should be installed at closer intervals (GDCI, 2023: Online).		
c. **Light cone:** The light cone has roughly the same diameter as the height of the fixture from the ground. The height will therefore determine the maximum suggested distance between two light poles to avoid dark areas (GDCI, 2023: Online).		
d. SANS 10098-1: Table 2: Road type: c1. Minimum horizontal illuminance: 3 lux. Minimum semi-cylindrical illuminance: 7,5 lux		
5. Is the building below 5 storeys (ideal being max 3 storeys) to allow for street visibility and social interaction, whilst still containing elements that are visible from a distance (12m is visible from 24 km away) (Remali, 2014:344) (Al-Saaidy, 2022)?	☑ TRUE	
6. Is there good passive surveillance opportunities along building edges and pedestrian movement routes (Sim, 2019:102)(VPUU,2016)(Landman,2004)?	☑ TRUE	Courtyard by the child care centre was adjusted since iteration 1. This ensures more pedestrian activity on the ground floor along the central north-south throroughfare. There is now public access to the courtyard linking to the youth recreational centre.
7. Have activity nodes, that attract user activity throughout the entire day, been incorporated into the public space with sufficient means of passive surveillance or observation (e.g. play areas for kids with benches for adults to supervise) (Newman, 1996: 71)(UN Habitat,2020)?	☑ TRUE	
8. Are the proposed circulation routes in line with current pedestrian desire lines, while also providing sufficient opportunities for rest, accessible to all users (Newman, 1996: 71)(VPUU,2016)?	☑ TRUE	
Owned Spaces (territory)		
a. Physical		
9. Has the development created a clear hierarchy of spaces into public, semi-public and private spaces, so as to clearly define the differences thereof to the user (VPUU,2016)(AL-Saaidy, 2022, 1263)?	☑ TRUE	The trade spaces, level changes, and overhead structures all create gradual buffer zones from the public street edge to the private assistance centre core.
10. Do buildings have 'owned spaces' to mark the transition between public and private spaces such as porches, verandas, changes in levels, street furniture (VPUU,2016)?	☑ TRUE	
11. Are public, semi-public, and private spaces designed in such a way to allow the user to exercise some measure of ownership/control over it, as to create a sense of defensible space and encourage community building (Newman, 1996: 75)?	☑ TRUE	
12. Does the intervention have a public sidewalk adjacent to the street, acting as a transitional threshold into the site (Al-Saaidy, 2022: 1265)?	☑ TRUE	
b. Intention (Perceived Safety)		
13. Are there mechanisms in place that provide surveilled thresholds into the site (VPUU,2016)?	N/A	
14. Is the intervention designed in such a way so as to not exasperate possible power imbalances that might exist in the physical implementation of the desired programmes?	N/A	
15. Have you implemented a smallness or neighborhood scale to your project? (smallness brings about a sense of identity, ownership, user interaction and area of surveillance and proprietorship and therefore safety)?	N/A	
Defined access and safe movement		
a. Physical		
16. Is the access to and through public space signposted? For example, security measures and signage information, and emergency services (VPUU,2016)?	☐ FALSE	Consider integrated signage on the façade.
17. Are pedestrian routes well lit (VPUU,2016)(Newman, 1996: 75)?	☐ FALSE	
18. Are the pedestrian movement routes integrated within the existing wider network of moving and gathering spaces (VPUU,2016)?	☑ TRUE	
19. Are the number of circulation routes optimized so as to not provide redundant routes, thus diluting pedestrian activity, whilst still providing alternatives for escape (Newman, 1996: 68) ?	☐ FALSE	"Internal streets" could possibly be refined further to avoid redundancy and confusion in way-finding.
20. Are circulation routes unobstructed designed so as to include demarcated lanes reserved for specific types of circulation/activities (Newman, 1996: 44) (Gehl,2010) ? eg. Waiting/walking/running/biking	☑ TRUE	
21. Have you made provision for emergency vehicle access? (This includes entry portals made available from arterial roads - these roads must be located on the border to ensure outsider wayfinding into the project area) (Newman, 1996: 44)?	N/A	
22. No visual connections to neglected/unprogrammed/unkempt spaces to exist along movement routes (Vacant sites add to the perceived lack of safety) (GEHL, 2010).	☑ TRUE	Trade spaces could become unprogrammed at night time. The adjustable screens could become lockable for secure storage.
Image and Aesthetics		
a. Physical		
23. Does the development use consistent (non-identical) design language with regards to the choice of street furniture, signage, lighting, materials, and building forms; this will help the user orientate themselves within the development (VPUU,2016)?	☑ TRUE	Refined, consistent design principles have been implemented to create a synonymous design language throghout the scheme eg. Pergolas, soft corners, etc.
24. Is there provision made for protected areas from harsh climatic events (VPUU,2016)?	☐ FALSE	Central throughfare remains uncovered.
b. Intention (Perceived Safety)		
25. Has public art been incorporated into the design, creating a sense of community ownership and pride (UN Habitat,2020)(VPUU,2016)?	☑ TRUE	Could public art be used in the street façade?
26. Are visual connections to surrounding buildings and lots mitigated successfully as to minimize visual exposure to damaged and vandalized buildings and lots (VPUU,2016)?	☑ TRUE	The scheme aims to uplift the current site conditions to minimize visual exposure to unkempt space. The urban framework also prioritized gradually uplifting the surrounding context in order to address any surrounding deterioration.
27. Is the building reflecting a certain culture of inclusion through materials and design (VPUU,2016)? e.g. different demographics/cultures	☑ TRUE	
Maintenance and Management		
a. Physical		
28. Do the materials used allow for minimal maintenance requirements, decreasing the chance of a building becoming unkempt and derelict (VPUU,2016)?	☐ FALSE	
29. Are the materials used easily sourced or locally available, allowing for an easy maintenance process (VPUU,2016)?	☑ TRUE	
30. Does the intervention comply with SANS fire regulations and requirement, Part T?	☑ TRUE	The floor plan has been adjusted to ensure sufficient fire escapes, escape routes etc.
Physical Barriers		
a. Physical		
31. Has target hardening strategies been implemented successfully so as to not alienate the public from what's happening inside? For example, are the fences surrounding buildings or public open spaces such that one can see through them (Landman,2004)?	☑	
b. Intention (Perceived Safety)		
32. Are these physical barriers designed in such a way so as to not echo the segregation and exclusionary practices of the Apartheid regime?	N/A	
TOTAL SCORE	21	/28

TABLE 3: THE ASSESSMENT OF ITERATION 2 ACCORDING TO THE FRAMEWORK FOR TESTING SAFETY (AUTHOR, 2023)

TOTAL SCORE: 21/28

ITERATION 3

CHECKLIST OF SAFETY INDICATORS (the physical characteristics are used for assessment of the intervention's safety. Wheras certain perceived safety indicators represent the overall intentions of the physical interventions and therefore cannot be measured but are necessary to stipulate as considerations).	YES/ NO	ANY NOTES WHERE APPLICABLE
ITERATION 3		
Surveillance + Visibility		
a. Physical		
1. Are all public spaces overlooked from surrounding buildings, so as to offer surveillance opportunities along routes and open spaces (VPUU,2016)(Landman,2004)?	☑ TRUE	
2. Are all of the entrances to buildings easily visible and recognizable (Sim, 2019:102)?	☑ TRUE	
a. Are there controlled entrance opportunities located every 7-9m (Al-Saaidy, 2022:1275)?	☑ TRUE	
3. Does the development ensure that there are no 'inactive frontages' such as blank walls, hidden corners or dense vegetation? (VPUU, 2016) (Al-Saaidy, 2022: 1265) Is the transitional edge (between public and private) a soft edge (active, permeable, social) not a hard edge (blank, impermeable, inactive) (Gehl 1987, Gehl & Gemzoe 1996)? /accommodate social activities?	☑ TRUE	
a. Is the facade transparency around 63% (Al-Saaidy, 2022, 1275)?	☐ #####	According to calculations the façade transparency percentage (inlcuding all *translucent/permeable* materials) sits at 60%. Ground floor transparency could be increased for final design.
4. Does lighting meet minimum standards to contribute to the legibility of routes at night? As recommended by Global Design in Cities regulations for street safety and SANS 10098 (GDCI, 2023: Online).	☑	Façade lighting has been tested on plan, section, and elevation to ensure no dark points along the façade and the sidewalk.
a. **Height:** Standard poles for sidewalks and bike facilities are 4.5–6 m (GDCI, 2023: Online).		
b. **Spacing:** The spacing between two light poles should be roughly 2.5–3 times the height of the pole. Shorter light poles should be installed at closer intervals (GDCI, 2023: Online).		
c. **Light cone:** The light cone has roughly the same diameter as the height of the fixture from the ground. The height will therefore determine the maximum suggested distance between two light poles to avoid dark areas (GDCI, 2023: Online).		
d. SANS 10098-1: Table 2: Road type: c1(pedestrian only). Minimum horizontal illuminance: 3 lux. Minimum semi-cylindrical illuminance: 7,5 lux	TRUE	
5. Is the building below 5 storeys (ideal being max 3 storeys) to allow for street visibility and social interaction, whilst still containing elements that are visible from a distance (12m is visible from 24 km away) (Remali, 2014:344) (Al-Saaidy, 2022)?	☑ TRUE	
6. Is there good passive surveillance opportunities along building edges and pedestrian movement routes (Sim, 2019:102)(VPUU,2016)(Landman,2004)?	☑ TRUE	
7. Have activity nodes, that attract user activity throughout the entire day, been incorporated into the public space with sufficient means of passive surveillance or observation (e.g. play areas for kids with benches for adults to supervise) (Newman, 1996: 71)(UN Habitat,2020)?	☑ TRUE	
8. Are the proposed circulation routes in line with current pedestrian desire lines, while also providing sufficient opportunities for rest, accessible to all users (Newman, 1996: 71)(VPUU,2016)?	☑ TRUE	
Owned Spaces (territory)		
a. Physical		
9. Has the development created a clear hierarchy of spaces into public, semi-public and private spaces, so as to clearly define the differences thereof to the user (VPUU,2016)(AL-Saaidy, 2022, 1263)?	☑ TRUE	
10. Do buildings have 'owned spaces' to mark the transition between public and private spaces such as porches, verandas, changes in levels, street furniture (VPUU,2016)?	☑ TRUE	
11. Are public, semi-public, and private spaces designed in such a way to allow the user to exercise some measure of ownership/control over it, as to create a sense of defensible space and encourage community building (Newman, 1996: 75)?	☑ TRUE	
12. Does the intervention have a public sidewalk adjacent to the street, acting as a transitional threshold into the site (Al-Saaidy, 2022: 1265)?	☑ TRUE	
b. Intention (Perceived Safety)		
13. Are there mechanisms in place that provide surveilled thresholds into the site (VPUU,2016)?	N/A	
14. Is the intervention designed in such a way so as to not exasperate possible power imbalances that might exist in the physical implementation of the desired programmes?	N/A	
15. Have you implemented a smallness or neighborhood scale to your project? (smallness brings about a sense of identity, ownership, user interaction and area of surveillance and proprietorship and therefore safety)?	N/A	
Defined access and safe movement		
a. Physical		
16. Is the access to and through public space signposted? For example, security measures and signage information, and emergency services (VPUU,2016)?	☑ TRUE	Integrated signage and branding on walls next to entrances on street edge (as seen in elevation).
17. Are pedestrian routes well lit (VPUU,2016)(Newman, 1996: 75)?	☑ TRUE	Lighting in compliance to earlier outlined criteria.
18. Are the pedestrian movement routes integrated within the existing wider network of moving and gathering spaces (VPUU,2016)?	☑ TRUE	
19. Are the number of circulation routes optimized so as to not provide redundant routes, thus diluting pedestrian activity, whilst still providing alternatives for escape (Newman, 1996: 68) ?	☐ #####	"Internal streets" could possibly be refined further to avoid redundancy and confusion in way-finding.
20. Are circulation routes unobstructed designed so as to include demarcated lanes reserved for specific types of circulation/activities (Newman, 1996: 44) (Gehl,2010) ? eg. Waiting/walking/running/biking	☑ TRUE	
21. Have you made provision for emergency vehicle access? (This includes entry portals made available from arterial roads - these roads must be located on the border to ensure outsider wayfinding into the project area) (Newman, 1996: 44)?	N/A	
22. No visual connections to neglected/unprogrammed/unkempt spaces to exist along movement routes (Vacant sites add to the perceived lack of safety) (GEHL, 2010).	☑ TRUE	The 24hr presence of the center also avoids a vacant presence at night.
Image and Aesthetics		
a. Physical		
23. Does the development use consistent (non-identical) design language with regards to the choice of street furniture, signage, lighting, materials, and building forms; this will help the user orientate themselves within the development (VPUU,2016)?	☑ TRUE	
24. Is there provision made for protected areas from harsh climatic events (VPUU,2016)?	☐ #####	Central thoroughfare remains uncovered; is it possible to be addressed in final design without creating a long, dark corridor through the scheme?
b. Intention (Perceived Safety)		
25. Has public art been incorporated into the design, creating a sense of community ownership and pride (UN Habitat,2020)(VPUU,2016)?	☑ TRUE	Brick detailing or textured facades could be crafted with brick and clay tiles by the local community to bring in a sense of pride.
26. Are visual connections to surrounding buildings and lots mitigated successfully as to minimize visual exposure to damaged and vandalized buildings and lots (VPUU,2016)?	☑ TRUE	
27. Is the building reflecting a certain culture of inclusion through materials and design (VPUU,2016)? e.g. different demographics/cultures	☑ TRUE	
Maintenance and Management		
a. Physical		
28. Do the materials used allow for minimal maintenance requirements, decreasing the chance of a building becoming unkempt and derelict (VPUU,2016)?	☐ #####	Treatment plan or protection of timber elements must be considered in future.
29. Are the materials used easily sourced or locally available, allowing for an easy maintenance process (VPUU,2016)?	☑ TRUE	
30. Does the intervention comply with SANS fire regulations and requirement, Part T?	☑ TRUE	
Physical Barriers		
a. Physical		
31. Has target hardening strategies been implemented successfully so as to not alienate the public from what's happening inside? For example, are the fences surrounding buildings or public open spaces such that one can see through them (Landman,2004)?	☑	
b. Intention (Perceived Safety)		
32. Are these physical barriers designed in such a way so as to not echo the segregation and exclusionary practices of the Apartheid regime?	N/A	
TOTAL SCORE	24	/28

