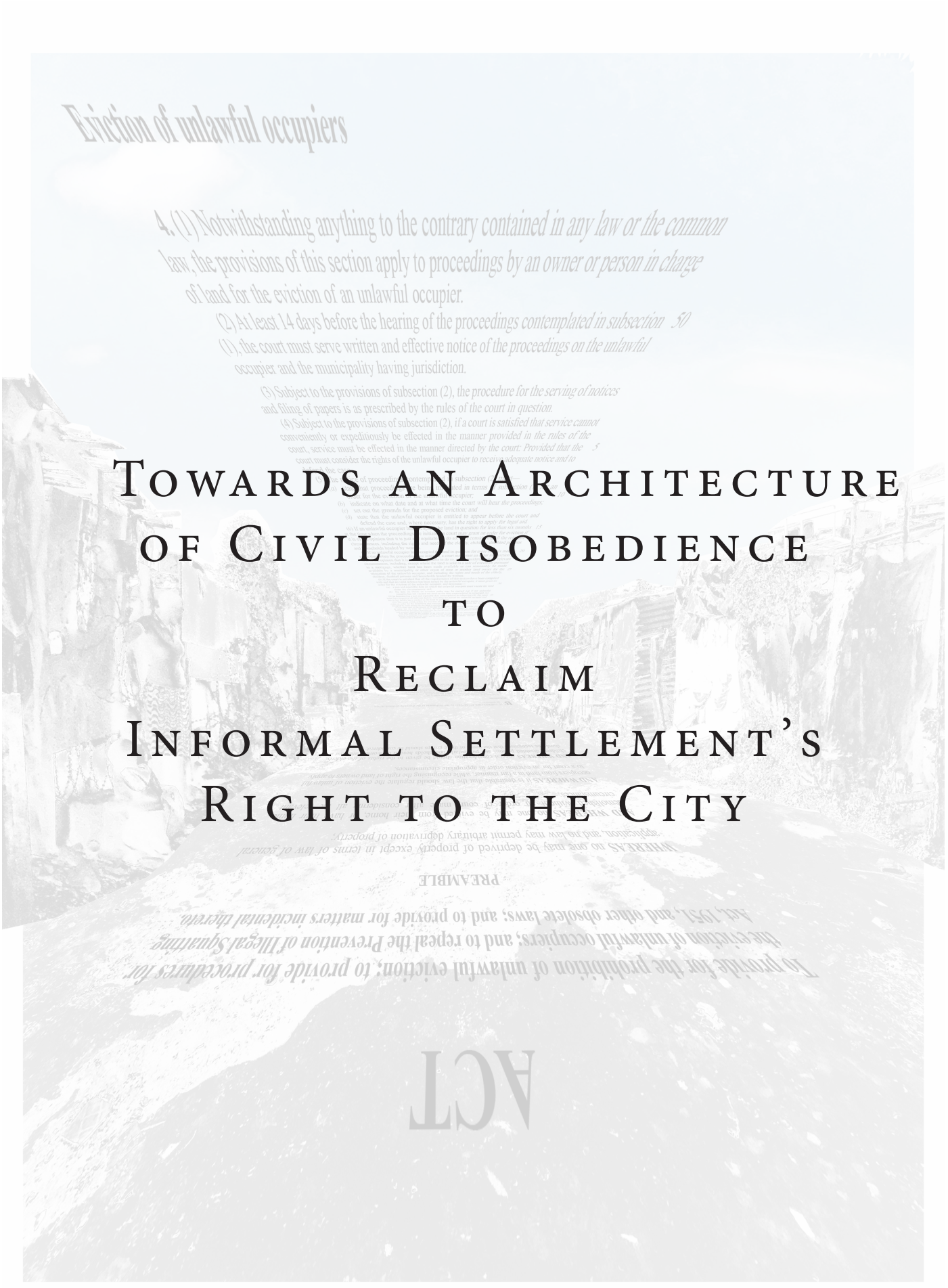
Morné du Bois
15042482
Professional Masters
of
Architecture
-
Dissertation



Towards an Architecture of Civil Disobedience to Reclaim Informal Settlement's Right to the City



Declaration

Project Summary In accordance with regulation 4[e] of the general regulations [G.57] for dissertations and theses, I declare that this dissertation, which I hereby submit for the degree of Masters of Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution. I further state that no part of my dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification.

Morné du Bois

Project Summary

Towards an Architecture of Civil Disobedience to Reclaim Informal Settlement's Right to the City

Submitted by
Morné du Bois

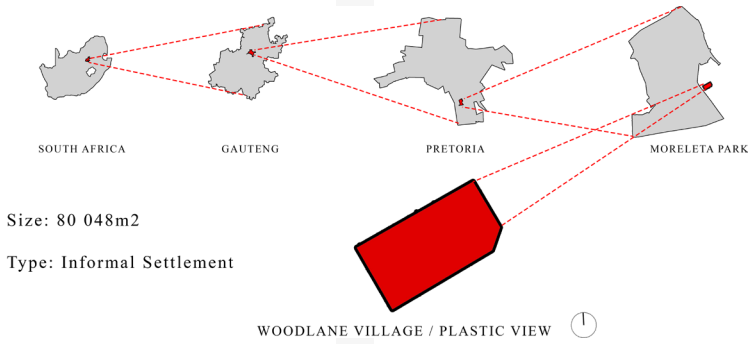
Student number
15042482

Client
Members of Plastic View

Programme
Social Centre

Site Location
Plastic View Informal Settlement,
Moreleta Park, Pretoria

GPS Coordinates
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Study Field
Urban Citizen Group, Informal Settlements

Study Leader
Dr. Carin Combrinck

Co- Supervisor
Prof. Gustav Muller

Course Coordinator
Prof. Arthur Barker

Submitted in partial fulfillment of the requirements for the degree of Masters in Architecture (Professional) in the Faculty of Engineering. The Built Environment and Information Technology at the University of Pretoria, 2019.



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Lastly to all of the above, thank you for every single moment leading up to this book, I am looking forward to starting my new architectural journey with you all.

Exodus 14 : 14



What A Plastic View

My skin was the label that hung on my neck with
every step I took following with the murmur of the word of white.

This place is the product of a failed system. But hope
lingers in the streets. A song is sung in between the cracks of lost and life. A song of hope playing in the background for those who want to listen.

Laying foundations for houses that are not theirs. Selling the products of the earth to gain from it again. An endless cycle of fear roams these dilapidated streets.
Up and down this spirit lurks waiting to attack with
a light of blue.

Hand in hand together with fear they walk from darkness expecting nothing, but noticing everything.
Not even the animals of the wild deserve to live this way.
Meeting the elite with a morning greet and an afternoon goodbye.

Back to a life which society deems dread and like a switch controlled by the hands of others.

Back to darkness.

Again.

- Morné du Bois

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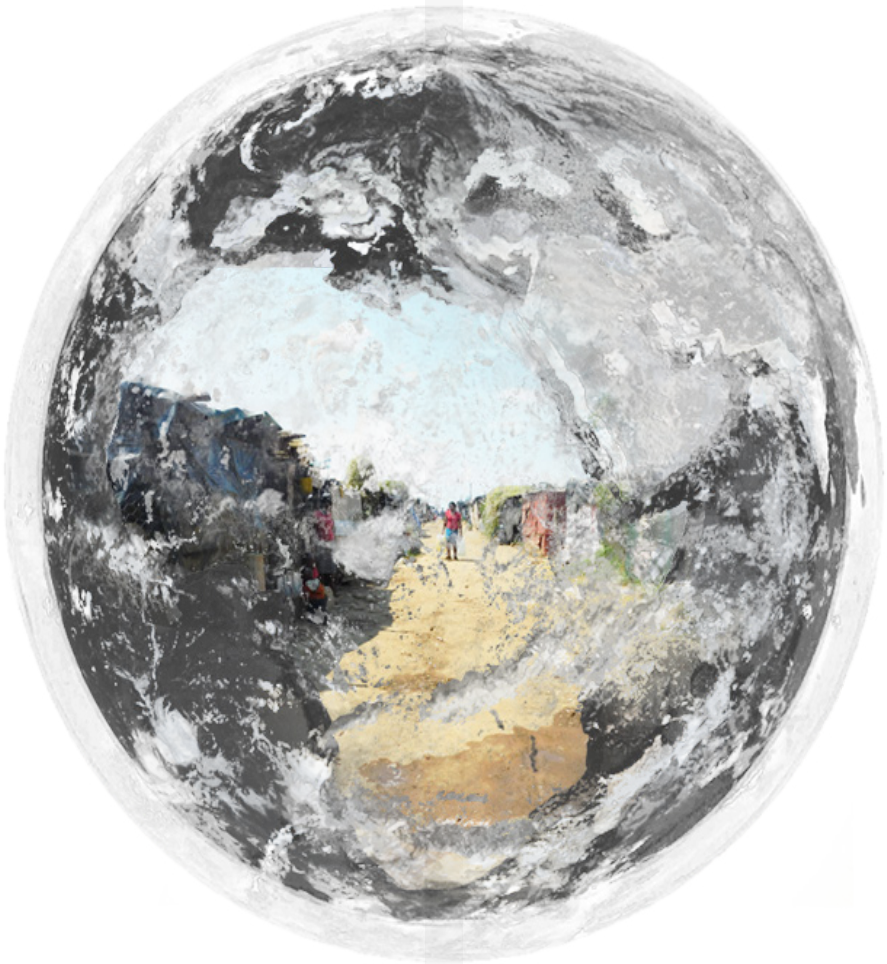
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CHAPTER 1

INTRODUCTION

1.1 Global emergence of Informal Settlements

The Global Issue



The growth of informal settlements along with the growth of the urban population is a global phenomenon. An estimated 25% of people living in urban areas are living in informal settlements (UN Habitat 2016). This percentage is rising rapidly as seen in the growth of slum dwellers between 2014 and 2018 which reached a 23.5% growth in the urban population (United Nations 2020).

Informal settlements are defined as residential areas where:

Inhabitants experience a lack of security regarding occupying land or ownership of the dwellings they inhabit.



Communities that lack basic infrastructure.



Settlements that are situated in environmentally and geographically sensitive areas causing construction of housing not complying to building regulations.



1.2 Global informal settlements examples.

1.2.1. Kibera, Nairobi, Kenya

60% of Nairobi's population consists of around 2.5 million informal settlement dwellers housed within about 200 settlements that occupy only 6% of the land.

Kibera, being the biggest slum in Africa, houses around 250,000 of the informal settlement dwellers (Kibera 2015). Situated within government-owned land, only 10% of the slum dwellers are shack owners and the residents do not have any property rights (Kibera 2015).

Kibera testifies of the legal boundaries which surround informal settlements globally.

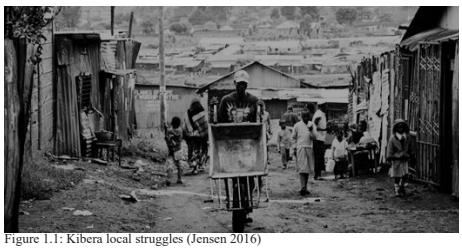


Figure 1.1: Kibera local struggles (Jensen 2016)



Figure 1.2: Kibera Conditions (Wolwerth 2018)

1.2.2 Dharavi, Mumbai, India



Figure 1.3: Dharavi (Maqbool 2010).



Figure 1.4: Dharavi Girls (Habib 2017).

Consuming 535 acres of government-owned land, Dharavi is the third-largest slum in the world. Dharavi's population consists of about 1.2 million people which is more than 80% of India's total population (Wirally 2019). Although Dharavi is a slum that produces an economical turnover of 650 Million $, it is also experiencing various water and sanitation issues leading to the statistic of only 1 toilet per 1450 people (Wirally 2019).

Dharavi is the embodiment of the economic opportunities and benefits informal settlements have despite the social neglect and various health implications surrounding informal settlements.

1.2.3 Ciudad Neza, Mexico City, Mexico

With a population of around 1.1 Million people, Neza was once an extensive slum east of Mexico City which grew into a suburb because of the efforts of the residents. Although there are still high crime rates and a lack of basic education, the Neza slum has the capacity to become a benchmark for future informal settlement development (Hutt 2016).

Neza can be seen as a precedent of the power of community as well as the sense of place which spawns when individuals start working together.



Figure 1.5: Aerial View Ciudad Neza (Miller 2016).



Figure 1.6: Ciudad Neza (Cocking 2017).

1.3 Local emergence of informal settlements.

The local issue.



Locally according to Statistics South Africa, 13% of the 58 million people living in South Africa are living in informal settlements (Africa 2011). The racial segregation legislation formed in the apartheid era was the cause of the failure of investment into the developing of housing and municipal services (SERI 2018).

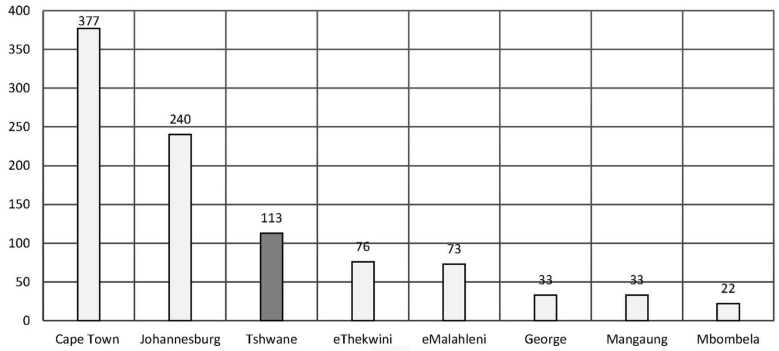


Figure 1.7: Informal Settlements Stats South Africa (Beeld 2020)

Townships, which were placed in the peripheries of the city, led to a shortage of housing because of overcrowding thus giving birth to the establishment of informal settlements. The urban peripheries are being filled by black South Africans as well as foreign nationals, in poorly serviced settlements with dense spatial arrangements and very low homeownership rates. Although the apartheid context is not directly relevant anymore and despite the altered land reforms of the post-apartheid government, the spatial planning from the apartheid legacy has not yet been challenged successfully (SERI 2018)

.

1.4 Local informal settlement examples.

1.4.1 Khayelitsha, Cape Town, South Africa.



Figure 1.8: Khayelitsha Township (Ernst 2020).



Figure 1.9: Demolished occupied shacks (Lali 2019).

Situated in the Western Cape, Khayelitsha is the second-largest black township in South Africa. Being a product of the old apartheid town planning structure Khayelitsha is seen as the fastest growing township in South Africa, housing over 2 million people with 70% of residents living in informal housing. Although seen as a neighborhood on the rise, Khayelitsha also experiences high instances of crime and unemployment (Macdonald 2019).

Khayelitsha benefits from having its own central business district which contributes to its own micro-economy. It is famous for its entrepreneurial business opportunities which open doors for various tourist, cultural and social events (Macdonald 2019).

Khayelitsha testifies to the unity used to rise above various past boundaries leading to show the impact people can have if left to their own devices.

1.4.2 Slovo Park, Johannesburg, South Africa

Slovo Park is an informal settlement situated south of Johannesburg, South Africa. Established in the early 90s Slovo Park became the initial area where people lived to be closer to their jobs (Royston 2016). Slovo Park houses about 3800 households which consist of approximately 7000 residents (SERI 2019). Although Slovo Park is a well-structured settlement with street names and subdivisions, it still lacks proper infrastructure that was promised years ago (SERI 2019).

Slovo Park is a significant example of the amount of time it takes for the government to participate and act on their promises regarding the upgrade of informal settlements.



Figure 1.10: Slovo Park (1to1 2010).



Figure 1.11: Community Project (1to1 2010).

1.5 Aspects of informal settlements.

Based on the above mentioned local and global examples of informal settlements, it can be argued that informal settlements are determined by necessity driven human agency, taking place within locations which are impacted by politics and law. This part of the dissertation aims to elaborate and focus on specific characteristics and influences surrounding informal settlements.

1.5.1 Informal settlements and human agency.



Informal settlements sit at the transition between numerous dimensions of globalization and political decisions. Although poverty plays a big role in the manifestation of informal settlements, it is more complex because of the human tendency to find resolution while living in the city. The problem when looking at the “solution” for informal settlements is by blaming the growth of it on simplistic “problems” because of political and civil state tendencies (Huchzermeyer 2011). Global governance promotes human rights yet on the other side of the spectrum aims to decrease informality and poverty causing a stigma of unworthiness towards people living in informal settlements (Huchzermeyer 2011).

1.5.2 Space and location.



Because location is viewed from a fixed and objective perspective, it can be seen as either wanted or unwanted. This then manifests in the people that inhabit it to be the mirror image of the location that is either desired or not (Calmore 1999).

Location has the capacity to either detach one from or attach one to specific opportunities thus location determines:

- Infrastructure

- Safety

- Housing value

- Economy

What distinguishes place from location is the significance it holds as it is associated with the people that inhabit and describe it (Calmore 1999). Place becomes the product of social actions and identity thus creating a new identity (Calmore 1999). Due to the various cultures and identities and the existing social and economic networks found within informal settlements, informal settlements have a sense of collective identity.

1.5.3 Space and law.



Two critically important factors are highlighted when looking at the relationship between law and space. The first factor is the spatial product generated by the early spatial governors which based their spatial decisions on their regional, social, political and economic climate. Secondly is the imbalance in the spatial power being practiced based on scientific evidence and the aim to gain political and economic control over spaces deemed empty (Butler 2009). These factors should be taken into consideration when approaching informal urbanism.

Spatial legislation causes boundaries that play a big role in property law for it consists of both the real (tangible) and the metaphorical (intangible). So, the question of boundaries as spaces arise. In a world where there is a history of territoriality and exclusivity, the emphasis is mainly on the tension of the boundary and the space it creates (Blomley 2014).

Boundaries differentiate, unify, mark off and signify a specific space. The forms that these boundaries usually take are legal forms. Legal forms defined as actors of spatiality take place in spaces and on lines. Both the owner and the trespasser are all confined within bound spaces through either power or physical space (Blomley 2014).

Spatio-legal systems should not be seen as separate entities but be conceptualised as superimposed legal spaces which work together. Seeing law from this perspective forces one to look at legal space's operation as a set of actions happening for the same purpose but at different times. This also opens the fact that "state law" is dependent on diverse normative orders and legalities. The major limitations of this geography are the exact moment in which a spatial alteration causes a change in the social condition (Butler 2009).

1.5.4 Space and property.



Property



According to Nicholas Blomley (2014), a critical legal geographer, space can be defined either as absolute or relational. Absolute space defines space as linear and geometric. Relational space is defined as ever-changing and unique, thus directly relating to human agency and experience. Similar to space, the law can also be seen through these lenses by means of defining both absolute and relational property. It is exactly these definitions that cause the conflict within the relationship between space and law (Blomley 2014).

An absolute geography of property gives us the opportunity to see property as less of a social and ethical tendency but more from a lens that classifies space as a territory owned by people. Although property is seen as an object that is confined within specific parameters and boundaries, it is still relational with the dynamic users of that space.



Proximity



Site



Neighborliness

The interlocking effect of absolute space and property being connected concepts the covering up of power relations within the work of property is manifested within spatial interventions like fences and walls. Due to this, the focus is displaced from the owner and what is owned to the bounded territory (Blomley 2014). Thus because of the fact that power is so neutral and impersonal, interactions between people regarding property is always interchanging and dynamic. When users start disputing ownership, that dispute becomes the method of separation, causing detachment towards the human part of property and causing the physical to become the emphasis (Blomley 2014).

A relational perspective of property shows us a different way of thinking. The boundary that is formed becomes a moment or site for exchange and connection. This relational form of property proves that despite the privilege gained from property it also holds a social responsibility that entails a duty. These duties are absolute because of the cruciality of their geographic dimensions. Thus because of this space has an open definition and is in constant flux thus showing the value of property (Blomley 2014).



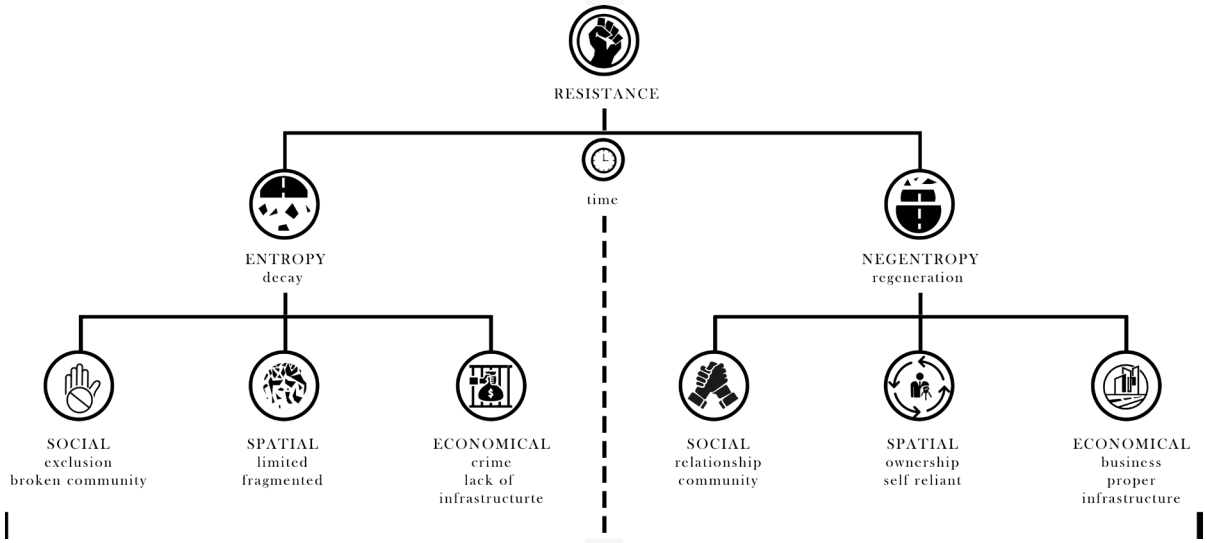
1.5.5 Informal settlements and time.



Space and time are seen as the vehicle used to define the world. Property does not just produce spaces but also represents it and relies on it. This then proves that the spaces that are produced are not just because of law but also because of the presence of property in the social world. Space should be conceived as either absolute or relational. This will help one to understand property ethically and analytically. Thinking of property as spatial has its difficulties, because space is mostly seen as asocial, inert and theoretical (Blomley 2014).

1.6 Conclusion.

Due to the growth of informal settlements the concept of informal urbanism can be seen as extra-legal, an act that is not governed by law, to the right to exclude (Finchett-Maddock & Lambert 2013). Informal urbanism can be seen as a form of resistance that acts as the vessel for resistance that aims to become the testing of the statute that will gradually cause disruption and alteration of its course. The concept of entropy, which is the product of time, will spawn, is evident within this context due to the living conditions of informal settlements to either experience spatial decay or, on the other side of the spectrum, can result in negentropy, causing spatial regeneration that leads to a better sense of place (Finchett-Maddock & Lambert 2013). It is this sense of place, which according to Calmore (1999), has the power to become a landmark of progression and resistance despite the odds and the boundaries it finds itself in (Calmore 1999). This landmark of progression and resistance aims to stand against the legal boundaries that cause spatial and social decay within informal settlements, thus starting a call for spatial justice.



ARCHITECTURE

Concluding that due to informal settlements being seen as an extra-legal act, along with the rapid emergence of informal settlements all over the world, it is a clear indication that the mere existence of informal settlements can act as the catalyst for spatial justice. Relating this to architecture, one can argue that within this aim of social justice, architecture can become the bridge between either the construction or deconstruction of well maintained informal settlements (Finchett-Maddock & Lambert 2013).

Building on the existing social and economic structures seen within informal settlements a clear spatial struggle can be highlighted, a spatial struggle consisting out of a lack of participative space making between citizens and the state when it comes to informal urbanism.





...ig to their use, and respect, or t...
...appropriate throughout their lives"[34]. Many ...
... bright spatial lines of absolute space and property as ...
...al geographies.

...er, the idea that each "nation" (itself, a colonial construct) must be assig...
...e territory inevitably runs into the reality of so-called "overlaps", given both ...orical patterns of shared use and access, and the realpolitik of individual nation...ertions of territorial dominance. Early on in the treaty process, a Vancouver ...ewspaper compiled all the claims to traditional territories revealing, predictably, ...considerable overlap. The zero-sum spatiality of Western property was drawn upon to implicitly demonstrate the absurdity of indigenous claims. They were, the paper noted, a "criss-crossing mess of coloured lines", comprising 111% of the landmass[35]. To understand such collisions, however, we must recognize the clash not only of two conceptions of property, indigenous and settler, but also of different geographies: one networked and relational, the other sharply territorialized and seemingly abstract. And it should be noted, again, that these geographies of property are not to be understood in either/or terms. First Nations have been adept at using cartographic techniques, reliant upon notions of absolute space, to advance claims to space and title. Settler society, in turn, has been forced to confront a messy "edge-politics" of relationality and copresence as it stumbles towards reconciliation.

...nclusions:

...al here has been modest: to introduce the interested reader to the importan... of thinking about property through a spatial lens. To do so is insightfu... I think, particularly when we remember that space, along with ti... ...ch we make sense of the world. At minimum, it requires the ... ...o the spaces that property law relies upon, represents ... it helps to attend to the argument that such ... ...e a powerful precondition for pr... ...ake a differ...

CHAPTER 2

THEORETICAL FRAMEWORK

2.1 The Right to the city

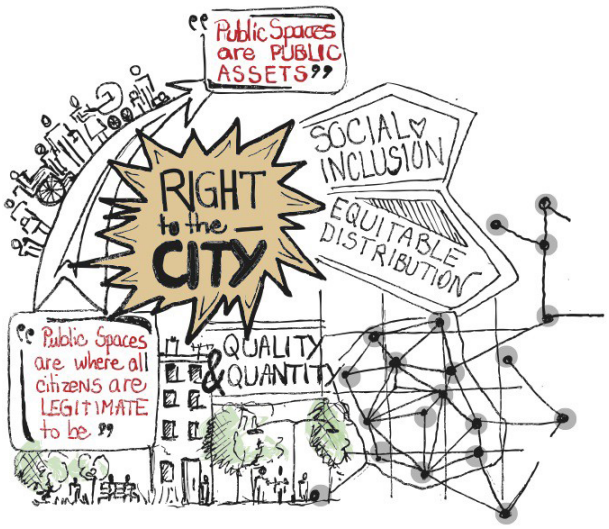


Figure 2.1: Right to the city illustration (UCLG 2018)

The struggle between citizens and the state regarding the location, layout and the provision of basic services surrounding informal settlements can be defined as the denial of the right to the city (Harvey 2008).

2.1.1 Defining the right to the city

The right to the city is ultimately the basic right to be part of urban life. Real collective social participation from different individuals as well as groups are mainly prevented by the denial of the right to the city (Butler 2009). The participation of urban life is more than just the access to basic resources such as health care, water, sanitation and basic infrastructure, it is the right that allows for individual progression through participating in the spatial alterations made in the cities we live in (Harvey 2008).

Urban Life consist out of:



2.1.2 Re/claiming the right to the city

The aim of reclaiming this right is to see it as more of a collective right than an individual. This common collective goal is directly based on the aims to reshape and re-think the processes and structures of urbanization. According to David Harvey (2008) the liberty to change these processes of urbanisation should be seen as a critical human right and yet it is the most neglected (Harvey 2008).

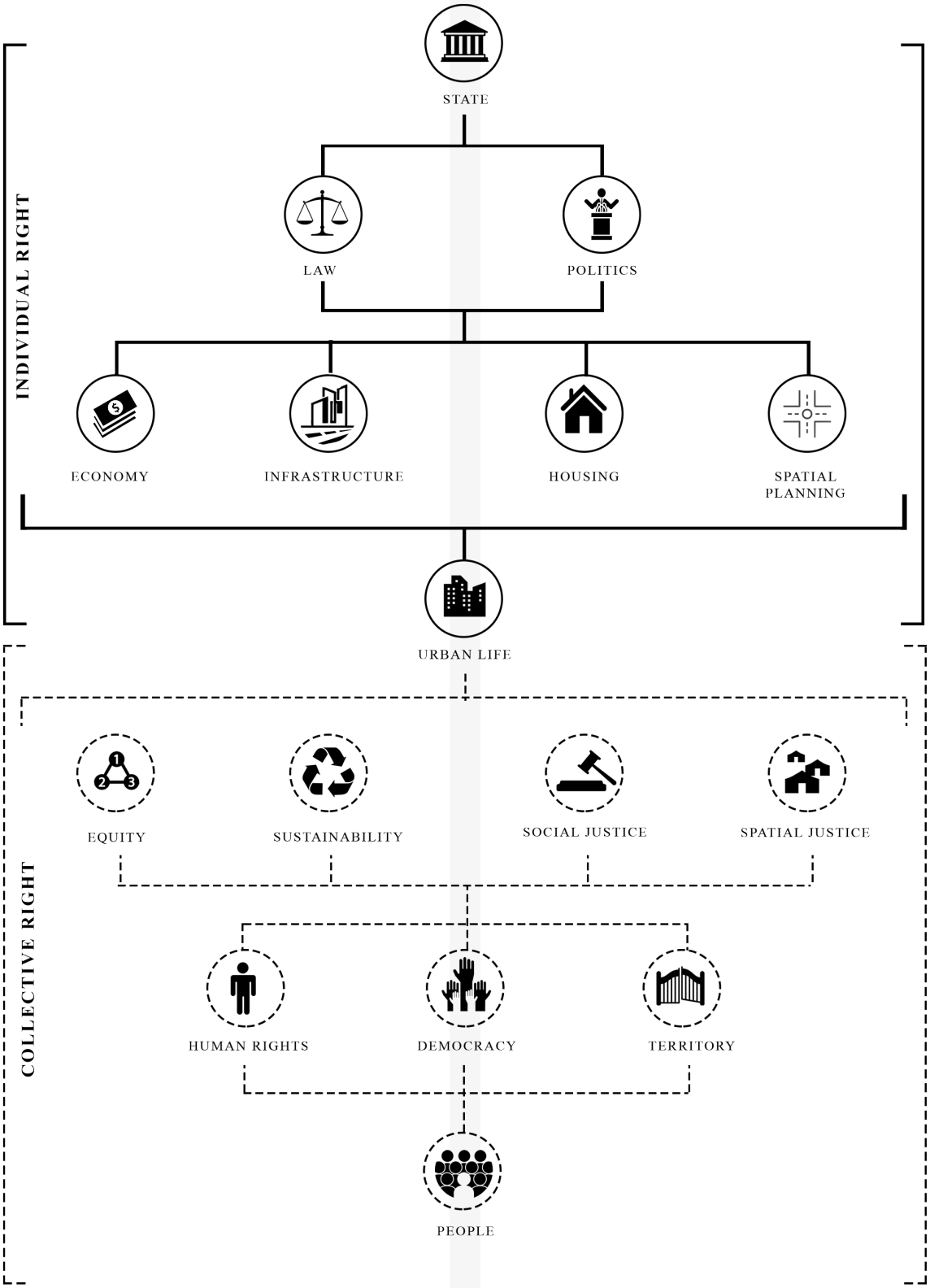


Figure 2.2: Right to the city diagram (Author 2020)

2.1.3 Reclaiming the right to the city examples.

Internationally the right to the city questions state law and the imbalance in power (Harvey 2008).



Figure 2.3: Demonstrators against the Housing Bill in Westminster (PA 2016, edited by Author 2020)

British Urban Life:

People Must Unite To Take Back The City

Collective control of the city was removed along with an increase in inequality with the implementation of right to buy policy in The United Kingdom (1980). It neglected any form of Right to the City and decreased any signs of people owning any homes of their own. New policies caused taxes to rise and later progressed evictions.

The most vulnerable and poorest people are denied the Right to the City. And at the same time increasing the wealth of the rich. In Britain, forms of resistance are evident within focused local housing issues. For the reclaiming of cities to happen, a call to united ideals and struggles should be called for to build a popular campaign that will fight for affordable and secure housing (War on Want 2000).



Figure 2.4: Demonstrators during a protest against the 2014 World Cup, in Brasilia (Gustavo Froner/Reuters 2014, edited by Author)

Taking back the streets of Brazil:

The Right To The City Is Just A Start On Taking Back The Streets

With over a fifth of Brazil's population living below the poverty line, Brazil is among the top unequal countries in the world despite having a very large economy. The increase of urbanisation led to 8 out of 10 Brazilians occupying and living in unequal urban areas.

This change gave birth to civil society and social movements to stand for urban reform. The right to the city was implemented in the Brazilian Constitution in 2001. This was the first time in the world when the Right to the City became a legal right. Before major international events such as the FIFA World Cup (2014) and the Olympics (2016), civil society reclaimed their right to the city in 2013.

Through the use of public demonstrations, the people called for improvements of basic needs such as education, services, transportation and healthcare. Their demands were met through taking to the streets (War on Want 2000).

South African shack dwellers reclaim their city:



Figure 2.5: Protesters in the Ramaphosa squatter settlement (Johannesburg 2010, edited by Author 2020)

Cities Must Be Reclaimed: They Will Not Be Given Back

The South African Constitution states that everyone must have access to adequate housing (Section 26 of South African Constitution). Yet due to the past city planning of the Apartheid city planning scheme, cities continue to be shaped for centralised wealth thus not creating opportunities for people living in appalling conditions.

With SA being the world's second most unequal country, 1 out of 4 people live in shacks, lacking proper basic services such as water, sanitation, electricity and telecommunication. South African social movements such as *Abahlali base Mjondolo* campaign for a life of equality and dignity for everyone based on land, housing and basic services. Through fighting the law against evictions for the clean-up campaign for the FIFA World Cup (2010) it became evident that victory is possible through intimidation and violence causing this form of protest to become very common (War on Want 2000).

Conclusion

Thus concluding that globally and locally these social movements allow people to stand together to form a platform to protest for the reclaiming of this right as well as giving a voice to people that are marginalised and excluded (Harvey 2008).

2.2 Production of Space

By understanding the importance of people's need to participate in an urban life various obstacle surrounding the production of space can be highlighted.

2.2.1 The Politics of Space

Because of the strong relationship between law and space, both are shaped by conflicting interests. These interests can be embodied through Lefebvre's (1974) spatial triad of space namely the conceived, perceived and lived space. Due to this space can be seen as not just highly political but also what political conflict is about (Lefebvre 1974).

Conceived Space:



Experiences which are seen as part of the imagination of the inhabitants of the space (Representational spaces).

Perceived Space:



Organisation of spaces through abstract knowledge (Representations of space).

Lived Space:



Everyday routines and networks (Spatial practices).

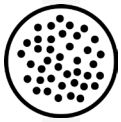
2.2.2 Lefebvre's Abstract Space.

The space generated from this conflict can be defined as abstract space, defined as the spatial fragments left behind by a space born from spatial urgency controlled and dominated by the state and private interest (Butler 2009). This embodies the idea of exclusion of dynamic spatial uses and feeds and nurtures the constant reproduction of socio-capital relations (Butler 2009). Lefebvre (1974) highlights three spatial consequences of abstract space.

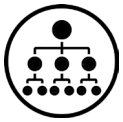
CONSEQUENCES OF ABSTRACT SPACE



1. Fragmentation



2. Homogenisation



3. Hierarchy

Firstly fragmentation, which is the manifestation of space that is broken down in specific units causing space to become carved up into products of different social interests.

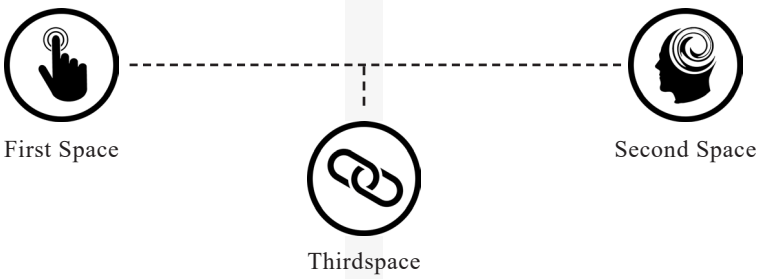
Secondly, co-existing with fragmentation as a product of abstract space, is the opportunity for homogenisation. Although everyday life seems very dynamic, Lefebvre (1974) argues for abstract spaces' spatial goal to reach homogeny. The homogenising power at play here is the application of a pure exchangeability of space that has the capability to equal out the diverse living standards within spaces on a global scale.

Lastly, Lefebvre (1974) defines the last consequence as hierarchical, which is a product of the above-mentioned tendencies joined into one. This spatial hierarchy is determined by the position in which a space allocated itself between the centres and peripheries of power, wealth, information and research distribution. This hierarchy is also the manifestation of strategic planning of the spatial arrangement of what surrounds specific centres (Butler 2009).

2.2.3 Edward Soja's Thirdspace

Abstract space, with its consequences, is seen as a product of a highly political top down spatial decision-making approach, and can be challenged by Edward Soja's (1996) definition of thirdspace. Soja's (1996) aim with the identifying and defining of the "thirdspace" was to challenge the conservative thought of space being a pattern of either/or, that ultimately questions the conventional thoughts surrounding spatial politics and the production of space (Calmore 1999).

To properly understand this concept of thirdspace, one has to understand both the first and second space. Soja (1996) explains first space as a perspective which focuses on the tangible and real. Second space is seen as a point of view which translates the reality and real into space which is imagined. Thirdspace is where the preceding two spatial definitions are combined which consists of various forms of reality and imagination (Calmore 1999).

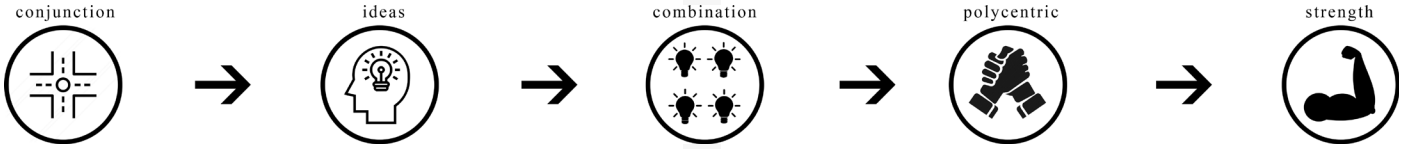


First Space

Second Space

Thirdspace

Thirdspace has the capability to establish communities as conjunction spaces, where people's radical aspirations and ideas meet. An inclusive spatial approach encourages the multiplication and combination of subjectivities to form a polycentric community. Communities that stem from different cultures and identities become incubators of potential strength that challenges the generalisation that less fortunate communities are seen as fragmented and politically weak (Calmore 1999).



By looking at space through these lenses, the production of space and law structures itself around the understanding of the political nature of abstract space and future possibilities for space. These future possibilities harvest the power to become a moment that challenges the dominant spatial governors (Butler 2009).

This highlights that space is more than just the object political debate is about, but it is also the platform on which the debate takes place. This spatial debate's aim is to call for a new focus to be put on the future potential of abstract space (Karim 2018). Seeing space as a platform for debate, the linear modernistic spatial approach is challenged. According to Soja (1996), by creating a new conceptual advancement around combined and constructed communities' various spatial politics are challenged. A paradigm shift regarding spatial thinking takes place which becomes coherent with social justice, which starts to surface postmodern space making tendencies (Calmore 1999). These space making tendencies aim to surface ways in which architecture can become a medium of social justice against highly political spaces within an informal urban context.

2.3 The Power of Protest

2.3.1 Civil disobedience.

Building on the politics surrounding space, the emergence of informal settlement opens up a new avenue for spatial politics which starts to challenge the relationship between space and law. The production of informal space introduces a form of spatial negotiation against abstract space. This spatial negotiation is surfaced through the human agency which creates informal settlements. Human agency that causes people to participate in acts of civil disobedience, defined as testing the statute, by resourcefully claiming a portion of land as their own (Finchett-Maddock & Lambert 2013).

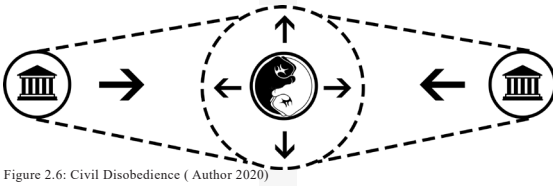


Figure 2.6: Civil Disobedience (Author 2020)

Thus, the production of informal space, through impulsive and needs-driven decisions, become a form of spatial resistance against abstract space. Although this production of space can be seen as an extra-legal activity towards the right to exclude, the value and potential of such forms of space making should not be underestimated (Finchett-Maddock & Lambert 2013).

2.3.2 Resistance through Civil Disobedience.

Civil disobedience is defined as an occurrence when a group of people disagree with the government and the rules and laws they created (Zain & Yusoff 2017). This disagreement takes the form of a non-violent and thorough political act that aims to bring change in the law and government policies, in this case the spatial act of claiming land. Civil disobedience initially not only puts emphasis on those in authority who create the policies but is also structured to bring awareness of the policies. This act is also done in such a way to not only question the highlighted policies but also to become a public declaration of dissatisfaction (Finchett-Maddock & Lambert 2013).

Civil disobedience finds itself within the boundaries of the legal system thus calling for the prerequisite of non-violent acts of protest (Zain & Yusoff 2017). Civil disobedience can be broken down into three different phases. Firstly, there has to be an instance where a law is seen as unjust. Secondly, that specific law should be challenged with a clear aim to alter it. Lastly, and the most important phase is, the accepting of consequences of challenging law through this act of protest (Zain & Yusoff 2017).

By practicing these acts of civil disobedience, citizens and non-citizens from informal urban communities participate in a form of spatial production. Aligning with Soja's (1996) definition of thirdspace which is a new way of seeing the binary system of designer and client, it defines a new methodology that encourages professionals to understand the social boundaries (excluding and including) of space as a moment and position of possible resistance, especially within a context consisting of social, racial and cultural segregation (Calmore 1996).

2.4 Conclusion

Resistance and Architecture.

Architecture harvests the capacity to be the best expression of the law and its organized system (Finchett-Maddock & Lambert 2013). Expression through urban development and spatial planning of informal settlements may reconfigure the law by putting these settlements on the grid of property rights (Finchett-Maddock & Lambert 2013).Resistance can become the moment, threshold, in the in-between space where a component (something or someone) creates or changes a set of laws. The identification of this moment highlights when something becomes legal or not (Finchett-Maddock & Lambert 2013). This moment can be captured and celebrated through architectural interventions, that test spatial and legal boundaries.

