03 CHAPTER

CONTEXTUAL ANALYSIS

INTRODUCTION

In chapter 3 investigation regarding the context conditions of the site is done. Insight is given into the history of the building in the form of a timeline seen in figure 3.6 to allow the reader to understand the history of the site since the closing of the hospital. This chapter also looks at the contextual environment of the site gathering contextual analysis in multiple formats. This chapter is divided into three main analysis strategies. First an investigation is done on the broader context, identifying points of interest close to the site, different movement typologies found in the area and the different land uses around the site. The broader context analysis seeks to give insight into user activities and user needs, it also gives insight into urban and environmental needs. The second analysis investigates a proposed urban framework for the site. The urban framework originated from the information gathered in the context analysis along with theoretical guidance. The third analysis investigates the site and the site conditions. Collecting information on current activity on and around the site. This will help guide the design decision making processes to respond accordingly and appropriately towards the site.

My project sits within Kempton Park, but more specifically in one of the suburban areas of Kempton Park, namely Van Riebeek Park where I have chosen the Kempton Park Hospital site for my dissertation. The Kempton Park Hospital is still an existing building that closed in December 1996 and have been an abandoned building and site ever since. The site sits within a high-density residential area, surrounded by schools, homes and small commercial businesses that can all benefit from this site.

Figure 3.1: Kempton Park Hospital view 1 (Kempton Express 2016)

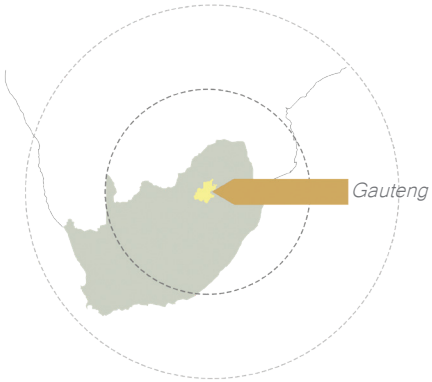


Figure 3.2: National context of South Africa indicating Gauteng

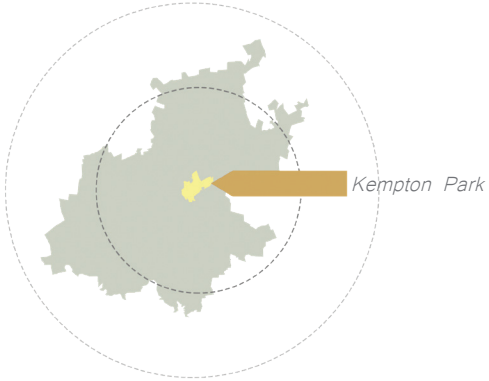


Figure 3.3: Provincial context of Gauteng indicating Kempton Park

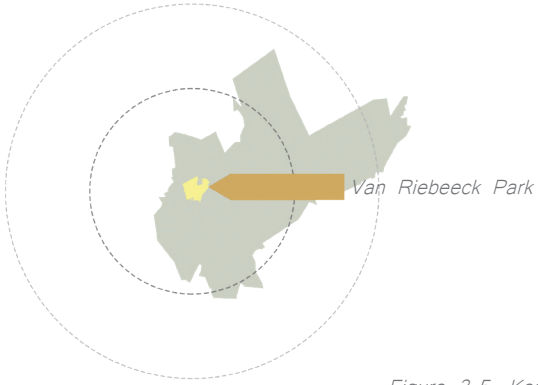


Figure 3.4: Suburban context of Kempton Park indicating Van Riebeeck park

Figure 3.5: Kempton Park Hospital view 2 (Gerhardt Coetzee 2020)