TABLE 4: THE ASSESSMENT OF ITERATION 3 ACCORDING TO THE FRAMEWORK FOR TESTING SAFETY (AUTHOR, 2023)

TOTAL SCORE: 24/28

FINAL DESIGN OUTCOME

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

APPLICATION OF AS MANY CRITERIA POSSIBLE

TABLE FOR ASSESMENT

CHECKLIST OF SAFETY INDICATORS (the physical characteristics are used for assessment of the intervention's safety. Wheras certain perceived safety indicators represent the overall intentions of the physical interventions and therefore cannot be measured but are necessary to stipulate as considerations)	YES/ NO	ANY NOTES WHERE APPLICABLE
FINAL DESIGN		
Surveillance + Visibility		
a. Physical		
1. Are all public spaces overlooked from surrounding buildings, so as to offer surveillance opportunities along routes and open spaces (VPUU,2016)(Landman,2004)?	■ TRUE	
2. Are all of the entrances to buildings easily visible and recognizable (Sim, 2019:102)?	■ TRUE	
a. Are there controlled entrance opportunities located every 7-9m (Al-Saaidy, 2022:1275)?	■ TRUE	
3. Does the development ensure that there are no 'inactive frontages' such as blank walls, hidden corners or dense vegetation? (VPUU, 2016) (Al-Saaidy, 2022: 1265) Is the transitional edge (between public and private) a soft edge (active, permeable, social) not a hard edge (blank, impermeable, inactive) (Gehl 1987, Gehl & Gemzoe 1996)? /accommodate social activities?	■ TRUE	
a. Is the facade transparency around 63% (Al-Saaidy, 2022, 1275)?	■ TRUE	The final design façade area transparency has been defined to 63% and is therefore compliant.
4. Does lighting meet minimum standards to contribute to the legibility of routes at night? As recommended by Global Design in Cities regulations for street safety and SANS 10098 (GDCI, 2023: Online).	■	
a. **Height:** Standard poles for sidewalks and bike facilities are 4.5–6 m (GDCI, 2023: Online).		
b. **Spacing:** The spacing between two light poles should be roughly 2.5–3 times the height of the pole. Shorter light poles should be installed at closer intervals (GDCI, 2023: Online).		
c. **Light cone:** The light cone has roughly the same diameter as the height of the fixture from the ground. The height will therefore determine the maximum suggested distance between two light poles to avoid dark areas (GDCI, 2023: Online).		
d. SANS 10098-1: Table 2: Road type: c1(pedestrian only). Minimum horizontal illuminance: 3 lux. Minimum semi-cylindrical illuminance: 7,5 lux	TRUE	
5. Is the building below 5 storeys (ideal being max 3 storeys) to allow for street visibility and social interaction, whilst still containing elements that are visible from a distance (12m is visible from 24 km away) (Remali, 2014:344) (Al-Saaidy, 2022)?	■ TRUE	
6. Is there good passive surveillance opportunities along building edges and pedestrian movement routes (Sim, 2019:102)(VPUU,2016)(Landman,2004)?	■ TRUE	
7. Have activity nodes, that attract user activity throughout the entire day, been incorporated into the public space with sufficient means of passive surveillance or observation (e.g. play areas for kids with benches for adults to supervise) (Newman, 1996: 71)(UN Habitat,2020)?	■ TRUE	
8. Are the proposed circulation routes in line with current pedestrian desire lines, while also providing sufficient opportunities for rest, accessible to all users (Newman, 1996: 71)(VPUU,2016)?	■ TRUE	
Owned Spaces (territory)		
a. Physical		
9. Has the development created a clear hierarchy of spaces into public, semi-public and private spaces, so as to clearly define the differences thereof to the user (VPUU,2016)(AL-Saaidy, 2022, 1263)?	■ TRUE	
10. Do buildings have 'owned spaces' to mark the transition between public and private spaces such as porches, verandas, changes in levels, street furniture (VPUU,2016)?	■ TRUE	
11. Are public, semi-public, and private spaces designed in such a way to allow the user to exercise some measure of ownership/control over it, as to create a sense of defensible space and encourage community building (Newman, 1996: 75)?	■ TRUE	
12. Does the intervention have a public sidewalk adjacent to the street, acting as a transitional threshold into the site (Al-Saaidy, 2022: 1265)?	■ TRUE	
b. Intention (Perceived Safety)		
13. Are there mechanisms in place that provide surveilled thresholds into the site (VPUU,2016)?	N/A	
14. Is the intervention designed in such a way so as to not exasperate possible power imbalances that might exist in the physical implementation of the desired programmes?	N/A	
15. Have you implemented a smallness or neighborhood scale to your project? (smallness brings about a sense of identity, ownership, user interaction and area of surveillance and proprietorship and therefore safety)?	N/A	
Defined access and safe movement		
a. Physical		
16. Is the access to and through public space signposted? For example, security measures and signage information, and emergency services (VPUU,2016)?	■ TRUE	
17. Are pedestrian routes well lit (VPUU,2016)(Newman, 1996: 75)?	■ TRUE	
18. Are the pedestrian movement routes integrated within the existing wider network of moving and gathering spaces (VPUU,2016)?	■ TRUE	
19. Are the number of circulation routes optimized so as to not provide redundant routes, thus diluting pedestrian activity, whilst still providing alternatives for escape (Newman, 1996: 68) ?	■ TRUE	Circulation was refined further to minimise redundancy.
20. Are circulation routes unobstructed designed so as to include demarcated lanes reserved for specific types of circulation/activities (Newman, 1996: 44) (Gehl,2010) ? eg. Waiting/walking/running/biking	■ TRUE	
21. Have you made provision for emergency vehicle access? (This includes entry portals made available from arterial roads - these roads must be located on the border to ensure outsider wayfinding into the project area) (Newman, 1996: 44)?	■ N/A	
22. No visual connections to neglected/unprogrammed/unkempt spaces to exist along movement routes (Vacant sites add to the perceived lack of safety) (GEHL, 2010).	■ TRUE	The trade spaces have been detailed to integrate adjustable screens which can be opened in the day and closed at night for storage and general security of the trade spaces. The assistance centre shall also be open 24hrs to create that constant street presence and a safer space at night time.
Image and Aesthetics		
a. Physical		
23. Does the development use consistent (non-identical) design language with regards to the choice of street furniture, signage, lighting, materials, and building forms; this will help the user orientate themselves within the development (VPUU,2016)?	■ TRUE	
24. Is there provision made for protected areas from harsh climatic events (VPUU,2016)?	■ TRUE	Where possible circulation has been shaded with pergola structures, however, no all routes could be completely covered for safety reasons in terms of lighting. However, most external routes contain internal circulation. alternatives
b. Intention (Perceived Safety)		
25. Has public art been incorporated into the design, creating a sense of community ownership and pride (UN Habitat,2020)(VPUU,2016)?	■ TRUE	The local community is also involved in making some of the building materials and construction of the project where feasable.
26. Are visual connections to surrounding buildings and lots mitigated successfully as to minimize visual exposure to damaged and vandalized buildings and lots (VPUU,2016)?	■ TRUE	
27. Is the building reflecting a certain culture of inclusion through materials and design (VPUU,2016)? e.g. different demographics/cultures	■ TRUE	
Maintenance and Management		
a. Physical		
28. Do the materials used allow for minimal maintenance requirements, decreasing the chance of a building becoming unkempt and derelict (VPUU,2016)?	■ FALSE	A detailed timber maintenance plan or protection must be considered for exposed elements. STILL NEEDS TO BE DEVELOPED.
29. Are the materials used easily sourced or locally available, allowing for an easy maintenance process (VPUU,2016)?	■ TRUE	
30. Does the intervention comply with SANS fire regulations and requirement, Part T?	■ TRUE	
Physical Barriers		
a. Physical		
31. Has target hardening strategies been implemented successfully so as to not alienate the public from what's happening inside? For example, are the fences surrounding buildings or public open spaces such that one can see through them (Landman,2004)?	■	
b. Intention (Perceived Safety)		
32. Are these physical barriers designed in such a way so as to not echo the segregation and exclusionary practices of the Apartheid regime?	N/A	
TOTAL SCORE	27	/28

TABLE 5: THE ASSESSMENT OF ITERATION 3 ACCORDING TO THE FRAMEWORK FOR TESTING SAFETY (AUTHOR, 2023)