Based on the theories discussed, spatial-legal limitations highlighted and the possible link between architecture and resistance it can be argued that architects may need to engage in acts of civil disobedience in order to serve as activists for spatial justice within the context of informal urbanism. Thus this dissertation aims to look for possible architectural interventions that are born from challenged intricate legal issues surrounding informal settlements whilst at the same time surface new ways residents of informal settlements can reclaiming their right to the city.

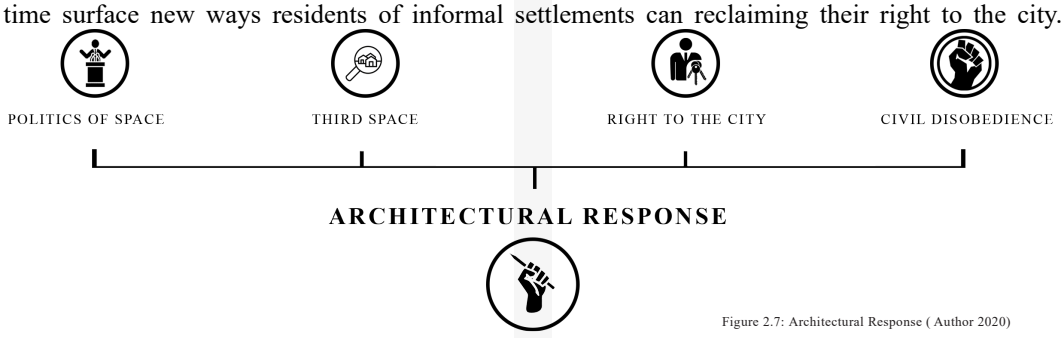


Figure 2.7: Architectural Response (Author 2020)



CHAPTER 3

RESEARCH AIM

3.1 In a South African Context

In South Africa, informal settlements are the physical manifestation of unbalanced access to land situated in urban areas and their peripheries. More than 4 million people find themselves living in informal settlements making this the fastest-growing household sector in the cities of South Africa (Ebrahim 2019). The main challenges are the availability of well-located and serviced land, security of tenure and affordable housing, thus questioning the constitutional right to adequate housing and access to land on a just basis (Ebrahim 2019). The history of apartheid land law in South Africa was the cause for the failure of investment into the development of housing and municipal services (SERI 2018). This apartheid planning resulted in townships, which were placed on the peripheries of the city, to have a shortage of housing because of overcrowding and this gave birth to the establishment of informal settlements (SERI 2018).

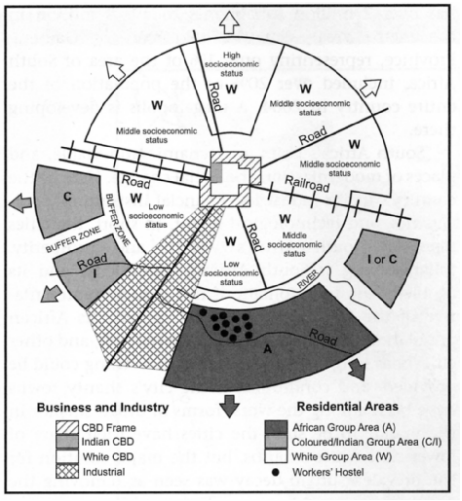


Figure: 3.1 Apartheid City Model (Davies 1981)

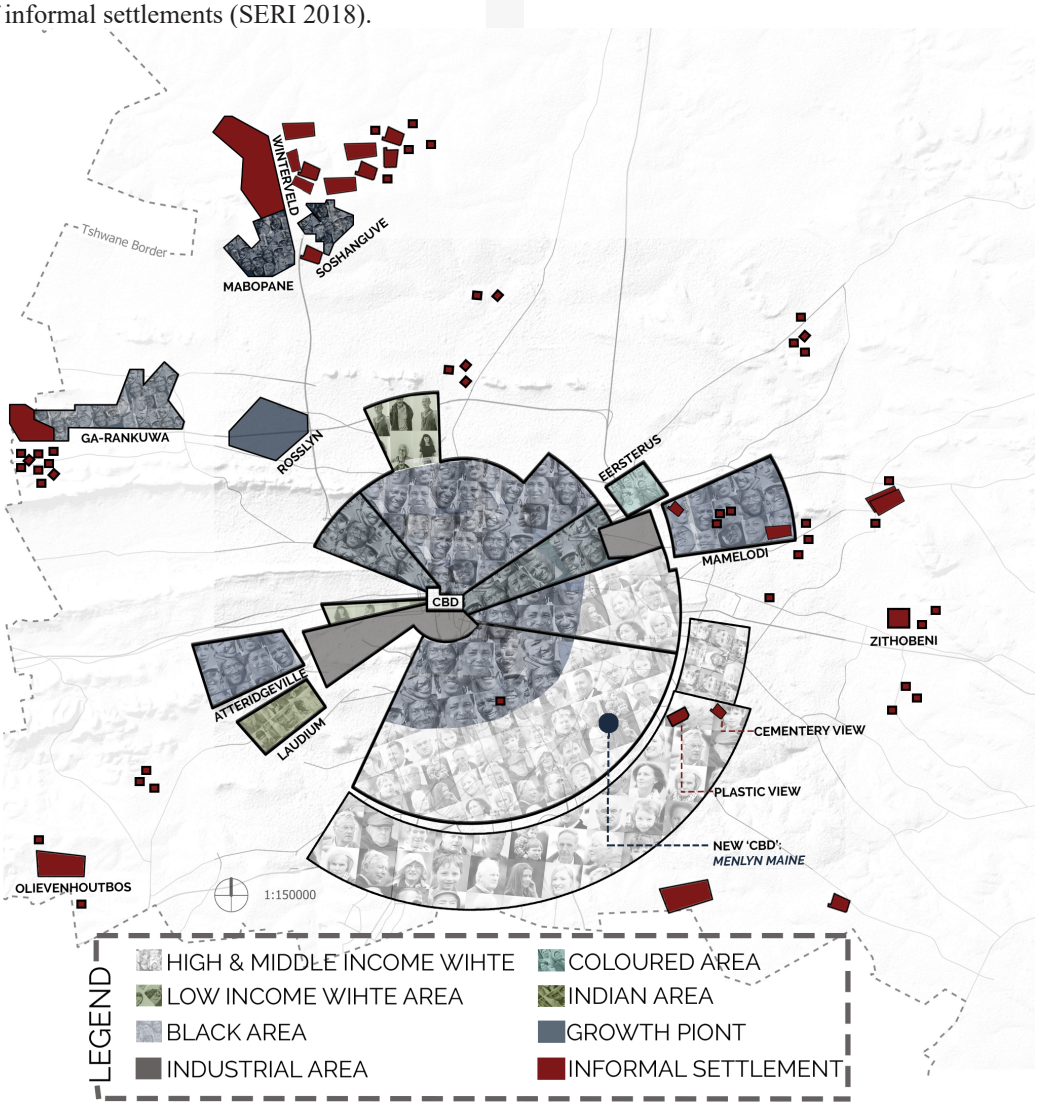


Figure: 3.2 Apartheid City Model Overlaid with 2020 Informal Settlements in Tshwane (Le Roux, Maritz, Pieterse, van Huyssteen & van Niekerk 2016 edited by I Mulder 2020)

Due to the rapid growth of informal settlements, national laws and policies governing informal settlements in South Africa were created to benefit the citizens in informal urban areas:

Prevention of Illegal Eviction and Unlawful Occupation of Land Act 19 of 1998 (the PIE Act):

The aim of the PIE Act was initiated for the protection of South Africans that live in urban areas that lacked the entitlement of common law regarding the land that they occupy (SERI 2018).

Section 26 of the Constitution of the Republic of South Africa, 1996:

The aim of this constitutional law is to enshrine the right to adequate housing, to keep the state accountable for the use of legislative and reasonable measures to reach this right and preventing any person to be evicted from their home or it to be demolished without a court order that considers all the relevant circumstances (SERI 2018).

The Housing Act 107 of 1999 (the Housing Act):

This act demands that priority has to be given to the needs of poor people regarding housing development. This act also requests meaningful engagement from all the spheres of government with the communities and individuals that are affected by any housing development (SERI 2018).

Upgrading of Informal Settlements Programme (UISP):

The UISP allows municipalities to apply for funding regarding the upgrading/redevelopment of informal settlements. The main aim of this programme is to provide adequate infrastructure, security of tenure uses as well as access to basic services through participative and inclusive community engagement (SERI 2018).

3.1.2 Problem Statement:

Although the state's position on informal settlements is purposefully set out in an array of spatial policies that address the upgrade and urban integration of informal settlements there are still a lack of implimentation of these legislations as one can see in informal settlmetns in South Africa.

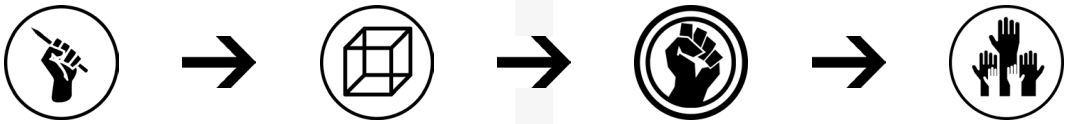
Thus due to the highly political debate surrounding abandoned urban land within cities, especially within South Africa, the rapid emergence of informal settlements within unwanted spaces is evident and calls for more human focussed and meaningful engagement. It can be argued that there is still a clear missed opportunity for critical engagement from the architectural profession when it comes to informal urbanism (Dovey 2013).

Thus structuring this dissertation main aim to address the gap between the architectural profession and the various political, social, economic and spatial aspects surrounding informal settlements.

3.2 Research Question

Through this exploration and interpretation of the politics surrounding informal urbanism and architecture it is evident that the profession is paradoxically confined within its legal boundaries. Based on the theoretical findings surrounding the existence of informal settlements and the various aspects surrounding it, a research question was generated.

How can architecture be used as a medium of civil disobedience to reclaim informal settlments' right to the city?



3.3 Research Location

This dissertation's architectural focus will be on an informal settlement, called Woodlane Village/Plastic View, situated amid the affluent eastern suburbs of Pretoria, South Africa and is presented as an example of how upgrade policies have been misinterpreted over a span of more than a decade, with little to no evidence of architectural engagement.

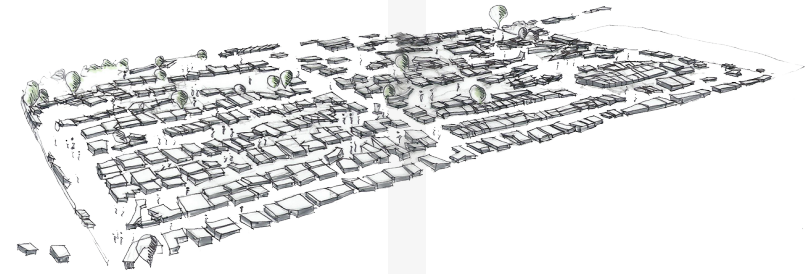


Figure: 3.3 Plastic View Sketch (I Mulder 2020)

3.4 Research Methodology.

When researching people's behaviour in a specific context, a mixture of theoretical and practical driven methods can be followed. This postmodern paradigm will then lead the study towards a qualitative method of gathering information and data. The qualitative method entails a predetermined set of procedures that forms a systematic application of analysing evidence through the collection of data, and then resolving specific issues with the findings (Breed 2019). This qualitative research methodology's main aim is to obtain a clear understanding focused on a specific case study and not on emphasising an opportunity to generate a general answer (Breed 2019). The aim with using this paradigm of study is to discuss the overarching element between the theory and practicality of public space making within informal settlements and how it can influence the research question at hand. The specific issues that will be addressed will best be answered through thorough in-depth data collection and investigative methods. Because of this in-depth research method ethical boundaries are present and had to be respected at all times. Social patterns and structures within the context of an informal settlement forces the study to investigate the ethnographic knowledge of the specific group of people that inhabit the spaces. A deep and focussed interpretation of the gathered data must be made with the aim to reach the hypothesis (McCombes 2019), the hypothesis being that public spaces and the creation thereof have the capacity to become landmarks of change within struggling circumstances such as informal settlements (UN Habitat 2014). Within this study specific data needs to be collected with the aim to generate site and social specific conclusions. A specific identified informal settlement was analysed through an asset of data collection methods such as:

3.4.1 History Study (Quantitative data)

The first step of gathering information for this project that is situated within this paradigm is a history timeline desktop study which entails the gathering of information regarding the specific research project. In this case a historical timeline of the existing informal settlements in the city of Pretoria situated in the Gauteng province of South Africa had to be generated. The aim of this desktop study is to understand the reason for the existence of informal settlements in this area as well as their growth throughout the years. By taking the identification of the existing informal settlements within the city of Pretoria one specific site was chosen based on the population growth within the settlement as well as the application of legislation or the lack thereof (Historical Research: Timeline Construction & Chronological Identification 2016).



3.4.2 Ground Truth (Quantitative data)

Mapping the existing measurable data on the ground. Identifying specific landmarks surrounding the existing site as well as existing infrastructure (Forensic Architecture 2018). The aim with this method of quantitative data collection is to correctly situate the site within the larger context of spatial existence and locating possible spatial elements (buildings, road or parks) that could increase the social value of the space.

Formal interviews and surveys were also held and captured through the use of tools such as *Kobocollect* which is an app that makes quantitative data collection easier by allowing the researcher to generate surveys which will then be filled in via a mobile device and sent to an online spreadsheet. These structured interviews were held with various people that live in the informal settlement.



Figure: 3.4 Interviews (V Khoswe 2020)

3.4.3 Pattern Analysis (Qualitative data)

Specific patterns of social structures were identified such as patterns of movement, interaction or any violations of human rights or any form of appropriation (Forensic Architecture 2018). The aim of this method of data collection is to see any changing trends and the frequency thereof. It also allows for possible future assessments of change to be made. This links with the next data collection method.

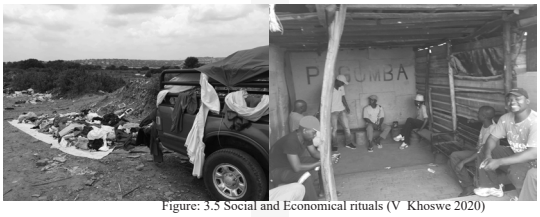


Figure: 3.5 Social and Economical rituals (V Khoswe 2020)

3.4.4 Situated Testimonies (Qualitative data)

Situated testimonies are informal interviews that are held whilst mapping the exact moment and place where the interview is taken. The important part of this is to map any changes on the ground based on the answers one gets from the interviewee and to pin a specific location to it on a map of the site (Forensic Architecture 2018). Informal interviews were also held with professional legal and architectural practitioners as well as all related stakeholders with the settlements. The aim of this method of data collection is to access a more narrative and personal events of the people that inhabit the site. The focus is to tap into and explore their memories and experience of the space.

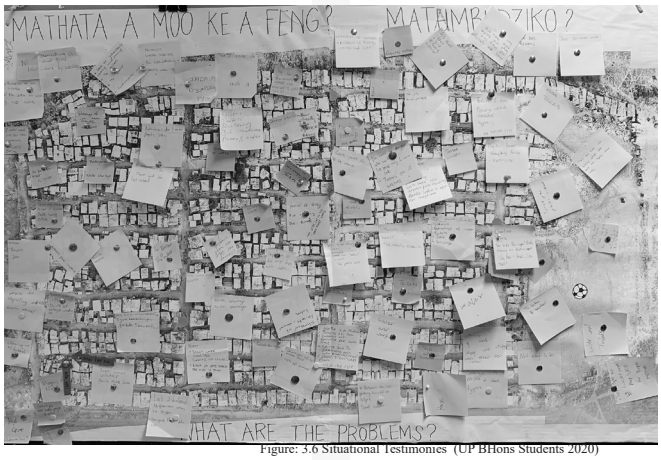


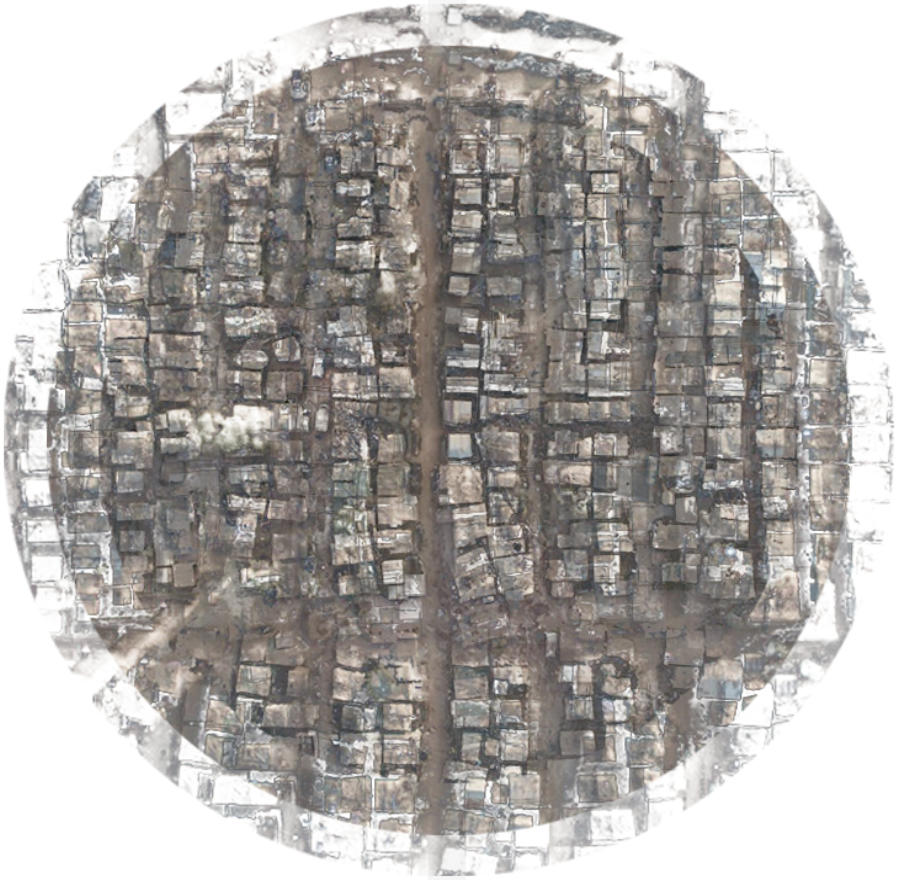
Figure: 3.6 Situational Testimonies (UP BHons Students 2020)

3.5 Data collection Conclusion

The main objective of using these data collection methods of content, narrative and discourse analyses are to reach conclusions of how the people that live within these spaces see their existing public spaces. These data collection methods also highlight the vertical relationship members of informal settlements have with the government as well as the existing horizontal social and economical relationship members within the informal settlement have with one another as well as the surrounding communities.


Figure: 3.7 Vertical Relationships (V Koshwe edited by Author 2020)

Thus concluding that due to the rigorous social, economical and spatial data collected through these methods a clear starting point can be identified when focusing on one specific informal settlement and the possible architectural intervention that may lead to a reclaiming of the right to the city.



CHAPTER 4

CONTEXT

4.1 Site introduction

Site description

At the end of 2004 a small NPO, *Tswelopele Step by Step*, founded by Colin and Denise Dredge in 2003, became aware of a large number of people living in a large open field adjacent from the NG Moreleta Church in Moreleta Park. Within a period of 5 years the informal settlement was legitimised in 2009 and is situated within the upmarket suburb of Moreleta Park in Pretoria East (Dredge 2020). By 2016 Woodlane Village, the name of the informal settlement, consisted of 853 households. Through the years a series of attempts at unlawful eviction from the local authorities took place impacting around 3000 people. During these illegal evictions, malicious acts towards the people of the community were reported. Local resident's associations then took the City of Tshwane to court to obtain a court order for the eviction of the people of Woodlane Village, who were living on municipal land. The NPO was seen as a *Friend of the Court* (amicus curiae) and together they facilitated smooth alternatives like demarcating a specific piece of land to the Village through fencing it off (Dredge 2020).

4.2 Contextual Analysis

Derived from the lessons learned from previous chapters, this study's context analysis is based on overlapping Henri Lefebvre's (1974) spatial triad, that categorises space into perceived, conceived and lived space, with the on site data collected, through the previously mentioned methodology, of Woodlane Village/Plastic View informal settlement's existing conditions.

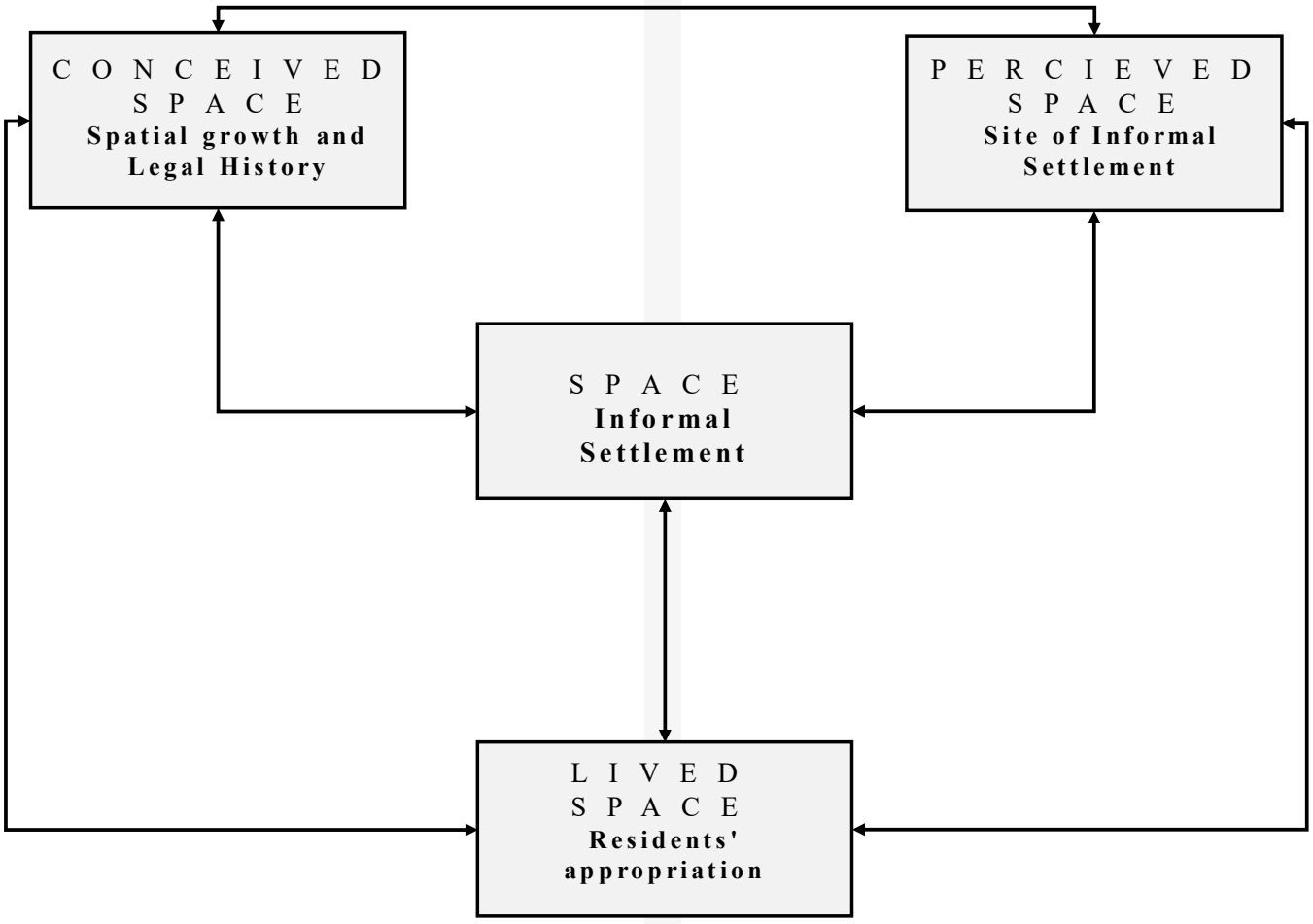
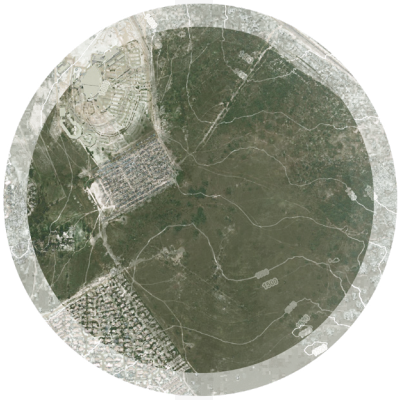


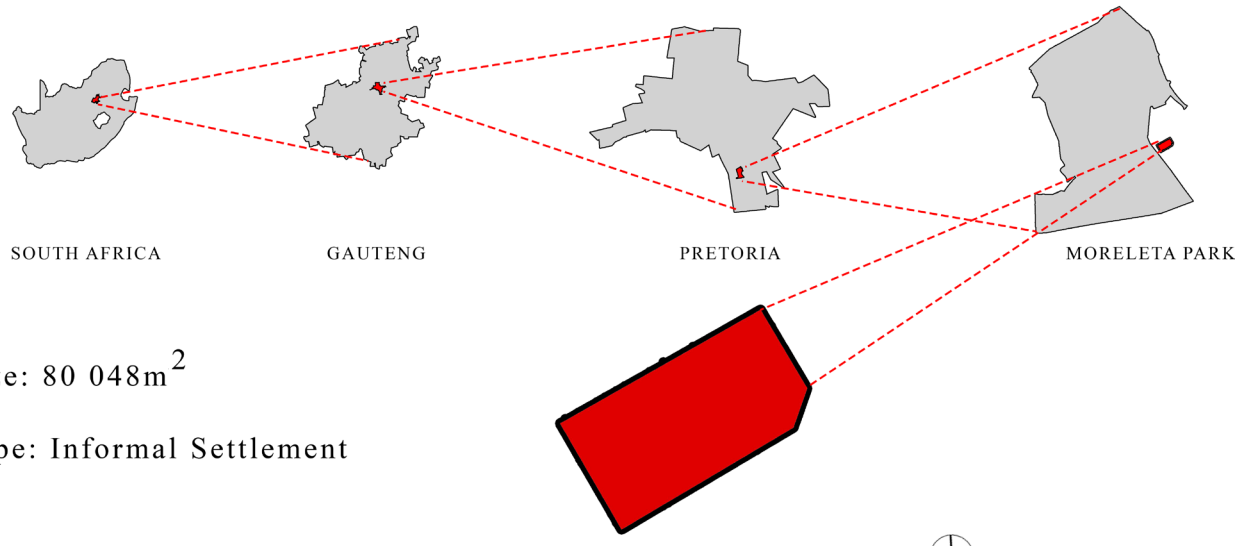
Figure: 4.1 Lefebvre (1974) Spatial Triad and Contextual Analysis Diagram (Author 2020)

4.3 Site Analysis (Conceived Space)



Plastic view is situated within a suburb in Gauteng, South Africa, called Moreleta Park. The Informal Settlement consists of 25% of Moreleta Park's population (Stats SA 2011). Based on the physical characteristics of the site documented through on-site walkarounds as well as informal interviews held with members of the community, an understanding of how the residents of Plastic View conceive the settlement could be reached.

Location: 25O49'22,76''S;28O19'08,12''E



Size: 80 048m^2

Type: Informal Settlement

WOODLANE VILLAGE / PLASTIC VIEW

Figure: 4.2 Site Location (I Mulder edited by Author 2020)

Surrounded by different residential, commercial and health-based facilities, the grounds on which Plastic View finds itself can be seen as socially and economically valuable, indicating the possible reasons why people started claiming this open space of land as their own.

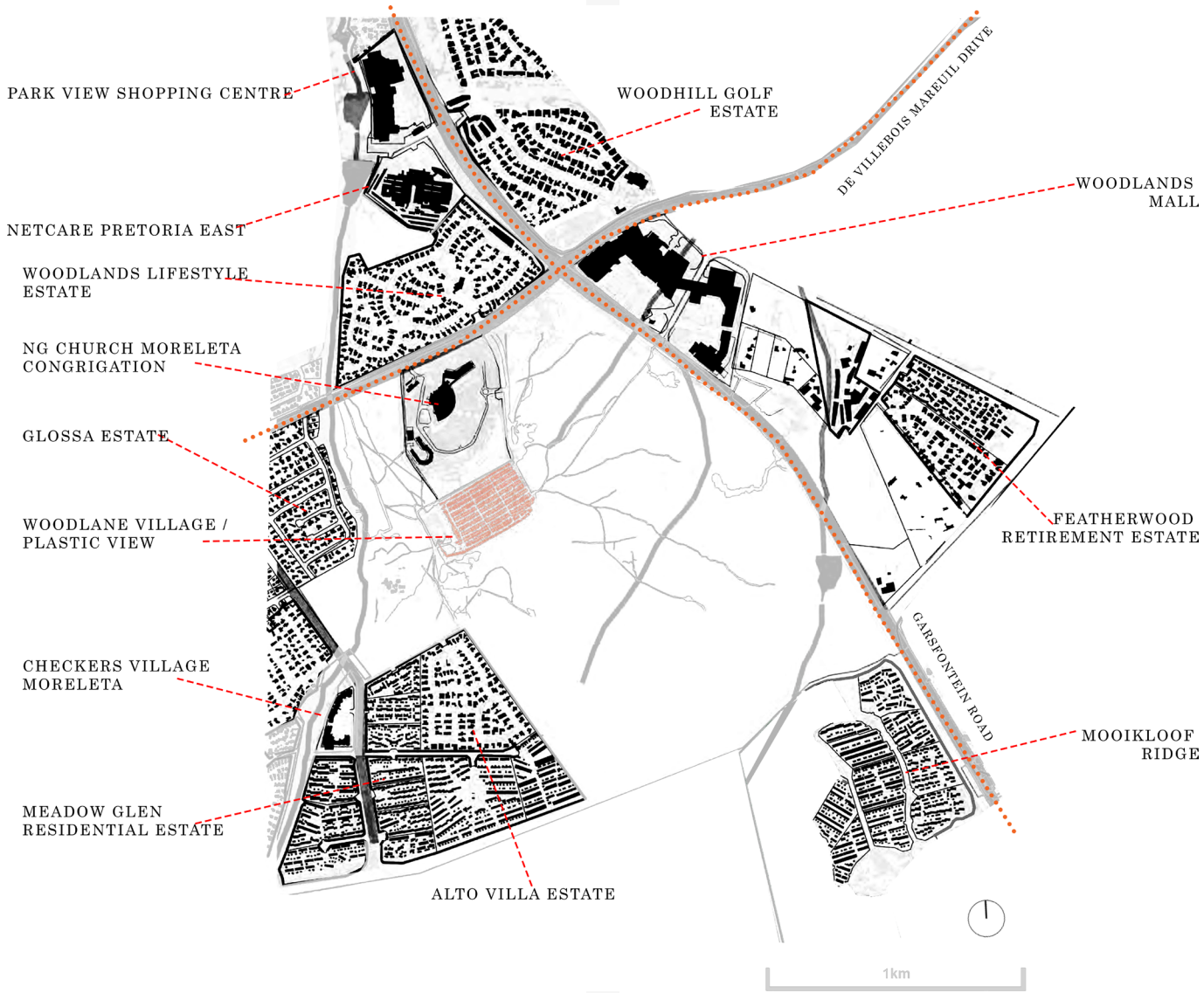


Figure: 4.3 Context Map (UP BHons students edited by Author 2020)

The physical typology of the site on which Woodlane Village/Plastic View is set, slopes heavily thus resembles a hill within a highly dense residential area.

Site Section

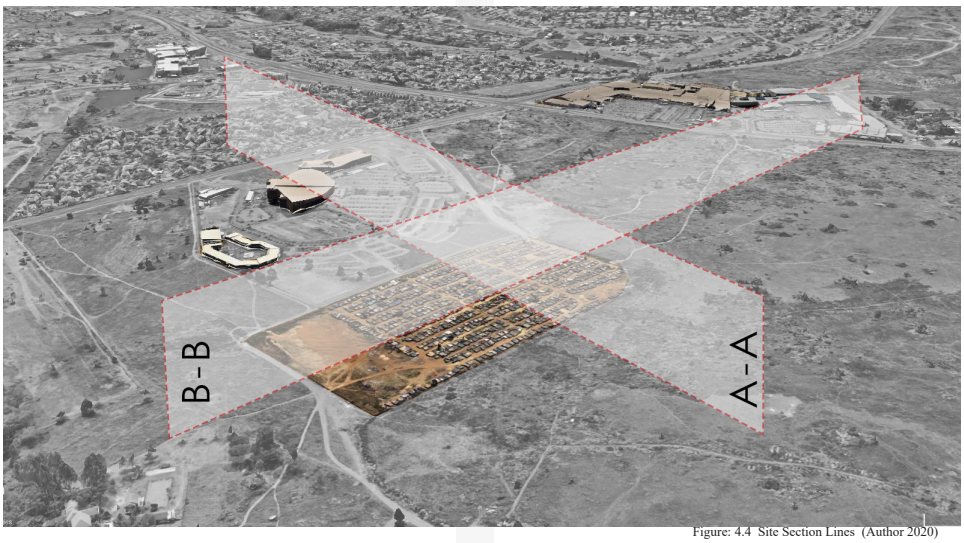


Figure: 4.4 Site Section Lines (Author 2020)

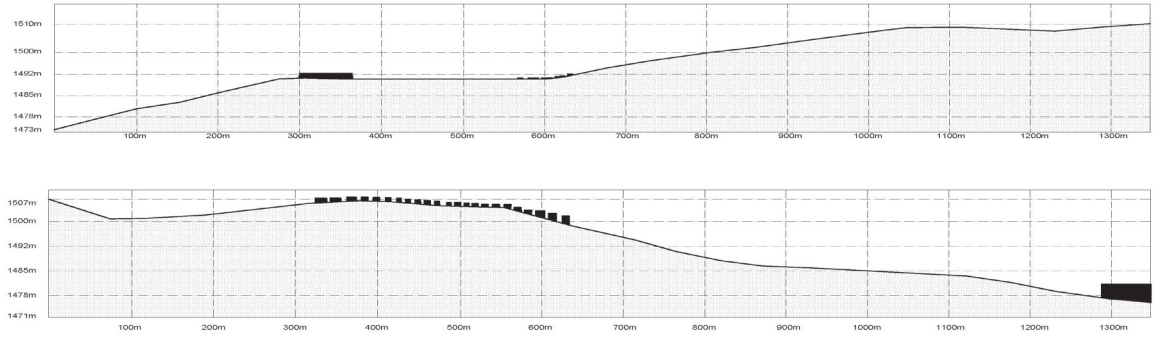


Figure: 4.5 Site Sections (Author 2020)

Looking at Plastic View's existing condition, the settlement falls within the stigma of an informal settlement in which the conditions communicated the lack of care and basic infrastructure, relating to the legal and political history of Plastic View's existence.

Existing Site Condition



Figure: 4.6 Site Photographs (Author 2020)

4.4 Site History (Perceived Space)

The discourse surrounding Plastic View can be highlighted through its legal and physical history as well as the perceived opinion of the surrounding communities and government.

4.4.1 Physical History Timeline:



Tswelopele Step by Step, founded by Denise and Colin Dredge made it their priority to highlight the struggles and conflicts that this settlement faced. Informal shelters started being erected through the help of Tswelopele Step by Step NPO (Dredge 2013).



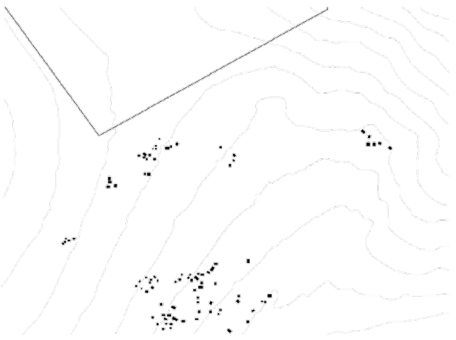
The settlement was re-organised within a consolidated and controlled area on the eastern side of the Moreleta Park Church's boundary wall. This "formalisation" caused the settlement to be more supported and protected against illegal violent attacks. This year also dates the official naming of Woodlane Village, or as the members of the settlement and surrounding communities call it, Plastic view. (Dredge 2013).

2001 — 2003 — 2006 — 2009

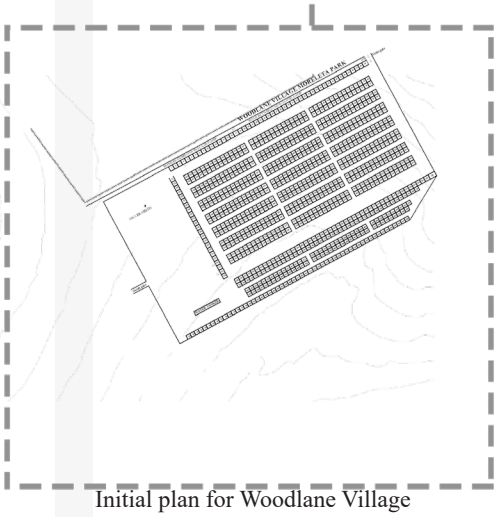
Plastic View/Woodlane village started occupying the vacant land in Moreleta Park in Pretoria East. This dates the period when the first signs of an organic informal settlement started appearing. The inhabitants took shelter within the existing vegetation to prevent any eviction or conflict from the police (Dredge 2013).



2000-3000
Documented people
living in the area (Dredge 2013).



Plastic View 2006



Initial plan for Woodlane Village

Emerged from necessity, the growth of Plastic View's physical and social density, over a span of 16 years, has more than doubled in its original size and population, housing people from various countries and cultures.

Informal Settlements Forum (ISF) began with the aim to coordinate and mobilise different interested individuals and parties to discuss and find either short- or long-term solutions that will be sustainable regarding Plastic View. The goals of the forum to this day is to facilitate opportunities for various stakeholders such as the University of Pretoria, political parties, the SAPS and many more to work together to find solutions which will benefit the whole of Pretoria East as well as the city itself (ISF 2019).

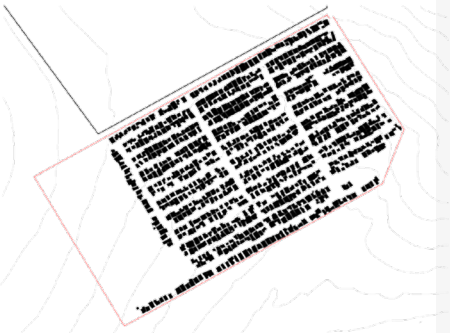
2015

2018

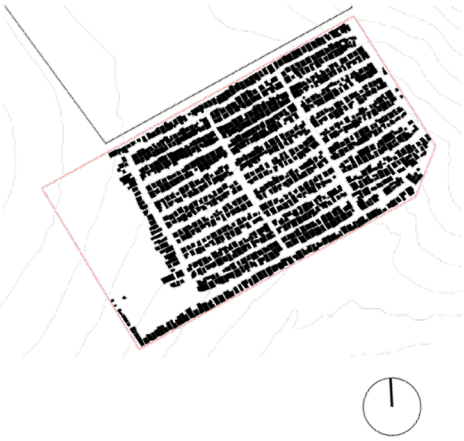
2020

The municipality threatened to sell the property on which Plastic View was founded. Together with the *Lawyers for Human Rights* and *Tswelopele Step by Step*, the court case was won and the people residing on-site were allowed to stay in Plastic View. Despite winning this court order for the people of Plastic View, the struggle for the provision for basic human amenities in Plastic View is still evident as well as being highly influenced by some of the surrounding estates protesting against the formalising of the settlement (Dredge 2013).

8000-9000
Documented people
in Plastic View (BHons 2020).



Plastic view 2015



Initial plan for Woodlane Village

Figure: 4.7 Plastic View History Timeline (Author 2020)

4.4.2 Plastic View Legal History.



Over a period of 10 years a total of 13 court orders were granted regarding the expansion and relocation of the settlement, which confirms the conflicting legal discourse surrounding the Plastic View.

Summary of Court Orders:

March 2006

100 residents of Plastic View were illegally evicted.

August 2007

. The court ordered the SAPS to replace the 50 shacks that were illegally torched by the SAPS within 12 hours.

August 2009

Provision of the fence around the demarcated area of Plastic View.

March 2015

The City of Tshwane failed to auction off the land on which Plastic View resides because of the lack of agreement on the relocation of the residents of Plastic View.

Based on both the legal history and physical growth of Plastic View it is clear that the residents of Plastic View was and is left to their own devices. Despite this there is a clear indication of spatial and economical appropriation could be seen within Plastic View. These forms of appropriation manifested in various people of Plastic View appropriating their dwellings as spaces for business, social gathering spaces, gardens, and even scrap yards. Due to the evidence within Plastic View, it is evident that the appropriation within Plastic View is personal and needs-driven, thus confirming a form of appropriation that is highly dependent on some form of co-existence and participation.

4.5 Site Appropriations (Lived Space).



Participation which, according to Sadri (2012), consists out of scales of influence that are categorized through social and economic agreements within public motives (Sadri 2012).

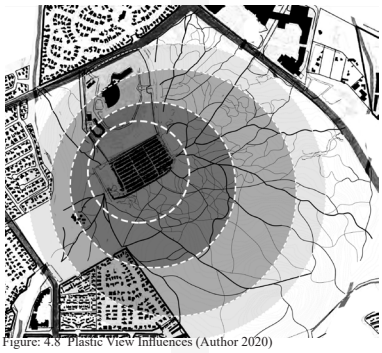


Figure: 4.8 Plastic View Influences (Author 2020)

By mapping, the existing proof of appropriation within Plastic View it can be concluded that the members of Plastic View created a new collective identity which communicates the existence of a sense of pride and belonging within the lived experience of Plastic View.

Through the use of the situational testimony data collection method, information could be gathered which aided the reaching of an understanding of how the residents of Plastic View not just physically but also socially feel about the settlement.

The appropriation and use of spaces make way for coexistence, which according to Christian Norberg-Schulz (1993), occurs in the collective, public and private spatial realms. The appropriation of, and participation in these realms should be seen as the foundation of any city dweller's right to the city (Sadri 2012). These three realms will act as spheres of interaction in which the possible architectural solution which acts as platforms for spatial justice will be situated.