TOTAL SCORE: 27/28

PLAN SCALE 1:100

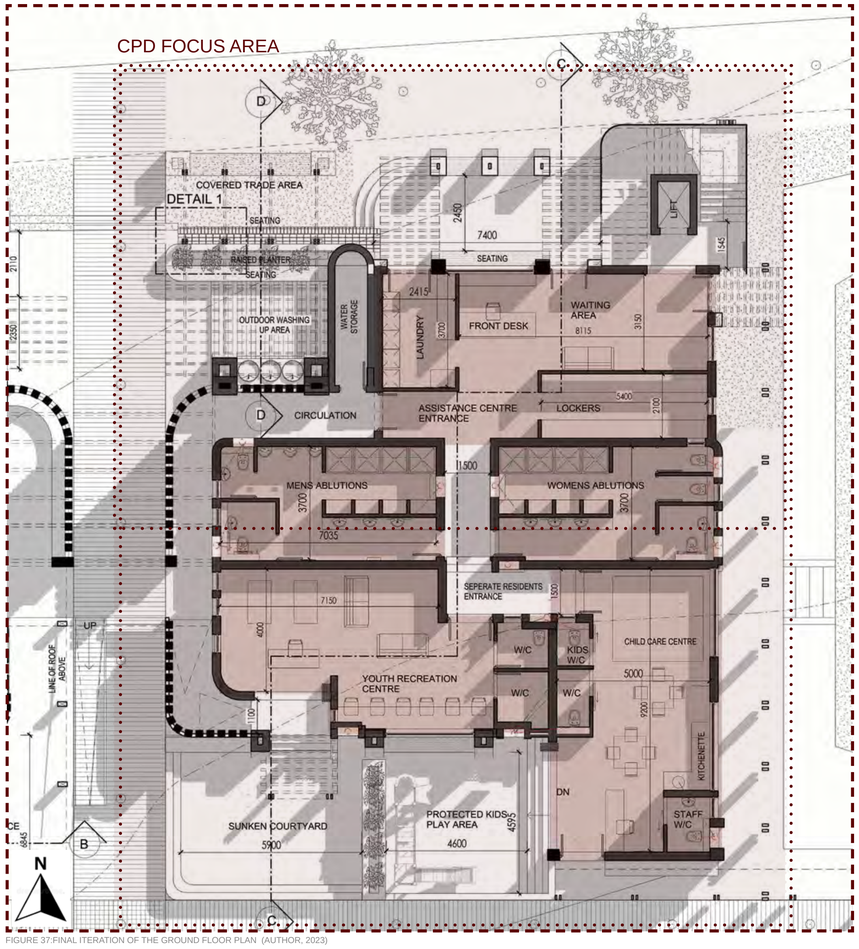


FIGURE 37:FINAL ITERATION OF THE GROUND FLOOR PLAN (AUTHOR, 2023)

3 DIMENSIONAL REPRESENTATION OF ASSISTANCE CENTRE INTERFACE

DAY

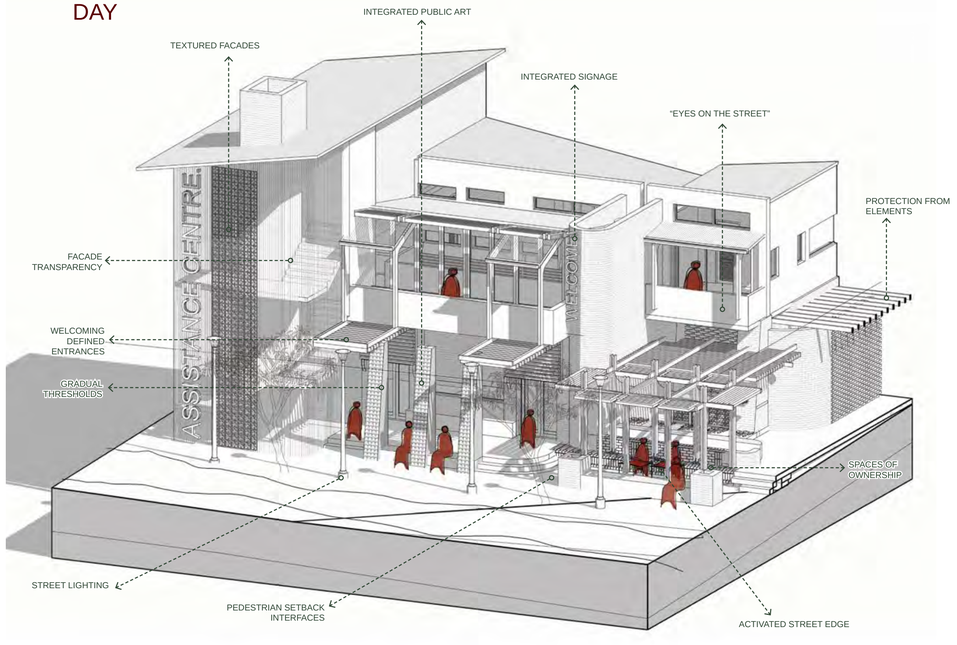


FIGURE 40:FINAL ITERATION OF THE ASSISTANCE CENTRE'S STREET INTERFACE DURING THE DAY (AUTHOR, 2023)

ASSISTANCE CENTRE ELEVATION SCALE 1:100

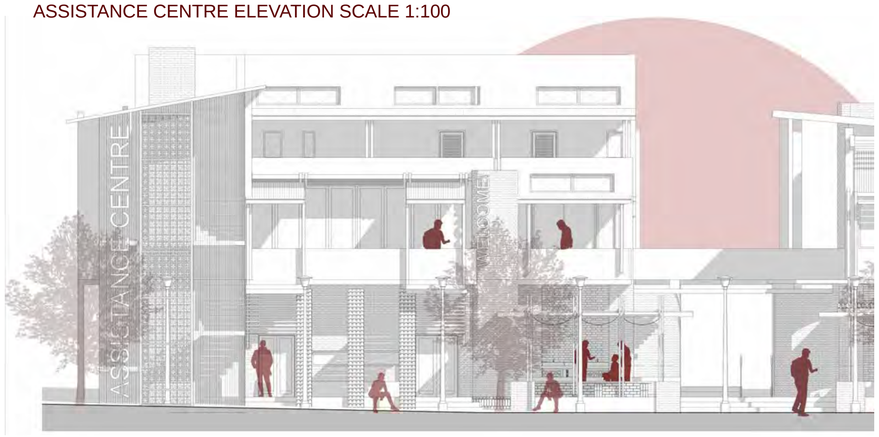


FIGURE 38:FINAL ITERATION OF THE ASSISTANCE CENTRE ELEVATION (AUTHOR, 2023)

FINAL FACADE TRANSPARENCY CALCULATION:
TOTAL FACADE AREA = 42.77 + 105.41
=148.18 m2

ESTIMATED TRANSPARENT AREA= VERTICAL CIRCULATION +FFL WINDOWS +DOORS ON GF + BRICK SCREEN WALL
=42.77 + 4.44+ 5.55 + 21.42 +6.426 + 1.26 + 1.65 + 5.25 + 4.8
=93.566 M2

FACADE TRANSPARENCY PERCENTAGE: 82.71/ 136.74
=63,1%

SECTION D-D THROUGH ASSISTANCE CENTRE SCALE 1:100

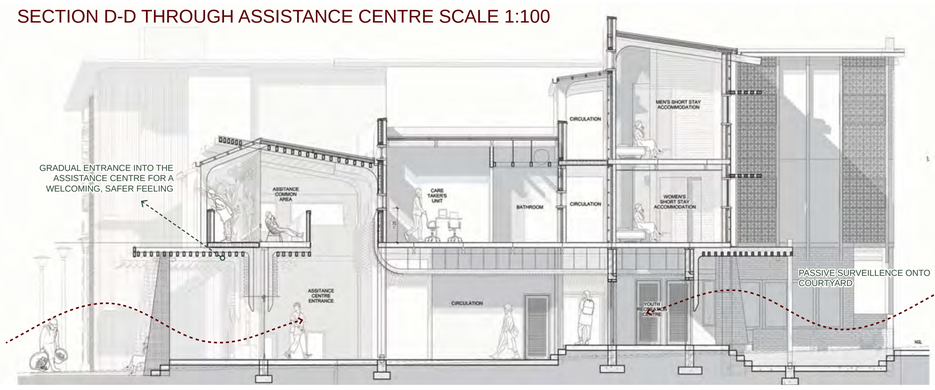


FIGURE 39:FINAL ITERATION OF THE SECTION THROUGH THE ASSISTANCE CENTRE'S ENTRANCE (AUTHOR, 2023)

NIGHT

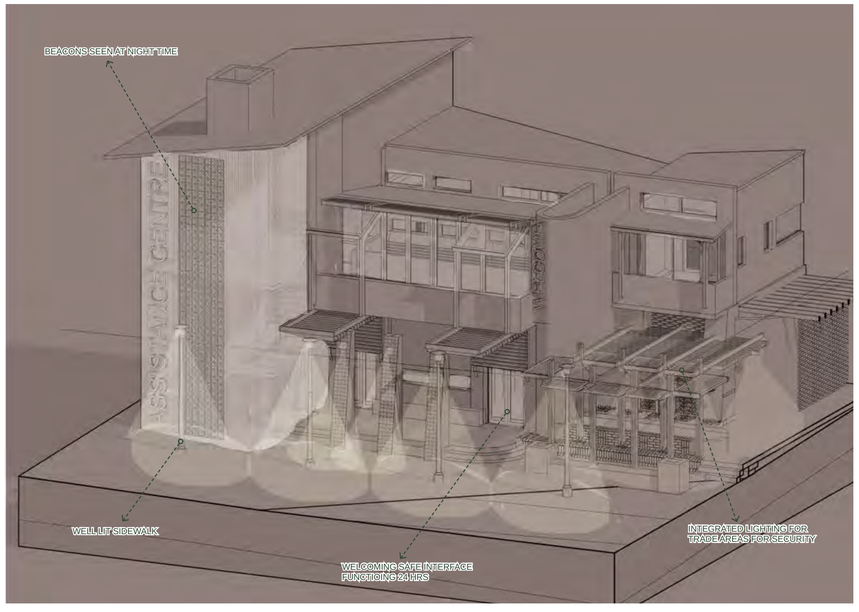
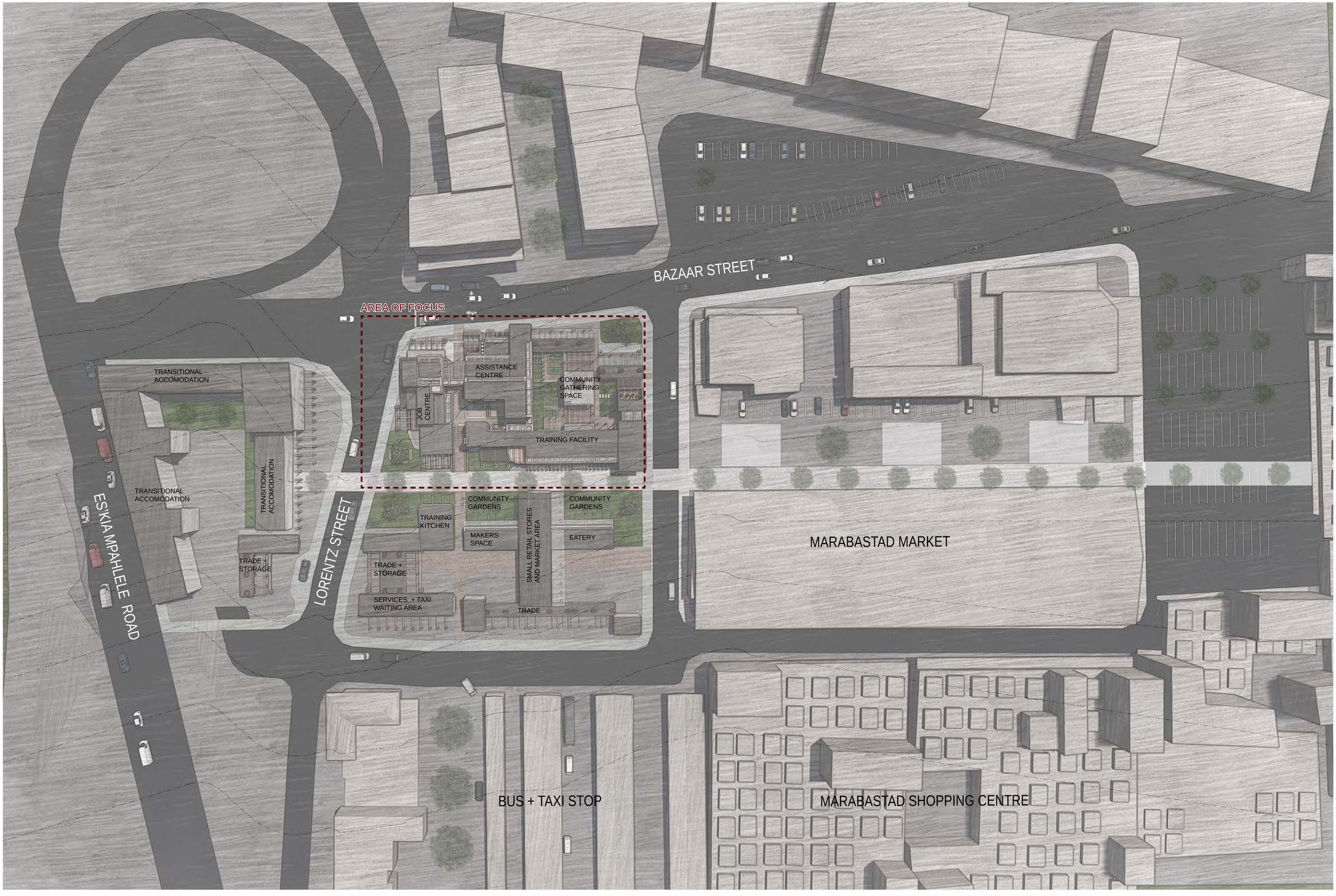