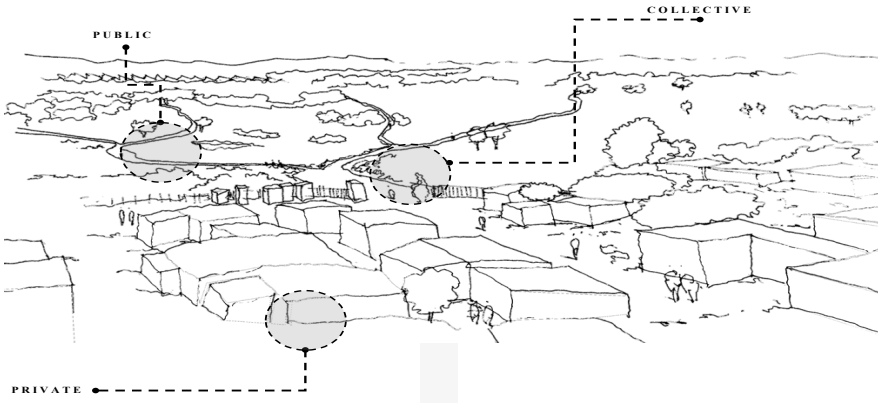
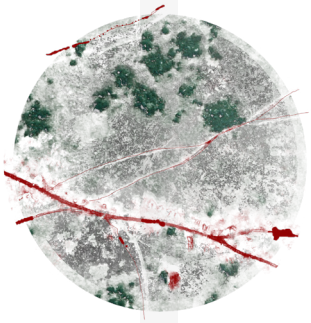


Figure: 4.9 Appropriation Realms (Author 2020)

4.5.1 Public Realm – Desire Lines



Within the public realm, social reconciliation and agreement takes place (Norberg-Schulz 1993). Based on this, the various desire paths surrounding the settlement were highlighted as important spatial interaction due to embodying the various human agency surrounding Plastic View. Desire lines communicate self-appropriation taking place within the cracks of formal urban planning (Lefebvre 1974). Human agency causes these spontaneous space-making processes to surface forms of efficiency, resilience and resistance (Foster 2019).

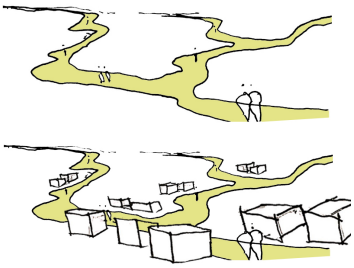


Figure: 4.10 Appropriation Space Making (Author 2020)

Efficiency and Resilience

Resembling the lattice leaf pattern, Plastic View's desire lines consist of various primary and secondary connections, aligning with what Christopher Alexander (2011) and Serge Salat's (2011) define as the best city structure (Salat et al 2011).

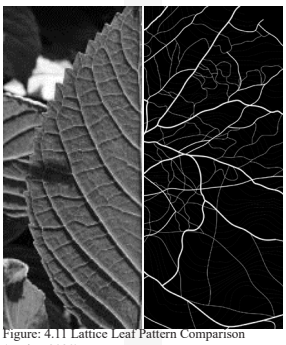


Figure: 4.11 Lattice Leaf Pattern Comparison (Author 2020)

These multiple human centred connections of spatial hierarchy increase the spatial efficiency of a site as seen in Rome's refined and self-organised spatial layout (Salat et al 2011).

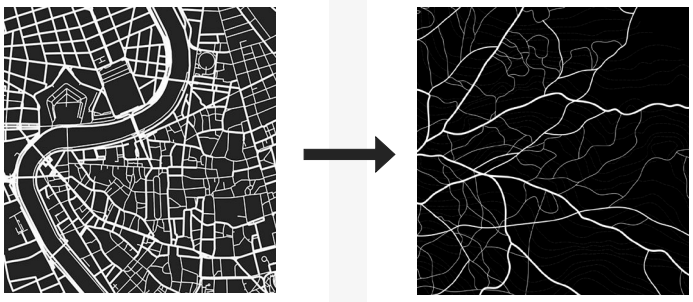


Figure: 4.12 Rome and Plastic View Comparison (Author 2020)

In Plastic View all the desire lines found on site can be traced to specific locations. Thus, acting as self-organised shortcuts that ease mobility which the current surrounding formal spatial layout does not provide for.



Figure: 4.13 Organised Shortcuts (Author 2020)

Resistance

Physical forms of resistance occur through desire lines contrasting against formal spatial planning causing a collective act of civil disobedience practiced though everyday life and routine (Furman 2012).

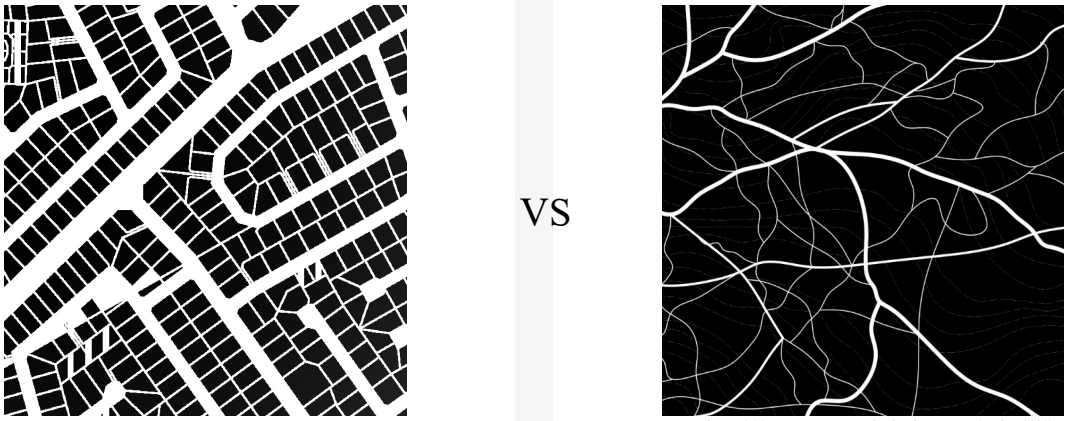


Figure: 4.14 Estates Layout vs Plastic View Layout (Author 2020)

One may conclude that desire lines act as the historical record of the dynamic relationship between people and the site they inhabit. By going through a process of redundancy where over time specific desire paths solidify or die out due to the everchanging surrounding areas, an expression of the right to the city through movement patterns can be reached (Bramley 2018).

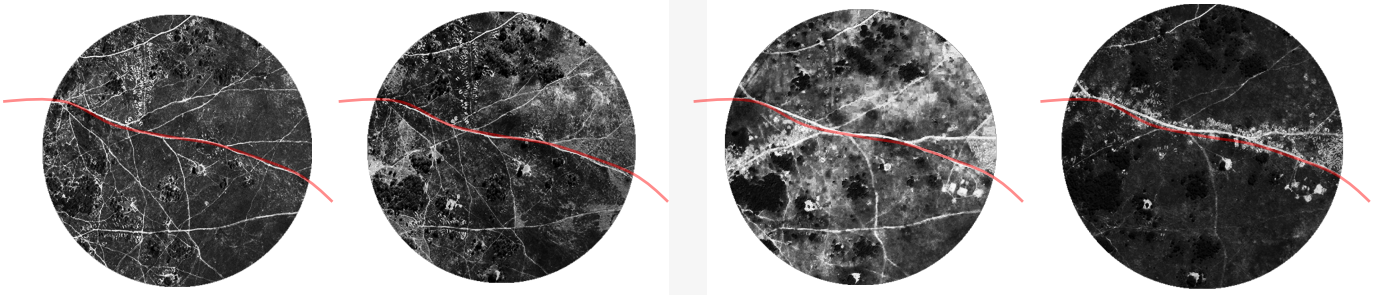


Figure: 4.15 Redundant Desire Paths (Author 2020)

4.5.2 Collective Realm – Lived Moments



Solid desire lines connect lived moments within the collective realm. These connection points can be defined as meeting spaces. Meeting spaces within the collective realm are spaces where social exchange happens (Sadri 2012).



Figure: 4.16 Lived Moments (Author 2020)

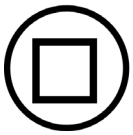
Meeting Spaces

According to Doreen Massey, meeting places are influenced by different actors interacting, meeting and co-existing (Mielke & Hornidge 2017). This is created through everyday life manifesting into a form of expression and freedom (Butler 2009).



Figure: 4.17 Meeting Place Sketch (Author 2020)

These meeting moments can be divided into scales of interaction and influence (Mielke & Hornidge 2017). These scales can be better understood when combined with how Nicholas Blomley (2014) defines space. Blomley (2014) catagoriese space into three scales in which human agency takes place:



Containers
Various neighborhoods and states.



Relations:
Distance and the access one has whiting the containers.



Scale:
Overall combination of containers on a global and local scale.

Exterior and interior links can be then be identified through combining the idea of meeting places and these three categories of space (Blomley 2014).



Figure: 4.18 Spatial Link Diagram (Author 2020)

Exterior Links

Exterior interaction causes moments to be articulated by the surrounding social relations. These social relations are defined and understood on a scale larger than the giving spatial moment in which an actor finds themselves (Mielke & Hornidge 2017).

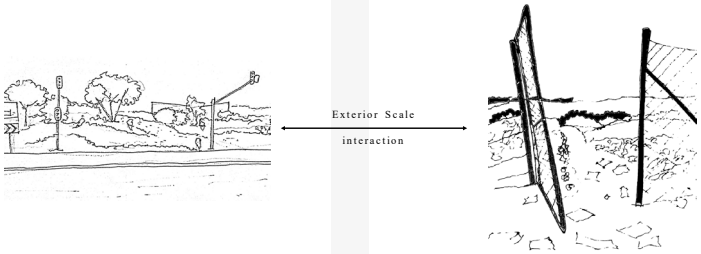


Figure: 4.19 Exterior Link - Larger Scale Community with Smaller Container (Author 2020)

The main elements of these exterior meeting moments are dependent on the movement or stillness of the actors that use the spaces. This makes the participants of this social relation part of the larger scale interaction (Mielke & Hornidge 2017).

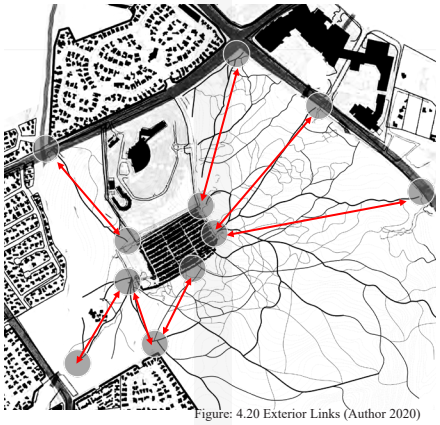


Figure: 4.20 Exterior Links (Author 2020)

Interior Scale Links

The interior scale communicates the physical and social moments that act as links within a smaller scale container (Blomley 2014). Smaller-scale meeting places become the arena for the negotiation and conflict between different internal actors' identity, norms and values. Thus, causing the actors' socio-spatial experience to constantly change in such meeting places (Mielke & Hornidge 2017).

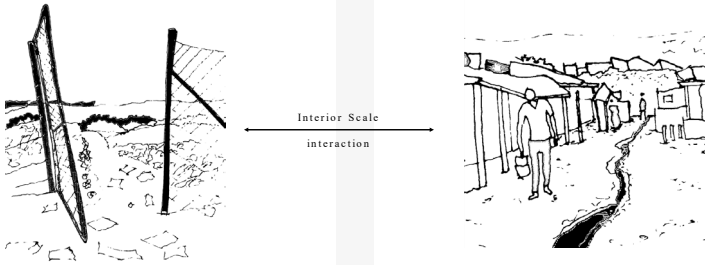


Figure: 4.21 Interior Links within container (Author 2020)

Although the links between the meeting places may start to solidify, because of the actors' experiences, the place in itself also changes, causing the links to be constantly in flux (Mielke & Hornidge 2017).

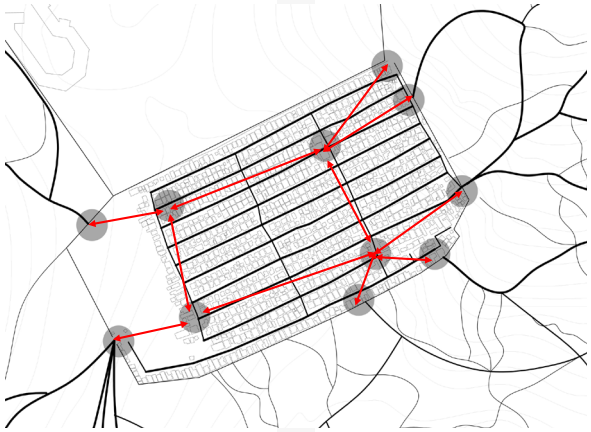


Figure: 4.22 Solid interior-links (Author 2020)

Meeting spaces can be found in between individual spaces, causing the collective experience of space to also be influenced by the private experience of spaces (Sadri 2012).

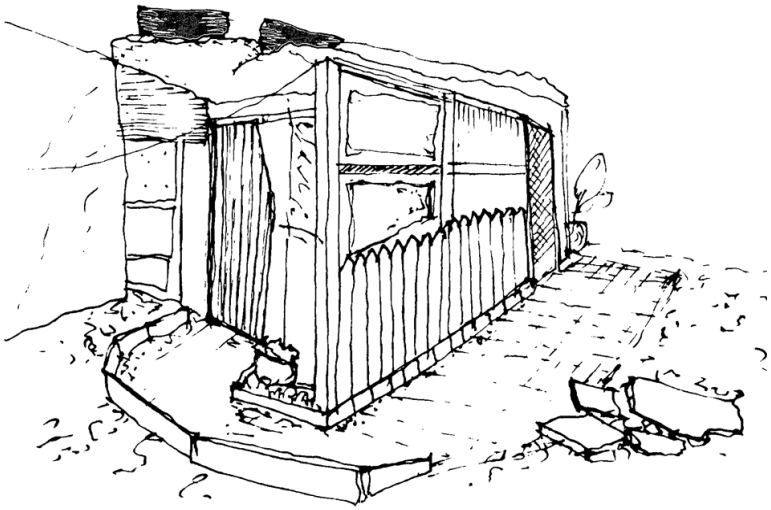
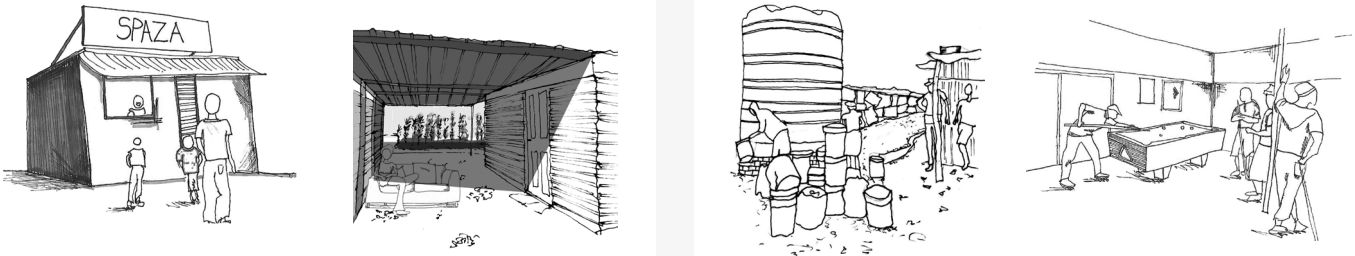


Figure: 4.23 Solid interior-links (Author 2020)

4.5.3 Private Realm



Lastly, the private realm, according to Schulz (1993), is the area where private social needs are met. Individual place is important for people to structure and define their own identities, creating a space based on their needs and uses (Sadri 2012). According to Bell Hooks (1989), an American author and social activist, people are transformed individually, collectively through the making of creative space from where a new perspective of the world is spawned.



Spaza Shops | Gathering Spaces | Water Tanks | Social Lounges

Figure: 4.24 Meeting Spaces (I. Mulder & Author 2020)

These social meeting spaces within Plastic View could then be identified through on site data collection and interviews.

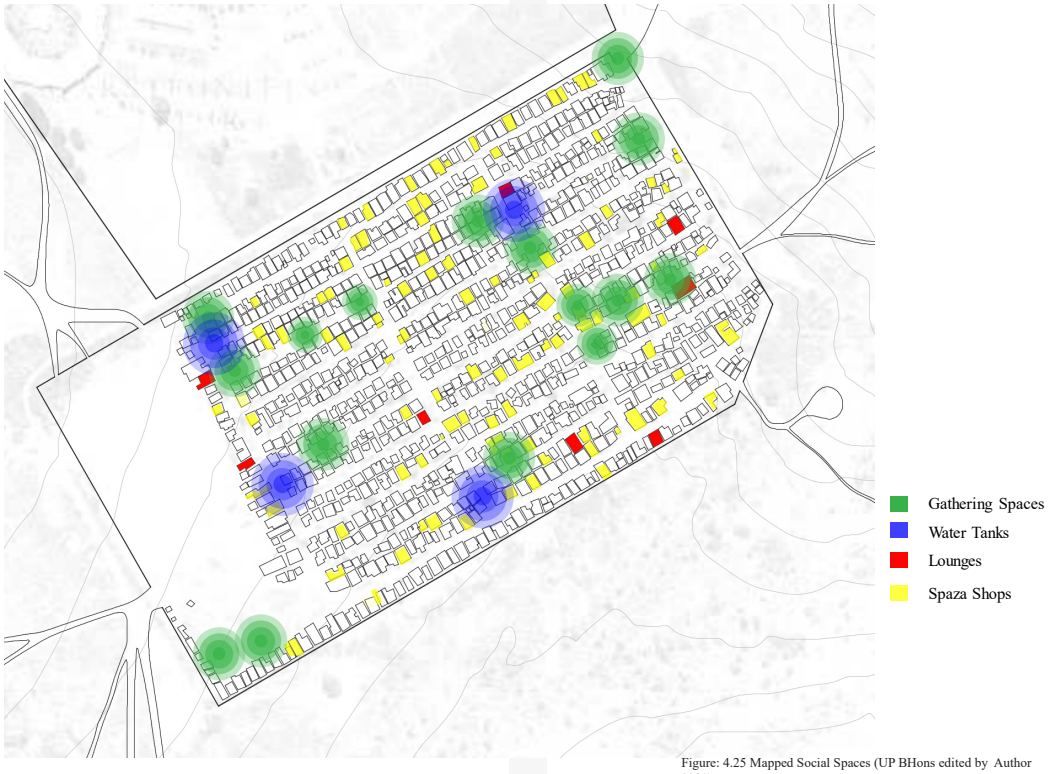
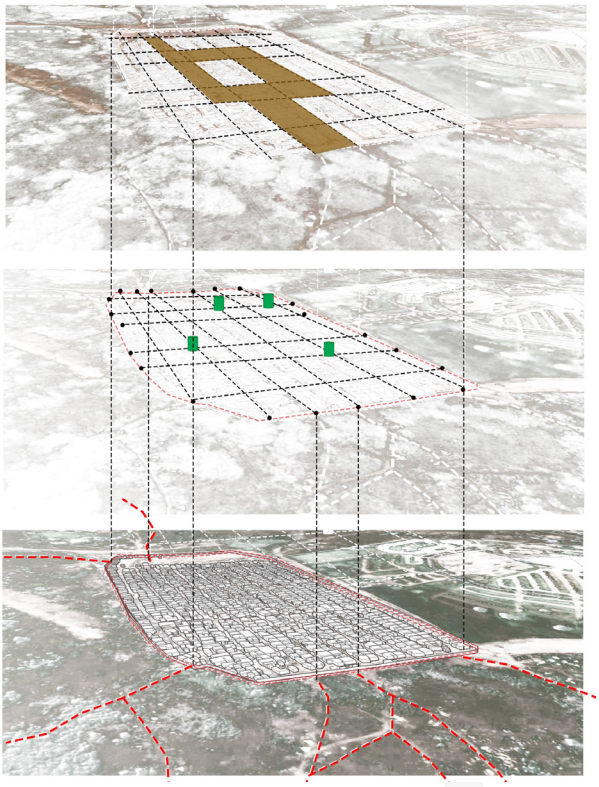


Figure: 4.25 Mapped Social Spaces (UP BHons edited by Author 2020)

Through the mapping of these social spaces in Plastic View such as spaza shops, lounges and existing water tanks, an urban avenue emerged. An urban avenue that is defined by various individual social interactions occurring collectively. This avenue connects the exterior interactions with the interior interaction indicating a clear distinguishing link between the inside and outside of Plastic View.



Possible urban avenues linking inside and outside of Plastic View.

Entrances crossing with water tank avenues.

Desire lines meeting with boundary fence.

Figure: 4.26 Emerged Urban Avenue (Author 2020)

This avenue allows for the assumption of Plastic View's social as well as physical links with the surrounding communities to be made which brings meaning to place. Place being the product of human activity, identity and agency which is confirmed by John Calmore (1999) to harvest the power to become a landmark of progression and resistance despite the odds and the boundaries (Calmore 1999).

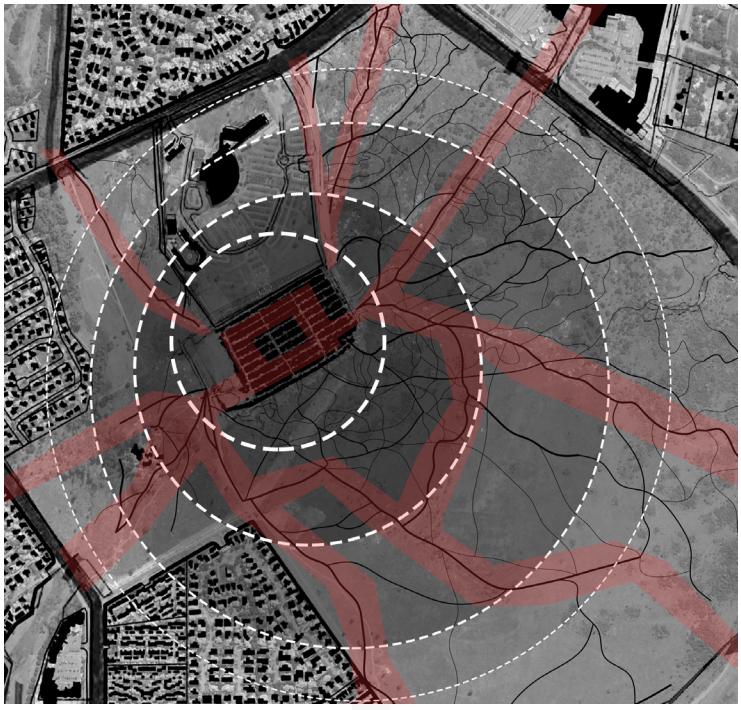


Figure: 4.27 Plastic View Connected (Author 2020)

4.6 Site Social Patterns



Personas and Basic Needs Mapping:

Being a product of various social interactions, physical location and legal history, Plastic View is a social hub of various personal interactions which shapes the settlement's possible value towards the surrounding communities.

Based on quantitative data collected through interviews with members of Plastic View and the situational testimonies surrounding Plastic View, the surrounding personas of this project could be categorised within the three realms used within the appropriation mapping regarding Plastic View namely the public, collective and individual realm.

4.6.1 Public Realm Personas:

The public realm personas, focuses on the larger scale connection the surrounding communities have with Plastic View.

Surrounding Estate Residents



The numerous court orders regarding illegal evictions and the re-location of Plastic View testify of the concern various exterior actors have with Plastic View. Based on this the main issues from the perspective of the surrounding communities are the safety and crime in Plastic view as well as the aesthetic value towards the green space in which Plastic View finds itself.

Government Officials

The existing governing bodies' expected position surrounding Plastic View is contradicted through the various illegal evictions executed on Plastic View thus making their existing views on the settlement clear. This highlights the government's main concern regarding Plastic View, to be the future value of the site which is evident due to the request for Plastic View's re-location. The second concern is the high crime levels within the settlement. This is made clear due to the call for various executive, legislative and judiciary governmental branches such as the Police, Departments of Human Settlements and Home Affairs to collaborate in looking for humane solutions surrounding the crime issues within Plastic View (IOL 2020).



The Outside Traders



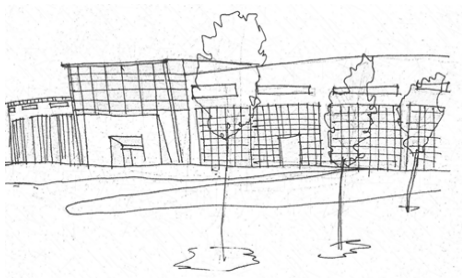
Various people that do not reside in Plastic View contribute to the economic system surrounding Plastic View. Based on interviews held with members of the community it was indicated that over the weekends people from all over Tshwane come to Plastic View to sell various products such as second hand clothes and food at the entrance of the settlement (UP MProf 2020). This has a major impact on the micro economy present in Plastic View for it supplies stock for the small-scale markets within the Plastic View which is the most active within the weekdays.

4.6.2 Collective Realm Personas

The collective realm personas focus on the more direct link between specific stakeholders and specific community members that influence and participate in the upgrading of Plastic View.

NG Moreleta Church

Situated next to Plastic View, the NG Moreleta church which consist of 12000 members, have played a crucial role in the livelihood of the people of Plastic View. Various empowerment programs such as the *Pure Hope* primary school, which accommodates various educational programs for the children of Plastic View. On the grounds of the church, A *Community-Oriented Primary Care* (COPC), an initiative that was born from the collaboration between the University of Pretoria's Family medicine department and the City of Tshwane, can also be found on the southeastern border of the church grounds functions as a clinic for the people of Plastic View. The church also gives access to the members of Plastic View to use their halls for church services held in different languages. These halls are also used for various skills development programs that are run by the church (Erasmus 2020). Despite all these various existing programs, comfortable, accessible, and safe upliftment spaces that allow for self-expression, appropriation, and ownership from the members of Plastic Views are still lacking.



The Unemployed Residents



The second set of personas are the unemployed residents, defined as either not getting any form of income, or making use of illegal sales from their dwellings, are lacking a space where they can be exposed to new skills. Through analyzing the various interviews held with some of the members of Plastic View it is clear that some of these skills can be taught by the members of the community due to the existing labor experience present in Plastic View (UP BHons 2020).

The Employed Residents

The privileged few that do have jobs, mostly fathers, do not always have safe and efficient transport to and from their works. This was highlighted through the situational testimonies on site. This lack of efficient transport may cause a person to be absent for a long time from their households which may start impact the safety of their families (UP MProf 2020). The other issue highlighted by one of the residents of Plastic View, is the exposure they get to either improve their skills or just being seen by the general public to possibly receive employment (UP MProf 2020).



4.6.3 Individual Realm Personas

Based on interviews held with various female members of Plastic View, and the interpretation of the on-site data collected, the individual persona realm focuses on the needs of two specific personas.

The Mother



The mothers of Plastic View whose daily routines, according to the interpretations of various interviews, consist of caring for their children, cleaning their homes and doing laundry, as well as preparing food for their families. The limited space that Plastic View is confined in and the lack of proper water and sanitation, does not allow for these daily routines to be practiced easily or in very hygienical areas.

The Children

The church and NPOs already provide for a crèche and school to be allocated for the children of Plastic View to experience proper educational learning structures that also allows for empowerment programs for adults to learn new skills regarding child care. Although these programs are set in place there is still a need for after school care where the children will not only be learning new skills but will also be kept safe whilst their parents are not home or have the ability or time to help them with their school work. Another main issue is the children that are not able to attend the school, who require a space of encouragement and empowerment that can open new future opportunities.



4.6.4 Basic Needs Mapping

After the use of the situational testimonies data collection method, the residents of Plastic View could highlight their main concerns surrounding Plastic View. These concerns were highlighted through the use of a map and sticky notes, where members of the community had the chance to paste their specific needs or problem on the specific area where they experience that need or problem (UP BHons Students 2020). Through analysing these situational testimonies the basic struggles within the community could be highlighted by the use of a pie graph and placed within a hierarchical order of importance.

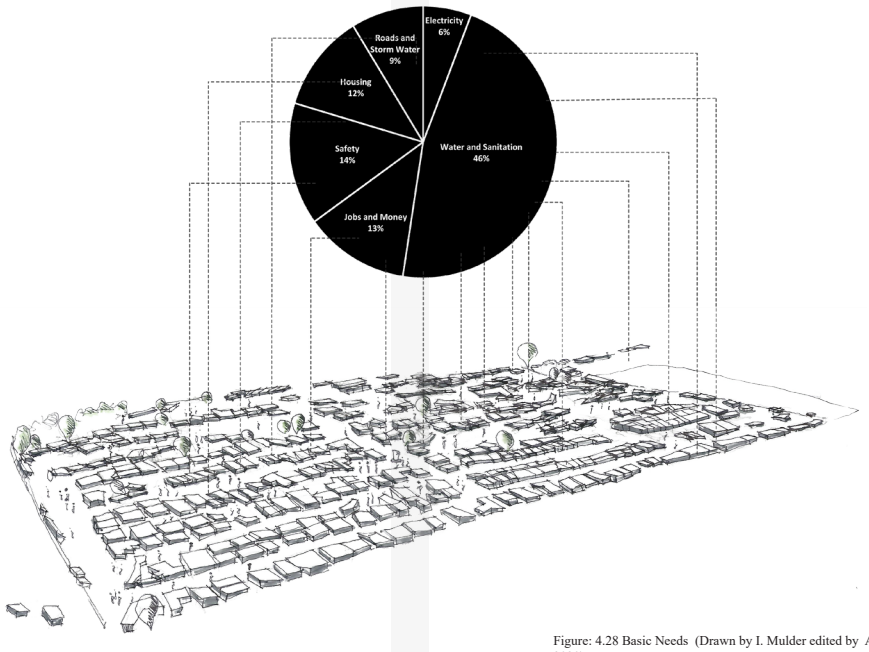


Figure: 4.28 Basic Needs (Drawn by I. Mulder edited by Author 2020)

Based on these findings, these 6 main issues surrounding Plastic View could be highlighted.

SAFETY

LAND USE TENURE

JOB OPPORTUNITIES

WATER AND SANITATION

ROADS

ELECTRICITY

4.7 Mapping Conclusions and Findings:

4.6.1 Physical Characteristics of Plastic View.

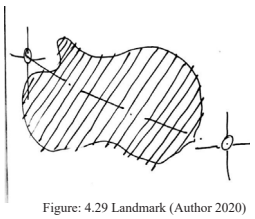


Figure: 4.29 Landmark (Author 2020)

Based on the physical representation of Plastic View the mapping concluded that because Plastic View is situated on an elevated position within its landscape, any architectural intervention may have the possibility to become a visual landmark. This landmark may start to link the public realm with Plastic View by implementing interventions that start to communicate a juxtaposition between both the scale of Plastic View and the surrounding built structures.

Plastic Views existing orthogonal typology also identifies a clear grid system which highlights various primary and secondary movement paths within the settlement. This grid system may be used to determine the sizes and orientation of any new spatial intervention.

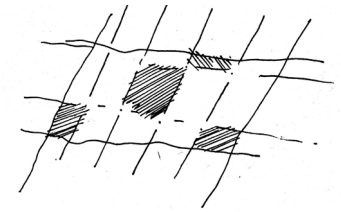


Figure: 4.30 Grid (Author 2020)

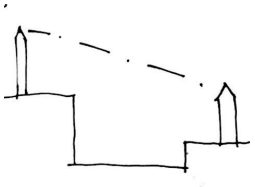


Figure: 4.31 Stepped Spaces (Author 2020)

Adequate roads and stormwater are also lacking within the settlement of Plastic View. Due to this, a high priority must be placed on the upgrading of these systems. This can be achieved by thoroughly using the stepped typology as a spatial dictator that opens the opportunity for new ways of infrastructural upgrading within Plastic View.

Thus based of these findings it is evident that the physical conceived space of Plastic View plays a crucial part in the design process the architectural intervention.

4.6.2 Legal and Physical History of Plastic View



Figure: 4.32 Legal Landmark (Author 2020)

Due to Plastic View's legal history, the settlement testifies of the legal boundaries surrounding the global issue of informal settlements. Through highlighting the various legal shortcomings surrounding Plastic View, an architectural intervention can be used as the physical embodiment that communicates the lack of legislative implementation from the various private and governmental bodies.

Concluding that these findings can act as a catalyst to implement an architectural intervention that allows for the user of the space to have a sense of ownership and freedom of expression. It is also clear that due to the physical restraint of the demarcated property line surrounding Plastic View an architectural intervention may start to challenge the set boundary thus challenging the property law.

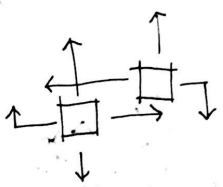


Figure: 4.33 Dynamic Owned Space (Author 2020)

4.6.3 Lived Experience of Plastic View

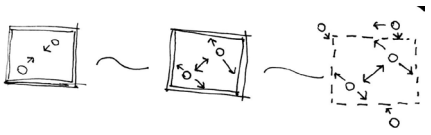


Figure: 4.34 Adaptable spaces (Author 2020)

Regarding the spatial appropriation surrounding Plastic View, it can be argued that the members of Plastic View hold a sense of resistance and resilience. This was identified through analyzing the various shops and gathering spaces found in the urban avenue, causing a clear pattern of a resilient culture within Plastic View to surface. Physical appropriation of dwellings communicates a sense of pride and resistance against the material limitation set within Plastic View. This material appropriation contradicts the government's set goal of seeing Plastic View as a temporary settlement waiting for relocation.

Thus concluding that due to the small-scale self-management within the socio-spatial structure of Plastic View and architectural intervention will have the opportunity to celebrate the existing signs of co-existence within Plastic View.

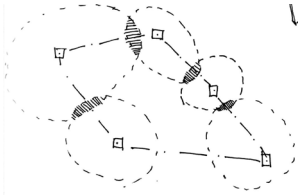


Figure: 4.35 Co-Existence (Author 2020)

By juxtaposing the general needs and persona summaries an intention criterion could be identified.

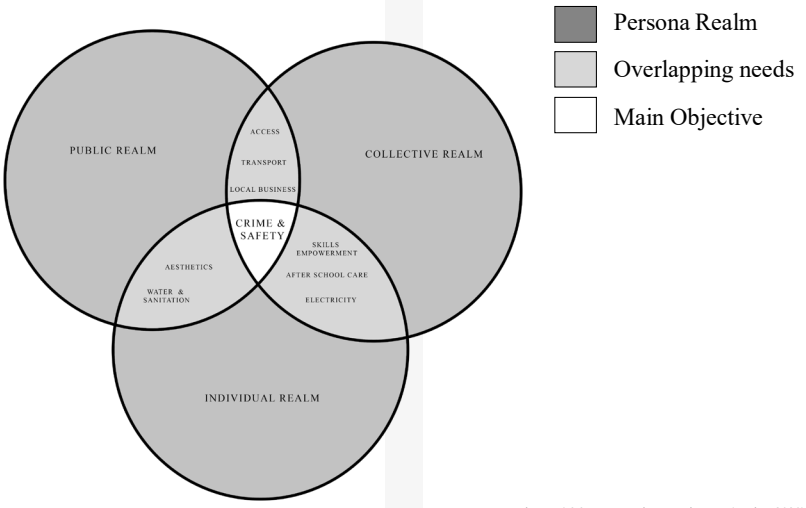
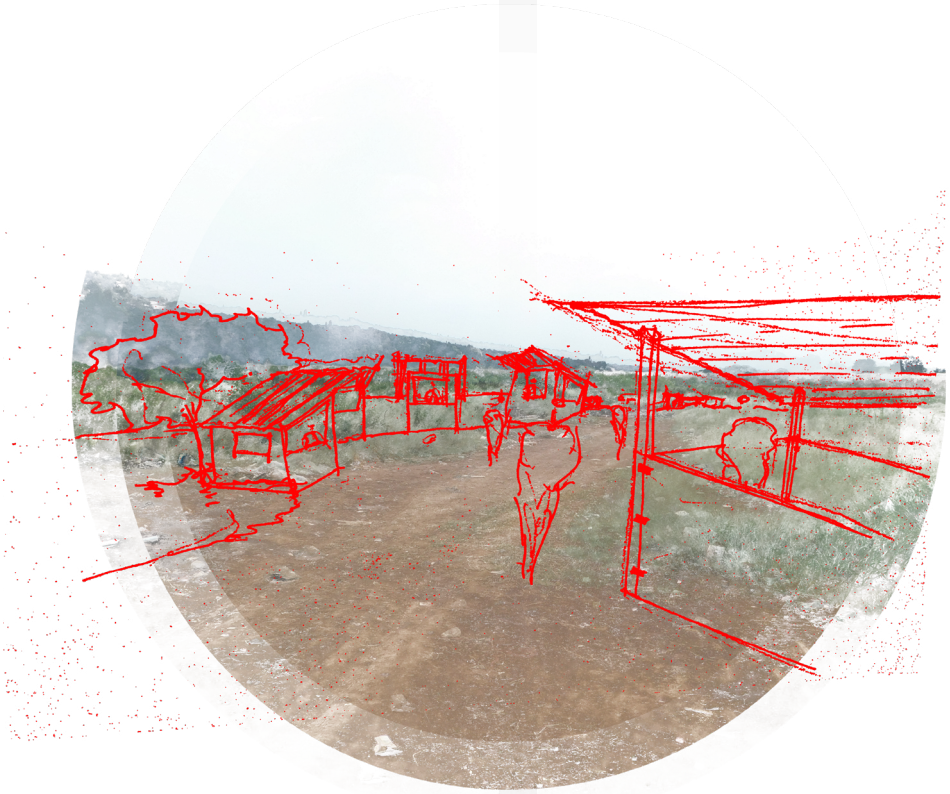


Figure: 4.36 Juxtaposed Issue Diagram (Author 2020)

Through analyzing the various findings surrounding Plastic View can be defined as a pattern language leading to the next step of this dissertation that looks at a possible urban framework that will address all these various issues found within the urban context.



CHAPTER 5

URBAN FRAMEWORK

Urban Framework

In order to accommodate the findings in chapter 4, also known as the social patterns that was developed through data collected, it is important to develop an urban framework in which these findings are addressed.

With the research question addressing how architecture can be used as a medium of civil disobedience to reclaim members of Plastic View's right to the city, the lack of participative urbanization within South Africa which has increased in the past several years and thus government bodies are struggling to keep up with the infrastructure demand.



Figure: 5.1 Urban Development (Author 2020)

Thus, with regards to the above-mentioned, an urban development framework for the suburb of Moreleta Park, named *The Moreleta Park Integration Framework*, was set out in collaboration with Idelette Mulder, a colleague in the MProf. Arch Urban Citizen studio, with the aim to create an urban vision that advocates for an inclusive urban layout.

5.1 The Moreleta Park integration framework

Moreleta Park is a well-established affluent Pretoria East suburb on the periphery to where all new developments are planned for the foreseeable future. Moreleta Park consists of various residential and commercial facilities. The large open green space at the Southern border of the NG Moreleta Park congregation, can become the new space for urban development that harvests the capacity to become the benchmark for integration within the Moreleta Park area.

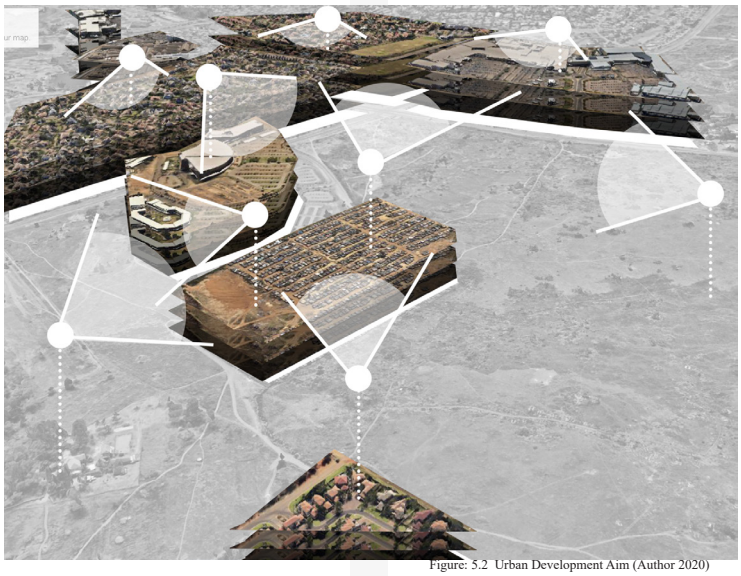


Figure: 5.2 Urban Development Aim (Author 2020)

5.2 Relationships



Due to the evidence of existing relations between Plastic View and the rest of the Moreleta Park community, this urban development aims to strengthen the various social, economic, and political relationships that exist in the area. With the goal to reclaiming a new form of urban citizenship within the Moreleta Park area.

5.2.1. Governmental Relationships



Provision for basic services and infrastructure

Working in collaboration with the 2020 BHons Arch students of the University of Pretoria, in depth data could be collected through means of on-site interviews with residents of Plastic View as well as a legal timeline study between 2009 and 2020. Through analyzing this data, the relationship between the residents of Plastic View and government bodies such as the South African Police Service, Departments of Human Settlements and Home Affairs could be better understood thus highlighting various issues that the exists within this relationship.

Safety



One of the first elements Jan Gehl (2010), an urban planner, advocates that an urban area's safety and security is a high priority. Gehl (2010) argues that this is possible without installing a fence around properties or the entire settlement but by allowing for open and lively public spaces.

Water & Sanitation



The second most important need within the settlement that was noted, through data collected on site, is water and sanitation prevision. According to Alejandro Aravena (2016) water and sanitation is one of the most difficult aspects for a occupier to provide for themselves. Thus, this is where the government officials can strengthen the relationship by providing this settlement with proper water and sanitation.

Storm Water



Well defined waste and storm water drainage is a major issue within the settlement due to the lack of formal roads and storm water outlets mapped on site. This is one of the main reasons for the black water damming up in the middle of the streets acting as a health hazard for the residents of Plastic View.

Through upgrading these aspects of the settlement, the aim is to uplift and give the residents of Plastic View a sense of belonging and integration into the surrounding suburb by prioritising these various issues.

5.2.2 Surrounding Communities Relationships

Strengthening of social networks



As noted through the mapping, Moreleta Park is surrounded by various business and residential facilities. Thus, lends itself to a larger scale of community engagement and social networks. Through all the mapped social networks the following participation aims were reached.

Stakeholders



Several different stakeholders are already active within Plastic View. These stakeholders are the Informal Settlement Collective, Lift Community Development, SA Cares for Life, the NG Moreleta Park Congregation and the University of Pretoria and their various faculties. Due to the existence of these mentioned stakeholder relationships its is evident that there is a strong opportunity for well-organized collaboration with the residents of Plastic View and the surrounding communities.

Social Upliftment



Within Plastic View, SA Cares for Life established the Power of the Father. With this movement, the men of the settlement are trained to look out for violence and abuse against women and children. This is a very powerful movement because it provides male residents with a sense of responsibility. Through the success of this movement, it can be argued that residents of Plastic View are willing to interact and collaborate with outside societies.

Economic Networks



Adding on the existing economic network, The Lift Community development, an existing initiative started by the NG Moreleta Church, started a program where skills training workshops are held, and the women of the settlement are taught to make goods that can be sold. Building on this there is proof of a micro-economic network evident within the settlement of Plastic View itself. By using the economic networks as a starting point the aim of creating a platform where these economic activities can be used by the surrounding communities of Moreleta Park could be highlighted and prioritized.

In conclusion, by strengthening these already existing social networks within this urban framework it can be argued that a settlement like Plastic View harvest the capacity reclaim a new sense of belonging and importance towards the surrounding communities.

5.2.3 Informal dwellers Relationships

Emphasizing culture and identity



Seeing that this study takes place within Plastic View that consists of various people from all over southern Africa it is important to respect and celebrate the numerous identities and cultures that are found within Plastic View. Hamdi (2010) states that one should take the existing into considerations and build on that. Emphasis should be placed on the following for the urban aims that were identified through formal and informal interviews with various individuals residing in Plastic View.

Country of Origins



It is important to consider the different cultural groups that make up the vibrant settlement of Plastic View. Each individual expresses their culture and identity in a certain way and provision should be made for these aspects to still occur. Thus, keeping the rich cultural identity of Plastic View in place and not forcing anyone to conform to the norm of one collective identity.

Appropriation



Appropriation in this settlement comes in the form of material used. Appropriation is manifested through the means of occupiers spending the little income they receive on improving their direct living conditions. This is done through the means of paving, gardening, or even painting of the materials they use to construct their dwellings. Thus, provision should be made within this urban framework so that the appropriation can still take place.

Population Growth



Plastic View has a rapid growth in population. Causing dwellings and the development phases introduced within an urban framework to make provision for dwellings to be extended. Thus, a framework that allows for growing communities.

5.2.4 Urban Framework Summary:

The aim of this urban framework that is known as the *Moreleta Park Integration Framework* is to strengthen the already existing relationships. Thus, this framework should help reclaim the urban citizenship of informal settlers within our Moreleta Park as well as become a possible benchmark for other informal settlements. Thus, this will be achieved through the means of well-maintained infrastructure, creating platforms for inclusive social and economic engagement, and lastly focusing on the individuals residing within the settlement by strengthening their individual and communal goals.

5.3 Urban Framework Examples:

Looking at the various principles of the urban framework, examples were identified which act as possible standards that this framework needs to adhere to.

5.3.1 Allmanna Badet / Bathing Culture Sweden, Gothenburg 2014

Situated within a harbour area in Gothenburg which is gradually losing its industrial character and becoming a new central part of the city, the site communicates traces of former users as well as possible attractive spaces for various uses (Raumlabor 2014).

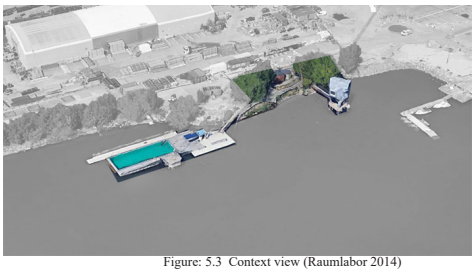


Figure: 5.3 Context view (Raumlabor 2014)



Figure: 5.4 Sauna Perspective (Raumlabor 2014)

Aiming to reach sustainable urban growth it was crucial to preserve the memory of the site by attempting to adapt to the existing structures. By attempting for the spaces to communicate with the old buildings, temporary interventions were proposed. The aim of these interventions was to inform future interventions with new uses and types for the development of the whole area (Raumlabor 2014).

A potential map was generated by the thorough layering of information gathered through analyzing the surrounding building s' footprints and the site. This potential map displays the future proposed growth of the site which becomes a tool that can be used to communicate with the public to participate in the spatial growth of the site (Raumlabor 2014).

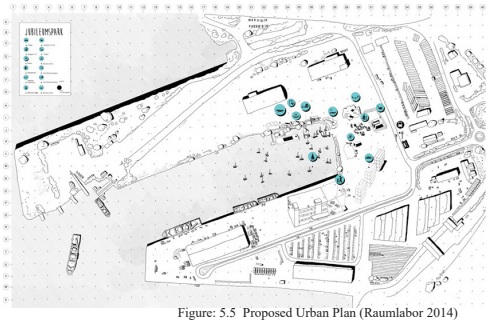


Figure: 5.5 Proposed Urban Plan (Raumlabor 2014)



Figure: 5.6 Recycled Materials (Raumlabor 2014)

The users of the space were included in the framework process from the start, to understand the social structure existing on the site. This aimed the design team to start understanding the social culture of the site as well as looking at new design methods and material uses for the space. The ultimate aim of this project is to give the people of the surrounding communities an opportunity to participate in their city's planning and growth (Raumlabor 2014).

This urban framework derives its relevance towards this projects' study through testifying of the reclaiming of the citizens of Gothenburg's right to the city through interactive space making within an abandoned urban space.



Figure: 5.7 Sauna Perspective 2(Raumlabor 2014)

5.3.2 Parc de la Villette , Paris Bernard Tschumi 1982 – 1998

The marking of an era as well as acting upon any future economic and cultural development of a key area in Paris could be reached, By implementing this urban vision, (Tschumi 1998).

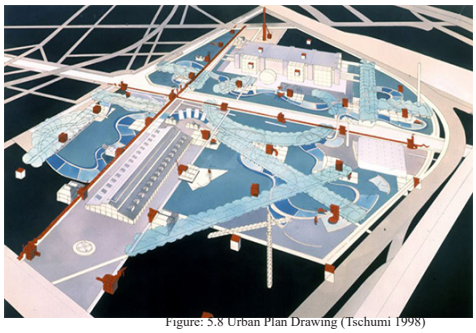


Figure: 5.8 Urban Plan Drawing (Tschumi 1998)



Figure: 5.9 Red Follie 1 (Tschumi 1998)

Not intending to be a simple landscape copy but rather aiming to reach the complex programme of cultural and entertainment facilities the construction of over 25 buildings, covered walkways, bridges, promenades, and landscape gardens over a span of 15 years the red *follies* are superimposed on a system of lines that emphasize the movement through the park (Tschumi 1998).

Articulated within the site's existing features, the red *follies* overlap the current social condition of the site and the various activities found in the park (Tschumi 1998).

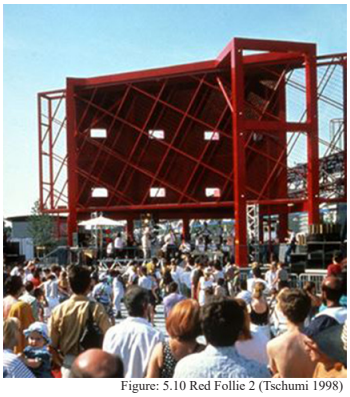


Figure: 5.10 Red Follie 2 (Tschumi 1998)

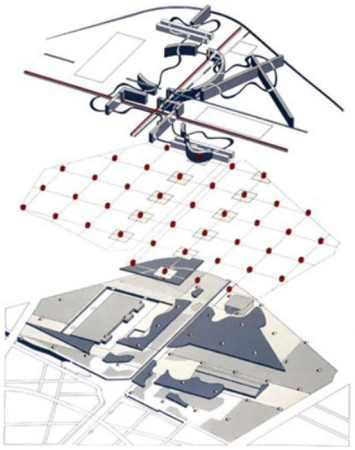


Figure: 5.11 Park Layout overlay (Tschumi 1998)

Tschumi's aim with this park was to reach a landscape that goes against Olmsted's notion of a park aimed not to be part of the city. La Villette proposes a cultural park that caters to social and cultural activities that include various programs such as workshops, gymnasiums, bath facilities, creative spaces, and educational spaces (Tschumi 1998).

The relevance of this urban framework lies within the impact that small-scale, programme-specific interventions have on a larger scale urban space which goes on to celebrate diverse cultures and identities.



Figure: 5.12 Red Follie 3(Tschumi 1998)

5.3.3 Canada Real Community Centre, Madrid, Santiago Cirugeda 2018

Canada Real is the largest informal settlement in Spain, situated alongside a 16km long old cattle trail. The Community of Madrid plans to upgrade the livelihoods of the 7000 people residing in this informal settlement (Pelegrina 2020).

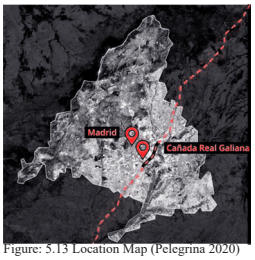
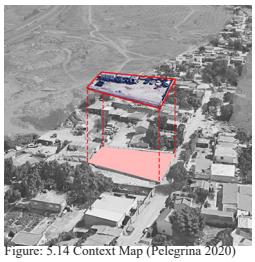


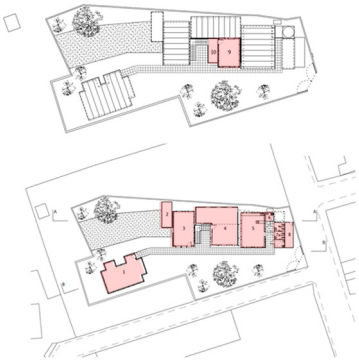
Figure: 5.13 Location Map (Pelegrina 2020)


Figure: 5.14 Context Map (Pelegrina 2020)

Canada Real acts as the centre point between municipal areas which makes it the perfect position for a communal space used by the whole community. The specific brief was to create a non-permanent structure (Pelegrina 2020).

The architecture firm Rectas Urbans (Urban Recipes) approached and consulted the surrounding educational centres and people living in the neighbourhood to find solutions regarding this specific brief. Making the people of the community both the client, the user as well as the ones that will participate in the construction of this space.


Figure: 5.15 Construction and Materials (Pelegrina 2020)


Figure: 5.16 Community Centre Floor Plans (Pelegrina 2020)

The design provides for two workshops (45m2 & 30m2) a communal space (70m2) and self-sufficient offices and bathrooms (90m2). This spatial product was reached through the re-use of materials and by using a self-build construction method making it easier for any structure assembly and for any volunteer with no construction knowledge to join. This method also adds to the structure to be seen as non-permanent (Pelegrina 2020).

This project testifies of a new type of management taking place through the activities held within these spaces. Through these collective and social entities organizing themselves, they have reached something important - SELF GOVERNANCE (Pelegrina 2020).


Figure: 5.17 Community Centre Perspective (Pelegrina 2020)

Through analysing this project and its aims, a clear possibility for socio-spatial co-existence is evident through the design of space that incorporates the various interior and exterior social links within a community surrounded by various boundaries.

5.4 Urban Framework Structure

5.4.1 Urban Phases

Based on an urban analytical method Nikos Salingaros (2006) derived from Christopher Alexander's (2005) healthy urban fabric a clear phased urban framework could be identified by highlighting the various entrances to the site.



Figure: 5.18 Site Entrances (Author 2020)

The entrances into the site could be identified by using the various desired pathways mapped on the site. Through doing this numerous primary and secondary entry points towards the settlement could be identified causing the site to automatically divide itself into various phases of engagement.

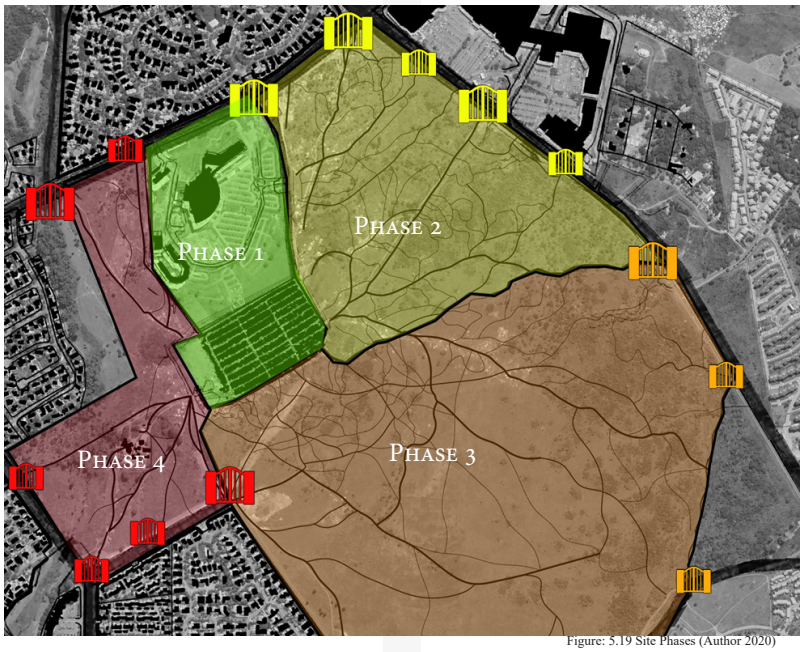


Figure: 5.19 Site Phases (Author 2020)

5.4.2 Upgrading Process

Overall within all the phases by focusing on the desire paths which act as shortcuts for mobility as well as resilient spaces determined by human agency and need, when made permanent, according to Alec Foster (2019), the advancement of residents' right to the city can be reached. The formalizing of these desire lines may reduce any safety or aesthetic concerns (Foster 2019). The following illustrations will indicate how this will be implemented within one of the phases.

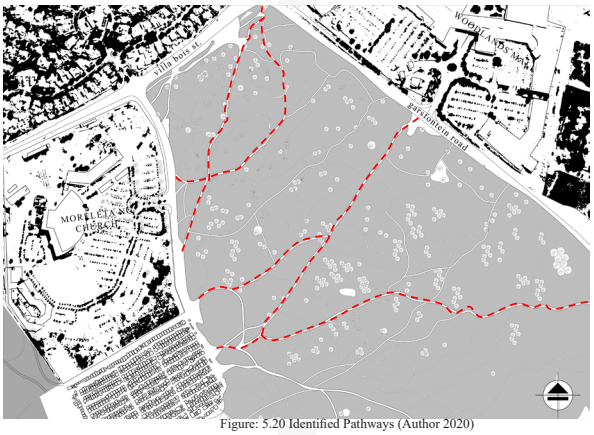


Figure: 5.20 Identified Pathways (Author 2020)

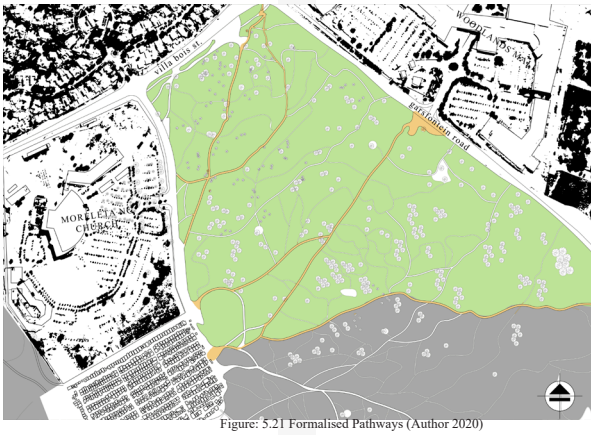


Figure: 5.21 Formalised Pathways (Author 2020)

Highlighting secondary pathways that connect either two primary pathways or primary pathways with main roads identifying new possible urban moments connecting existing urban areas.

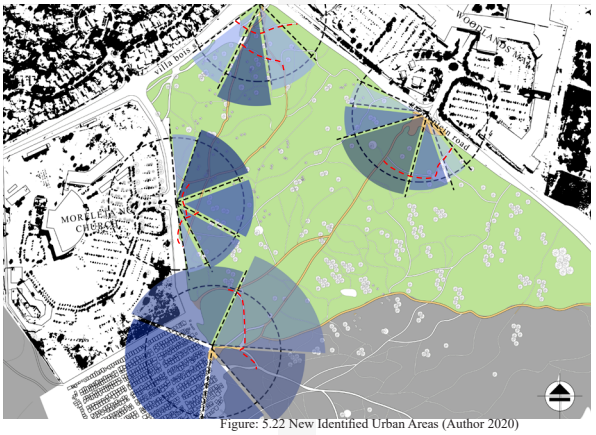


Figure: 5.22 New Identified Urban Areas (Author 2020)

Based on these urban site selection steps possible public spaces within the existing movement lines and urban fabric could be demarcated in which programme specific spatial intervention will take place.

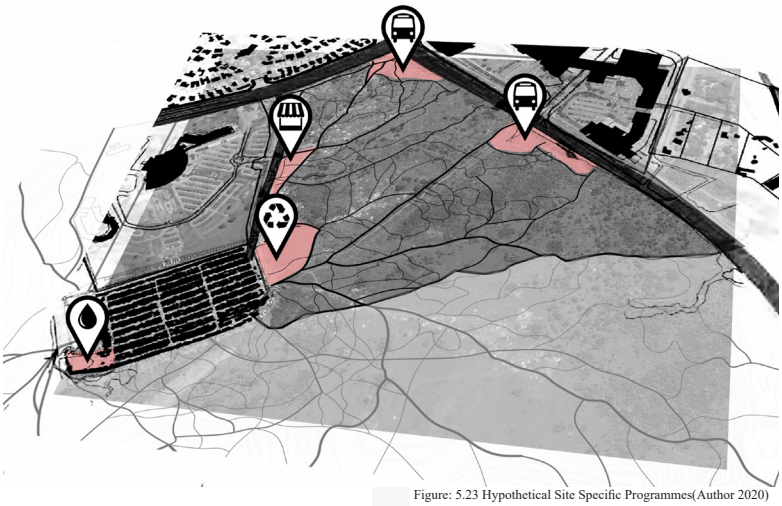


Figure: 5.23 Hypothetical Site Specific Programmes(Author 2020)

5.5 Site Selection Conclusion:

Due to the size of this urban framework, this project will only focus on Phase one which can be argued to be the best situated site for an architectural intervention due to the spatial findings within the previous chapters and the strong existing relationship between The NG Moreleta church and the community of Plastic View. By following the primary desire paths and various interior and exterior links a primary moment between the public and the settlement could be identified as one significant space which will act as the selected site of this project's architectural intervention.



Figure: 5.24 Site Selection Step 1 (Author 2020)

It is indicated that the south-eastern boundary of the church grounds has the capacity to ignite the first step of spatial reconciliation due to the spatial connection present by the sharing of a boundary fence as well as the implemented CPOC, consisting out of three containers, situated in that area, which communicates an existing meeting place. Thus this architectural intervention will act as a new boundary will be the spatial representation of the socio-political tensions existing between Plastic View and the state.

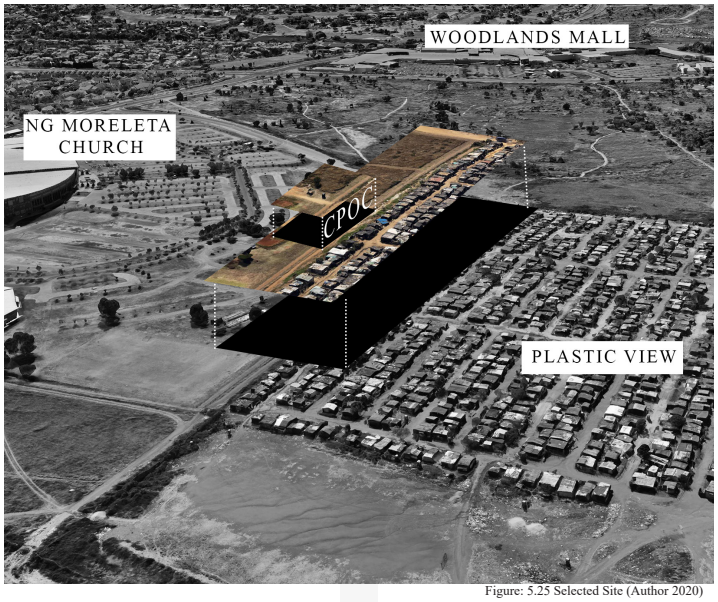


Figure: 5.25 Selected Site (Author 2020)

Concluding that through activating this space on the site, a new conceived collective realm that advocates for spatial inclusivity can be reached by implementing spaces in which the surrounding communities can socially, economically and politically participate in. This space will then initiate the first step of the *Moreleta Park Integration Framework* with the aim to initiate a series of different future spatial interventions within the rest of the framework phases.

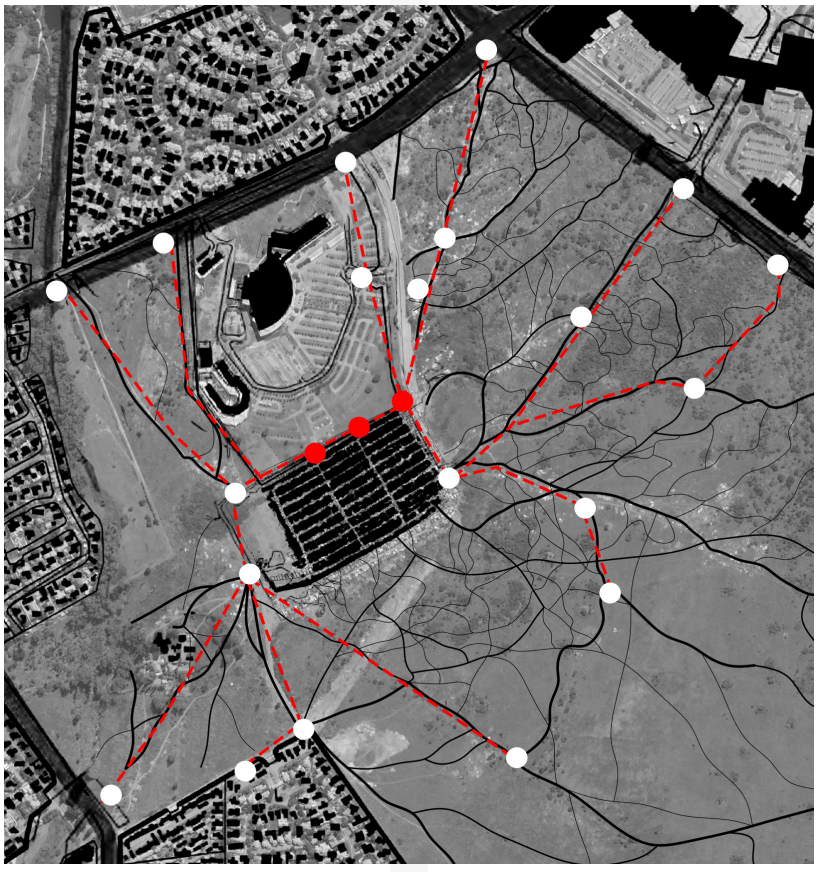


Figure: 5.26 Urban Growth (Author 2020)



CHAPTER 6

DESIGN THEORY

6.1 Architectural Aims

The following architectural principles were deduced from the findings in the previous chapters:

Accessible



Accessible spaces which act as inclusive moments where the larger scale public realm can invest time and effort to reach an ultimate goal of strengthened social and economical relationships.

Spatial Platforms



Spatial platforms of self expression that advocates for spatial justice by allowing for self maintained and participatory space making processes.

Incremental



Incremental, small scale interventions that aid to create a new collective realm in which the individual is celebrated and prioritized.

The following these three main architectural aims derived from the previous chapter's findings, various spatial and relevant design theories will be discussed.



Tactical Urbanism



Design Activism



Political Design



Spatial Aesthetics

6.2 Tactical Urbanism



According to Mike Lydon 2013, a mentor of the tactical urbanism movement, this form of urbanism enables people to not only envision change but also help to create it also defining it as an urban movement which uses short term, small scale interventions which aim to reach long term changes (Benner 2013).

6.2.1 Phased Approach

The first aim of tactical urbanism is to be seen as a process that consists of a phased approach. The aim for this form of urbanism is to be a phased and incremental approach. This allows for the intervention to go through a process of trial and error which ultimately aims to instigate change. Following this approach clearly indicates what form of urbanism benefits the social, economic, political and spatial climate of any specific site (Lydon 2011).

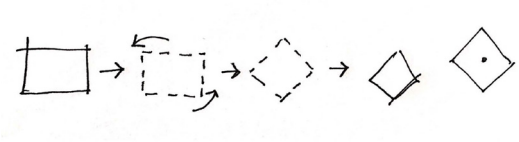


Figure 6.1: Phased Process (Author 2020)

6.2.2 Use of local solutions

Based on the bottom up approach which puts the community of the specific space first, with the aim to make all spatial decisions based on the needs of the community new avenues of meaningful engagement can be reached through celebrating the existing social networks and skill of the surrounding area (Hanson & Abdulsamad 2018). This allows for new partnerships to form which has the capacity to transform into a long-term accountability programme which highlight the shared urban objectives of the surrounding communities (Hamdi 2004). This method of urbanism puts the focus on the members that will be using the space, and makes them the centre point of the planning and design decisions (Lydon 2011).

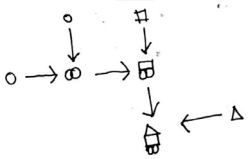


Figure 6.2: Local skills from various parties (Author 2020)

6.2.3 Short term solutions

Initially keeping the interventions short term allows for various opportunities of resilience to surface which will fundamentally be maintained by the users of the space (Lydon 2011). The emergence of these temporary interventions acts as a critical spatial opportunity to help regenerate neglected urban space (Finn 2014). With the aim to reach long term change with short term interventions, these temporary interventions need to draw attention. The reason for this is for the space to become an activist for change which can be seen and interacted with by the surrounding urban environments (Hanson & Abdulsamad 2018).



Figure 6.3: Short term solutions (Author 2020)

6.2.4 Revive or strengthen social capital

Finally, the most important aim of this process of urbanism is to bring people together too. This form of urbanism encourages meaningful engagement which generates a sense of belonging as well as allowing for people to start experiencing different spatial possibilities that question the status quo (Hanson & Abdulsamad 2018). The end goal of tactical urbanism is to find relevant spatial iterations that will work most efficiently within different social, political or economic contexts interventions (Hanson & Abdulsamad 2018).

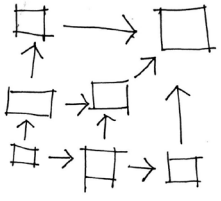


Figure 6.4: Enhanced Social Capital (Author 2020)

6.2.5 Tactical Urbanism Example

Collective Etc, Meccalupino, Lupino district in Bastia, 2019

Situated in an open sloped construction site in Bastia, the Lupino district this project aimed to reach a small interactive spatial intervention which can imagine a new form of construction methods (Collectifetc 2019).

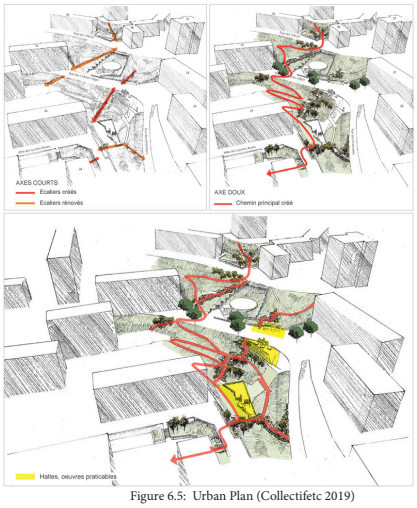


Figure 6.5: Urban Plan (Collectifetc 2019)

Being part of an urban development for a pedestrian path various stakeholder and community members were engaged in the designing and construction of the project. This urban intervention, temporary in nature, was aimed to test various interactive urban spatial principles that may be used in a future urban development plan (Collectifetc 2019).


Figure 6.6: Workshops (Collectifetc 2019)

Through various workshops three specific sites on the sloped typology were identified. These three sites were flattened and covered with sand. Through the workshops various site-specific programmes were identified such as seating areas, kids playing areas and resting areas (Collectifetc 2019).

The primary structure of these three halt spaces consist of steel frames. Using the basic decking assembly method, the steel structure was filled with timber (Collectifetc 2019).


Figure 6.7: Halt Space One (Collectifetc 2019)


Figure 6.8: Halt Space Two (Collectifetc 2019)

After the implementation of these three spatial interventions avenues for three new halt spaces could be identified. This then allowed the members of the community to start looking at these projects from a larger urban perspective (Collectifetc 2019).

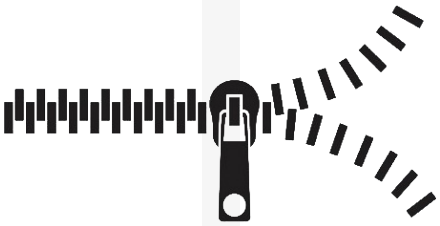
The lessons learned from this project is the spatial and social impact small incremental interventions can have on an urban scale. Relating this to one of this project's aims of reclaiming citizens' right to the city by means of space making, this president testifies of the spatial benefits reaped from activating abandoned spaces with simple designed structures based on societal patterns and needs.


Figure 6.9: Halt Space Three (Collectifetc 2019)

6.3 Design Activism



Due to the highly political and economic tension between informal settlements and the state, it is plausible to say that this tension is flamed by the gap between the authorised and non-authorised spatial creator (AOA 2017). Designing within this context has a larger societal impact which adds to the civic political climate which calls for a form of design activism which holds a history of aiming to antagonise, to start dialogues that can cause a contestation and also provoke and encourage an agreement (AOA 2017). An agreement that spatially can be manifested in the sharing of a space with the aim to benefit both parties sharing the space.



The ultimate aim of design activism is to publicly highlight various socio-spatial issues. Design activism thuis acts as a movement that aims to change any highlighted socio-spatial issues and advocates for a spatial justice towards people that are disadvantages and socially exluded.

6.3.1 Disruptive Space

One of the crucial avenues of design activism is the goal to challenge conventional space making practices, rituals and any current social, political or economic climates throuh implimenting a form of disrupitve space which can be seen manifesting through these five different forms (AOA 2017).

Organising

Empowering members of a community to bring forth change, through co-design and participatory processes.



Figure 6.10: Collective Organising (Author 2020)

Service

Focussing on the humanitarian design process, professional services such as legal advice can be provided to members of a community.

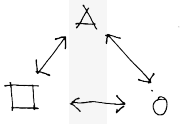


Figure 6.11: Service (Author 2020)

Advocacy

Advocating for the indirect benefits members of informal settlements can benefit from such as safe space design and eco-design.

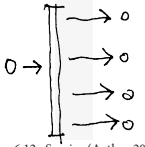


Figure 6.12: Service (Author 2020)

Mobilization

Aiming for a design of mobilization that brings people together and focuses on the conventional aspects of protest.

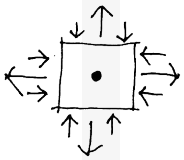


Figure 6.13: Mobilization (Author 2020)

Solidarity

Space that acts as a platform for debate which initiates discourse leading to individual growth collectively.



Figure 6.14: Solidarity (Author 2020)

6.3.2 Design Activism Example

Santiago Cirugeda, Taking the streets: Skip Intervention Kuva Sc, Seville, 1999.

This small tactical intervention resembles a garbage skip which was the only permit the Urban Recipes could get for a spatial intervention. This urban intervention intention's aim is not to be a garbage skip but a rebellious statement which will highlight the need for public spaces for social interactions (Berman 2015).



Figure 6.15: Playground Skip (DesignIndaba 2015)



Figure 6.16: Exhibition Skip (DesignIndaba 2015)

Using a self-built skip, resembling a conventional garbage skip. This is a great example of tactical urbanism that allows for a space that is open for interpretation that may activate empty urban land. This is reached to allow the space to become a platform for various social activities such as a playground, exhibition space, stage, planter and anything the surrounding community can think of (Berman 2015).



Figure 6.17: Playground Skip View 2 (Spatialagency 2011)

The lessons learned from this precedent is the importance of spatial sharing. Through activating an urban space that invites and includes various social and cultural backgrounds a new sense of community is sub consciously shaped.

6.4 Political Design



According to Carl DiSalvo (2010) the political surroundings of a society can be experienced through the moment where current power relations are revealed and confronted through various acts resistance and disturbance within public spaces (DiSalvo 2010). When this definition and design is superimposed, a political design aims to reach a space that will initiate contestation (Markussen 2013).

6.4.1 Political design aims

Political design aims to reach a new process of urbanism which leads a design that reveals existing socio-political structures, contest against them and ultimately aim to reach a form of dissensus regarding the specific problem at hand.

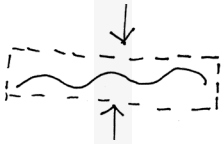


Figure 6.18: Political Design (Author 2020)

Political design can mostly be seen in civic spaces where various individuals congregate. In these cases of public space making, political design is used to put emphasis on the user's social hierarchy and power relations through use of perspectives and vistas (Hatuka & Kallus 2008).

6.4.2 Political design example

Yitzhak Rabin Square, Tel Aviv, Israel 1964



Figure 6.19: Open Square (TLV 2012)

Formerly known as the King of Israel Square, the name was changes to the Rabin Square after the assassination of Yitzhak Rabin (Zandberg 2011). This square acts as a public space in which various social and political activities can take place.

Due to the architect's way design principles this space gives room for an open "non-architectural" feeling. Because of the architectural value this public space contests the standard public space principles and allows for people to quickly get attached to the space which lacks any design pretensions (Zandberg 2011).

Various patterns of social congregation can be seen in the use of this space though the different authorities that use it. The authorities that are in charge (safety officers) can easily control the environment yet the crowds (protesters) have the freedom to express themselves. Political protesters feel that due to the large scale of the square it can be easily perceived as a space of power (Thorpe 2011). This large open space quickly became a pause space that became part of the existing urban fabric. The space contains a Holocaust Memorial sculpture acting as a spatial and visual landmark where people slow down, rest and sit down on scattered chairs within the space. It is a space that is simple and holds the capacity to contain a fast variety of social interactions (Zandberg 2011).



Figure 6.20: Pause Space (TLV 2012)



Figure 6.21: Spatial Landmark(TLV 2012)

The Yitzhak Rabin Square testifies of the power that an open space can be left to be used and addapted to a specific socio-politcal climate. Through implementing this method of space making users are given the oppertunity to utalize a space to become the physical embodiement of their dissensus regarding issues.

6.5 Aesthetics



Design activism invites and encourages meaningful engagement which highlights the idea that these designed spaces have a dimension of aesthetics, this is due to aesthetics being evident in our everyday life thus making this dimension of design activism relevant (Markussen 2013).

6.5.1 Value of Spatial Aesthetics

According to Jacques Ranciere (2010) aesthetics should be seen as much more than just the production of art. Aesthetics consists of the functional thus highlighting the distribution of a common thread that allows for participation between individuals (Markussen 2013).

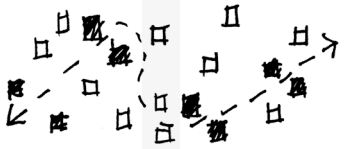


Figure 6.22: Aesthetical Thread (Author 2020)

Ranciere (2010) also argues that aesthetics plays a major role in the distribution of dissensus. Dissensus, which as mentioned before, is grounded on demonstrating a specific immodesty that resists against the status quo which ultimately highlights a gap between what people feel and what they do. Through using this gap, the spatial aesthetics disruption opens the floor to negotiations between affect and doing. This adds new value to place as well as a sense of belonging towards the people that inhabit the space (Markussen 2013).

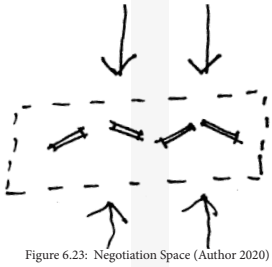


Figure 6.23: Negotiation Space (Author 2020)

Aesthetic dissensus is aimed to question the systems of power which control the daily routines and behaviours of individuals. The non-violent protest elements of disruptive aesthetics lie in the gentle and indirect way it exposes hierarchies in which unique personal experiences can take place. This causes politics to be seen as an experience and not a linear set of practices controlled by authority and power (Markussen 2013).



Figure 6.24: Dynamic Experience (Author 2020)

6.5.2 Spatial Aesthetics Example

Santiago Cirugeda, Scaffolding project, Seville, 1998

In this project the architect Santiago Cirugeda, used the law against graffiti in his favour. He realised that if one applied to erect scaffolding to remove the so called “graffiti” from the wall, one will temporarily have a primary structure frame to add a small room to an existing building (Markussen 2013).

This form of design activism embodies a form of aesthetics that Ranciere (2010) defines as disruptive. The use of scaffolding challenges the standard way of space making by following a concrete set of procedures and standards (Markussen 2013).

Although this construction method does not directly contest the concrete set of legislative building procedures but brings to light new unexpected urban methods of spatial interventions this method of dwelling expansion gives residents the opportunity to add to their own sense of belonging and place. This sense of belonging alters the relationship between how people feel about doing and the things that they do (Markussen 2013).



Figure 6.25: Scaffolding House (Spatial Agency 2011)

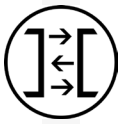
Based on these findings surrounding this precedent, new alternative methods of construction will create a new aesthetic which harvests the power of creating a contrasting aesthetic that highlights the socio-political statement that is wished to be made. In relating this to the aim of reaching an architecture that can be seen as a form of protest, aesthetics play a big part of accomplishing this aim.

6.6 Design Principles

Through analysing the importance of the architectural aims and design theories discussed in this chapter, a set of design principles could be created. These design principles are structured in the following ways:



Structured to celebrate the individual through allowing for self expression and moments of socio-political agreement.



These design principles aim to provoke the standards of boundaries and property principles through creating a new collective sharing moment of space.



Lastly these design principles aim to become the physical embodiment of the highlighted social, economical and political struggles found within and around informal settlements.

6.6.1 Inclusive spatial layouts

Spatial layouts that disrupt the status quo of fenced property lines and invite the users to partake with the everyday experience of the space thus leading to a sense of spatial sharing. Through this the moment of unification between two different social groups can be spatially represented.

Keywords: Street edge condition, thresholds, height difference, hierarchy and permeable facades

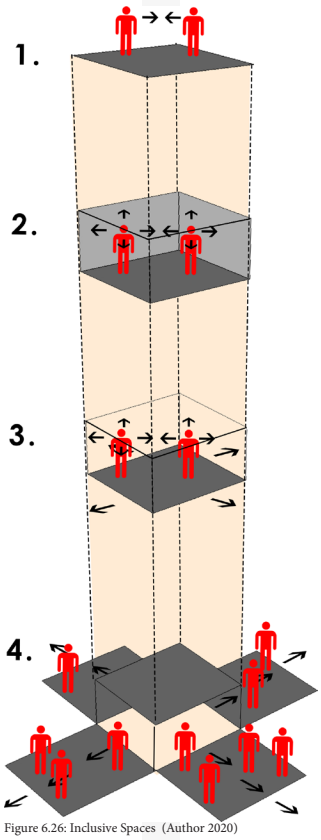


Figure 6.26: Inclusive Spaces (Author 2020)

6.6.2 Multi-functional and Self-Sustained programmes

A space that communicates a sense of openness that allows the user to conceive the space in their own way leading to the space to be perceived differently alongside an ever-changing social climate. Thus allowing for the open spaces to be interpreted as social centres that aim to allow for multi-functional activities that are based on the needs of the inhabitants as well as celebrating the various interior and exterior links surrounding Plastic View.

Keywords: *Platforms, Passive Surveillance, Dynamic Spatial Footprints, Needs driven, Social Moments, Protest, Debate and Social interactions*

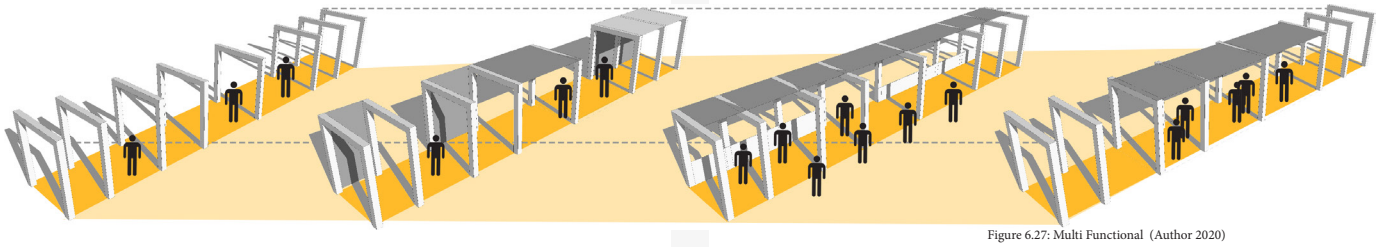


Figure 6.27: Multi Functional (Author 2020)

6.6.3 Spatial Catalyst for self-expression and Disruptive Aesthetics

The space should initiate and encourage forms of interactive and participative space making which highlight the moment of co-existence reached through opportunities for self-build structures. The spatial interventions should become the self-expressed forms of struggles as well as personalising the experience of space through construction methods as well as material used contrasting the existing thus questioning the norm.

Keywords: Primary and Secondary structural systems, Envelope, Available Materials, Hidden, Exposed, Recycled materials and Interactive materials.