FIGURE 41:FINAL ITERATION OF THE ASSISTANCE CENTRE'S STREET INTERFACE DURING THE NIGHT AND THE ANTICIPATED LIGHTING (AUTHOR, 2023)

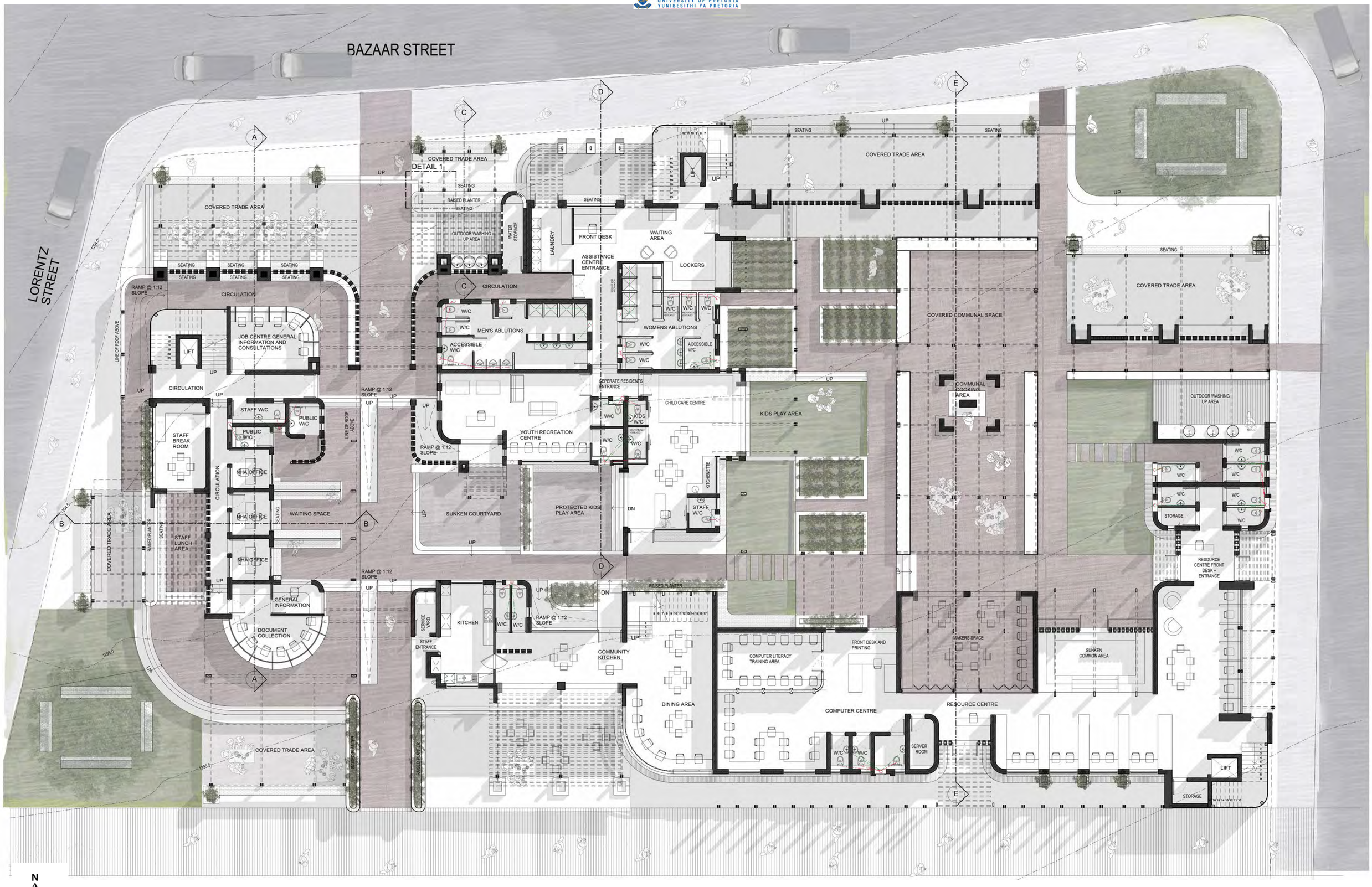


SITE LOCALITY

SCALE 1:500

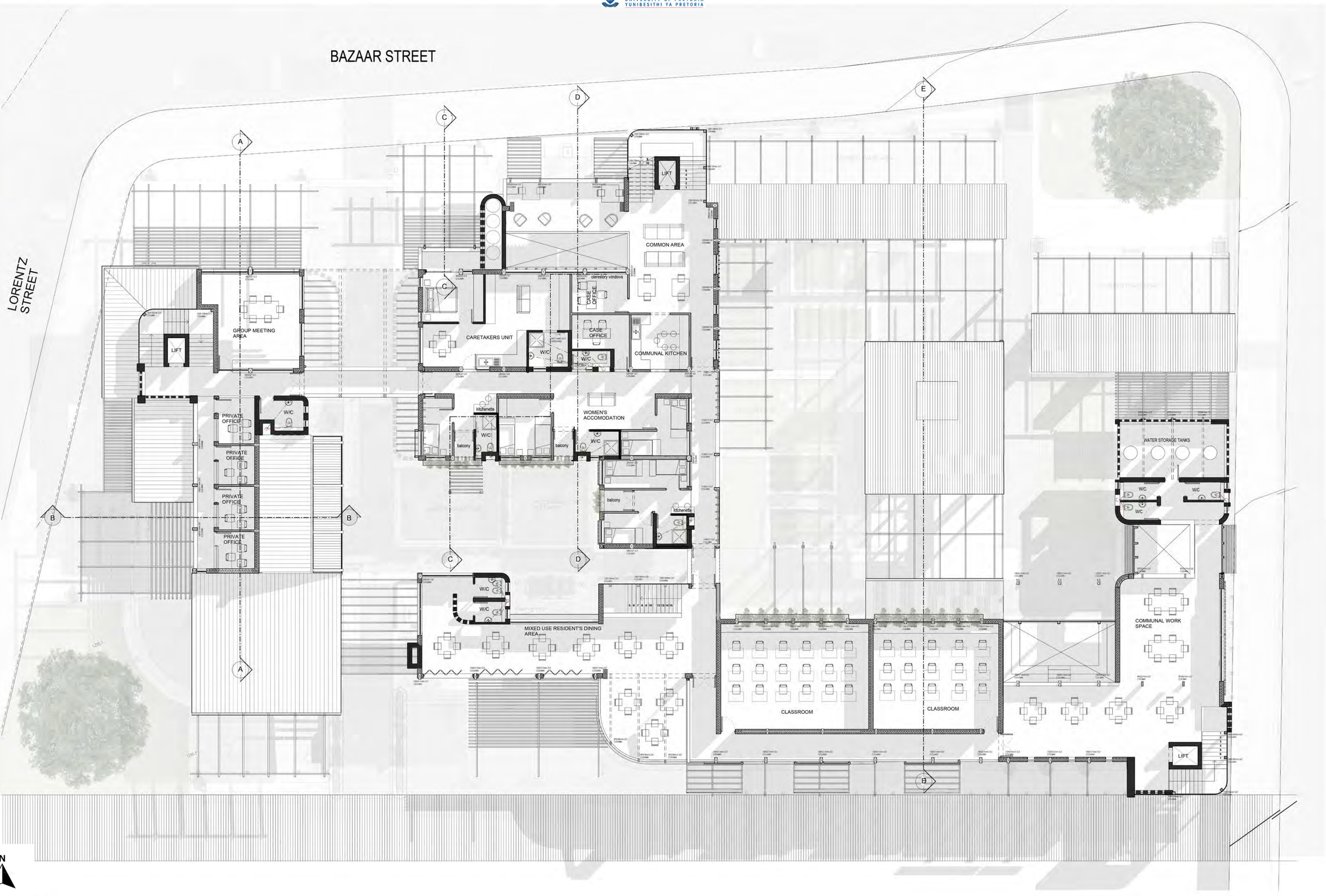
FOCUS SITE LAYOUT

SCALE 1:200



GROUND FLOOR PLAN

SCALE 1:100

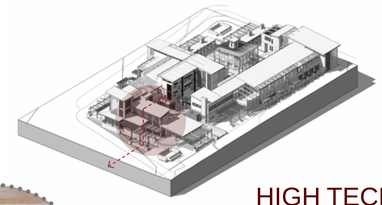


FIRST FLOOR PLAN

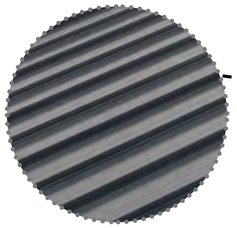
SCALE 1:100

EXPERIENTIAL + TECHNICAL SECTION B-B

SCALE 1:50



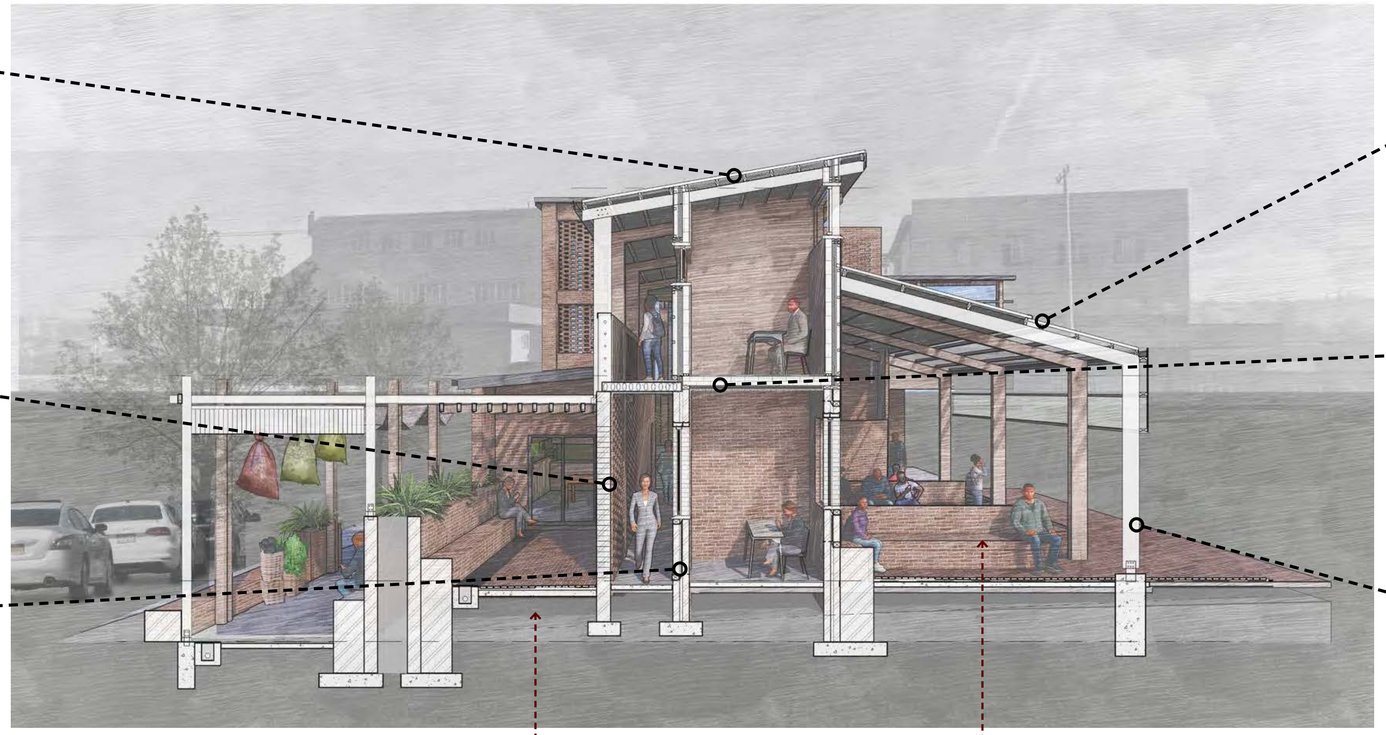
LOW TECH



SHEET METAL ROOFING
-LOW TECH
-LOCALLY APPROPRIATE MATERIAL
-MORE FLEXIBLE FOR FUTURE VERTICAL GROWTH

BRICK SCREEN WALLS
-BRICK SCREENS PROVIDE TRANSPARENCY, TEXTURE AND ACT AS GRADUAL SPACE DIVIDERS
-ALLOW LIGHT TO PASS THROUGH AT NIGHT TIME (SAFETY)

BRICK BASE
-LOW TECH
-LOCALLY APPROPRIATE MATERIAL
-SOLID BASE FOR FUTURE VERTICAL GROWTH OVER TIME



HIGH TECH

POLYCARBONATE HOLLOW SHEETING
-TRANSLUSCENT, ALLOWS FOR INDIRECT LIGHT AND SHADING
-LIGHTS UP AT NIGHT CREATING A WARM, SAFE ENVIRONMENT

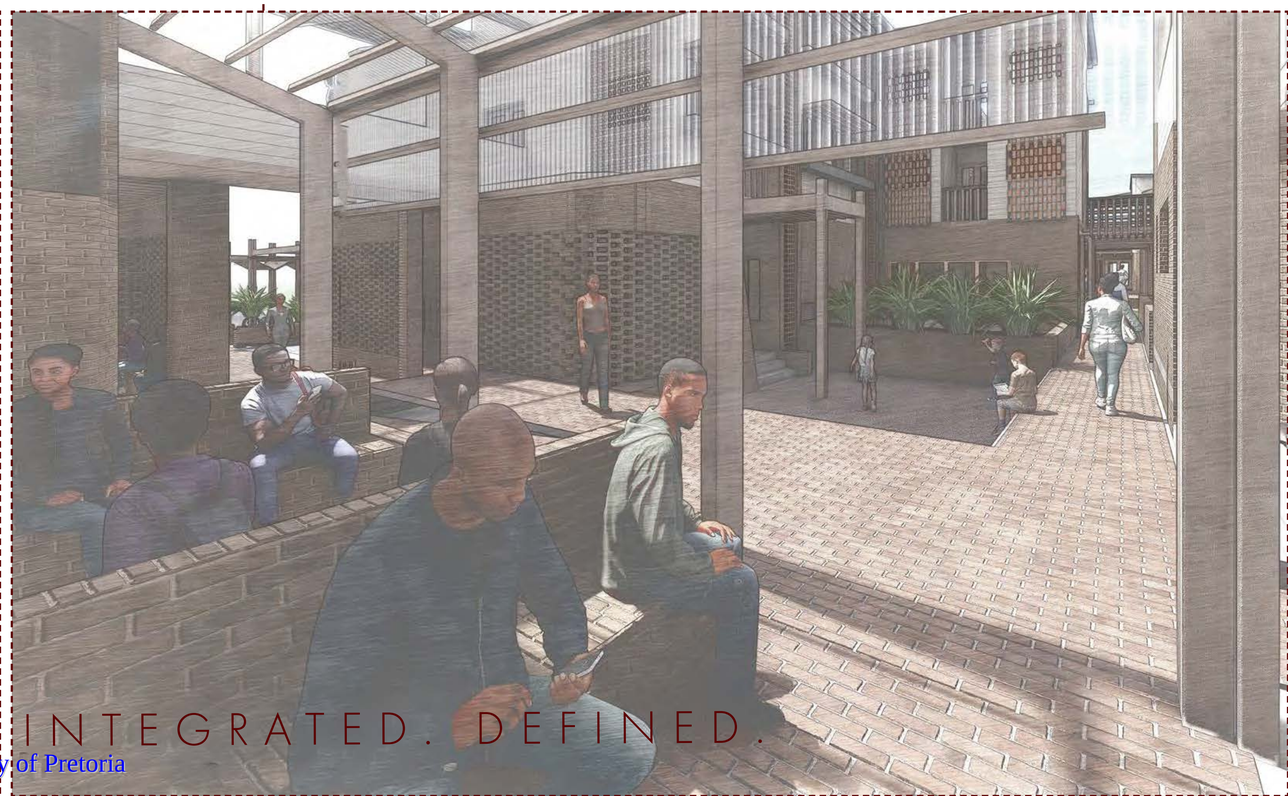
CLT WALL AND FLOOR PANELS
-PREFABRICATED- ALLOWING FOR UPSKILLING DURING CONSTRUCTION
-SUSTAINABLE MATERIAL CHOICE (MADE FROM RECYCLED TIMBER PALLETS)
-FLEXIBLE FOR FUTURE ADAPTATION

GLT PORTAL FRAME
-PREFABRICATED- ALLOWING FOR UPSKILLING DURING CONSTRUCTION
-ALLOWS FOR FUTURE FLEXIBILITY
-QUICK CONSTRUCTION
-SUSTAINABLE

STAFF LUNCH AREA

GRADUAL INTERFACE

WAITING AREA



INTEGRATED. DEFINED.