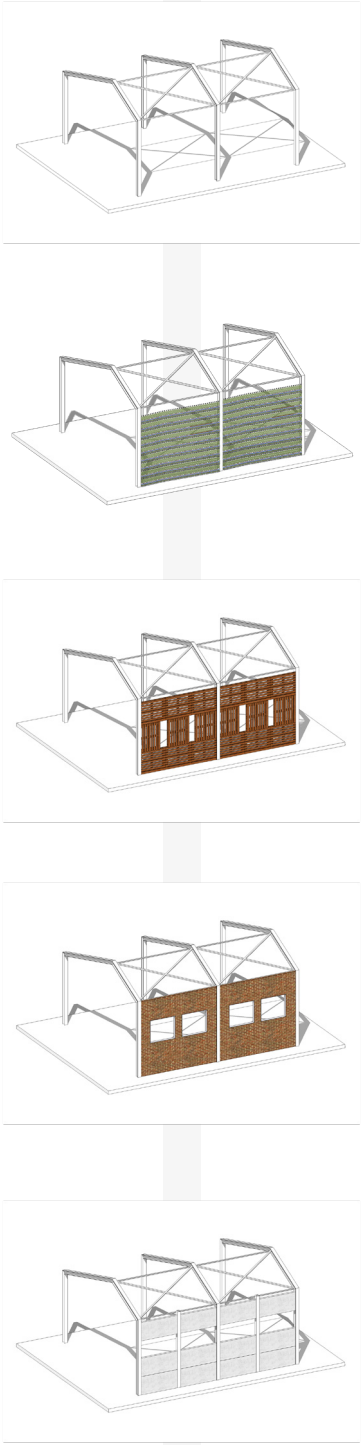
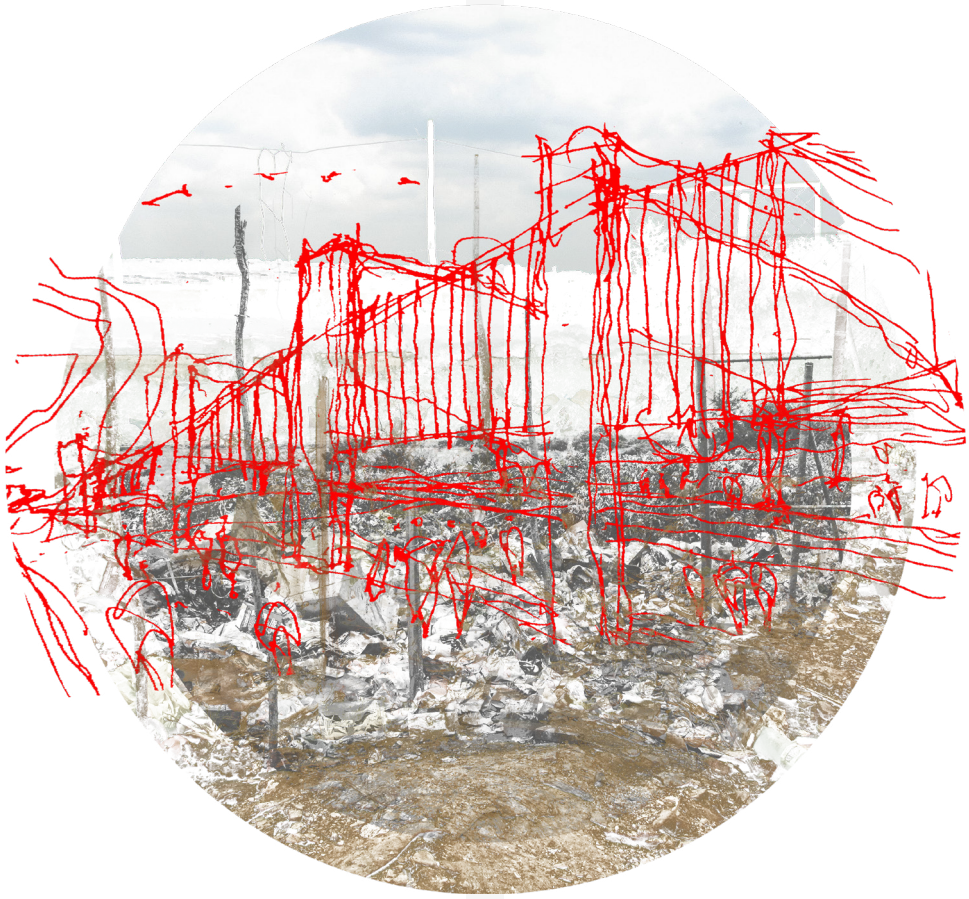


Figure 6.28: Spatial Catalyst (Author 2020)



CHAPTER 7

PROGRAMME & DESIGN DEVELOPMENT

7.1 Programme

Along with the existing engagement and upliftment programmes found on site, namely the COPC and educational facilities and their positions on site, and the on site data collected, a programmatic aim for this project could be generated. This programmatic aim can be defined as celebrating existing social interactions as well as providing spaces where new needs-based programmes can be implemented as the social, legal and political climate changes.

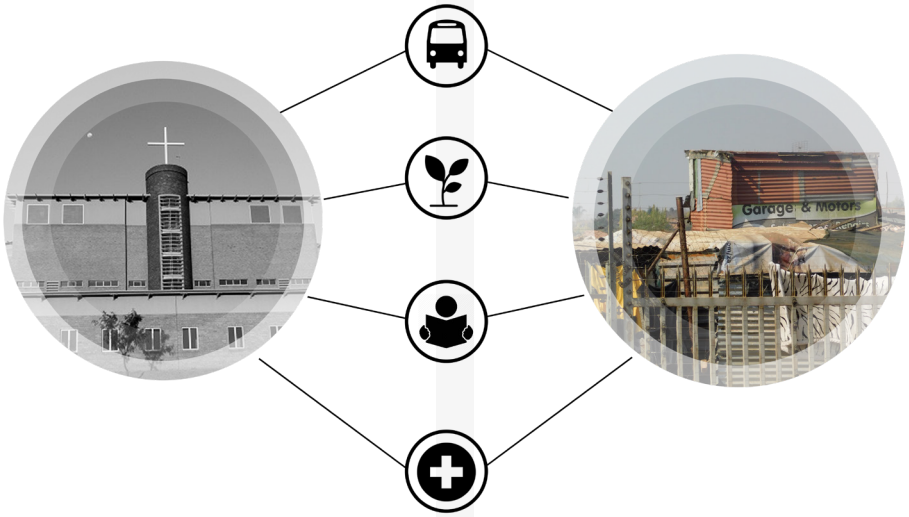


Figure: 7.1 Social Interactions (Author 2020)

The programmatic aim of this project can be summarised and defined as a centre that spatially and socially connects two groups of people Due to the location of this project, the programmatic aim also aims to become the seeming together of two different social groups. By emphasizing the existing social interaction between the members of the church and the members of Plastic View, social moments can be highlighted through needs based programmes which may start to challenge the socio-spatial and socio-legal boundaries surrounding the settlement of Plastic View.

7.2 Social Centres



Social centres are seen as spaces usually aimed at attracting a variety of people, those who live in the facility and not. These are spaces where people have the opportunity to communicate, create and conspire together and stand a chance to collectively participate in change. The location of this specific centre acts as the foundation for the groups that occupy it. These inhabitants, using the space, and their presence become advocates against the privately-owned property within urban geographies of city dwellers and the power this has on those who are finding themselves trapped within the capitalistic system (Finchett-Maddock 2013). Driven by echoing signs of radical resistance, these centres act as landmarks within communities which deny attention to people inhabiting spaces that are excluded from the urban scale.

Within a local scale the people that are involved in these spaces and their activities are motivated by what happens within these spaces and the everyday happenings that occur within all organisational projects (Finchett-Maddock 2013). These spaces can also be an intense and focussed attempt to house the possible social needs that can be created by the ever-changing surrounding situations and areas (Finchett-Maddock 2013).

These spaces are motivated by three levels (Finchett-Maddock 2013):

1.The level of emptiness of the space emphasizes the lack of interest from those who own the space.

2.The architectural level of the space which acts as the fueling of the areas meaning and significance of place.

3.Lastly these spaces are driven by the process of becoming the physical embodiment and reflection of the inhabitants' collective needs and aspirations.

On a larger scale, the people and the spaces they create are driven by numerous ways of thinking. Their independence, power and the liberty of their ideas and actions are different from the market driven cultures.

INCLUSIVE SITE COMMUNICATION CREATIVITY CONSPIRATION

Social Centres are also seen as spaces that challenge the boundaries around human interaction which then manifests into cultural and social forms and methods of communication which advocates for inclusivity (Finchett-Maddock 2013).These forms of communication then aim to change the minds or bring to life new concepts to those who participate in the events within these centres. This process of radical change represents the wish of staying outside the system as well as to change it for the good of humankind. The heart of these centres is fueled by the political activities and attachments of those who, temporarily and permanently, inhabit them and will finally define the last level of these centres' existence. Although these centres surface interconnected struggles the definition of common good will always differ to those that are rented and those that are squatted (Finchett-Maddock 2013).

These centres consist of both political and cultural activities. The feeling of organised chaos infuses the elevation of informal leadership hierarchy enhancing the concept of "DIY" culture to be in practice. These centres accommodate the needs of both the communities within and outside it thus the specific programmes within the centre will be determined by this These spaces can also be an intense and focussed attempt to house the possible social needs that can be created by the ever-changing surrounding situations and areas (Finchett-Maddock 2013).

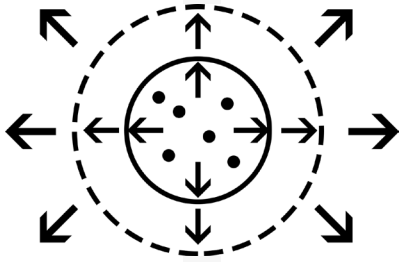


Figure: 7.2 Social Centre Scales of Influence (Author 2020)

The inhabitants of these spaces become the champions that will give up their time and energy. This time and energy can be defined as the commitment given towards the maintenance of these spaces or through giving the warranty of political engagement with future protests regarding any injustices by authorities and through this the inhabitants internally confirm a common goal within the community and order it with the intention to always keep the good of humankind in mind highlighting the purpose of *Social centres* to become places where wisdom causes welfare and justice to be above the greed for wealth (Finchett-Maddock 2013).

7.3 Social Centre Design Informants.

The design process was informed by understanding the purpose, general design principles surrounding a Social Centre and the context it finds itself in. Based on this, the above-mentioned design principles and the on site data collected a design was developed through a process of spatial explorations determined by four main design informants.

7.3.1 Conceptual Informant



The design of the intervention aims to communicate the relationship between architecture and the legal boundaries surrounding informal urbanism of Plastic View. This legal boundaries become the concept from which the moment of spatial sharing is spawned to not just become the topic of spatio-legal debate but also the platform on which it takes place (Butler 2009).

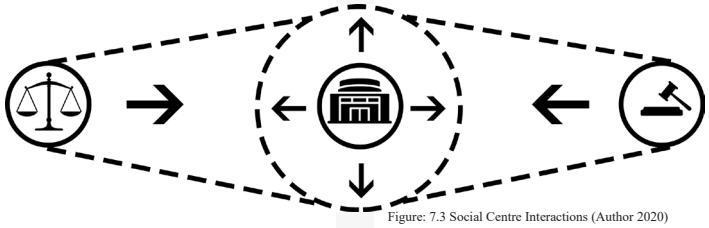


Figure: 7.3 Social Centre Interactions (Author 2020)

The construction, deconstruction and future purpose of the Social Centre will be determined by the relationship between architecture and law (Finchett-Maddock & Lambert 2013).

7.3.2 Programmatic Informant



Relating to the concept of a Social Centres and the on site needs based data collected, a conclusion was reached that the programmes within this Social Centre aims to be linked together through various inclusive and multi-functional activities. Through these programmes opportunities for self-expression can be allowed for through self-maintained moments emphasized through the spatial aesthetics.

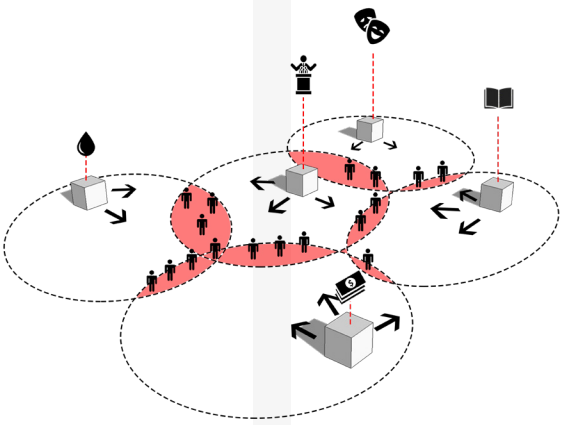


Figure: 7.4 Linked Social Moments (Author 2020)

This Social Centre will exist out of various moments that aim to place emphasis on spatial sharing which highlights the moment when different social, political and economic groups meet. These moments will be consisting out of the following:

Moment 1



Acting as the entrance of Plastic View, the user is introduced to the site through a public corner allowing for easy public transport access as well as comfortable spaces for informal open-air trading to take place to.

Moment 2



A large community garden space is introduced with the aim to formalise the self-sustained food awareness programmes implemented by the church, which will be maintained by members of Plastic View and the church.

Moment 3



The next phase of the intervention is to introduce an upliftment centre, implemented due to the various interactive upliftment programmes currently happening in Plastic View. This upliftment centre will consist of various workshop spaces as well a larger recreation hall. Thus, by designating a robust and specific space for skill building the interaction between the two realms can be celebrated.

Moment 4



The final programme to be introduced on site is an upgrade and more permanent clinic. Acting as a full functioning community orientated primary care centre, this next phase of the existing clinic upgrade aims to invite users and act as safe spaces.

7.3.3 Contextual Informants

The initial design process started by placing the sloped site as spatial dictator to identify a series of gradual spatial transitions within this *Social Centre.* Through this process the various programmes could be allocated within these spaces with the goal to merge all the moments to reach a central landmark acting as the main meeting moment.

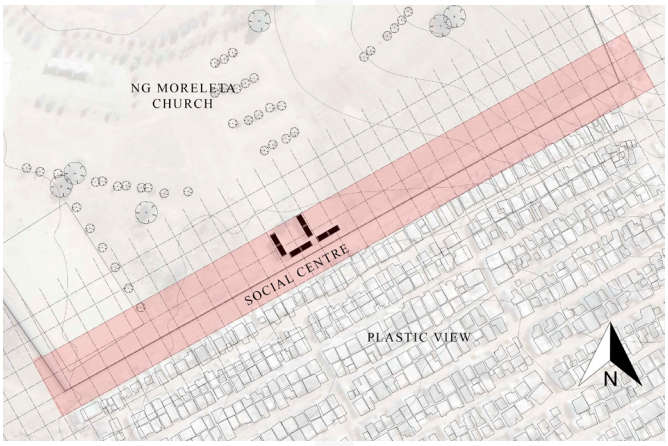


Figure: 7.5 Social Centre Location (Author 2020)

Through the use of various interventions seen as a whole, the aim of this *Social Centre* can inspire appropriation leading to minimum capital input to maximum spatial output, thus the interventions aim to be grouped accordingly that encourages their use of social interactions (Harrouk 2019).

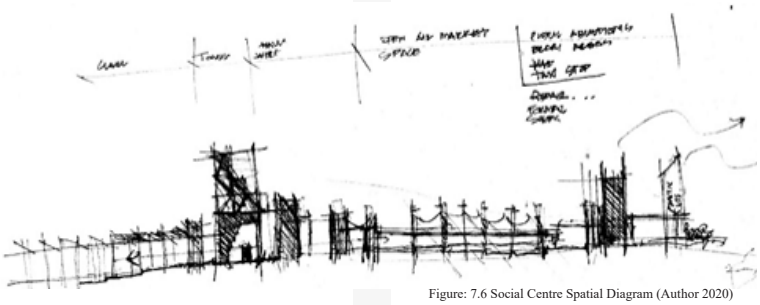


Figure: 7.6 Social Centre Spatial Diagram (Author 2020)

Due to the main vehicle entrance being situated at the north eastern periphery of Plastic View it seemed fitting to declare this interface between the collective and private realm as the entrance towards the Social Centre. Due to the intense site slope of 12.5% in this area of the site, various contour manipulation opportunities were highlighted. Which will help with the design of a terraced communal garden area. Based on the existing position of the three-container clinic the placement of the three other moments were decided due to the existing pedestrian traffic present on site, as well as the direct link this node has with the church and its various educational facilities.

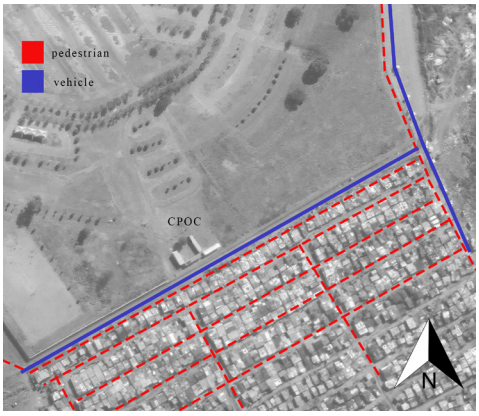


Figure: 7.7 Movement (Author 2020)

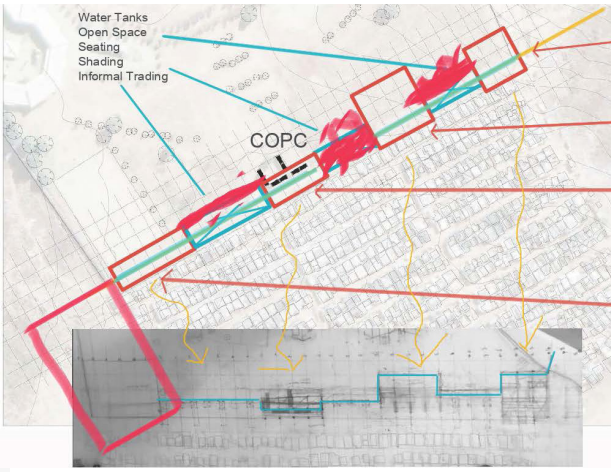


Figure: 7.8 Programme Placement Process (Author 2020)

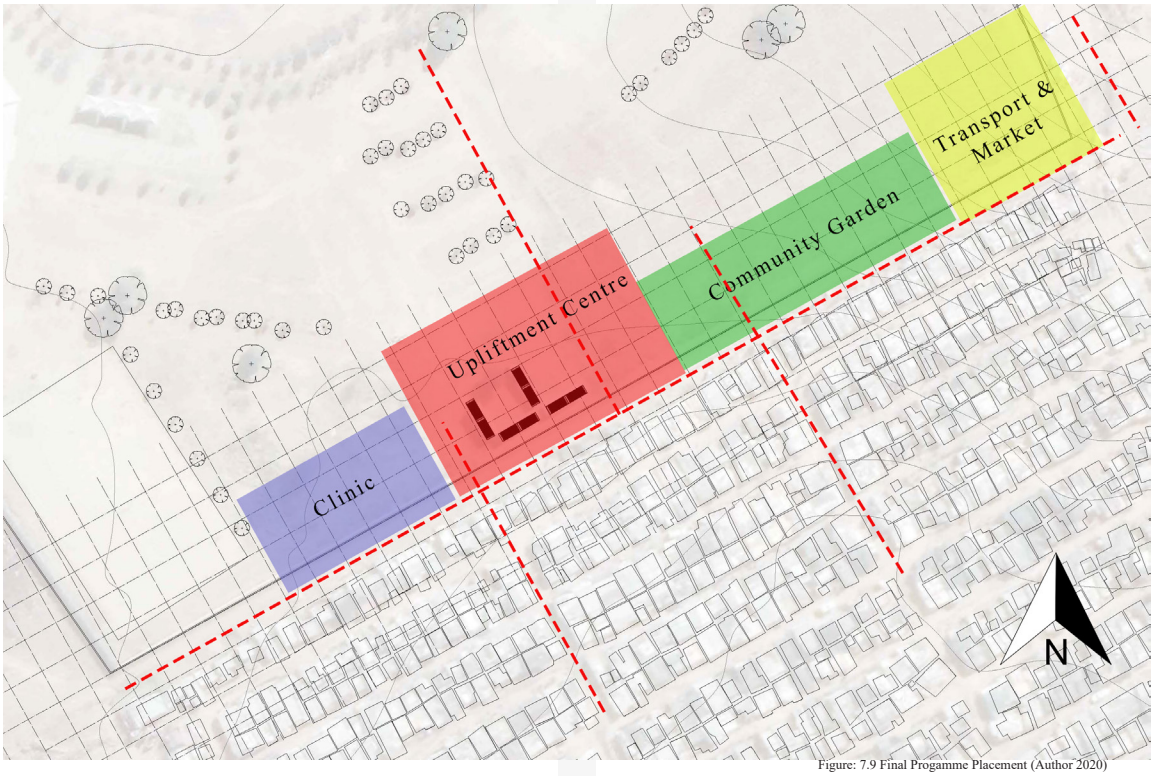


Figure: 7.9 Final Progamme Placement (Author 2020)

7.4 Design Iterations

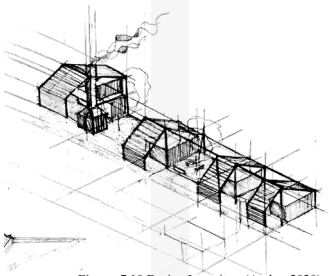


Figure: 7.10 Design Intentions (Author 2020)

Based on these three main design informants and along with the design principles, a clear translation between theory, programme and context into an architectural expression could be made. Through the use of an iterative design process that allows for various repetitive changes and misunderstandings to be highlighted and challenged (IDF 2020).

7.4.1 Iteration 1

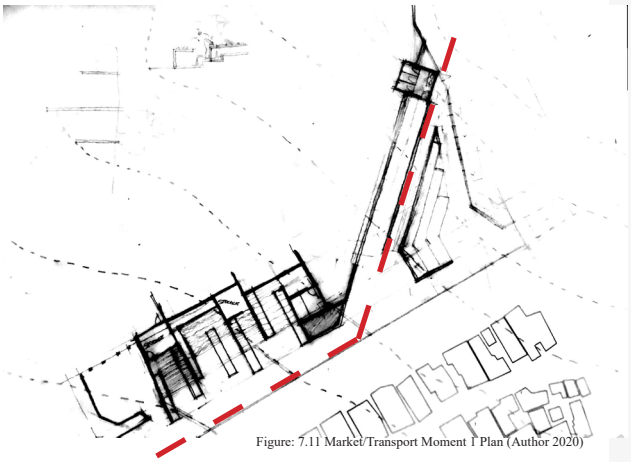


Figure: 7.11 Market/Transport Moment 1 Plan (Author 2020)

Starting of the design process, the focus is placed on the open-air market and transportation moment. With the aim to introduce Plastic View to external users. The first intervention intended to use well shaded market areas as well as accessible pick up and drop off points.

By converting the existing movement paths, the activation of the North Eastern corner could be achieved, acting as the moment which communicates a sense of arrival and acts as a visual landmark.

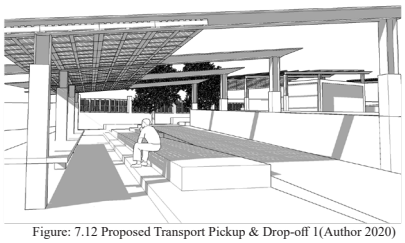


Figure: 7.12 Proposed Transport Pickup & Drop-off 1(Author 2020)

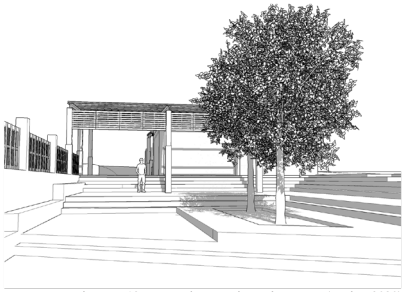


Figure: 7.13 Proposed Open Air Market Space (Author 2020)

The second moment, namely the communal gardens, were initially designed in such a way to express accessibility as well as function.

Acting as the sub entrances between Plastic View and the church grounds, the labyrinth like spatial layout allows for access control as well as platforms for passive surveillance. This design method helps opening up the boundary and at the same time prevents any safety issues.

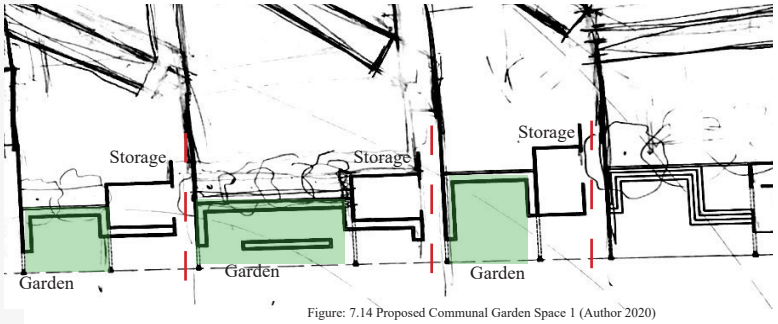


Figure: 7.14 Proposed Communal Garden Space 1 (Author 2020)

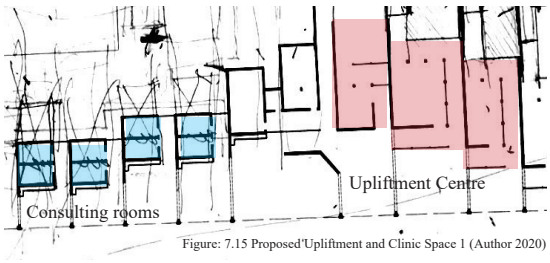


Figure: 7.15 Proposed'Upliftment and Clinic Space 1 (Author 2020)

Regarding the upliftment centre, a more formal arranged structure was suggested with the aim to announce the moment of upliftment and clinic spaces.

The upliftment centre's spatial layout communicates as a threshold towards the church grounds, emphasizing the spatial sharing and the connection moment.

The smaller clinic spaces allow for consulting rooms with comfortable waiting areas in front. This is implemented due to the lack of well organised consulting rooms open for the community members.

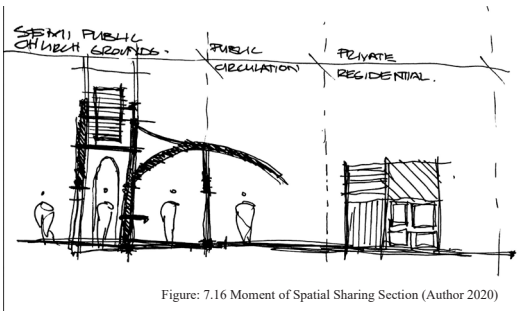


Figure: 7.16 Moment of Spatial Sharing Section (Author 2020)

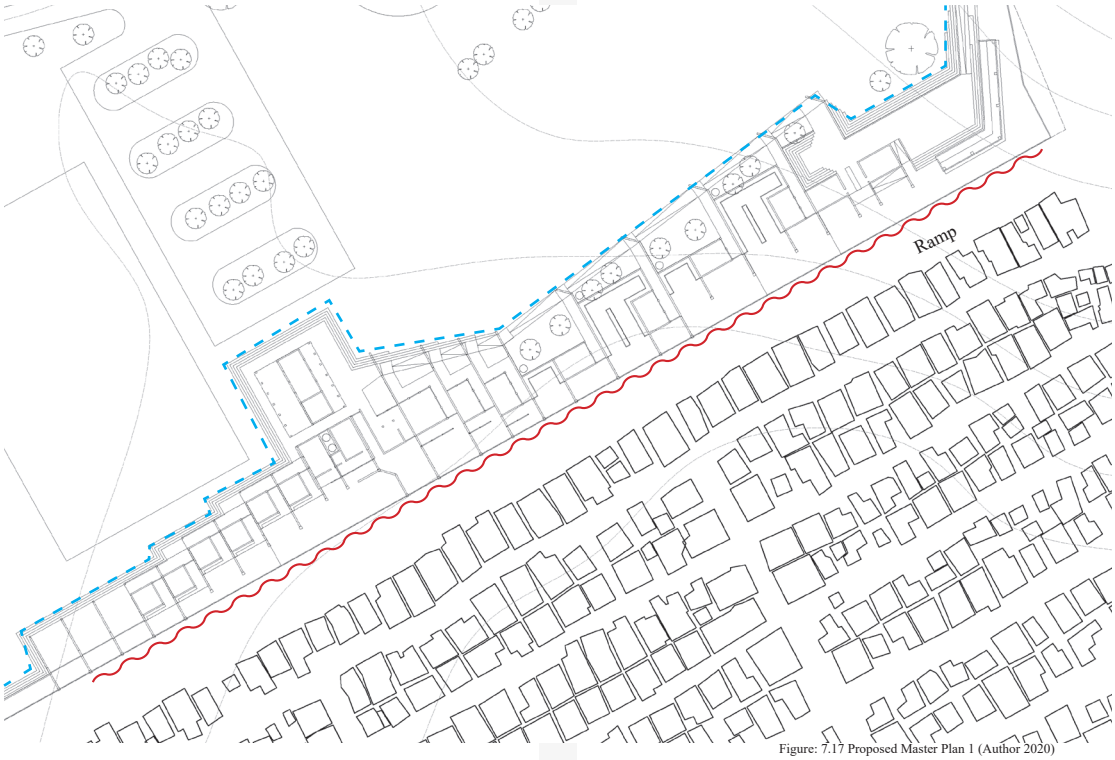


Figure: 7.17 Proposed Master Plan 1 (Author 2020)

The process of spatial cohesion is emphasised by recessing the existing boundary, allowing for the new social spaces to take place.

Connected by a ramp stretching over the whole Social Centre, every moment is emphasised by level changes as well as integrated green spaces.

The grid system communicates a sense of openness and allowance for self expression. The series of primary column systems encourages spatial appropriation as well as opening up the platform for social discourse.

The over all layout aims make the members of the community to conceive and perceive the various moments as their own, thus aiding to a new sense of place and belonging.

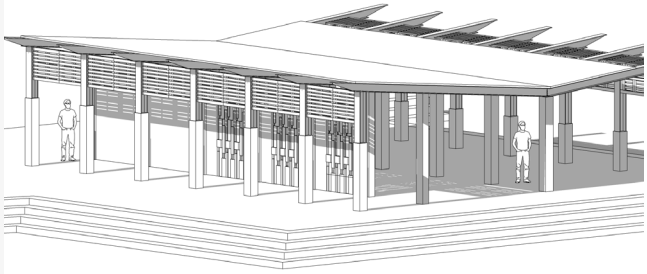


Figure: 7.18 Proposed Column System Intentions (Author 2020)

Discussion

After analysing this iteration and receiving feedback from examiners certain issues were highlighted:

1. The North Eastern corner's size is to conservative and does not communicate the impact that it can possibly have.

2. The communal garden layouts can be done more intricate to ensure better access control and act as safe havens for the members of the community.

3. The Upliftment centre lacks a sense of spatial variety which does not necessarily communicate a dynamic sense of spaces.

4. The sizes of the consulting rooms are too small and does not allow for various uses such as larger meeting spaces, storage rooms etc.

7.4.2 Iteration 2

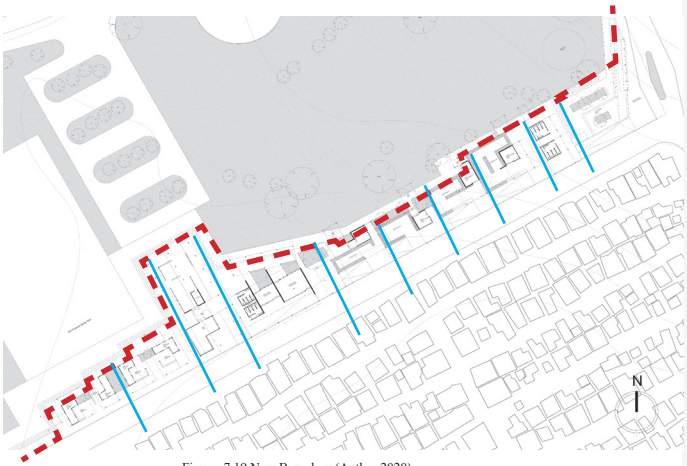


Figure: 7.19 New Boundary (Author 2020)

A clear understanding and determined new boundary was created with the exploration of this iteration.

More clear and deliberate social moment thresholds were established through the use of landings and level changes.



Figure: 7.21 Altered Market and Transport Space 2 (Author 2020)

The communal garden area's layout was altered in such a way to create a dynamic space. The various storage rooms act as thresholds that buffer the transition moment.

The various sizes allow for large and small skills development gatherings. The level difference also adds a stepped boundary acting as a viewing platform.

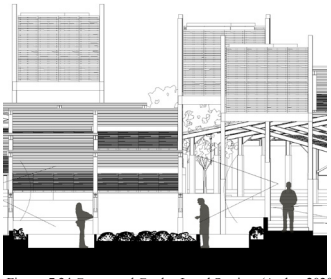


Figure: 7.24 Communal Garden Level Section (Author 2020)



Figure: 7.20 Access Paths (Author 2020)

Various entry points were established and celebrated through the implementation of water towers.

Through using the water towers as entrance points, visual landmarks are created that puts focus and define the various secondary entrance points to and from the settlement.

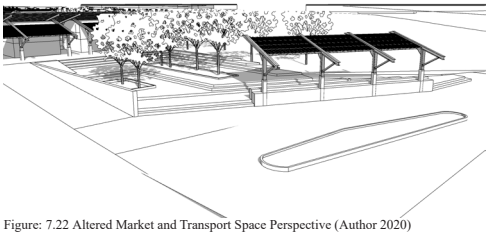


Figure: 7.22 Altered Market and Transport Space Perspective (Author 2020)

The market and pick up point's spatial layout was altered in such a way to allow for more social activity as well as open space for mass gatherings.



Figure: 7.23 Communal Garden Layout 2 (Author 2020)



Figure: 7.25 Upliftment Centre Layout 2 (Author 2020)

Well shaded exterior spaces also allow for a transition between the built and the landscape, also communicating a spatial connection moment.

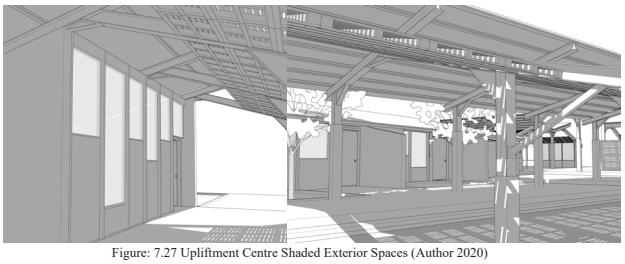


Figure: 7.27 Upliftment Centre Shaded Exterior Spaces (Author 2020)



Figure: 7.29 Clinic Waiting areas (Author 2020)

The upliftment centre's layout became more robust as linear with the aim to connect the outdoor with the indoor, allowing for various workshop spaces.



Figure: 7.26 Upliftment Centre, Multi Functional Rec Hall (Author 2020)

The recreation halls layout open floor plan allows for a variety of layouts to encourage different uses such as office spaces or more possible workshop spaces, which aims to celebrate the spontaneity of informal space making steel dividers that can define a variety of new spaces



Figure: 7.28 Clinic Layout 2 (Author 2020)

A new spatial layout for the clinic area was generated with the aim to reach smaller green spaces in between the consulting rooms. The aim of these green spaces act as well shaded buffer zones as well as encourage inhabitants to use the spaces throughout the day. The problem highlighted was privacy issues along with human scaled structures.

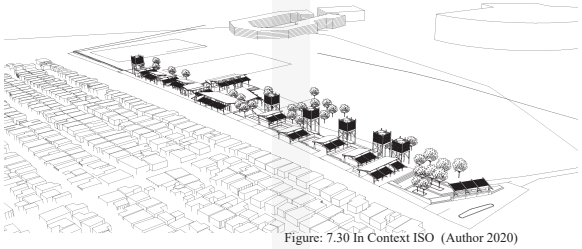


Figure: 7.30 In Context ISO (Author 2020)

Discussion

After analysing this iteration and receiving feedback from examiners certain issues were highlighted:

1. The North Eastern corner's size is still to small and fails to communicate as an accessible space.

2. Design lacks threshold between private and public spaces, especially within clinic spaces, that still require more refinement.

3. Design theories as well as research done are not completely evident within design.

7.4.3 Iteration 3

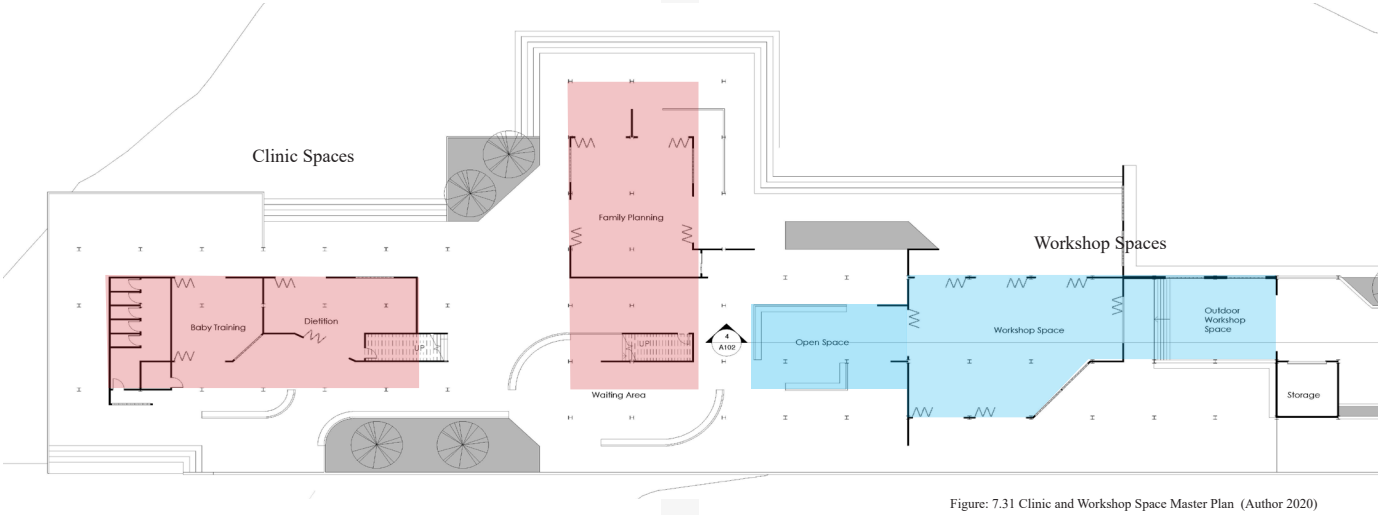


Figure: 7.31 Clinic and Workshop Space Master Plan (Author 2020)



Figure: 7.32 1st Floor Clinic Spaces (Author 2020)

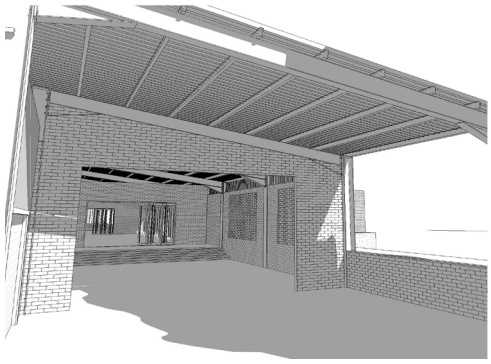


Figure: 7.33 Shaded outdoor workshop space (Author 2020)

The workshop spaces are changed to an open space, which allows for altering interior walls that are determined by the needed space for specific gatherings.

The primary structured column system is altered in such a way to create spaces that increase natural lighting and ventilation. The roof structures fold over the primary structure which embodies the meeting moment between the two different realms.



Figure: 7.34 Clinic Perspective (Author 2020)

Reacting to the previous mentioned issues surrounding the clinic spaces, a second storey is proposed to house various other medical units such as HIV testing and extra consulting rooms. The added height increases the scale of the intervention, thus placing more aestheitcal value and emphasis on the moment of social cohesion and co-existence

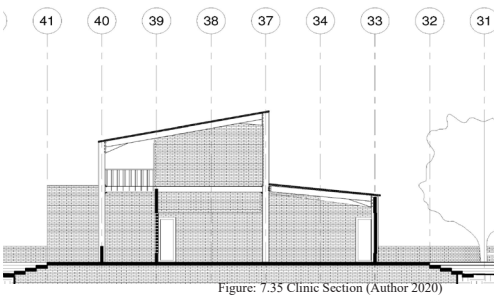


Figure: 7.35 Clinic Section (Author 2020)



Figure: 7.36 New Column structure Model (Author 2020)

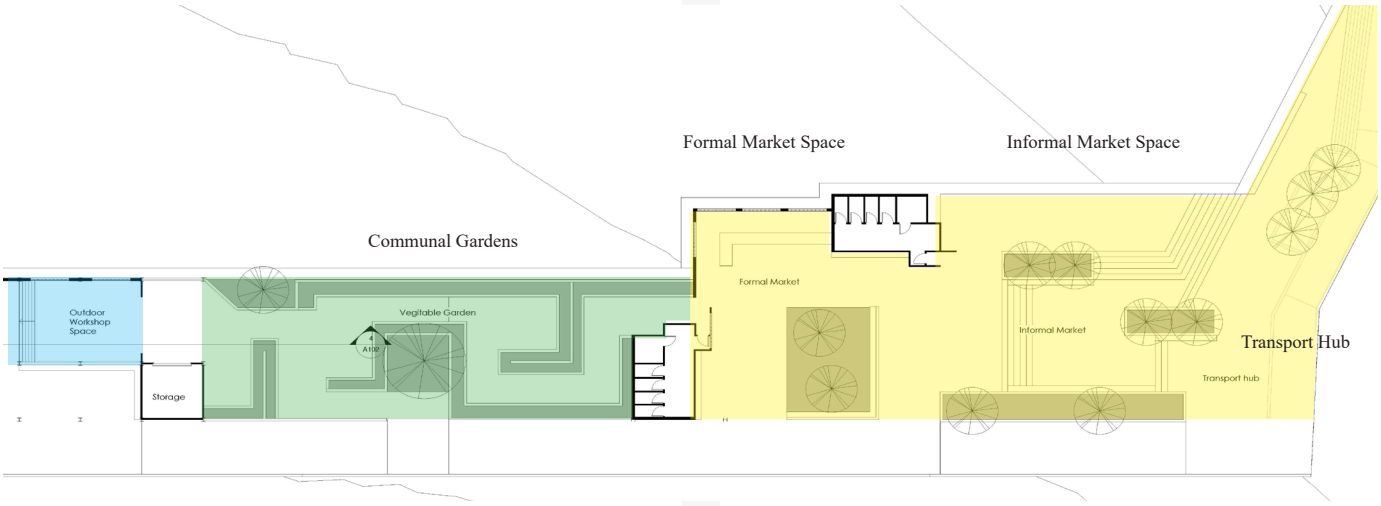


Figure: 7.37 Communal Gardens and Market/ Transport Spaces Master Plan (Author 2020)

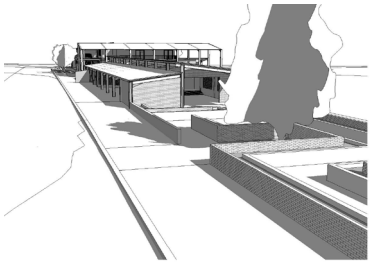


Figure: 7.38 Communal Garden Perspective (Author 2020)

The communal garden layout was altered in such a way that only 2 access points are defined. The larger communal garden layout allows for various social moments and also act as a spatial buffer between the settlement and the church.

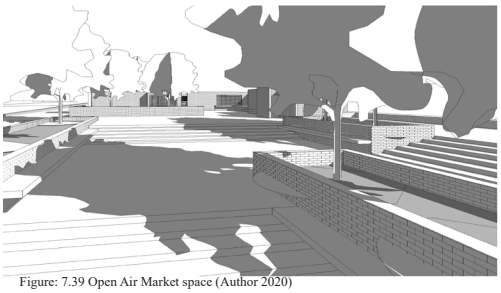


Figure: 7.39 Open Air Market space (Author 2020)

Smaller naturally shaded meeting spaces were introduced within the open-air market space, to allow for various social moments to take place on the dynamic level changes. These level changes also allow for social gatherings to take place, which can encourage a vision and goal towards a sense of place where voices can be heard and self-expression is allowed (Harrouk 2019).