NORTHERN STREET ELEVATION

SCALE 1:100

WESTERN STREET ELEVATION

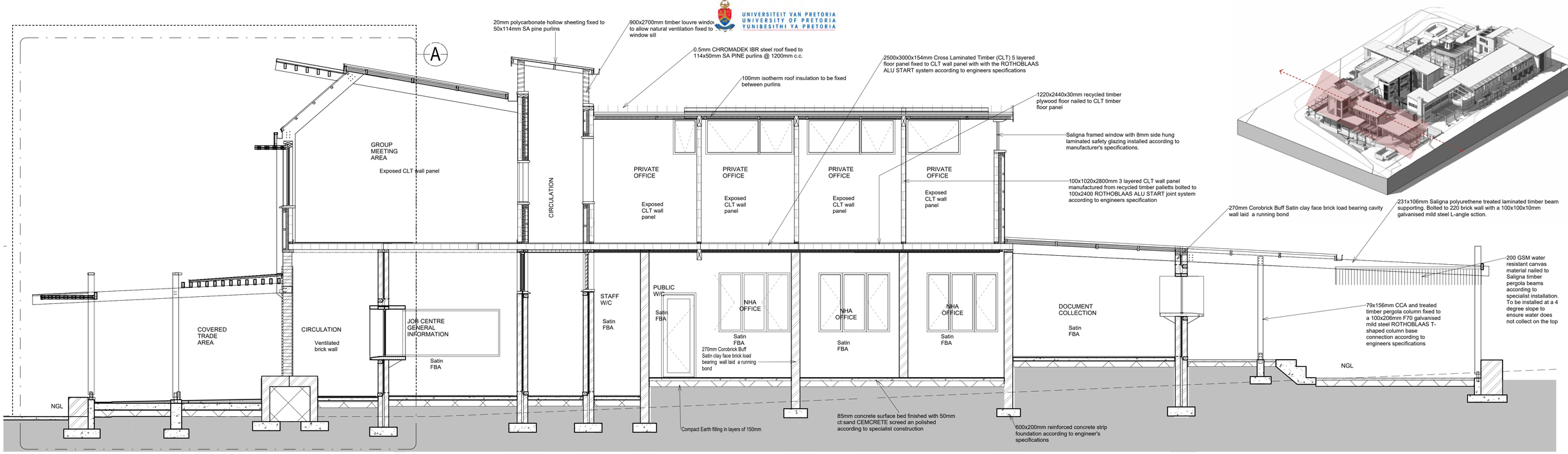
SCALE 1:100

EASTERN STREET ELEVATION

SCALE 1:100

SOUTHERN ELEVATION ALONG PEDESTRIAN THOROUGHFARE

SCALE 1:100

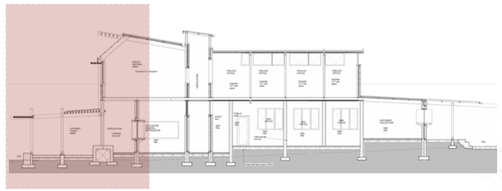


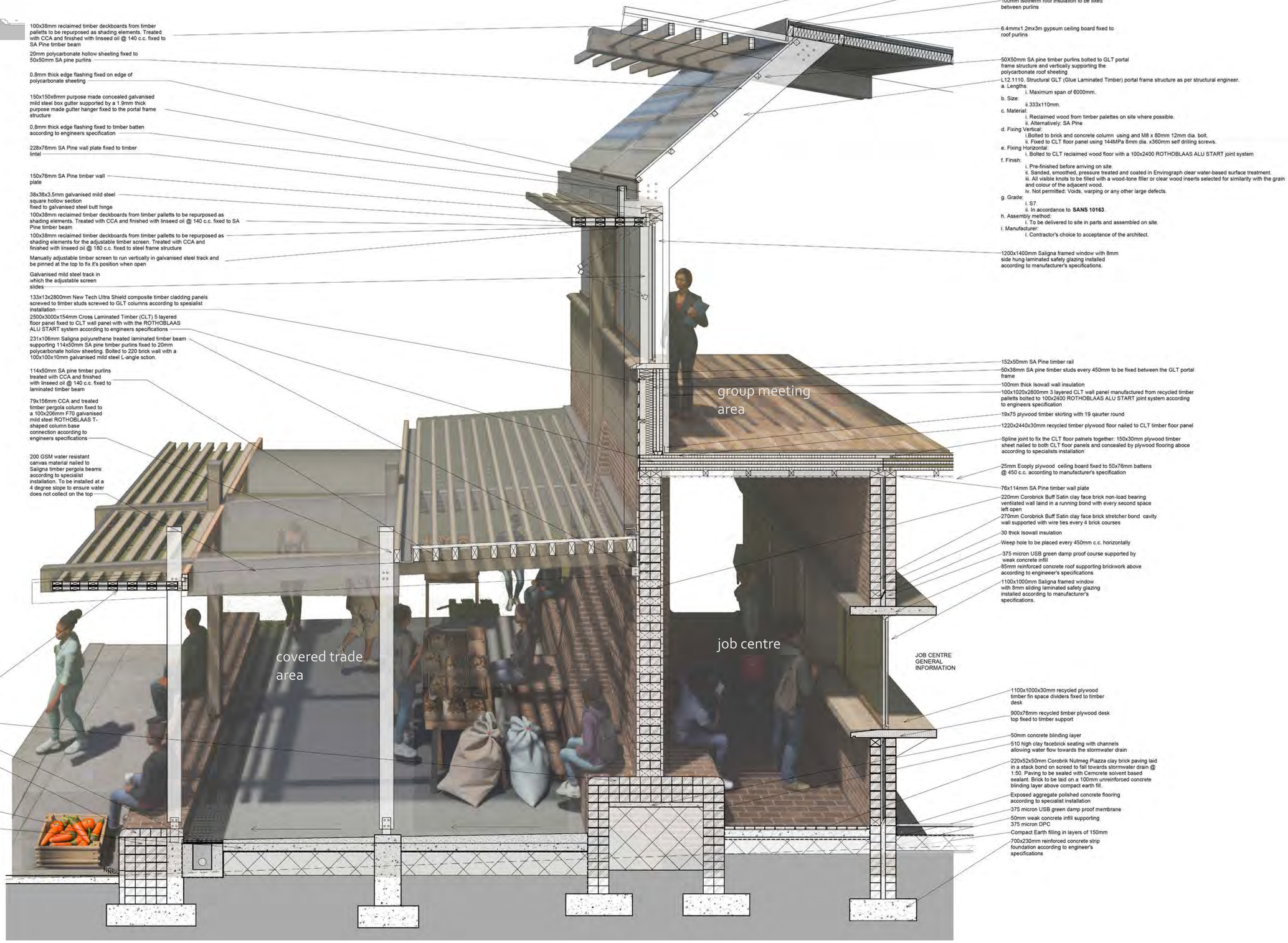
TECHNICAL SECTION A-A

SCALE 1:50

EXPERIENTIAL SECTION A-A

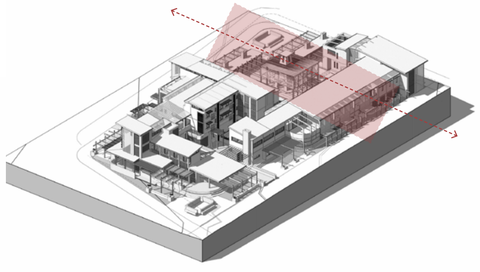
SCALE 1:50

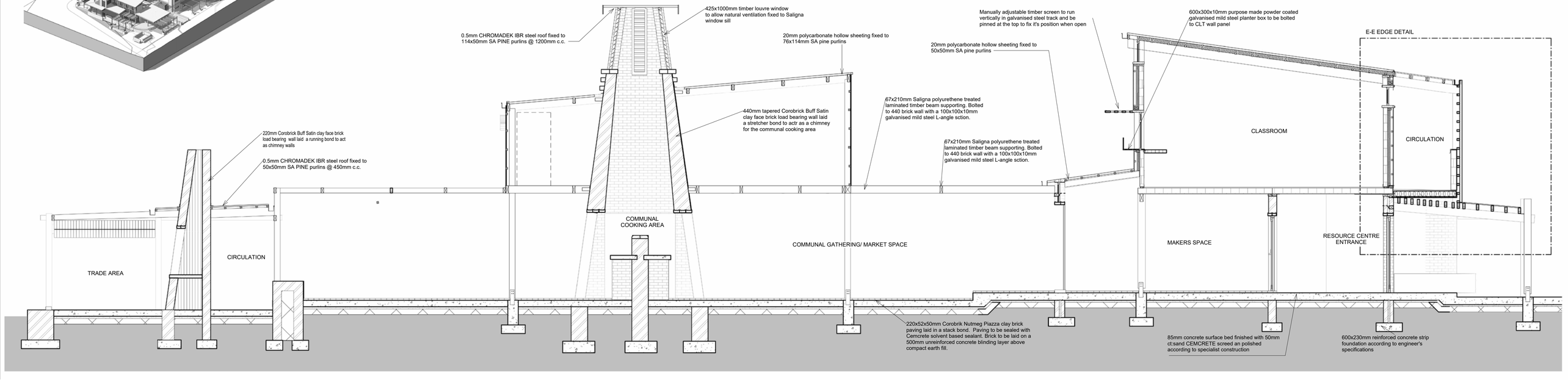




DETAILED EDGE SECTION A-A

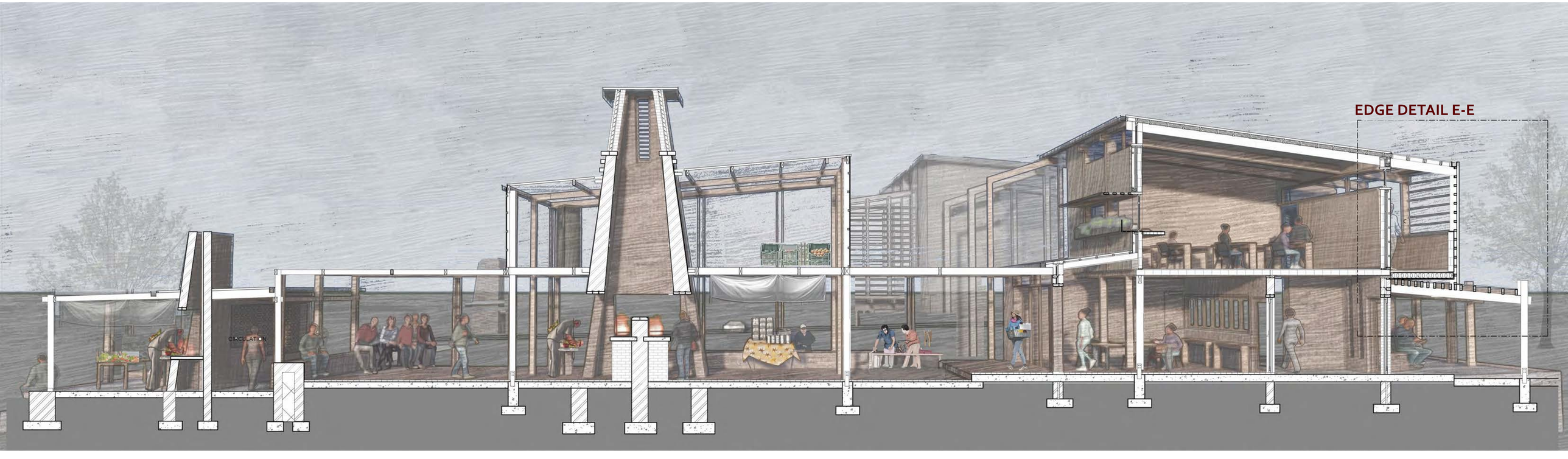
SCALE 1:20





TECHNICAL SECTION E-E

SCALE 1:50

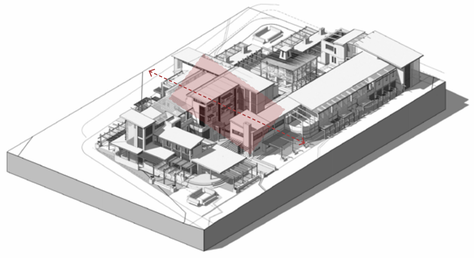


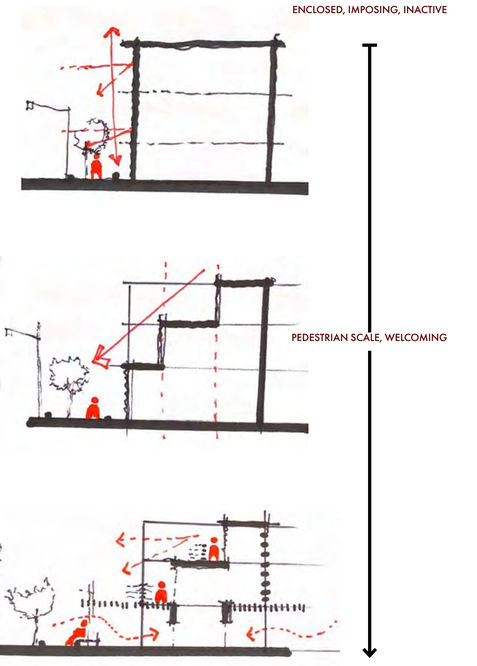
EXPERIENTIAL SECTION E-E

SCALE 1:50

TECHNICAL SECTION D-D

SCALE 1:50

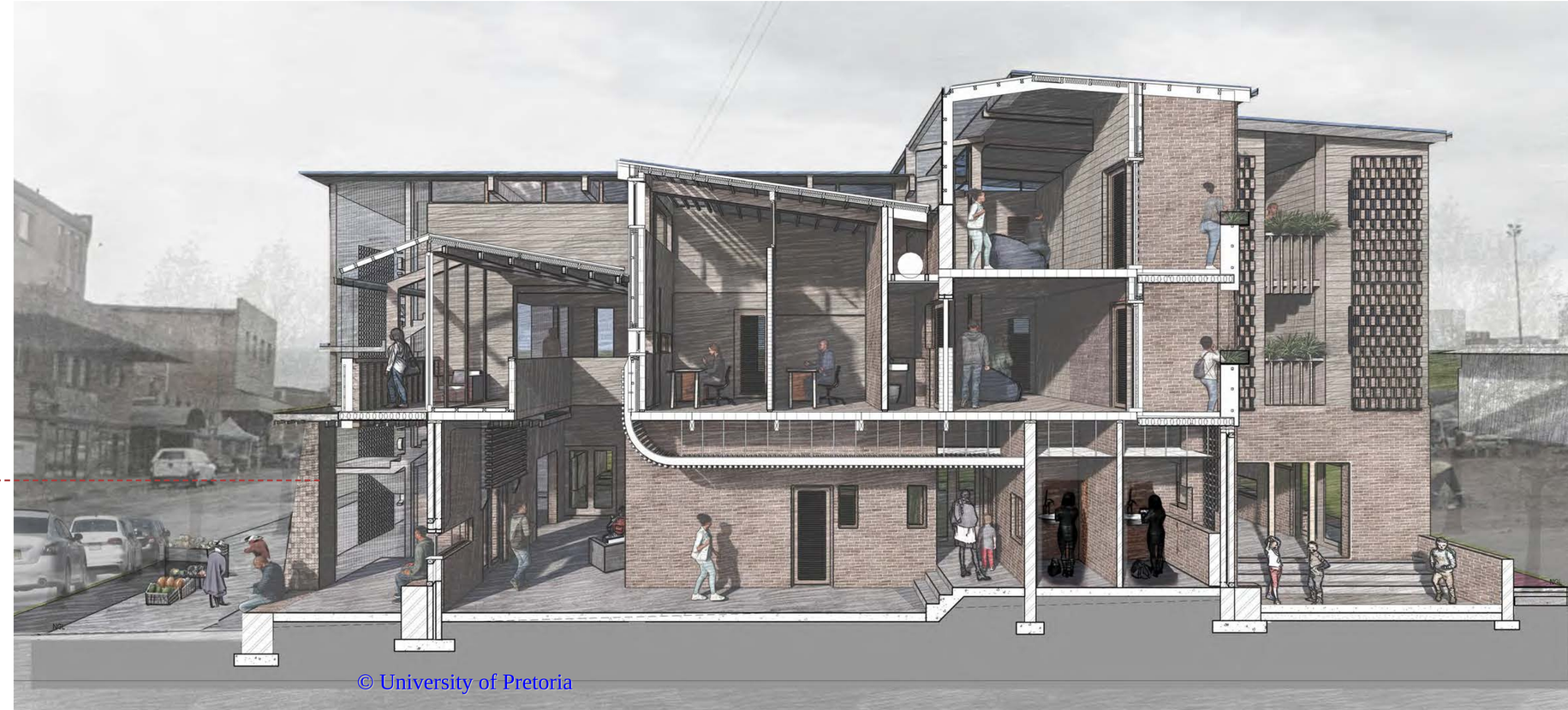


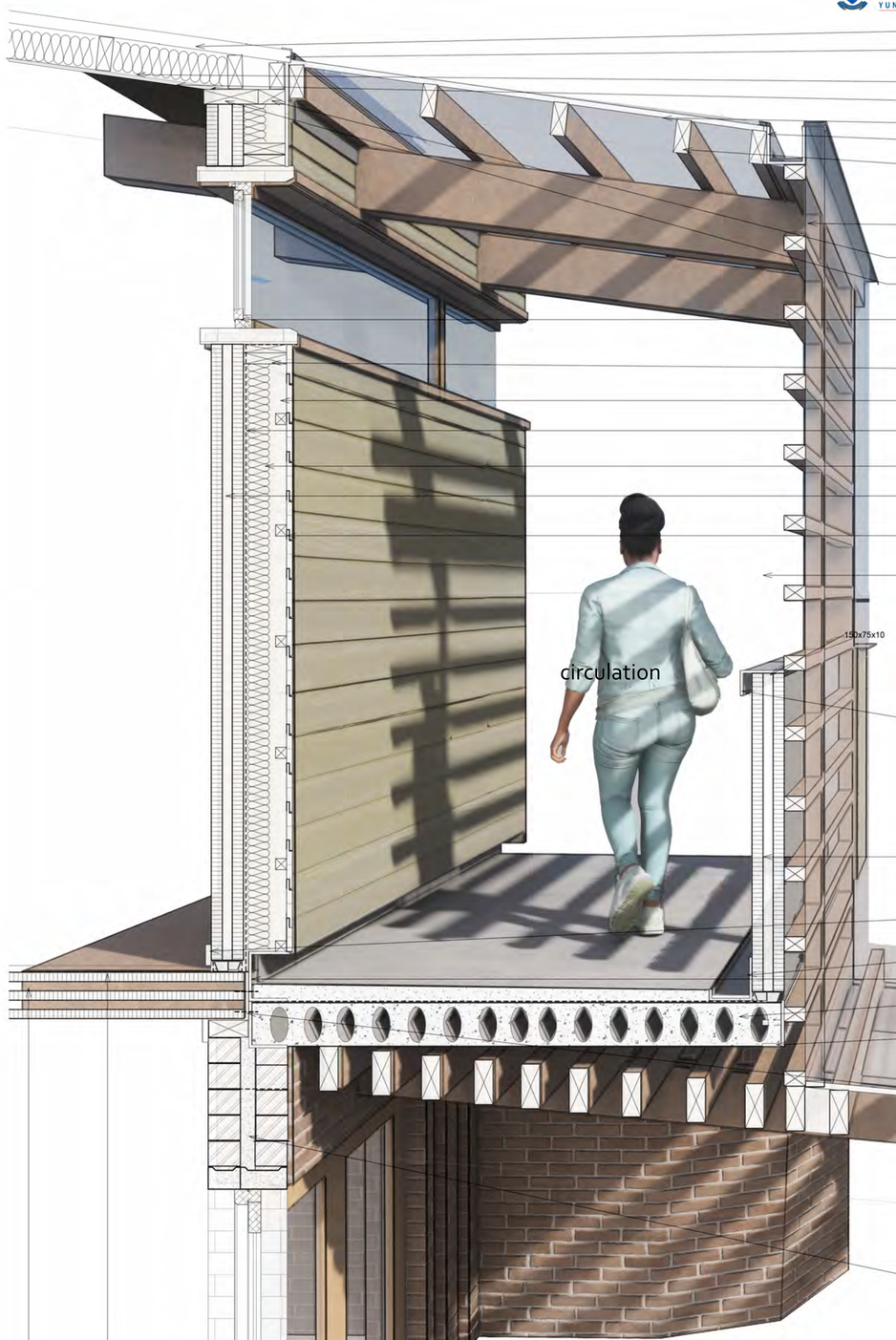


ASSISTANCE CENTRE ENTRANCE

EXPERIENTIAL SECTION D-D

SCALE 1:50





0.5mm CHROMADEK IBR steel roof fixed to 114x50mm SA PINE purlins @ 1200mm c.c.

0,8mm galvanised steel pre-painted overlap flashing fixed to pre-painted CHROMADEK IBR steel roof sheeting and polycarbonate hollow core roof sheeting

100mm isotherm roof insulation to be fixed between purlins

6.4mmx1.2mx3m gypsum ceiling board fixed to roof purlins

20mm three wall polycarbonate holow sheet fixed to 114x50mm SA Pine purlins with 0.8mm pre-painted galvanised steel flashing sealing the top of the sheet and overlapping with the gutter

120x120x6mm purpose made concealed galvanised mild steel box gutter supported by a 1.9mm thick purpose made gutter hanger fixed to the portal frame structure. 0.8mm galvanised steel pre-painted flashing sealing the overlap between the roof and gutter.

114x50mm SA Pine timber purlins screwed to GLT portal frame rafter

20mm three wall polycarbonate hollow sheet fixed to 76x50mm SA Pine timber battens

76x114mm SA Pine timber wall plate

76x152mm SA Pine timber wall plate

425x2400mm Saligna framed window with 8mm sliding laminated safety glazing installed according to manufacturer's specifications.

152x50mm SA Pine timber rail fixed to Saligna window sill with timber nails

50x38mm SA pine timber studs every 450mm to be fixed between the GLT portal frame

375 micron thick Ampatex Solero Vapour Control Layer (VCL) weather resistant membrane stapled to CLT wall panel and lapped below Saliogna window sill according to specialist installation

100mm thick Isowall wall insulation fixed to 50x38mm timber studs with timber screws in accordance to specialist installation

100x1020x2800mm 3 layered CLT wall panel manufactured from recycled timber palletts bolted to 100x2400 ROTHOBLAAS ALU START joint system according to engineers specification

133x13x2800mm New Tech Ultra Shield composite timber cladding panels screwed to timber studs screwed to GLT columns according to spesialist installation

L12.1110. Structural GLT (Glue Laminated Timber) portal frame structure as per structural engineer.
a. Lengths:
  i. Maximum span of 6000mm.
b. Size:
  ii.300x100mm.
c. Material:
  i. Reclaimed wood from timber palettes on site where possible.
  ii. Alternatively: SA Pine
d. Fixing Vertical:
  i.Bolted to brick load bearing walls using and M8 x 80mm 12mm dia. bolt.
  ii. Fixed to CLT floor panel using 144MPa 8mm dia. x360mm self drilling screws.
e. Fixing Horizontal:
  i. Bolted to CLT reclaimed wood floor with 100x2400 ROTHOBLAAS ALU START joint system
f. Finish:
  i. Pre-finished before arriving on site.
  ii. Sanded, smoothed, pressure treated and coated in Envirograph clear water-based surface treatment.
  iii. All visible knots to be filled with a wood-tone filler or clear wood inserts selected for similarity with the grain and colour of the adjacent wood.
  iv. Not permitted: Voids, warping or any other large defects.
g. Grade:
  i. S7.
  ii. In accordance to **SANS 10163**.
h. Assembly method:
  i. To be delivered to site in parts and assembled on site.
i. Manufacturer:
  i. Contractor's choice to acceptance of the architect.

150x75x10mm purpose made galvanised mild steel square l-angle hand rail bolted to CLT wall panel with an overhang of 30mm concealing LED strip lighting

100x1020x2800mm 3 layered CLT wall panel manufactured from recycled timber palletts bolted to 100x2400 ROTHOBLAAS ALU START joint system according to engineers specification

19x75 plywood timber skirting

160x145x6mm purpose made lipped galvanised mild steel rainwater channel leading to outlet pipes through CLT wall

150x150x10mm purpose made galvanised mild steel u-channel sealing wall system and concealing LED strip lighting fixed to 1500x1200x200mm precast concrete ECHO slab

1200x8600x200mm precast concrete slab fixed to a 23x90mm cold rolled steel c-channel as per eng spec. Finished with a 40mm ct:sand screed to slope at 1:50 towards rainwater channel placed above 375microm DPM as per engineers specification. Slabs to span between load bearing brick walls below

150x75x10mm galvanised mild steel L-section channel bolted to precast concrete slab

150x150x10mm galvanised mild steel L-section channel bolted to precast and CLT floor panel. Fixed to the load bearing brick wall below

20mm three wall polycarbonate holow sheet fixed to 150x76mm SA Pine purlins with 0.8mm pre-painted galvanised steel flashing sealing the joint between the wall sheet and roof. To slope at a minimum of 5 degrees

150x150x6mm purpose made concealed galvanised mild steel box gutter supported by a 1.9mm thick purpose made gutter hanger fixed to the Saligna timber rafter below.
0.8mm galvanised steel pre-painted flashing sealing the overlap between the roof and gutter.

150x76mm CCA and linseed oil treated SA Pine timber purlin fixed to the outside of the steel gutter in order to conceal it. Gutter and putlinf overlapped by a 0,8mm pre-painted galvanised steel flashing

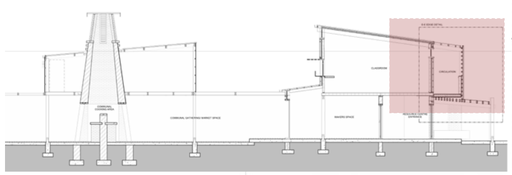
210x67mm Saligna polyurethene treated laminated timber beam supporting the SA pine timber purlins fixed to 20mm polycarbonate hollow sheeting. Bolted to timber column. Supported by 270 brick wall with a 100x100x10mm galvanised mild steel L-angle sction.

228x76mm CCA and treated SA Pine timber column bolted to the Saligna beams

Weak concrete cavity infill supporting the ECHO precast concrete slab above. Butterfly wire ties to be placed every 4 brick courses.