Discussion

After analysing this iteration and receiving feedback from examiners certain issues were highlighted:

1. Public Spaces lack accessibility thus causing a contradicting new solid boundary.

2. Programmes to be enriched to communicate a phased approach towards spatial appropriation.

3. Privacy issues regarding public ablutions.

4. Avoid trapezoidal green spaces.

5. Whom of the users will maintain and look after the Social Centre

7.5 Towards the Design Refinement

Through this iterative design process and the various spatial lessons learned a better understanding of this projects spatial aim could be reached. These lessons could be summarised as a list of criteria:

7.5.1 Spatial Function



Due to the various uses surrounding this Social Centre, focus has to be placed on the in-between spaces. The primary spaces should aim to highlight the secondary and tertiary spaces (Harrouk 2019). To fulfill the main purpose of a Social Centre, the programmes and activities need to be emphasised and used too determine the spatial layouts of the spaces.

7.5.2 Formal and informal spaces



A clear distinction should be able to be made between the formal enclosed and informal and open spaces. This will highlight the moments in which the members of the community have the opportunity to appropriate with the materials at there disposal as well as add to the meaning of place through interactive construction methods (Harrouk 2019).

7.5.3 Maintenance



A major concern was highlighted of the maintenance of the centre. Through the use of easy assembled secondary construction methods, the members of both Plastic View as well as members of the church. Through the use of these construction methods, the building of this centre in itself will act as a skills development programme.

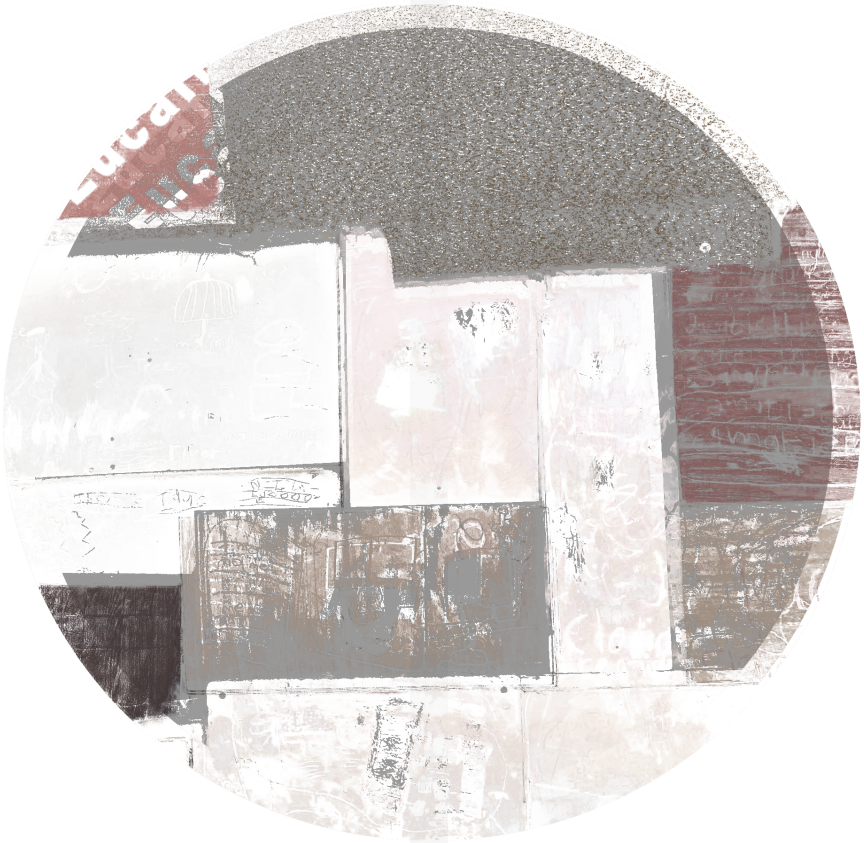
7.5.4 Materiality



Due to the legal and spatial boundaries surrounding the various material uses in Plastic View, the aim of the material choices surrounding the intervention should aim to spark new creative uses of materials as well as to encourage skills development which can eventually be used in the members of Plastic View's own dwellings.

7.6 Conclusion

It is hoped that through using these various highlighted issues, an inclusive and successful Social Centre can be developed through the design refinement with the aim to act as a beacon of spatial reconciliation and platform from which the members of Plastic View can reclaim their right to the city.



CHAPTER 8

TECHNICAL DEVELOPMENT

8.1 Technical Aim



Due to this dissertation's main architectural aim being to reclaim members of Plastic View's right to the city through designing spaces that are inclusive, participative, needs driven, political and places of social interaction. It can be argued that the success of this project lies in a tectonic that communicates all of these spatial aims, and at the same time challenges the spatial and legal boundaries surrounding the community of Plastic View.

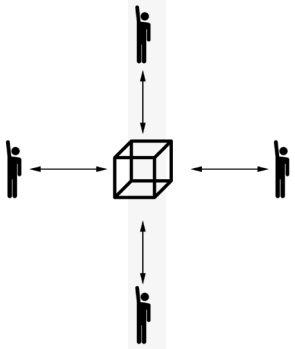


Figure: 8.1 Authorship Diagram (Author 2020)

Design authorship is seen as the main challenge within this context of architectural systems. This spatial intervention seeks to reach a balance between formal and spontaneous space making. This is aimed to be reached through implementing shared spaces, that are interpreted as the user perceive and conceives it, through the use of spatial layouts and comfort, encouraging and allowing for various social activities to take place.



The main technical aim of this dissertation is to emphasize the idea of social reconciliation on a technical level that encourages user participation and ownership.

8.2 Existing Techne



Due to the context in which this project finds itself a clear technical comparison had to be made between the settlement and the adjacent church structure. This led the existing technical exploration process to take place by comparing the surrounding on site existing structures and materials.

8.2.1 Technical Observations

The adjacent NG church resembles a colossal structure within an open landscape. This causes the church to become a monolithic landmark that acts as a beacon of religious gathering. Through the use of robust and stereotomic materials such as natural stone, bricks and steel the church building communicates a sense of permanence.



Figure: 8.2 NG Church Scale (Author 2020)

The scale of the church embodies a direct and disruptive contrast towards Plastic View, and its human scale. This contrast is the spatial representation of two different social groups.



Figure: 8.3 Settlement Scale (Author 2020)

Within the settlement the dwellings are situated on a 40m2 demarcated yard, where members of the community are only allowed to use materials such as timber, corrugated iron, plastic sheeting and materials that are considered as non-permanent and easily replaceable.

The scale of the dwellings is controlled through the legal boundaries. These boundaries are prohibiting the use of robust, permanent materials and structures which after interpreting the onsite data collected, can be argued that the dwellings communicate a sense of temporality, contrasting against the church structure, leading one to think that the municipality is preventing any form of permanence with the aim to use the land for any other future development (Calmore 1999).

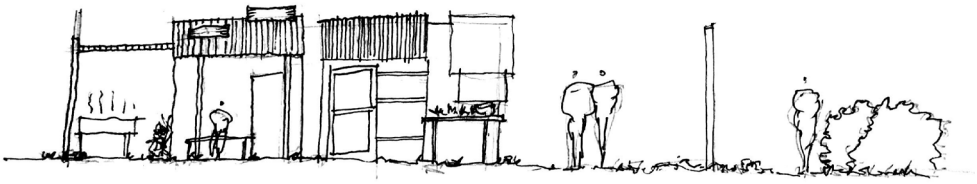


Figure: 8.4 Settlement Scale 2 (Author 2020)

Based on the on-site data collected and interpreted, forms of appropriation can clearly be seen used in the construction of dwellings, which communicates a sense of ownership and creativity arising from limited access to resources and boundaries regarding material uses (Sadri 2012).

8.2.2 Technical Examples

Concluding from this on site techne explorations, various local examples were chosen, based on their physical scale, material uses, construction methods and context specific designs which can be seen as either monumental or civil spaces. These examples were analysed with the aim to see how the technical elements seen within Plastic View and the church could be possibly be bridged through the technological character of this dissertation.



Scale



Materials



Construction



Context

Monumental

Large Scale

The defining feature of monumental architecture is the exceeding spatial and functional scale requirements the conventional building needs to perform (Trigger 1990).

As seen in the Steinkopf Community Centre, contrasting in its scale, compared to its surrounding context. Initially designed as a community centre in 1980, the only function it serves now is as a resting space for the locals of Steinkopf to protect them against the sun and a playground for the children of the community (Bell 2012).

The durable structures and materials used testifies of site and climate specific design, although the initial programme of the space is no longer adequate, a new perceived space was created through human agency and time.



Figure: 8.5 Steinkopf Community Centre (Wilkinson 2012)

Disruptive



Figure: 8.6 Metro Mall Transport Facility (Deckler 2006)

Monumental Architecture's aim is to stand out and communicate a sense of arrival (Trigger 1990). As seen in the Metro Mall Transport Facility and Traders Market. breaking the conventional layout of a taxi rank. This building aims to present itself with pride through the use of over-scaled entrances that dominate the street edge (Deckler et al. 2006).

Through the use of this disruptive street edge spatial elements such as entrances, resting spaces and markets can be formally identified, allowing the user to distinguish between formal and informal spaces.

Robust

Looking at the Baragwanath Public Transport Interchange and Traders Market, the monumental concrete structures communicates a robust feel that advocates for a sense of permanence. Using its large scale and spatial span to its advantage, the structure allows for a dynamic street edge which is crucial due to the large scale if human activity (Deckler et al. 2006).

The robust materials allow for a longer life span causing the project to be maintained easier due to the high foot traffic.



Figure: 8.7 Baragwanath Public Transport Interchange (Deckler 2006)

Civil

Human Scale

Civil architecture focuses more on a modest and human scale-based space production. As seen in the Philippi Public Transport interchange, the quite architecture is solely driven by usefulness and well-proportioned moments for self-appropriation and expression (Deckler et al. 2006).

The basic column grid systems allow the spaces to be altered and added to. This encourages appropriation which create a new sense of place for the users of the community.



Figure: 8.8 Philippi Public Transport Interchange (Deckler 2006)

Subtle



Figure: 8.9 Khayelitsha Service Centres (Deckler 2006)

A subtle and modest spatial approach creates new possibilities for meaningful places as seen in the Khayelitsha Service Centres. Acting as an instrument of public space making, this building subtly creates a new public presence through elegant and simple external spaces (Deckler et al. 2006).

Adding on to the existing spatial language, this project succeeds to contextualise itself within its surrounding allowing the users to feel a sense of belonging.

Light Weight

Designed on a domestic and civic scale, the Nelson Mandela Interpretation Centre focuses on the dialogue between the surrounding community and the building itself. This dialogue is celebrated through the use of materials locally sourced mirroring the fabric of its context (Deckler et al. 2006).

The locally accessible materials used in this project visually connects the space with the surrounding existing structures, thus allowing the user to visually connect themselves to the space, causing a sense of familiarity.



Figure: 8.10 Nelson Mandela Interpretation Centre (Deckler 2006)

8.2.3 Technical Lessons

Based on the above mentioned South African examples of monumental and civil public spaces, this dissertation's technical aim could be determined as follows:

1.Climate and site-specific material use.



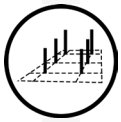
2.Visually disruptive structures to define spaces.



3.Robust materials.



4.Well proportioned spaces that allow for appropriation.



5.Context specific structures and elements.



6.Use of local and accessible materials.



Through the comparison of the two existing onsite spatial scales the concept of an overlapped spatial moment was highlighted. This moment of fusion is an opportunity that can be seen as the coalescence of various perceived, conceived and lived spaces.

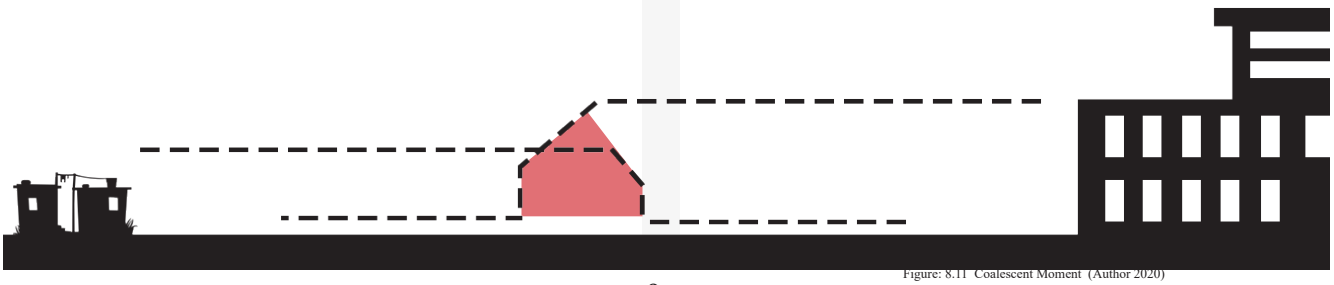


Figure: 8.11 Coalescent Moment (Author 2020)

8.2.4 Technical Conclusion

Firstly, for this dissertation to embody this coalescent moment, the techne has to allow for human scale civil spaces, familiar social moments that users can relate to can be created. This sense of familiarity increases a sense of ownership that has the power to cause a sense of belonging that will cultivate a responsibility towards the health and safety of place (Hamdi 2010).

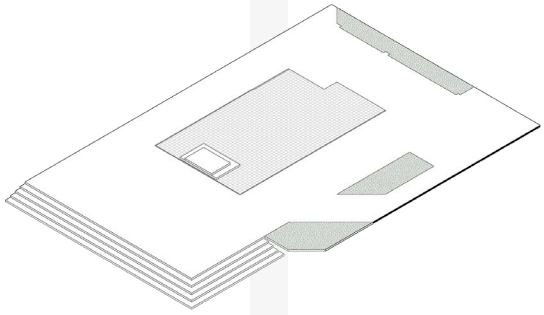


Figure: 8.12 Platforms (Author 2020)

Secondly, the construction has to capture this moment through robust and heavy structures which contest the legal limitations and still allow for internal infill through the use of light weight structures, which compliments the concept of self-expression and appropriation determined by the current social climate.

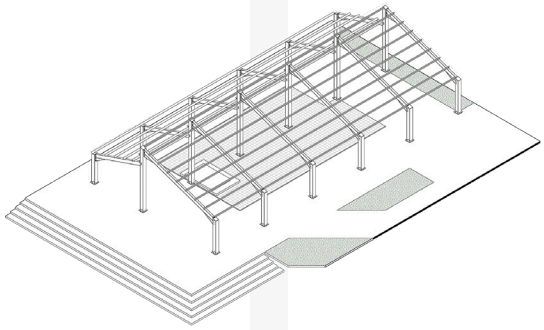


Figure: 8.13 Robust Structures (Author 2020)

Lastly the aim of reclaiming the members of Plastic View's right to the city can be physically embodied through participative space making. Participative space making which according to Jeremy Till (2018) is a crucial aspect of design due to architecture being a social construct that highlights the relationship between the building and the users thereof (Till 2018). According to John Habraken (1976) a successful method of space making can be achieved through the use of the Open Building (OB) theory that allows for a basic support/infill system which addresses the challenge of design authorship by allowing structural materials to be placed by professionals and the infill to be arranged and scaled by the user (Council on Open Building Plan 2020). This method provides users with the option to make alterations according to their social, political and economic needs. Concluding that by including the users of the space in the design process can easier highlight individual and collective needs (Habraken 1976).

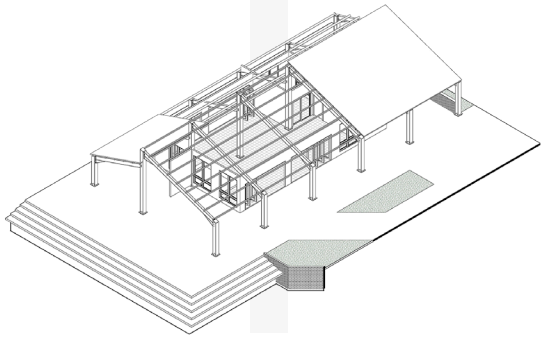


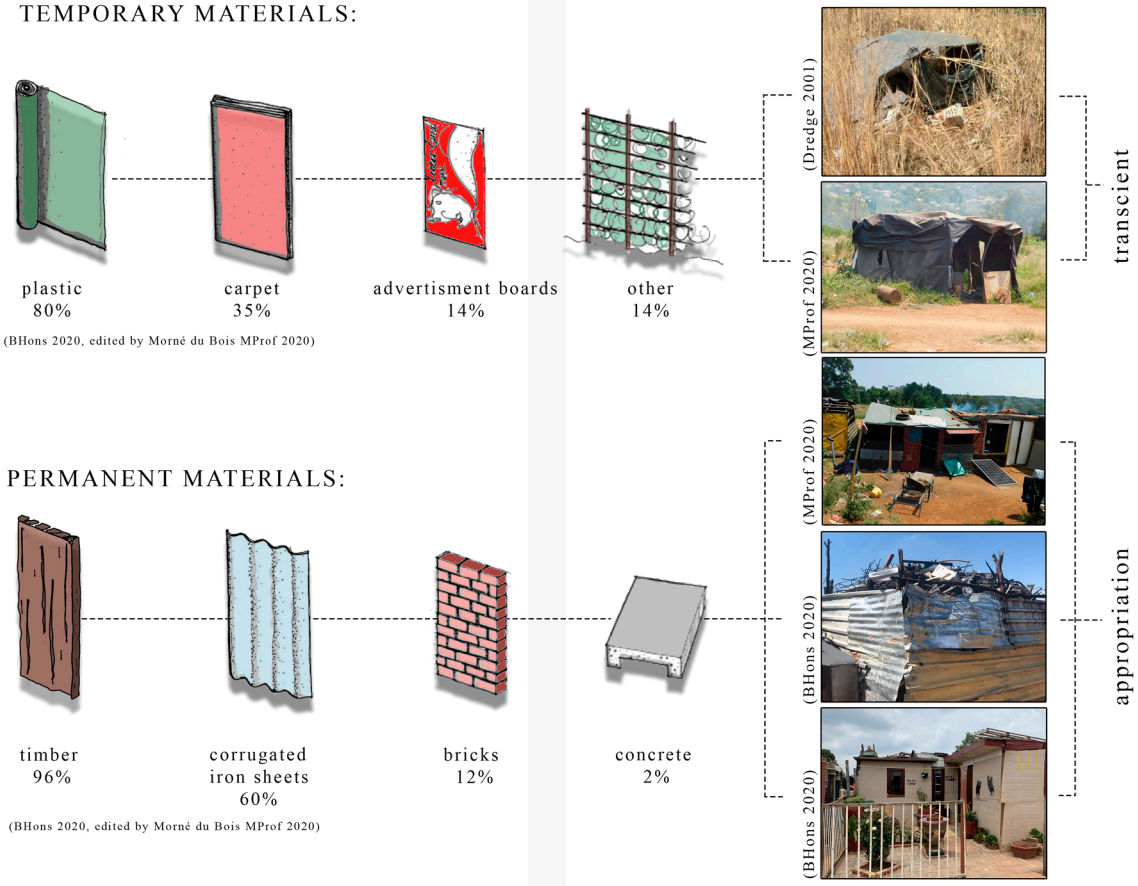
Figure: 8.14 Participative Space Making (Author 2020)

8.3 Materiality Aim

Based on the above-mentioned technical aims of this dissertation and its success, the materiality and the technology thereof are highlighted as a major priority.

8.3.1 Existing Materials Study

Through mapping the existing materials that are being used in Plastic View, an indication could be derived on what the members of Plastic View use to appropriate their own dwellings as well as what is accessible.



Based on these above-mentioned materials found on site, it can be concluded that despite the legal boundaries, some members of the community still use smart and creative ways to participate in forms of civil disobedience, by using more permanent materials in their dwellings.



Figure: 8.15 Abandoned Timber Structure (Author 2020)

The excess use of timber can be interpreted as an indication of it being the material that the members of the community have the easiest access to as well as the most knowledge surrounding the assembly thereof.



Figure: 8.16 Plastic Envelope (Author 2020)

Within the settlement plastic sheeting and corrugated iron roof sheeting are used as the envelope for the structure, to secure the space from the weather.

The plastic sheeting is simply nailed to the timber frame and heavy objects such as tires and steel are placed on the roofs to keep the roof sheeting in place.



Figure: 8.17 Plastic Sheet Fixing (Author 2020)



Figure: 8.18 Brick Pavers (Author 2020)

Very little permanent materials such as concrete and bricks are used within the settlement due to legal reasons, but the presence of these materials within the settlement testifies of the available skills surrounding the use of these materials.

Lastly advertisement boards and softscape elements are used to either block off or define spaces. This indicates the use of upcycled materials as well as skills surrounding the use of vegetation.



Figure: 8.19 Timber Board Cladding & Vegetation Envelope (Author 2020)

8.3.2 Materiality Examples

Based on these above mentioned observations of the existing materials used within Plastic View, these three significant South African projects were analysed based on their use of upcycled sustainable materials, user participation and resilient construction process.



Figure: 8.20 Participative Construction (Author 2020)

Example 1

Guga S'Thebe Children's Theatre

Cape Town

Carin Smuts 2016

Situated in the heart of the Langa community in Cape Town, The Guga S'Thebe Children's Theatre is an expansion of the existing arts and culture centre (Architizer 2017).

Position and rotation of the building volume is based on an existing path which was grown informally during the apartheid era as a connection between the former barracks and the post office, this pathway was and is an important space for informal exchange (Architizer 2017).

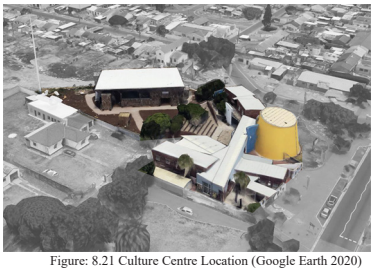


Figure: 8.21 Culture Centre Location (Google Earth 2020)





Figure: 8.22 Performance stage on exterior Facade (Architizer 2017)

Referencing to past and cultural attributes on site, the rectangular building volume is orientated in such a way to create a square between the theatre and amphitheater (Architizer 2017).

Through the use of already available shipping containers, the footprint of the building is defined by 11 stacked and staggered used shipping containers. A high-level boundary is shaped and acts as the interior enclosure for the multi-functional theatre (Architizer 2017).

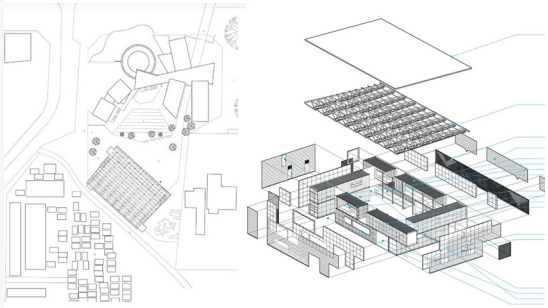


Figure: 8.23 Plan & Construction ISO drawing (Architizer 2017)

Traditional vernacular construction methods were researched combined with industrial reused waste materials along with renewable earth materials determined the design teams' parameters for the framework. The facades unique patterning is derived from the traditional Xhosa beadwork, leading the facades to adapt to different orientations of the building and transitions to other materials (Architizer 2017).



Figure: 8.24 Upcycled materials (Architizer 2017)

Example 2

The Imizamo Yethu Water Platforms

Hout Bay

Mike Louw 2010

Situated in an informal settlement in Hout Bay, Western Cape, Imizamo Yetu houses an estimate of 9464 household that make use of shared toilets and taps (UCT 2016).

Acting as an opportunity for the University of Cape Town's Architecture students to participate in co design process. These processes consist of members of the local community along with the students, to design and building new water platforms in the settlement. Acting as social gathering spaces, these spaces also provides for additional services as well as more hygienic spaces for water collection and washing (UCT 2016).



Figure: 8.25 Water Platform Location (Louw 2010)





Figure: 8.26 Community Engagement (UCT 2016)

Keeping the community members involved during the entire planning and building process, various opportunities were reached for the transaction of skills and knowledge such as building methods, artisanal skills and the realities of living in an informal settlement (UCT 2016).

Running from 2010, the project's aim was to build one platform per year as well as using premanufactured platforms and recycled materials. This allowed for various degrees of trial and error to occur which helped with the planning for future social and economic infrastructure that can benefit the community on a larger scale (UCT 2016).

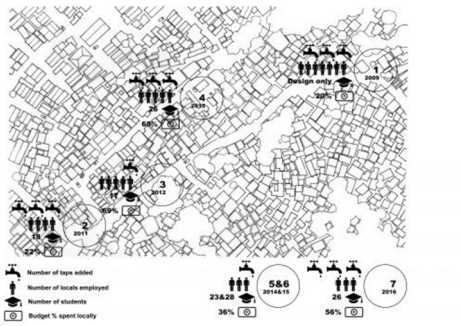


Figure: 8.27 Future Water Platform Locations (UCT 2016)





Figure: 8.28 Innovative Material use for Flooring & Shading (UCT 2016)

Example 3

The Table House

Cape Town

Noero Architects 2016

Situated in an informal settlement, Philippi, Cape town, this project aims to provide shack dwellers with a permanent low-cost structure, which is sustainable enough to be extended laterally and vertically (Noero 2016).

Because of the limited ownership and government provision towards housing on this site the Table House idea was created. This provision of a permanent structure can be made locally and inexpensively. This also came from the main element of the project, which is to make people the centre point of housing initiatives (Noero 2016).



Figure: 8.29 Primary Frame Structure (Noero 2016)



Figure: 8.30 Community Participation (Noero 2016)

Acting as infrastructure this design enables residents to improve their houses gradually, developing new skilled labour as well as local building culture (Noero 2016).

The aim of this project is to meet specific site a social need and targeted at families that are formally employed. This housing method aims to trigger the empowerment of people to take charge of their own housing and adding value to their homes (Noero 2016).

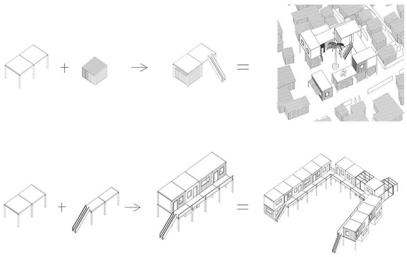


Figure: 8.31 Gradual Extension Process (Noero 2016)



Figure: 8.32 Finished Table House & Future Development Vision (Noero 2016)

8.4 Materiality Lessons

Based on the above-mentioned architectural examples three material requirements and lessons could be learned.

8.4.1 Upcycled Materials



Upcycled materials are unwanted or useless waste materials that are treated to be used in a new perceived way (FutureLearn 2012).

The benefits of using this type of material are

Environmental



Rubbish heap sizes are reduced through the use of upcycled materials (FutureLearn 2012). Within the site of Plastic View various rubbish heaps are found on site, contributing towards the lack of hygiene within the surrounding area.

Economic



Upcycled materials reduces manufacturing costs (FutureLearn 2012). Within a context such as an informal settlement, this method of material use can reduce the amounts of their income spent on expensive materials, and also develop new construction skills which the members of the community can use to gain an income outside the settlement.

8.4.2 Materials that allow for Community Participation



Due to this project focusing on the seaming together of different social groups, user participation is a high priority. The benefits of using materials that encourage participation are

Individual Upliftment



At the base of every upcycled product lies a creator (FutureLearn 2012). This uplifts an individual to either learn new craft skills or explore new avenues of creativity possibly sparking a new sense of ownership.

Collective Growth



A sense of collective growth and relationship building comes to light when two or more entities work together to reach a common goal. Through the use of materials that encourage community participation both the members of Plastic View and of the surrounding communities highlight and accept new socio-spatial responsibilities (Kahn & Haupt 2016). This also adds to the value and meaning of the development, which lacks when participation is falsely promised (Kahn & Haupt 2016).

8.4.3 Materials that enhance the resilience of the project



Due to the history of unlawful evictions and breakout of winter fires, it is suggested that the use of resilient structures reduce these types of disruptive events. Through the use of these resilient structures possible avenues for new lived spaces are created (National Institute of Building Sciences 2018).

The benefits of using a material that communicates a sense of resilience are

Robustness



Allows for critical moments of disruptive events to take place and still allow for a space to still function as a social space (National Institute of Building Sciences 2018)

Resourcefulness



This can be reached through the use of sustainable materials which allows for preparation of future events and possible disruptions. Also allowing for new needs based spatial alterations based on social and economic changes (National Institute of Building Sciences 2018).

8.5 Material Pallet

Concluding from this lessons learned a material pallet for them spatial intervention could be generated. Emphasis could be placed on the different interactive moments of the Social Centre through dividing the material pallet into four different planes juxtaposed with the lessons learned.

8.5.1 Primary Structural Plane



Upcycled

The primary structure will consist out of steel portal frame structure. Although steel is not environmentally-friendly it is a material that qualifies as environmentally responsible due to it being a recyclable material which enhances its life cycle. Proposing steel portal frames for the primary structure encourages less deforestation and leads to less wastage due the precision manufacturing of steel frames (Urdesign 2019).



Figure: 8.33 Steel portal frame example (DPL Steel 2020)

Participative



Figure: 8.34 Easy Construction (Author 2020)

Steel allows for easy and effective assembly, due to being pre-engineered and shipped to site. Due to prefabrication of the structure assembly can be easier explained and taught to people, which enhances skills upliftment and cuts on expensive labour costs (Urdesign 2019).

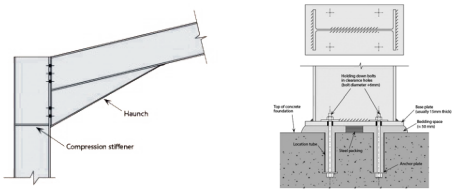


Figure: 8.35 Haunch & Footing Detail (Steel Construction 2013)

Resilient

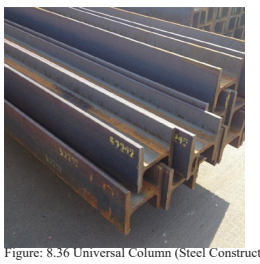


Figure: 8.36 Universal Column (Steel Construction 2013)

Steel frames, compared to timber, have higher resistance against dilapidation. The treating of steel structural frames is minimal and cost effective. In the case of fires or other harmful natural events, steel will most likely still stay resilient and steadfast, allowing for any rebuild to be implemented more easily.

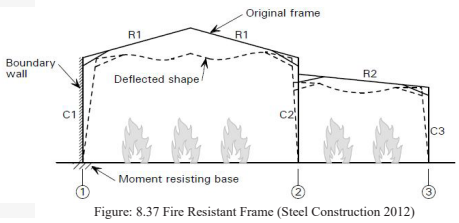


Figure: 8.37 Fire Resistant Frame (Steel Construction 2012)

8.5.2 Floor Plane



Upcycled

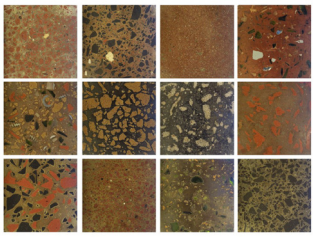


Figure: 8.38 Various Colours of Pavers (Hakkens 2012)

Due to the design consisting of open platforms and floor planes a new affordable method of floor material is introduced. Rubble flooring, which according to Dave Hakkens (2012), a young Dutch Designer, a new form of recycled floor bricks can be created through the use of mixing cold crushed bricks, tiles, glass and nails from old buildings (Lisa 2012). Through using this method of flooring, a new life and colour is given to old materials.

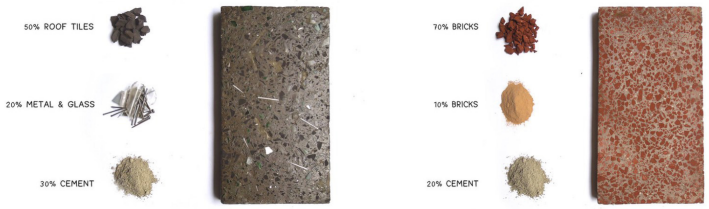


Figure: 8.39 Material Ratios (Hakkens 2012)

Participative

Various interactive floor patterns and textures can be reached through the use of old recycled bottle caps, glass and tiles and grout fixed on a concrete floor, to reach a mosaic like flooring pattern designed and installed by any user.

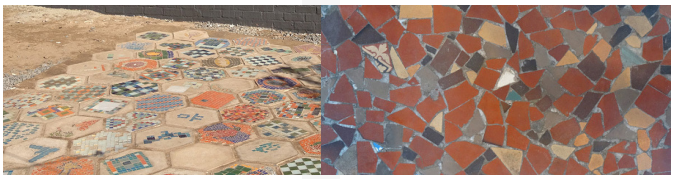


Figure: 8.40 Broken Tile Examples (Louw 2012)

Resilient

Robust concrete stairs and brick seating will be used to embody a stronger sense of permanence as well as easing maintenance.

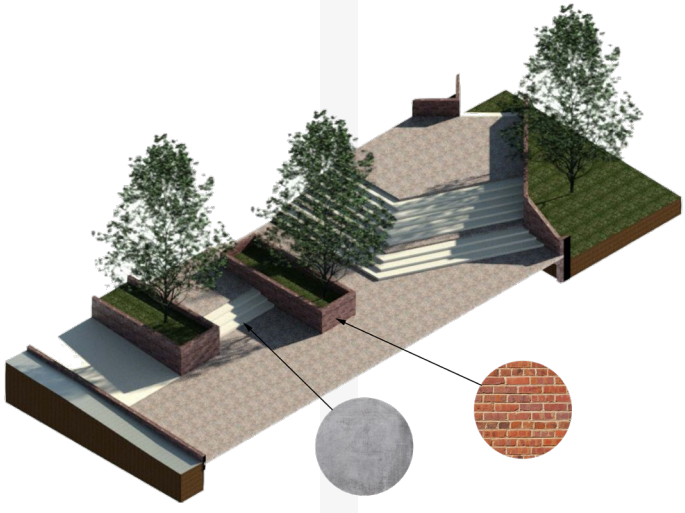


Figure: 8.41 Steps and Seating Walls (Author 2020)

8.5.3 Roof Plane



Upcycled

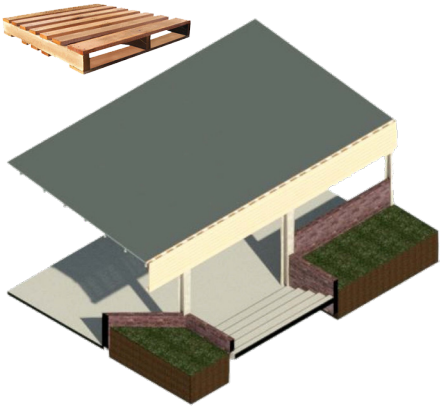


Figure: 8.42 Timber Pallet Louver (Author 2020)

Regarding the shading on the roof plane, as seen within the settlement, innovative and cheap material choices can be made. For example, timber pallets treated with timberlife, due to their sturdiness and composition, will be used as shading louvers to maximise the comfort within the various social spaces.

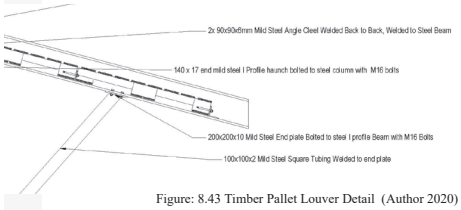


Figure: 8.43 Timber Pallet Louver Detail (Author 2020)

Participative

Within the open-air market space, various moments for roof appropriation are created, allowing the users of the space to enhance their space through self-expressed and self-crafted roofing structures. These roofs will consist of any flexible material such as woven recycled plastic or timber slats that can be fixed to a wire fixed between two mono-pitched portal frames.



Figure: 8.44 Plastic Shading (InHabitat 2011)



Figure: 8.45 Timber Woven Shading (Louw 2012)

Resilience

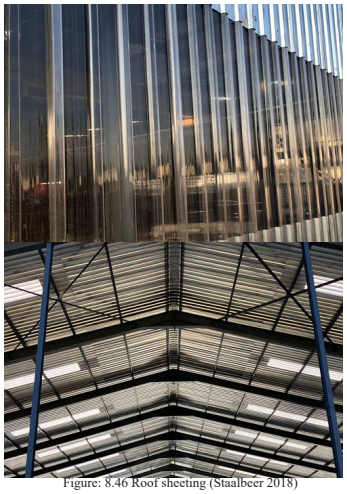
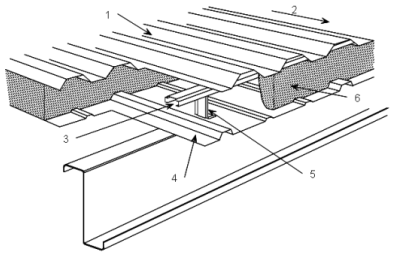


Figure: 8.46 Roof sheeting (Staalbeer 2018)

The main covered space's roofs will consist of corrugated iron roof sheeting and polycarbonate sheeting placed on a fall of 11° to allow for quick water runoff and to optimize natural sun light.



1 Weather sheet
2 Slope
3 Bar
4 Liner sheet
5 Bracket
6 Insulation

Figure: 8.47 Roof sheeting detail (Steel Construction 2012)

8.5.4 Wall Plane



Upcycled

Due to the primary portal frame structure bearing all the weight of the roof, interior free-standing walls are proposed. These walls will consist of lightweight steel frames leading to less wastage and faster building time. The steel frames will be cladded with drywall to ensure high thermal insulation and improve internal air quality, acoustic value and fire safety. The steel frame wall will be bolted to the concrete floor through the use of a u-track.



Figure: 8.48 Lightweight steel walls structure (Thomashoff 2014)

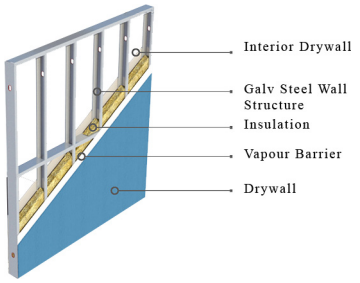


Figure: 8.49 Lightweight steel walls Cladding detail (HEBO 2017)

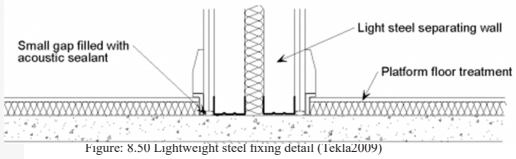


Figure: 8.50 Lightweight steel fixing detail (Tekla2009)

Participation

Within the wall plane the users are allowed to learn new methods of construction such as the use of primary and secondary structural systems as well as the importance of insulation.



Figure: 8.51 Lightweight steel walls Cladding Construction (Author 2020)



Figure: 8.52 Dynamic Spatial Layout (Author 2020)

Resilient

Due to the steel frames being light weight, the spatial arrangements can be altered to allow for change within the dynamic social climate.

Bricks are used within the various ablution facilities and retaining walls to act as robust structures which aim to reach a sense of permanence and define exterior spaces.



Figure: 8.53 Brick Retaining walls (Author 2020)

8.6 Techne Conclusion

Based on the above-mentioned onsite data and the analysed local examples it can be concluded that the materials and construction methods used within this dissertation will need to communicate and advocate for user participation and collaboration.



Figure: 8.54 Compiled Material Pallet (Author 2020)

The materials and construction methods in themselves aim to embody the idea of sharing and merging together. Through implementing these material and construction methods one can start to frame the moments in which people are socially reconciled and together challenge the status quo of informal urbanism and celebrate the meeting moment of two societies.



Figure: 8.55 Solid Meeting Moment (Author 2020)

The participative construction process and material uses' end goal is to protest against existing socio-legal and socio spatial boundaries found within the settlement, thus advocating for user control and co-existence which is the first step of reclaiming the right to the city (Butler 2009).



Figure: 8.56 Workshop and Garden Spaces (Author 2020)

Reflection

Concluding from the above-mentioned chapters the final stages of this dissertations design process was reached. A fourth iteration was generated with the aims to address the various issue, concerns and goals as well as important sustainability issues such as climate, water and electrical efficiency.

8.7 Environmental Strategies

8.7.1 The Climate Context

Due to the fact that Moreleta Park finds itself within zone two of the six different climatic zones within South Africa, it is seen as a temperate interior area, according to SANS 204.

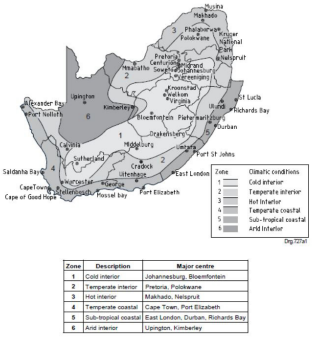


Figure: 8.57 Climate Zones of South Africa (SANS 204 2011)

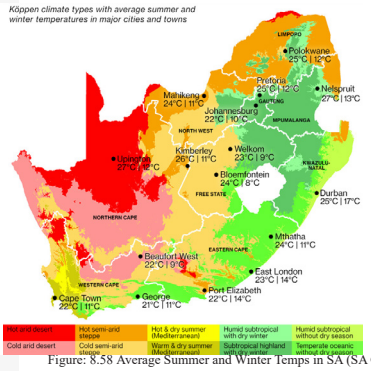


Figure: 8.58 Average Summer and Winter Temps in SA (SA Gateway 2019)

Based off of this the following climate design response alongside the design principles are explored within this iteration:

1. East and West opening to be minimized to aid with passive design. North facing openings to be maximized in order to create a comfortable social environment, especially within large rooms where mass gatherings may take place.

2. Well placed and orientated shading to cool off rooms as well as protect users from the sun.

3. Well orientated passive ventilation and convective ventilation are needed to prevent the use of any artificial cooling or heating units.

4. Well orientated buildings to protect interior spaces from cold winds to increase the comfort of the outdoor gathering spaces.

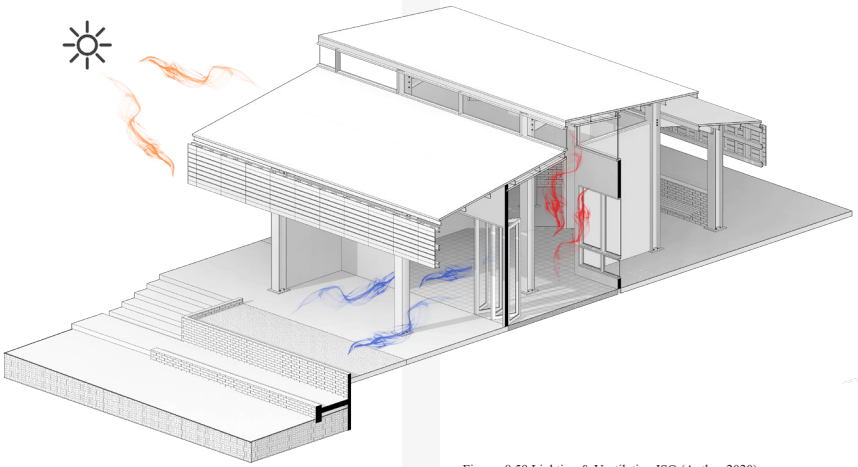


Figure: 8.59 Lighting & Ventilation ISO (Author 2020)

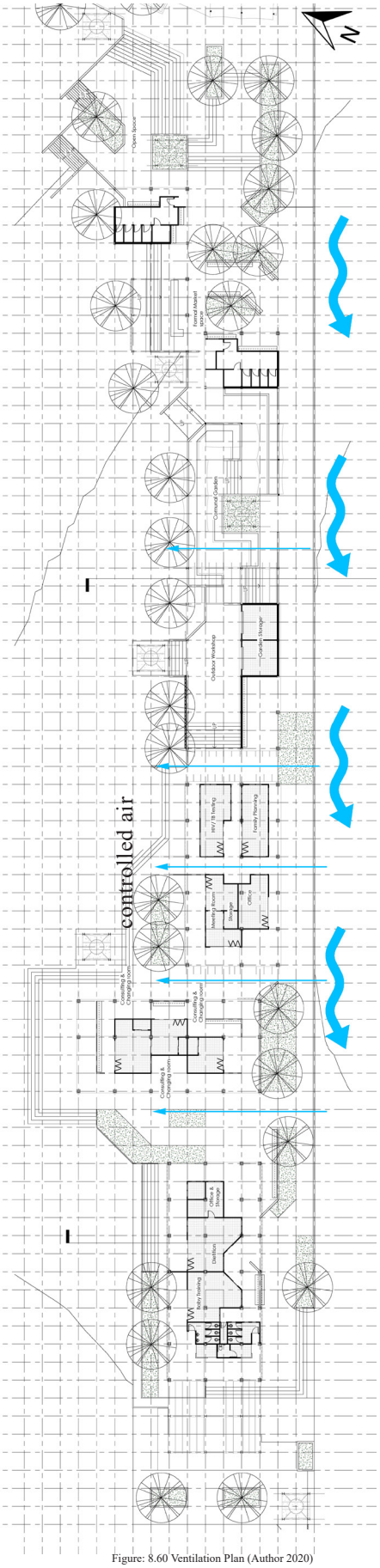


Figure: 8.60 Ventilation Plan (Author 2020)

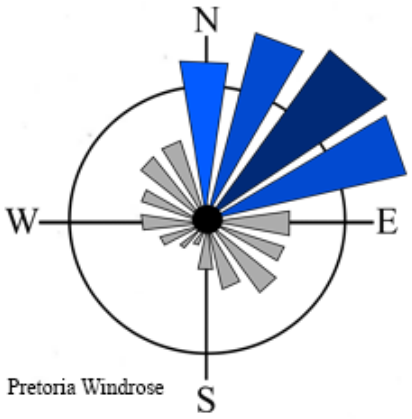
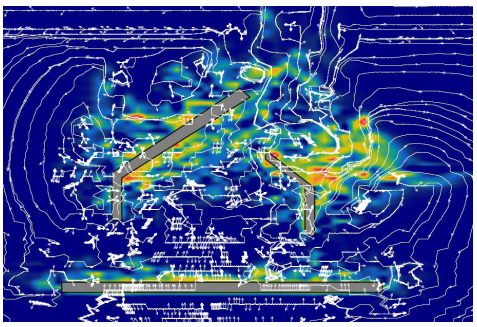
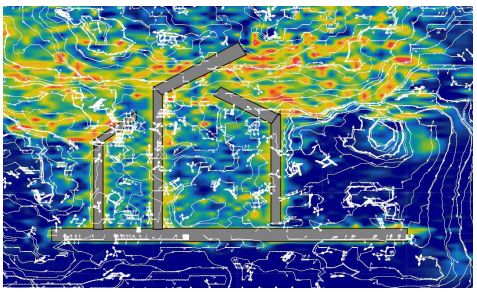


Figure: 8.61 Pretoria Windrose (Author 2020)





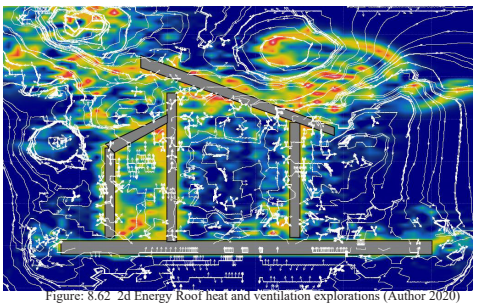


Figure: 8.62 2d Energy Roof heat and ventilation explorations (Author 2020)

8.7.2 Water efficiency

Rainwater harvesting will need to be explored due to the communal gardens being one of the main moments within the Social Centre and the lack of sufficient water access within Plastic View. Rainwater will be harvested off all available roof surfaces. The water gathered will be pumped, with a solar powered booster pump, and stored in water tanks situated on towers placed all around the site. Specific water tanks will be used at specific moments to ensure equal and priority-based water usage and excess water will be stored in underground reservoirs.

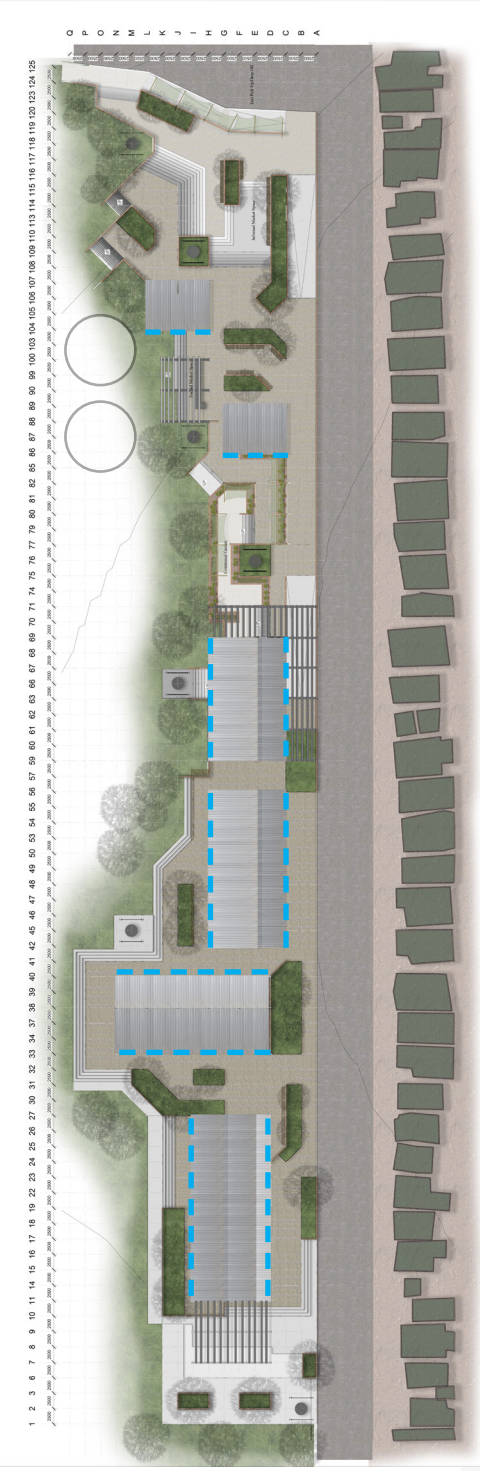


Figure: 8.63 Water catchment diagram (Author 2020)

Rain water havesting

AREA CALCULATIONS

Catchment	Area, A (m²)	Runoff Coefficient,	
Lawn, sandy	176	0,08	0,00
Roof	1639	0,9	0,32
Paving	2477	0,8	0,43
Veld Grass	0	0,3	0,00
Gravel	0	0,5	0,00
Slope lawn, 25%	176	0,2	0,01
Cultivated vegetition	127	0,5	0,01
TOTAL	**4595**	3,28	**0,78**

WATER BUDGET

Month	Yield (m³)	Demand (m³)	Monthly balance
January	464,0	118,4	**345,6**
February	392,6	109,4	**283,2**
March	428,3	118,4	**309,9**
April	249,9	109,1	**140,8**
May	178,5	59,2	**119,3**
June	142,8	102,7	**40,1**
July	142,8	105,7	**37,1**
August	178,5	112,1	**66,4**
September	249,9	102,7	**147,2**
October	356,9	118,4	**238,5**
November	535,4	70,4	**465,0**
December	356,9	71,9	**285,0**
ANNUAL AVE.	3676,5644	1198,3	2478,2644

WATER BUDGET (ACCUMALATIVE)

Month	Yield (m³)	Demand (m³)	Monthly balance	Vol. water in tank (m³)
January	464,0	118,4	345,6	**1 095,7**
February	392,6	109,4	283,2	**1 378,9**
March	428,3	118,4	309,9	**1 688,9**
April	249,9	109,1	140,8	**1 829,7**
May	178,5	59,2	119,3	**1 949,0**
June	142,8	102,7	40,1	**1 989,0**
July	142,8	105,7	37,1	**2 026,1**
August	178,5	112,1	66,4	**2 092,6**
September	249,9	102,7	147,2	**2 239,7**
October	356,9	118,4	238,5	**0,0**
November	535,4	70,4	465,0	**465,0**
December	356,9	71,9	285,0	**750,1**
ANNUAL AVE.	3676,5644	1198,3	2478,2644	

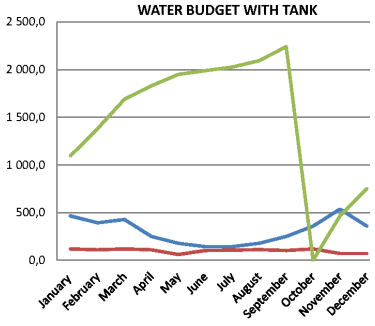


Figure: 8.64 Water Calculations (Author 2020)

Gravity based grey water systems will be used to filter the water used from the bathrooms, through the various planters present on site, to be used for irrigation. The excess water gathered from runoff will be stored in two underground reservoirs to be used for irrigation for the Social Centre as well as the church grounds.



Figure: 8.65 Underground Reservoirs (Wiki Civil 2013)

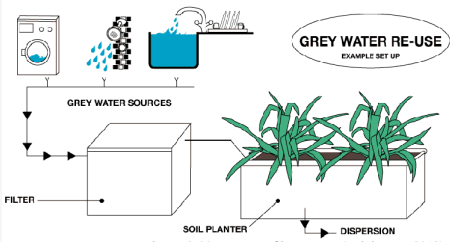


Figure: 8.66 Greywater filter system (Rainharvest 2018)

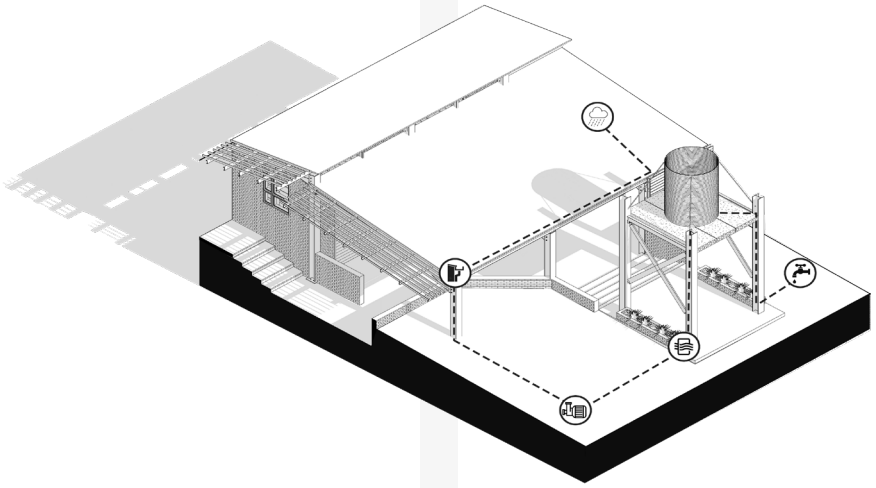


Figure: 8.69 ISO Water (Author 2020)

8.7.3 Electrical Efficiency

With the aim to run the Social Centre and its various facilities on the lowest cost as possible, advantage has to be taken of natural sunlight to reduce electrical use in the day. Solar panels are implemented with the aim to power geysers as well as LED lights used throughout the Social Centre.

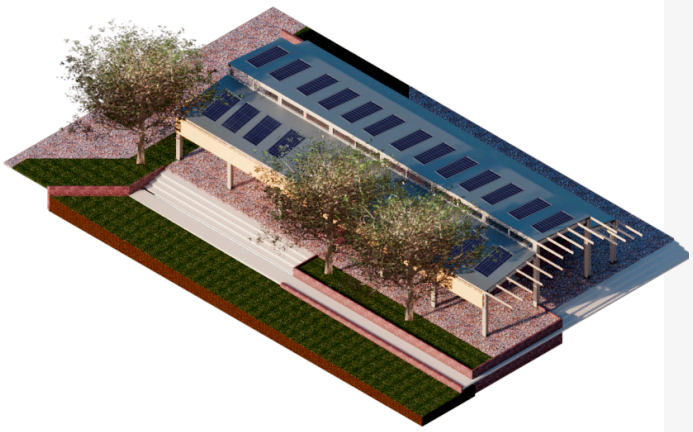


Figure: 8.68 Solar Panel (Author 2020)

Plastic View Social Centre: Electricity calculations					
Workshop Spaces					
Item:	*No. Of items*	*Power usage (Watts)*	*Ave.run time per day (hrs)*	*Ave. run time per week (hrs)*	*Watt-hours per week*
Computer	1	80	5	25	2000
LED lights	20	5	5	25	2500
Speakers	4	7,5	5	30	1125
Clinic					
Bar Fridge	2	1000	10	70	70000
Computer	4	80	5	25	8000
Exterior					
LED lights	36	7	5	25	6300
				0	0
Offices					
Computer	10	80	8	40	32000
LED Lights	15	7	9	45	4725
Printer	3	260	1	5	3900
				Total (W):	130550

1 Solar panel = 250W
1 Solar panel size = 1.4m2

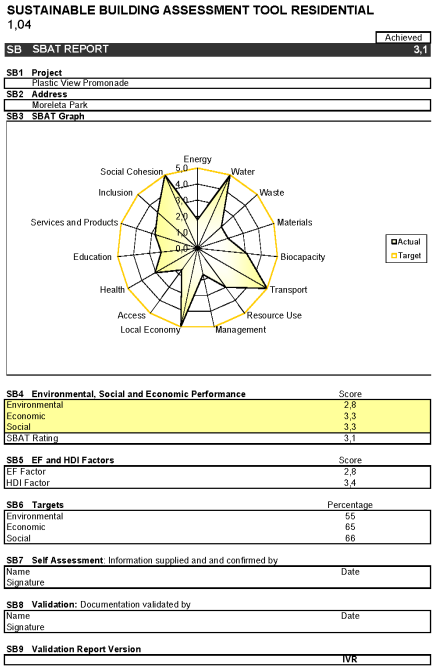
Total panels required: 522
Size required (m2): 731

Area available (m2): 1355

Figure: 8.67 Electrical Calculations (Author 2020)

8.7.4 Sustainable Building Assessment Tool (SBAT-P)

The sustainable performance of this intervention was assessed with the SBAT tool with the aim to determine if this space can become the seam between different social, economic and environmental realms, this could be reached through the implementing of social cohesive structures, recycled materials and well orientated civic spaces open for natural ventilation lowering the costs due to no mechanical systems.



SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1,04

SB SBAT REPORT	Achieved 3,1
SB1 Project	
Plastic View Promonade	
SB2 Address	
Moreleta Park	
SB3 SBAT Graph	

SB4 Environmental, Social and Economic Performance	Score
Environmental	2,8
Economic	3,3
Social	3,3
SBAT Rating	3,1

SB5 EF and HDI Factors	Score
EF Factor	2,8
HDI Factor	3,4

SB6 Targets	Percentage
Environmental	55
Economic	65
Social	66

SB7 Self Assessment: Information supplied and and confirmed by	
Name	Date
Signature	

SB8 Validation: Documentation validated by	
Name	Date
Signature	

SB9 Validation Report Version	
	IVR

Figure: 8.70 SBAT Tool Calculations (Author 2020)

8.8 Conclusion

Based on the above-mentioned climate design principles it is possible for this intervention to be environmentally sustainable and responsible. This could be reached by providing water to be used on the site with sustainable methods such as rainwater harvesting. Electrical use are lowered through the use of natural lighting through the day and solar energy at night. Well shaded spaces and natural ventilation is maximised through well orientated and open spaces.

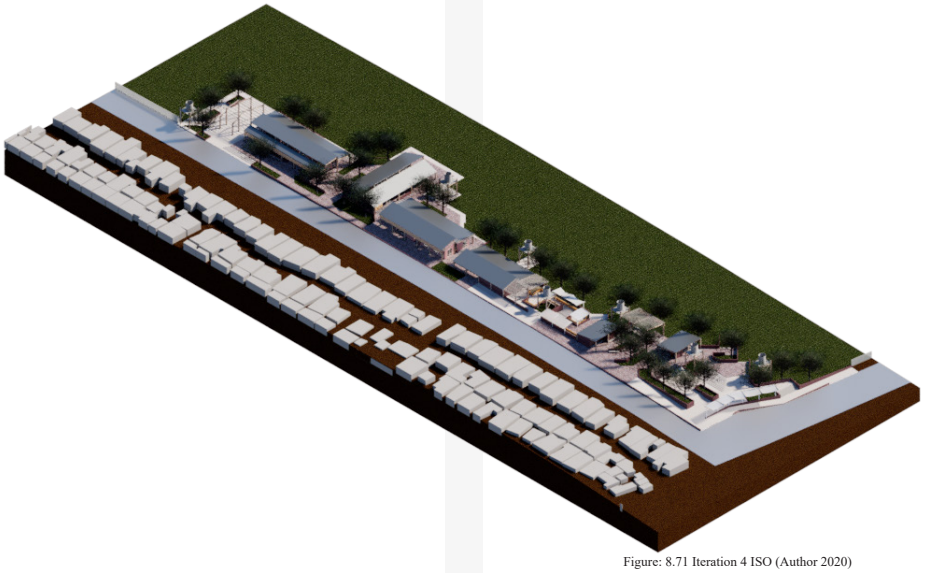


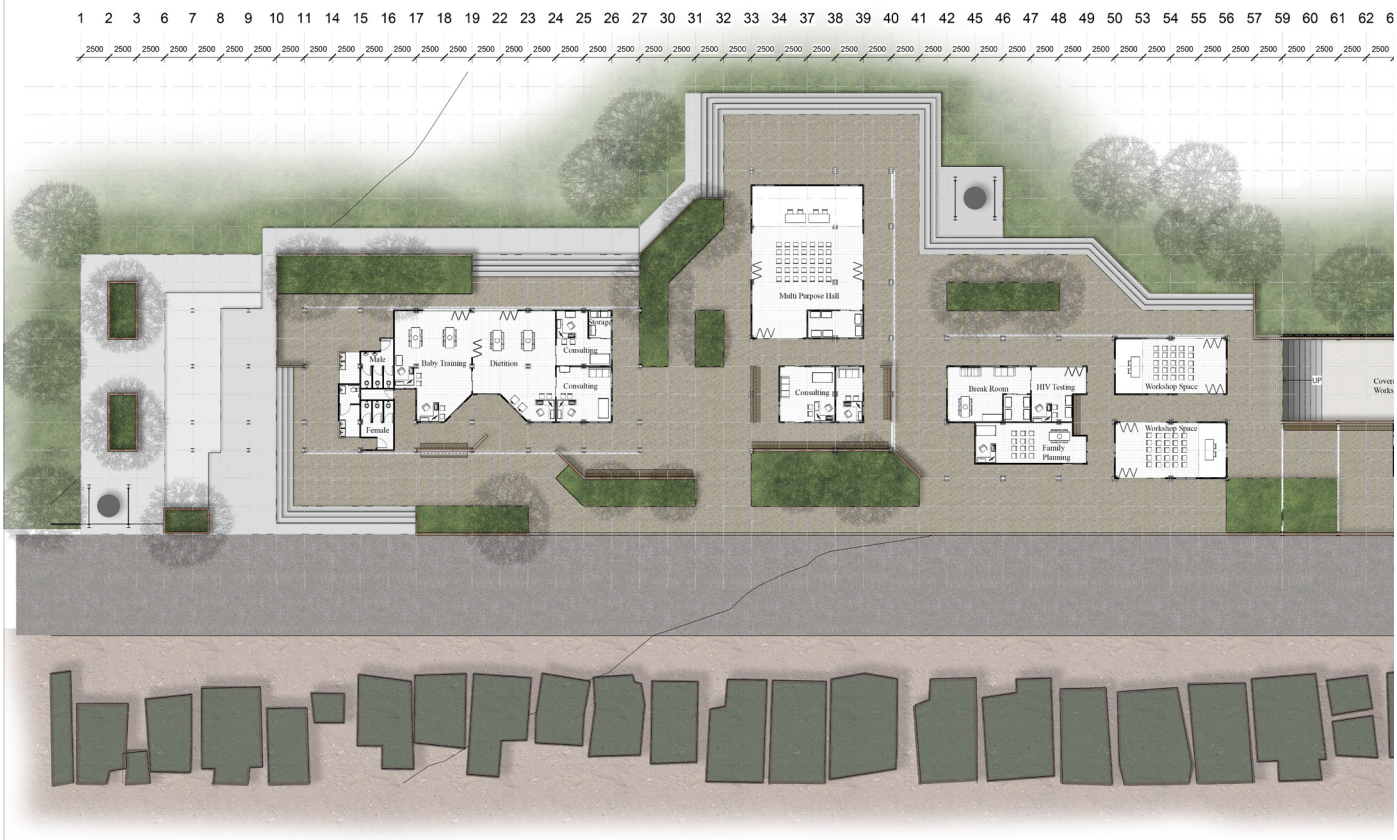
Figure: 8.71 Iteration 4 ISO (Author 2020)

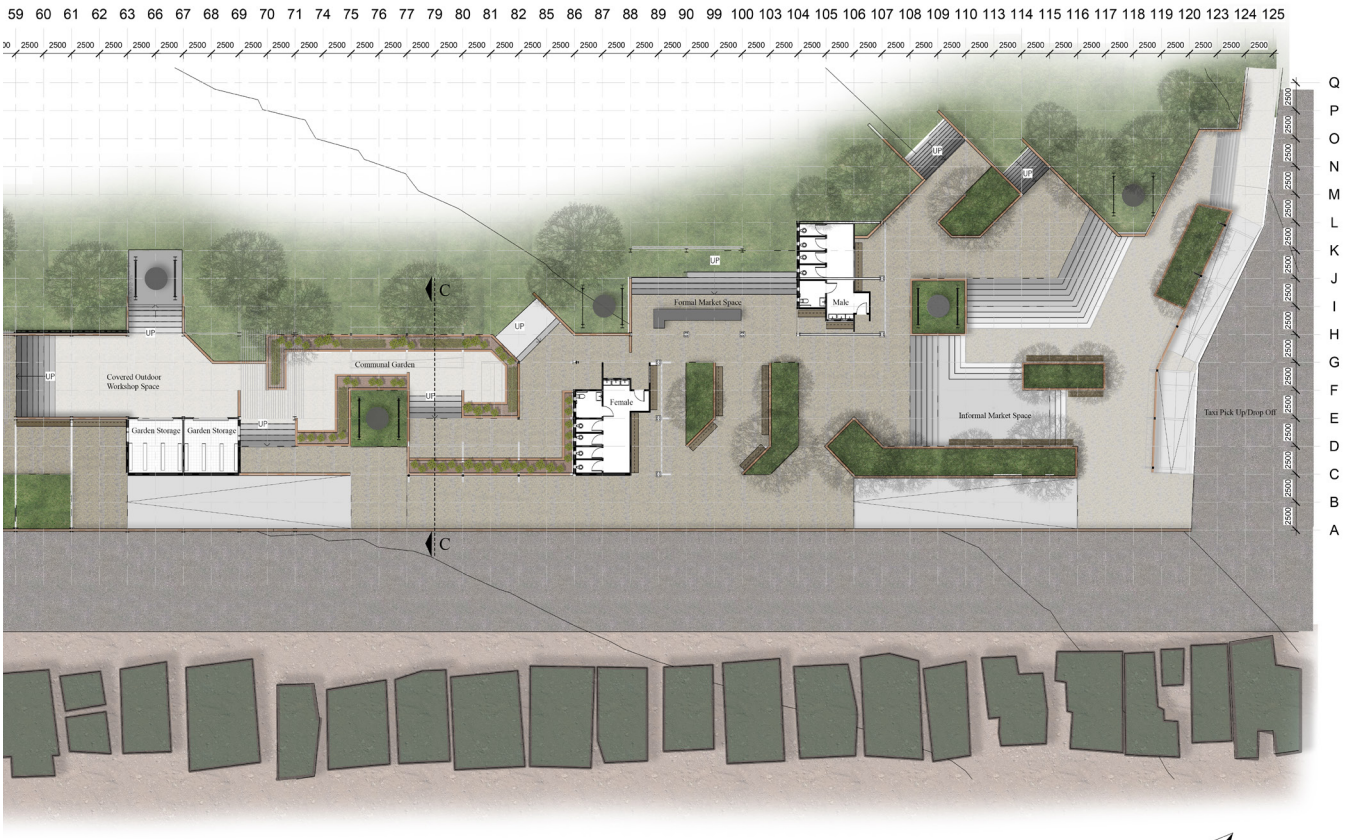


CHAPTER 9

Conclusion

9.1 Final Iteration





MIXED MOMENTS FLOOR PLAN
SCALE 1:200

Figure: 9.1 Mixed Moment Floor Plan (Author 2020)

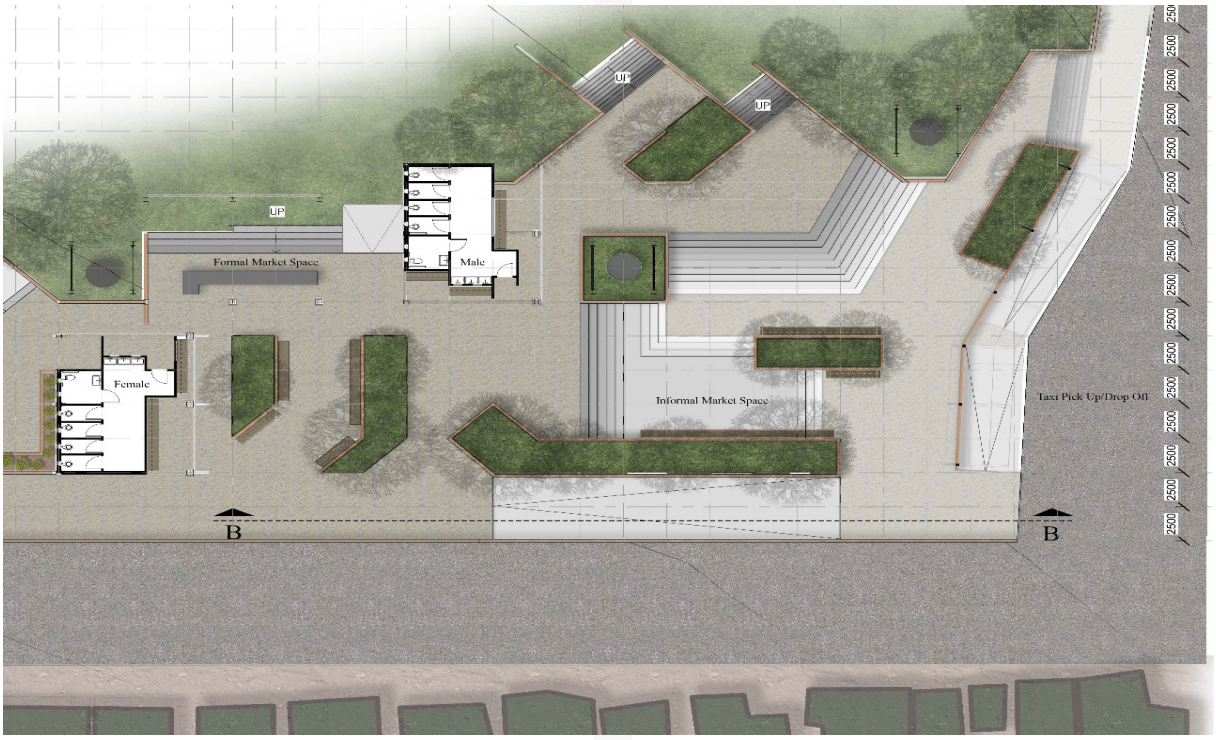


Figure: 9.2 Moment 1 Floor Plan (Author 2020)

Within the first moment users are Introduced to the site through a large terraced open air market area which allows for well shaded resting areas and a taxi pick up and drop off point. The new habited corner boundary is punctured with allocated concrete staircases and ramp leading towards the open Church Grounds

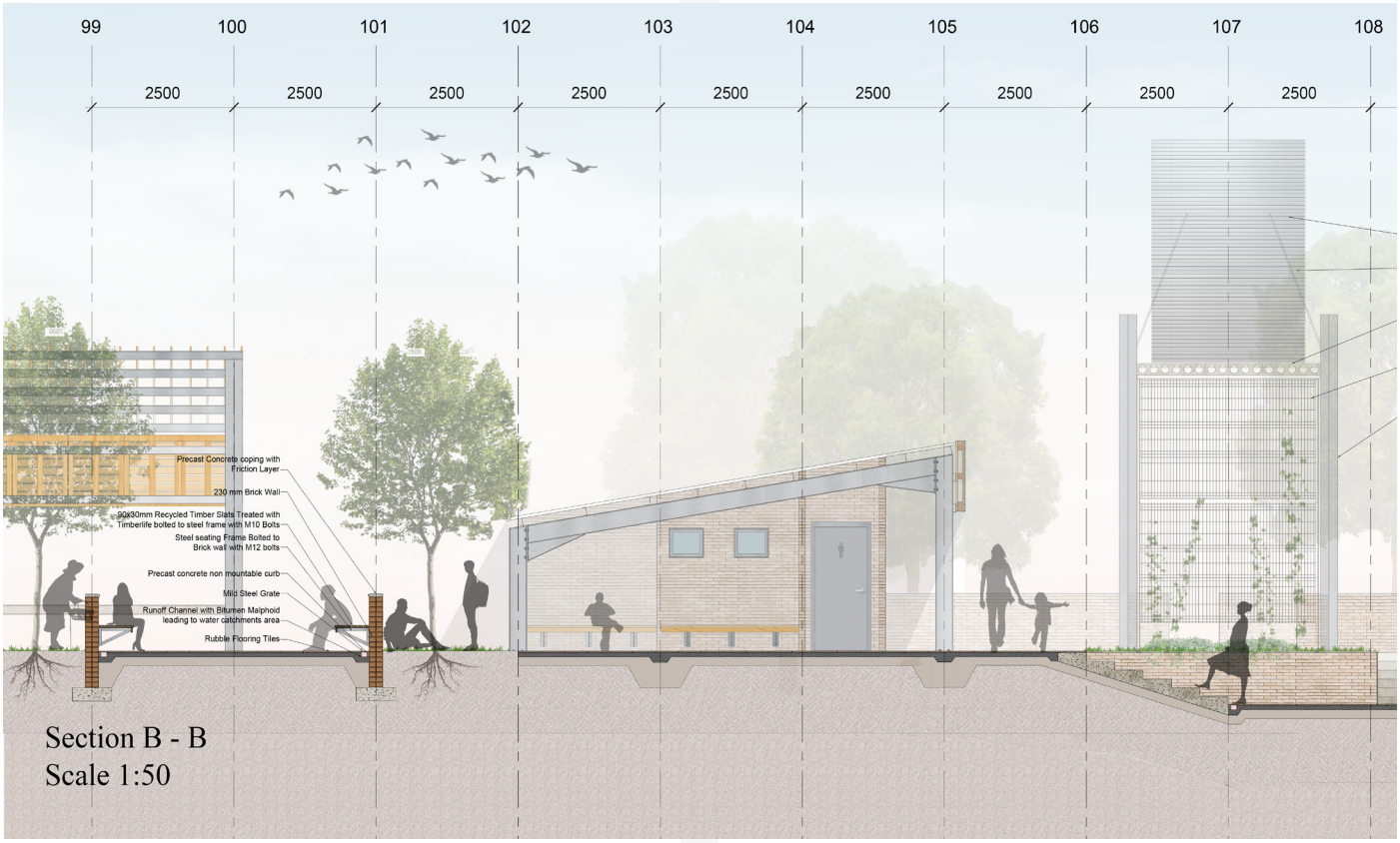




Figure: 9.3 Meeting Space (Author 2020)

The entrance to the site is celebrated through gradual level changes within the open air market, leading towards a more formal covered market space and ablutions. The extruding permanent brick planters allow for comfortable pause areas and act as spatial buffers between the shaded landings that are scaled for mass social gatherings.

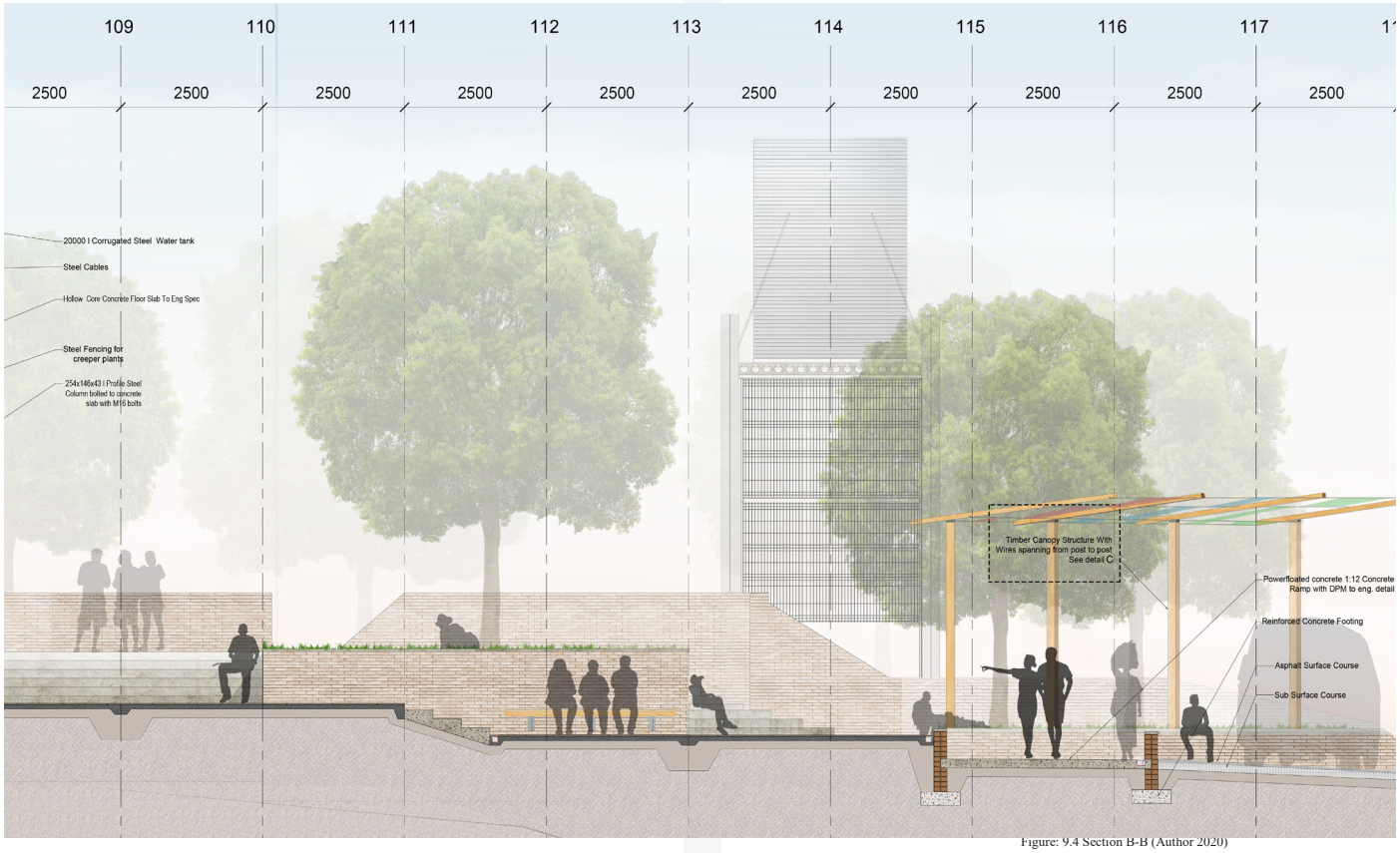


Figure: 9.4 Section B-B (Author 2020)

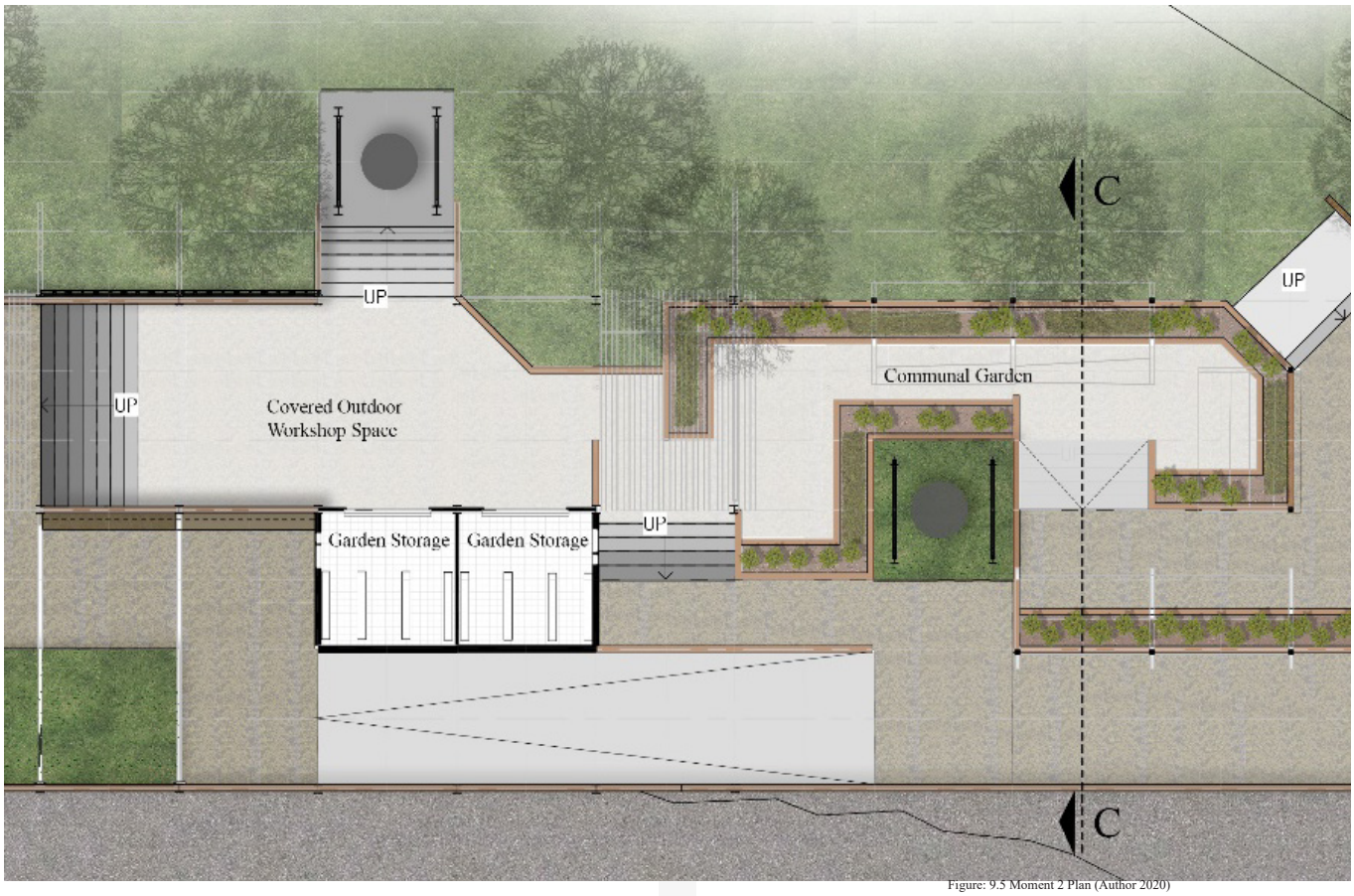


Figure: 9.5 Moment 2 Plan (Author 2020)

The second moment defined as the communal gardens, is sunken into the landscape, acting as a softer visual transition moment between Plastic view and the Church grounds. The space also allows for an artificial shaded out door meeting space and storage units for the garden equipment. This moment is also punctured with two stepped entrances toward the church grounds and is also linked to the primary walkway.