1220x2440x30mm recycled timber plywood floor nailed to CLT timber floor panel

2500x3000x154mm Cross Laminated Timber (CLT) 5 layered floor panel fixed to CLT wall panel with with the ROTHOBLAAS ALU START system according to engineers specifications



DETAILED EDGE SECTION E-E

SCALE 1:10

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

200 GSM water resistant canvas material nailed to Saligna timber pergola beams according to specialist installation. To be installed at a 4 degree slope to ensure water does not collect on the top

100x38mm reclaimed timber deckboards from timber pallets to be repurposed as shading elements for the adjustable timber screen. Treated with CCA and finished with linseed oil @ 180 c.c. fixed to steel frame structure

38x38x3.5mm galvanised mild steel square hollow section fixed to galvanised steel butt hinge

Manually adjustable timber screen to run vertically in galvanised steel track and be pinned at the top to fix it's position when open

Galvanised mild steel track in which the adjustable screen slides

147x70mm Saligna polyurethene treated laminated timber beam bolted to 38x38x3.5mm galvanised mild steel square hollow section supporting the adjustable timber screen

Growing medium on top of clean washed gravel on top of compact earth fill

Planter lined with 3mm AiChimica geotextile non-woven waterproofing membrane

Corobrick Buff Satin column and seating laid in custom bond according to architects details with the top layer of bricks bricks sloped @ 1:50 to allow water runoff . Sealed with Cemcrete solvent based brick sealant

79x156mm CCA and treated timber pergola column fixed to a 100x206mm F70 galvanised mild steel ROTHOBLAAS T-shaped column base connection according to engineers specifications

50mm SAB thick cast iron grating covering 190mmx400mm mesh reinforced concrete stormwater channel in accordance to engineer's specifications

220x110x75mm Corobrick Buff Satin clay face brick placed on edge with an overhange of 110mm concealing LED strip lighting below, supported by 100x50x6mm galvanised mild steel L-angle channel

220x52x50mm Corobrik Nutmeg Piazza clay brick paving laid in a stack bond on screed to fall towards stormwater drain @ 1:50. Paving to be sealed with Cemcrete solvent based sealant. Brick to be laid on a 100mm unreinforced concrete blinding layer above compact earth fill.

170x365mm reinforced concrete strip foundation according to engineer's specifications

200x600mm reinforced concrete strip foundation according to engineer's specifications

BENCH DETAIL

210x106mm Saligna polyurethene treated laminated timber beam supporting 152x76mm SA pine timber purlins and bolted to 220 brick wall with a 100x100x10mm galvanised mild steel L-angle section.

220mm Corobrick Buff Satin clay face brick wall laid in a running bond, supporting the 210x106mm Saligna beam

220mm Corobrick Buff Satin clay face brick ventilated wall laid in a running bond with every second space left open

152x76mm SA pine timber purlins treated with CCA and finished with linseed oil @ 140 c.c. fixed to laminated timber beam

65mm in-situ cast concrete countertop , recessed by 70mm into the 220 clay brick wall behind and supported by steel framed breeze block system

90x190x140mm precast concrete breeze block in purpose made 2053/53/6.4mm steel parallel flange u-channel frame. Supported by 10mm galvanised mild steel rod to allow rotation and access to water storage facility

300x100x16.5mm galvanised mild steel parallel flange channel to act as a water inlet point for the water filtration system and support the galvanised steel drainage grid.

300x100x16.5mm galvanised mild steel parallel water channel supported by concrete walls. Concrete walls to be cast at a slight slope to ensure water flows in channels towards inlet point.

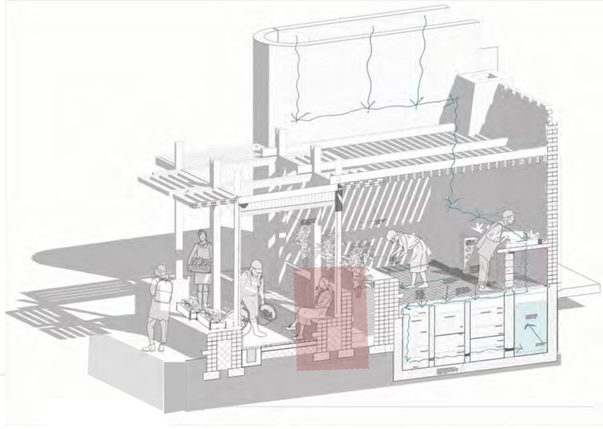
600x2400mm structural galvanised stainless steel grid supported on edge by the reinforced concrete walls of the storage facility below. Resting on galvanised mild steel water channels. Removable to allow access to the water filtration system below.

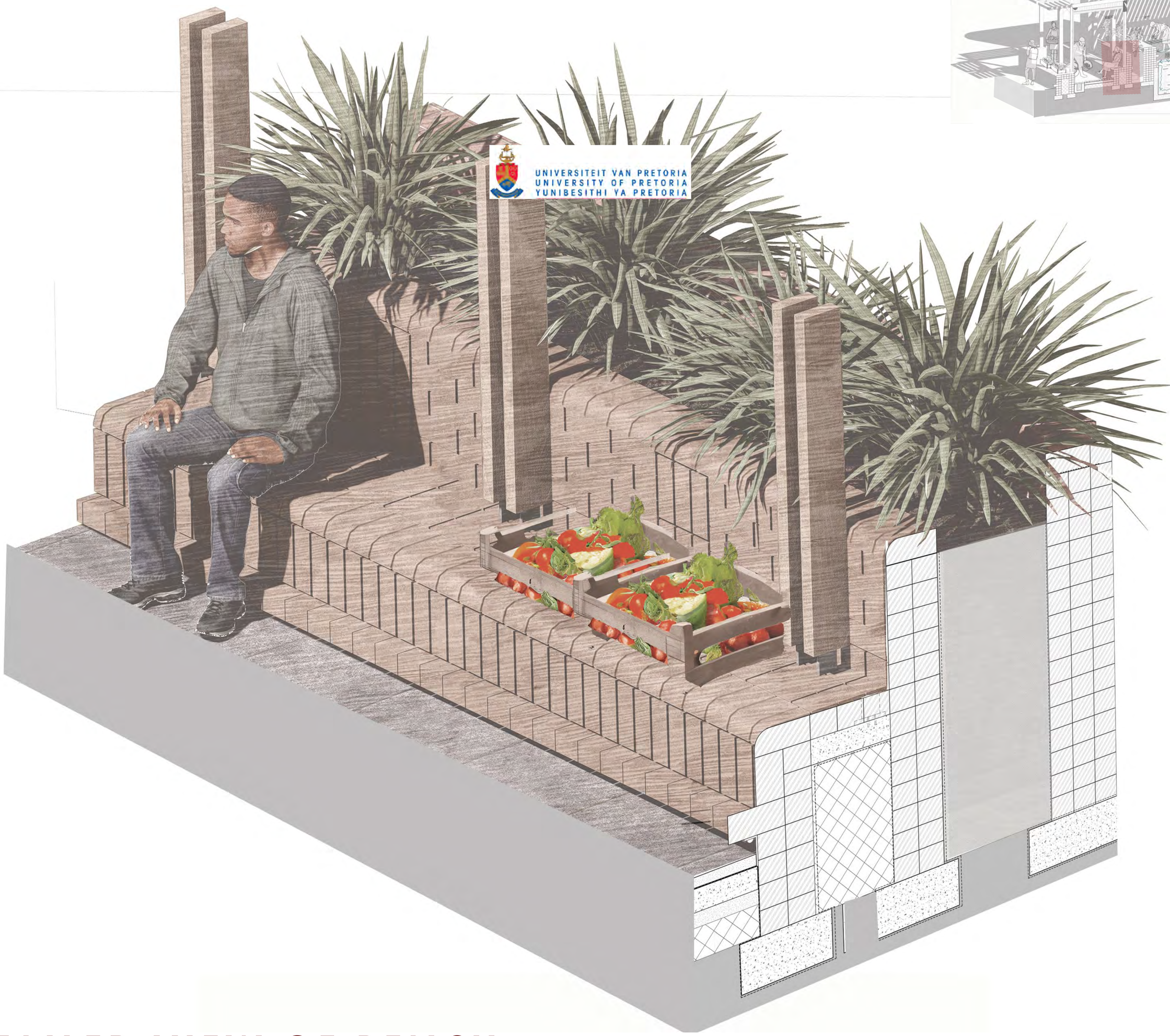
30 dia. PVC discharge pipe running through concrete walls. Enables the slower pace of water through the system to ensure sufficient filtration

200 reinforced concrete water filtratin and collection facility. Lined with 3mm thick torched on Bitumin waterproofing membrane

SECTION C-C EDGE DETAIL

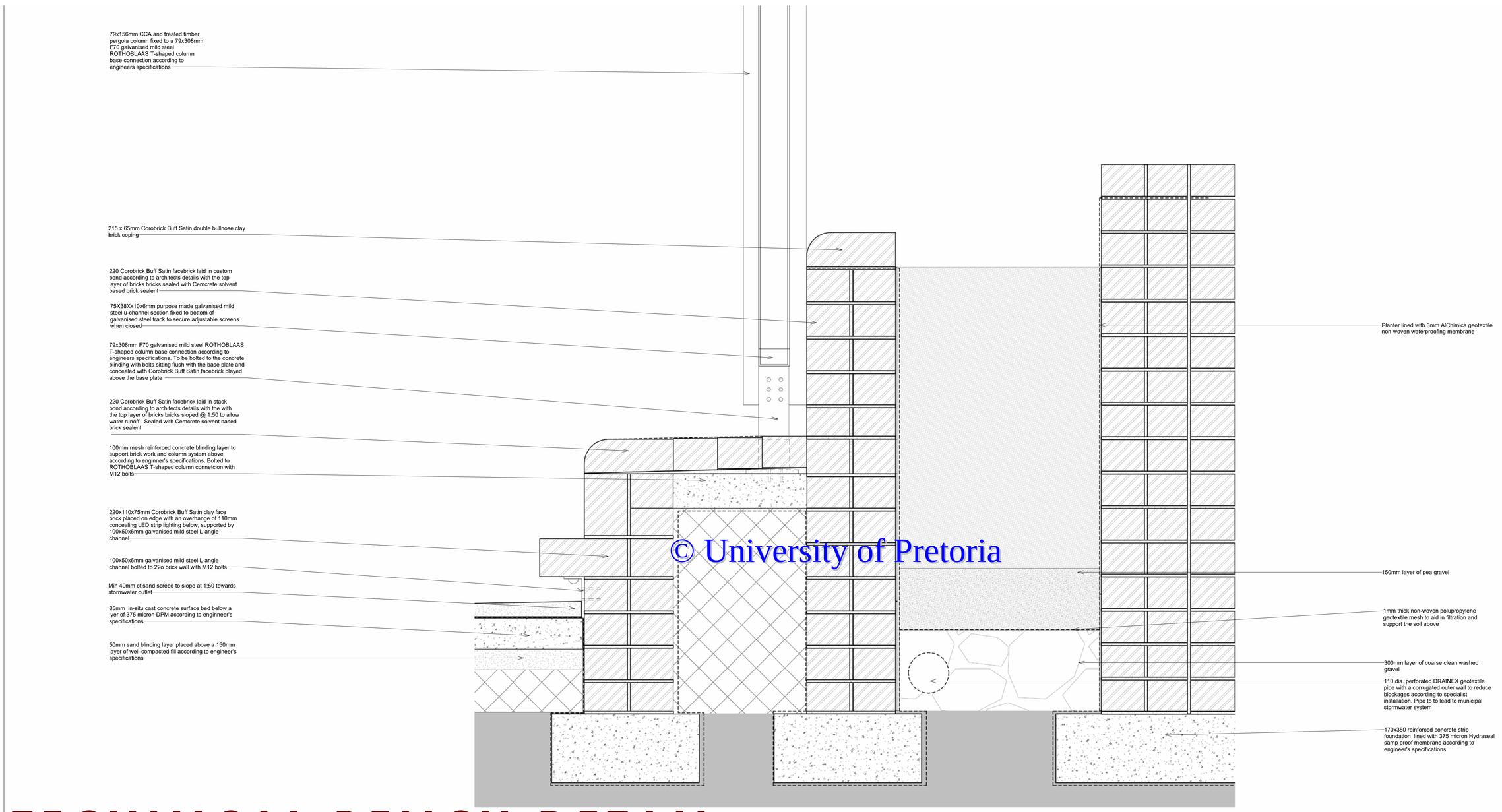
SCALE 1:10





DETAILED VIEW OF BENCH

SCALE 1:5



TECHNICAL BENCH DETAIL

SCALE 1:5

THIS IS YOUR NEW JOB CENTRE.