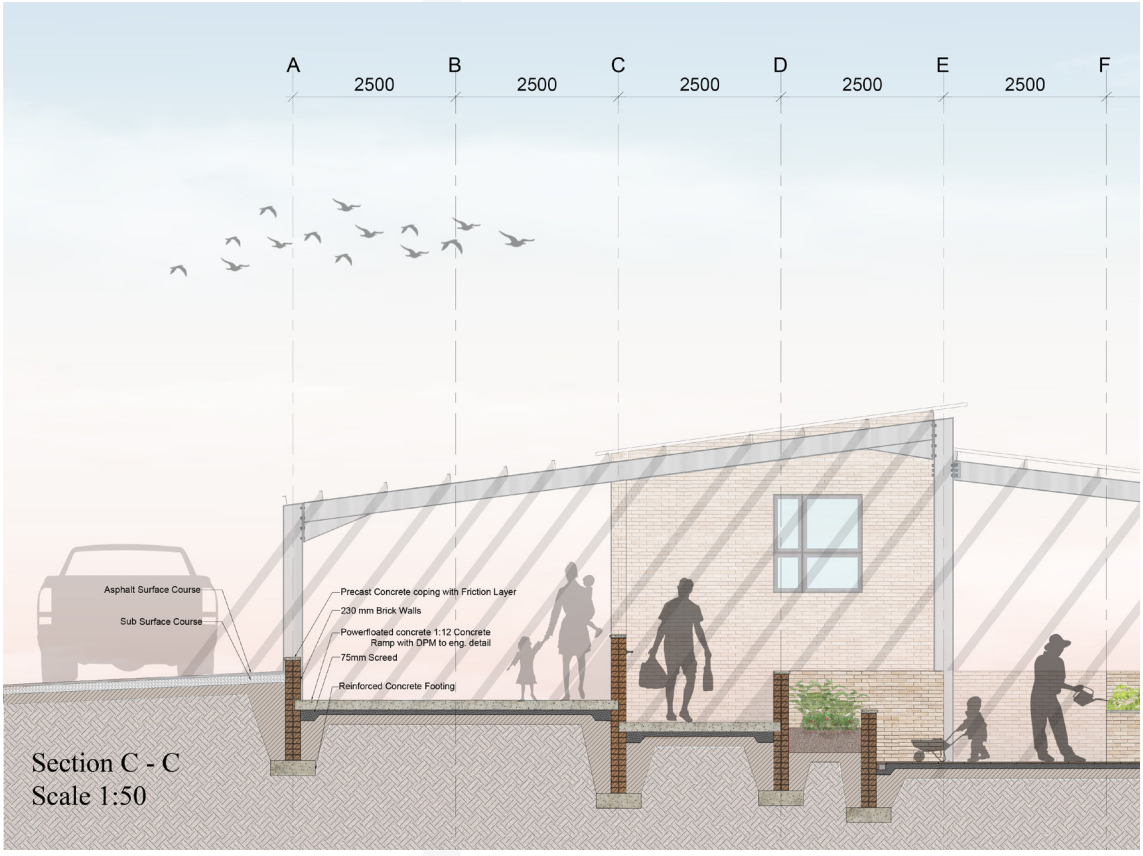




Figure: 9.6 Moment 2 Perspectives (Author 2020)

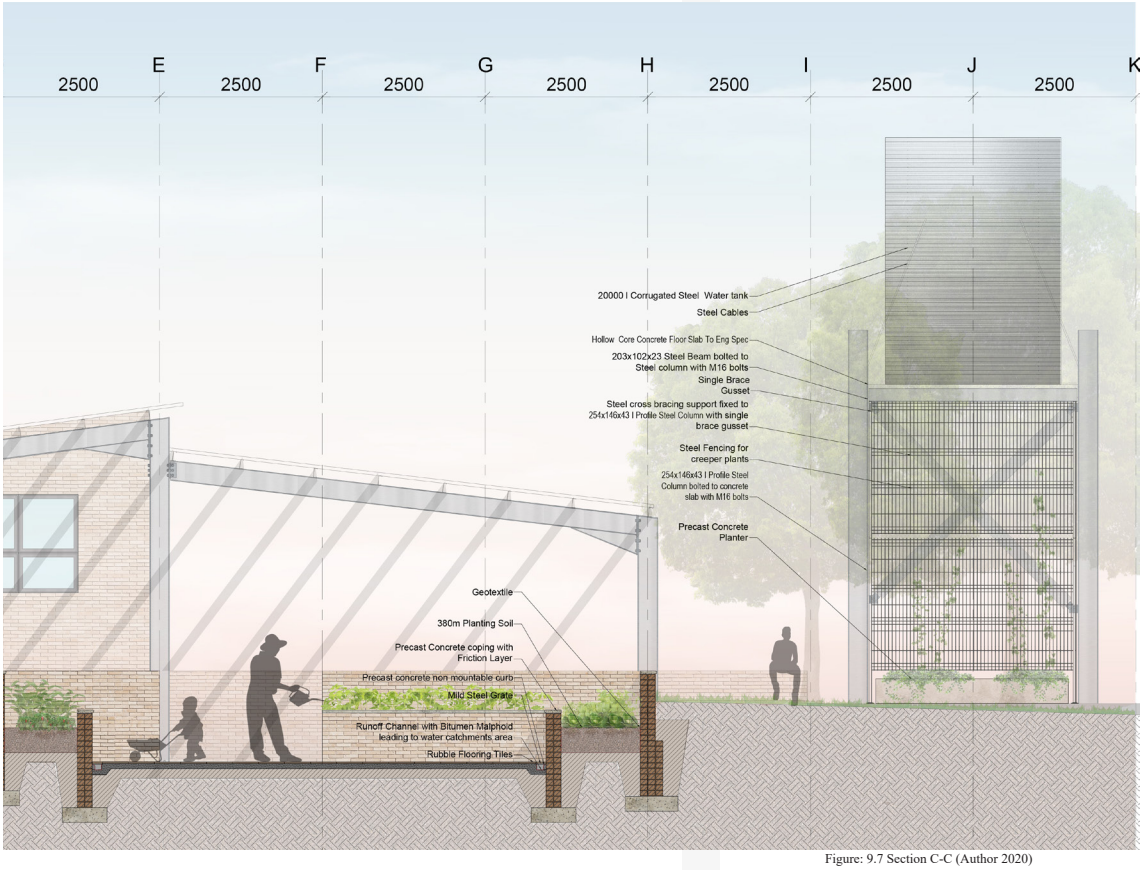


Figure: 9.7 Section C-C (Author 2020)

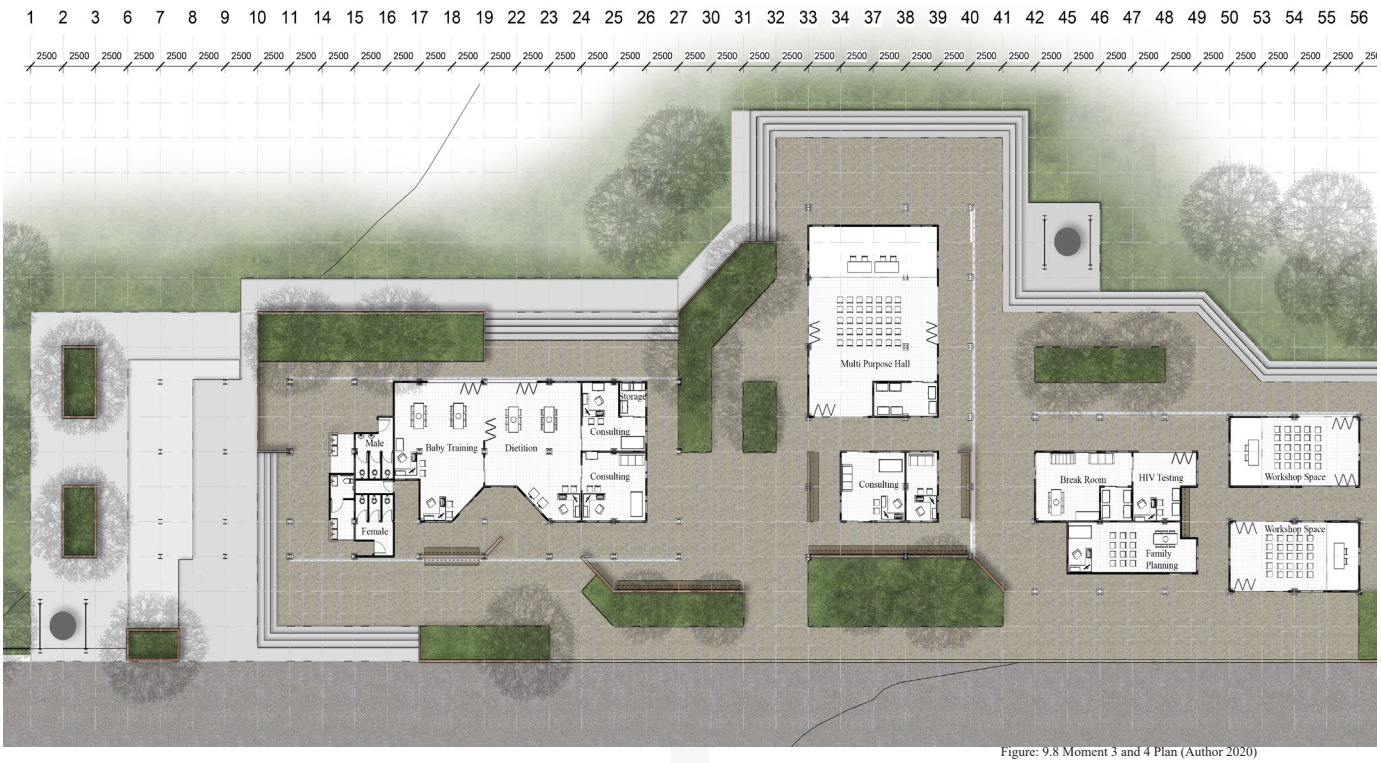
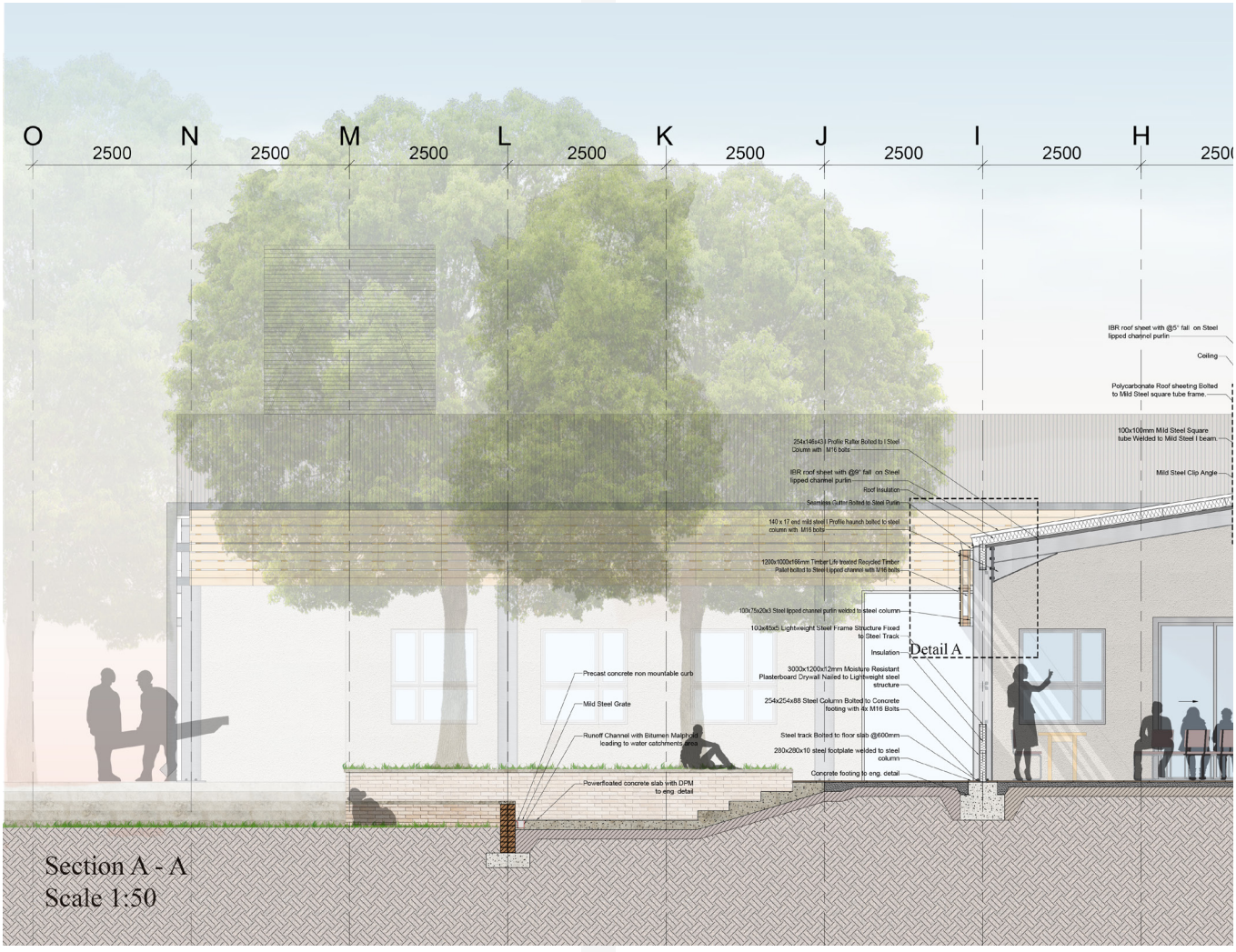


Figure: 9.8 Moment 3 and 4 Plan (Author 2020)



Regarding the last two moments, the upliftment centre, consists out of various small and large workshop spaces and the health care centre consisting out of various consulting rooms and spaces that accommodate the existing clinics programs such as family planning and a dietitian.



Figure: 9.9 Moment 3 and 4 Perspectives (Author 2020)

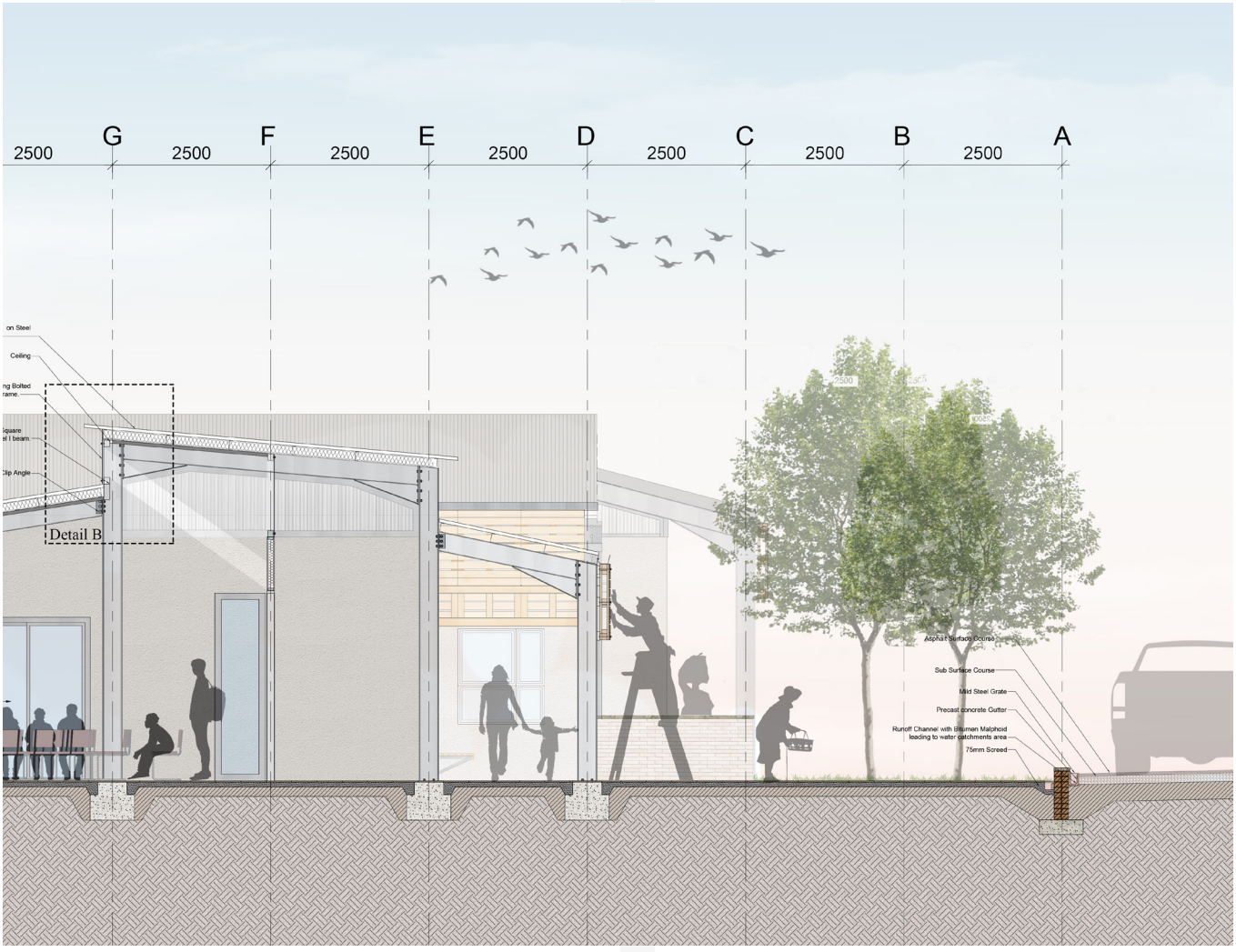


Figure: 9.10 Section A -A (Author 2020)



Figure: 9.11 Changing Floor Layout (Author 2020)

Due to the lightweight steel frame interior walls, various spaces can be adapted according to the various social or economical changes through time.

The lightweight steel frame interior walls are fixed to the screed floor with a steel track allowing for easy labour thus leading to more participative space making. The recycled timber pallets, used as shading devices, break the natural light, allowing for comfortable and well lit communal areas.

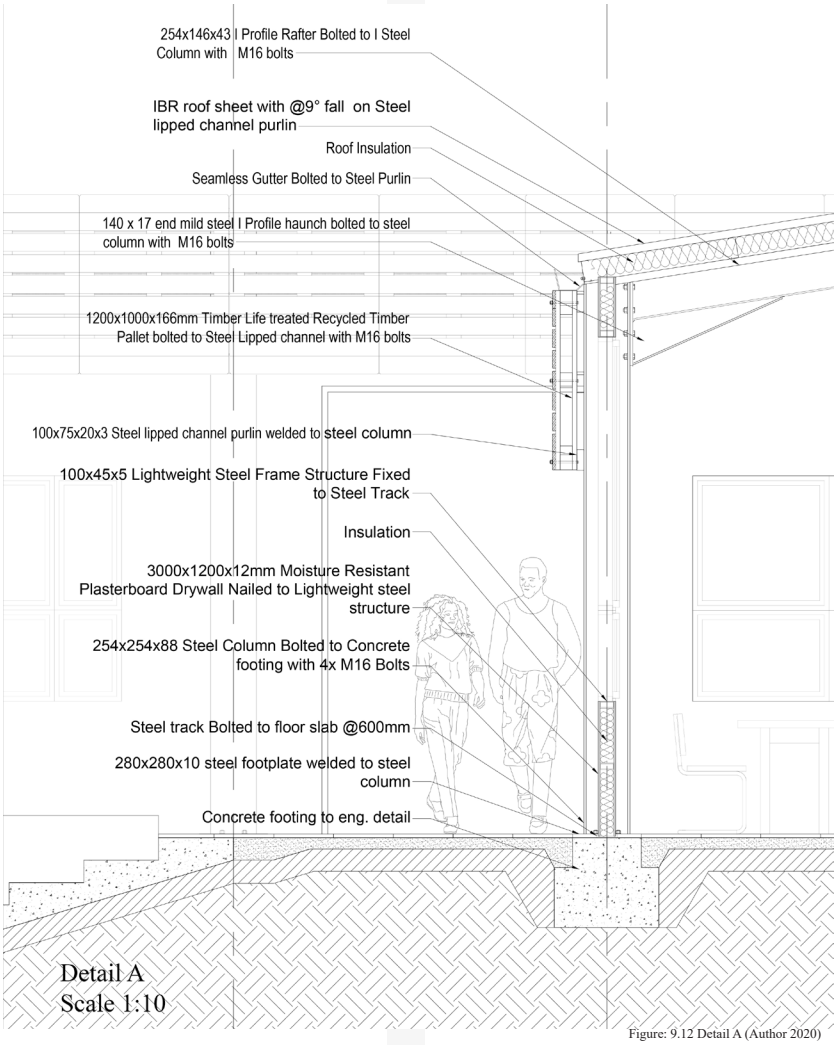


Figure: 9.12 Detail A (Author 2020)

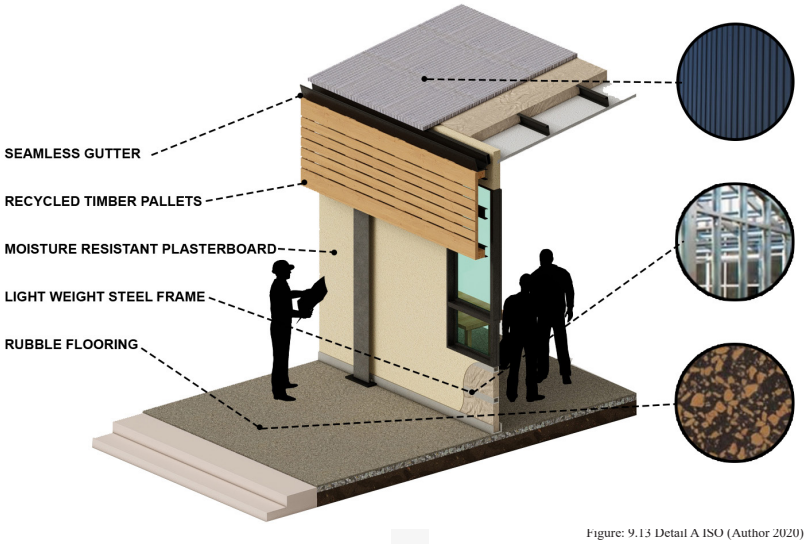


Figure: 9.13 Detail A ISO (Author 2020)

The polycarbonate roof sheeting used in the clerestories allow for maximum natural light to access the building thus minimising the use of artificial lighting through the day. These polycarbonate clerestories can slid open and closed through the use of a wheel and track system, thus helping with natural ventilation.

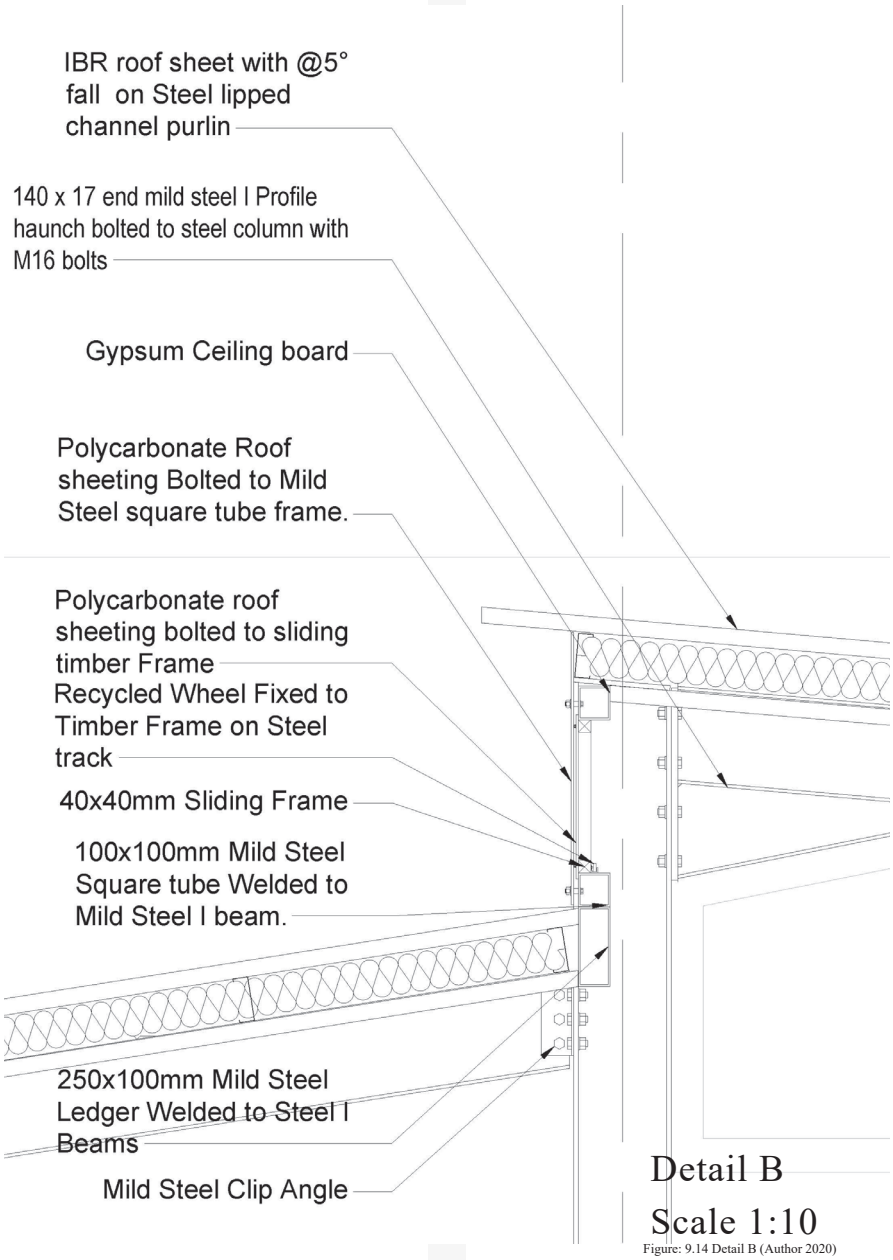


Figure: 9.14 Detail B (Author 2020)

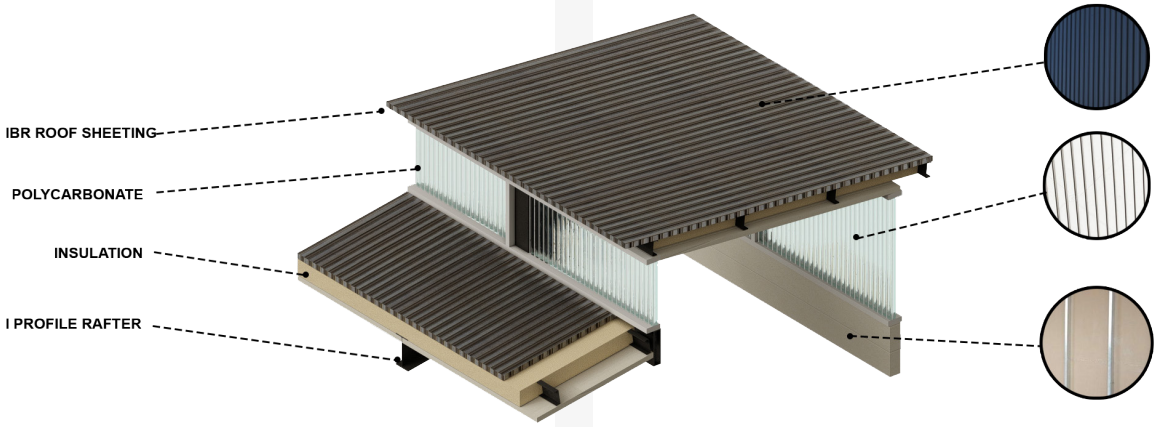


Figure: 9.15 Detail B ISO (Author 2020)

Located within the taxi drop of and pick up area a bare timber beam and column structure acts as the primary shading structure for the waiting areas, holding up user appropriated shading materials through the use of steel wire allowing for a more self appropriated entrance to Plastic View.

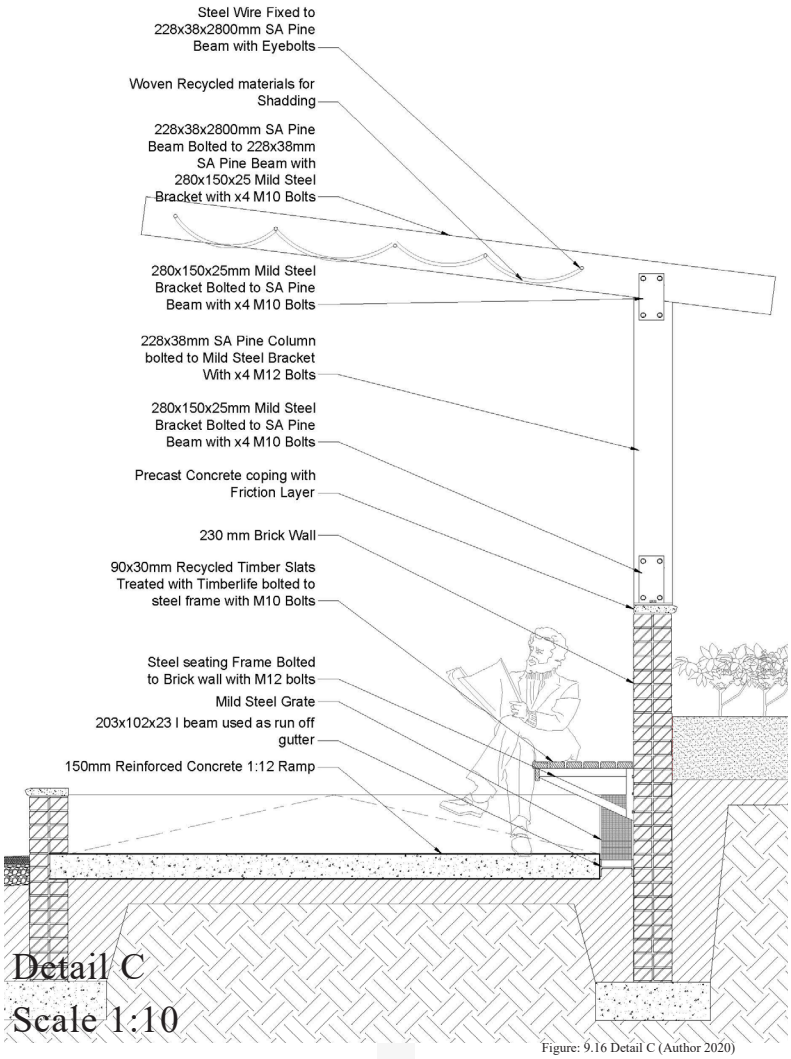


Figure: 9.16 Detail C (Author 2020)

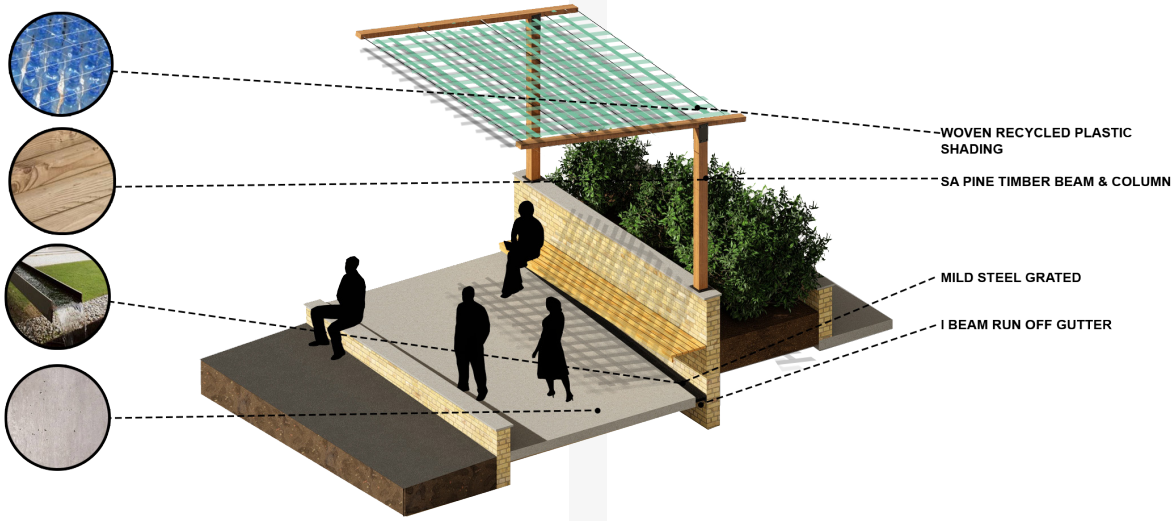


Figure: 9.17 Detail C ISO (Author 2020)

9.1 Conclusion

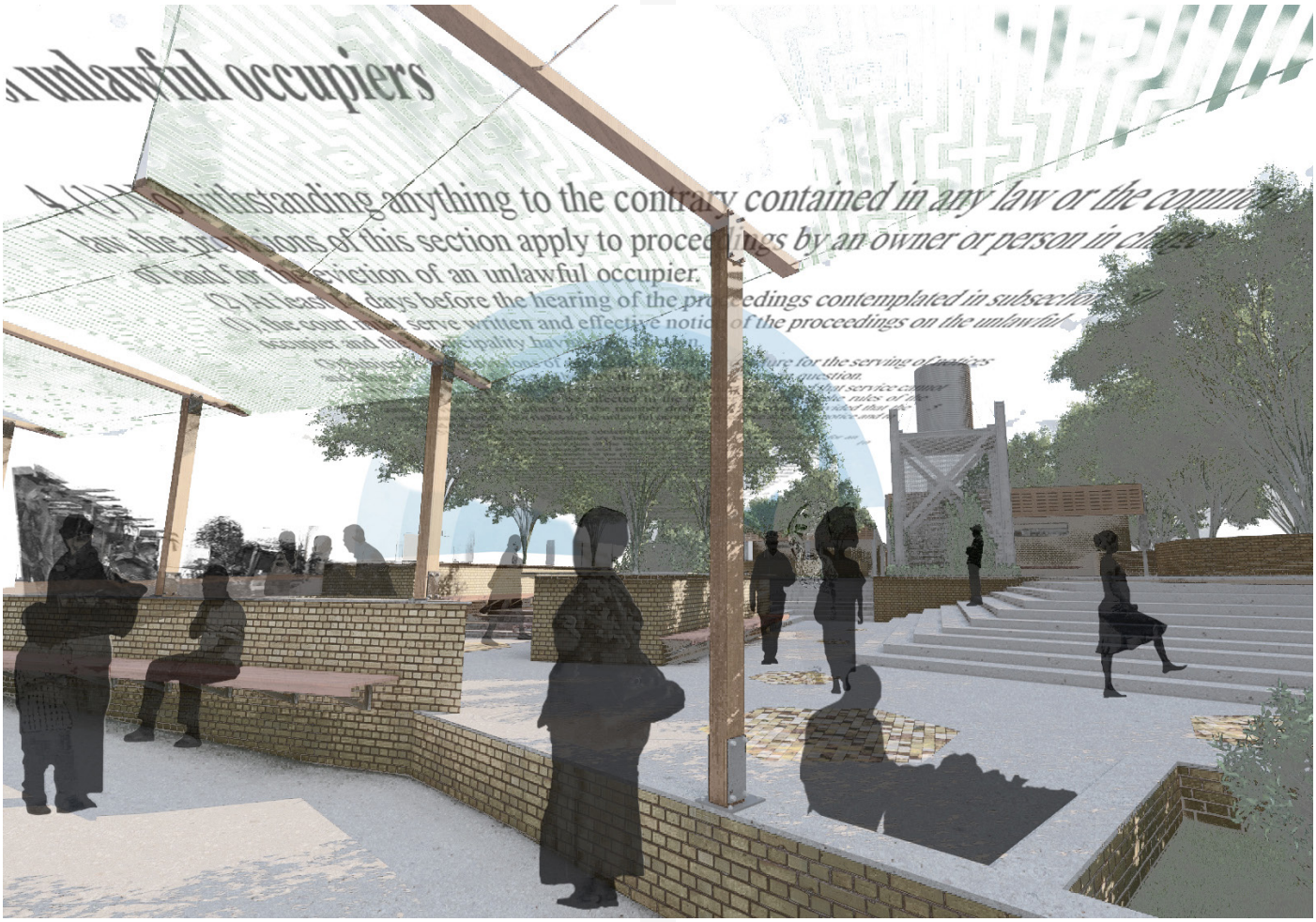


Figure: 9.18 Perspective 1 (Author 2020)

The spatial interventions aim to communicate a sense of belonging and care which is the starting point of reclaiming the right to the city.



Figure: 9.19 Perspective 2 (Author 2020)

Social cohesion is celebrated with the various interactive programmes and social moments

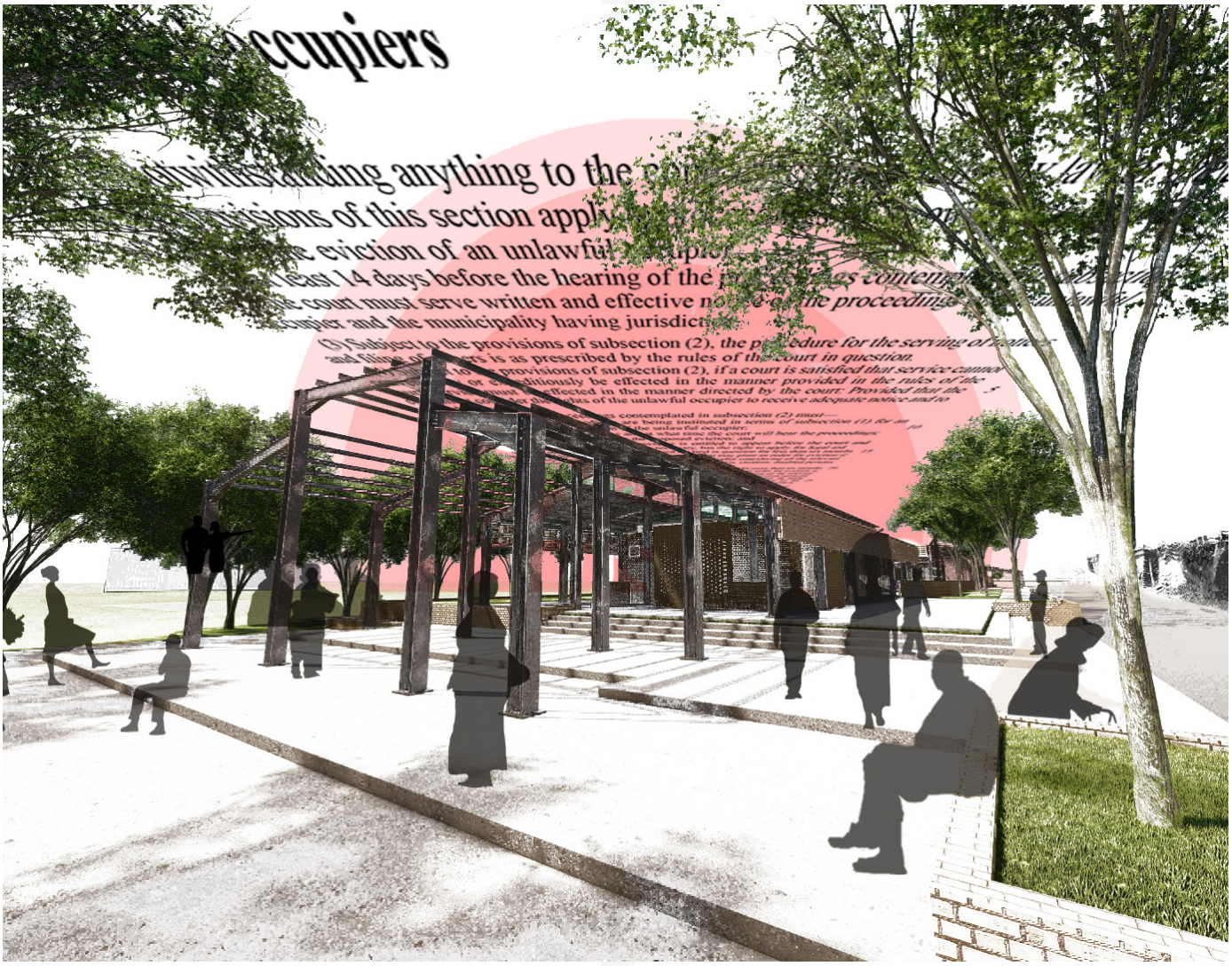


Figure: 9.20 Perspective 3 (Author 2020)

A new platform is shaped that challenges the status quo of informal space making and at the same time advocates for spatial justice and encourages future expansion.



Figure: 9.21 Perspective 4 (Author 2020)

Lastly this dissertation positions itself within the spectrum of design activism. Through challenging physical, social and legal boundaries by encouraging spatial inclusion and future appropriation.

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10/03/2020

EBIT FACULTY COMMITTEE FOR RESEARCH ETHICS AND INTEGRITY
Dear Prof Chan,

ETHICS RENEWAL 2020

In terms of document reference number: EBIT/9/2018

HONOURS STUDENTS, DEPARTMENT OF ARCHITECTURE: "STITCHING THE CITY: FROM MICRO-DATA TO MACRO-VIEWS"

In terms of the conditions of approval granted for research to be undertaken as part of the RFS and RFP modules in the Honours programme, I would like to notify the committee that the research will be ongoing for the 2020 academic year. I understand that all the conditions and responsibilities as stipulated in the approval will remain applicable to the project.

Kindly note that the method of investigation will apply to two distinct geographic areas, namely Mamelodi (specifically centred around the Tsako Thabo Secondary School) and Moreleta East (specifically centred around the informal settlements of Plastic View and Cemetery View). Students will be engaging with ad-hoc members of the affected community as informants rather than subjects.

I would like to declare that the following MArch(Prof) students will be involved with the project as a continuation of their Honours work undertaken during 2019 and will make use of the data for their mini-dissertations:

Student number	Surname	Name
15042482	**du Bois**	Morné
15203329	**Khoswe**	Vitukumbe
15001700	**Konstantinou**	Lauren
12148131	**Matena**	Dipuo
15032371	**Mulder**	Idelette
15362282	**Naidoo**	Purll
15209106	**Simeon**	Aimee
13070330	**Smith**	Kelsey

Yours sincerely,



Dr C Combrinck
Senior Lecturer: Department of Architecture
University of Pretoria
Tel +27 (0)12 420 6536
Email carin.combrinck@up.ac.za

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Engineering, Built Environment and Information Technology

Fakulteit Ingenieurswese, Bou-omgewing en Inligtingtegnologie / Lefapha la Boetšenere, Tikologo ya Kago le Theknolotši ya Tshedimošo

Reference number: EBIT/136/2020

Mr M du Bois
Department: Architecture
University of Pretoria
Pretoria
0083

Dear Mr M du Bois

FACULTY COMMITTEE FOR RESEARCH ETHICS AND INTEGRITY

Your recent application to the EBIT Research Ethics Committee refers.

Conditional approval is granted.

This means that the research project entitled "How An Architecture of Resistance Can Reclaim the Right to the City of Informal
Settlements" is approved under the strict conditions indicated below. If these conditions are not met, approval is withdrawn automatically.

Conditions for approval
The study will be conducted in informal settlement where the potential participants may not all have adequate literature capabilities. To gain the consent the participant must be able to fully understand the purpose of the study and that the participation is voluntary.

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

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

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

The Committee must be notified on completion of the project.

The Committee wishes you every success with the research project.

Prof K.-Y. Chan
Chair: Faculty Committee for Research Ethics and Integrity
FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

END