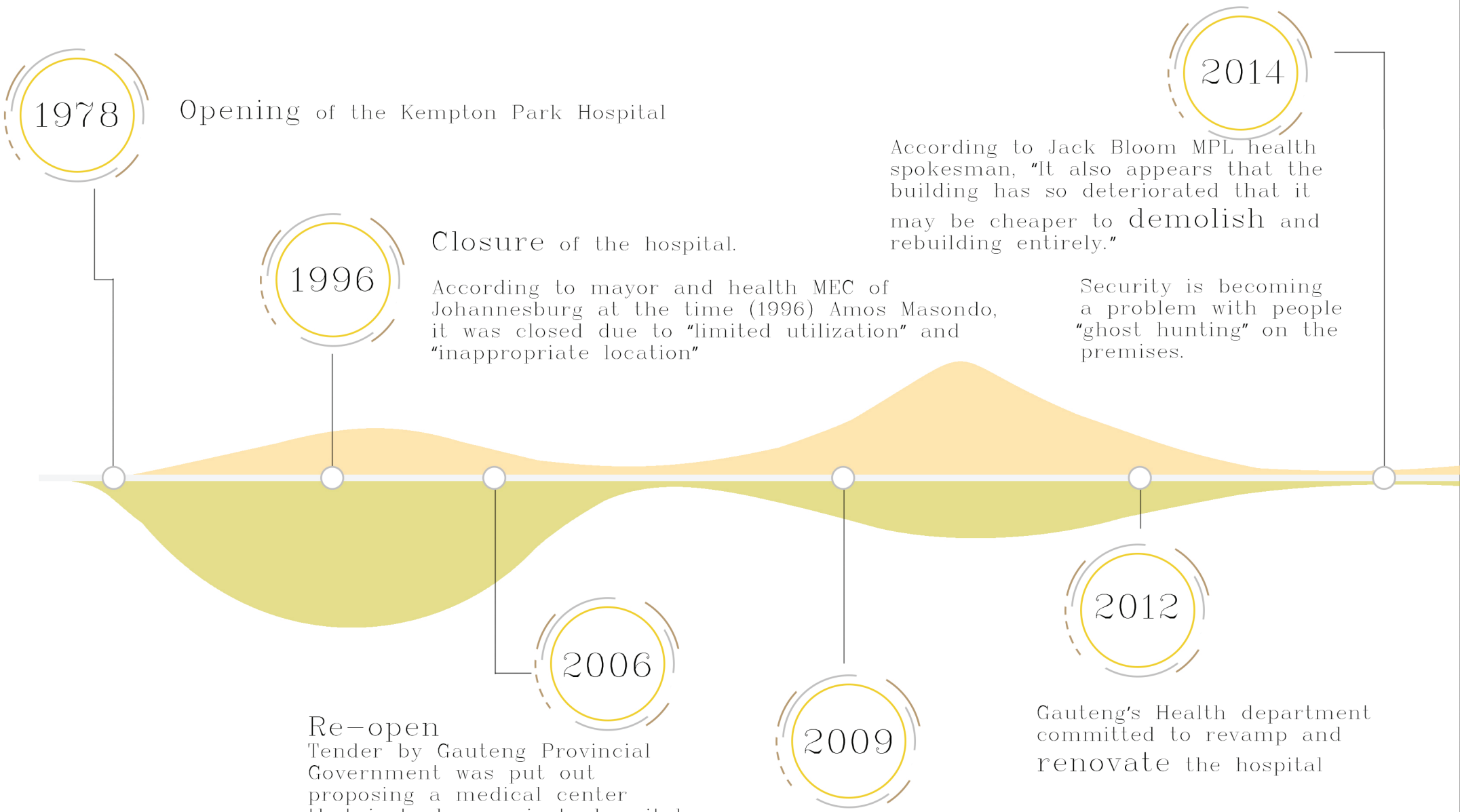
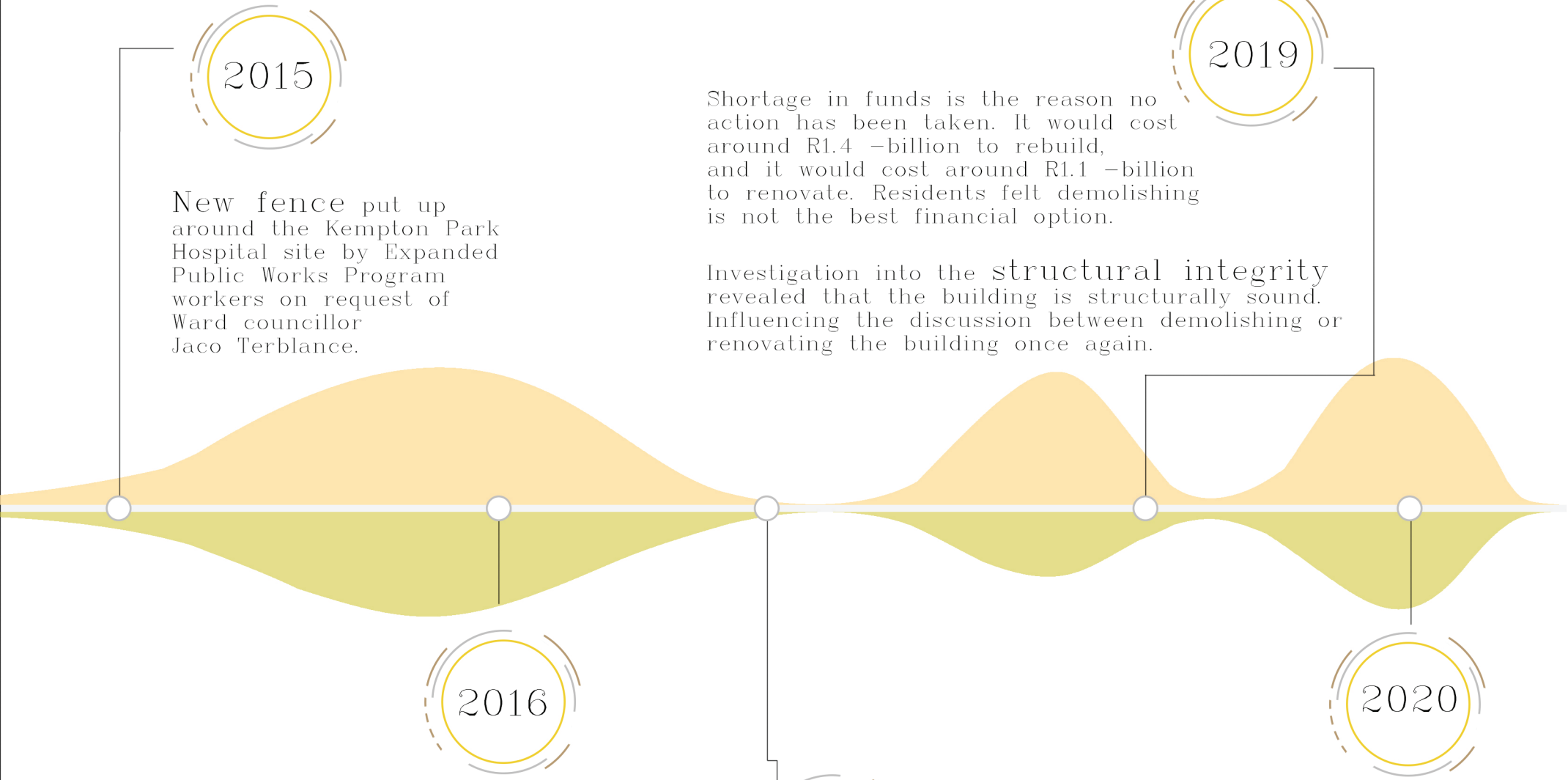
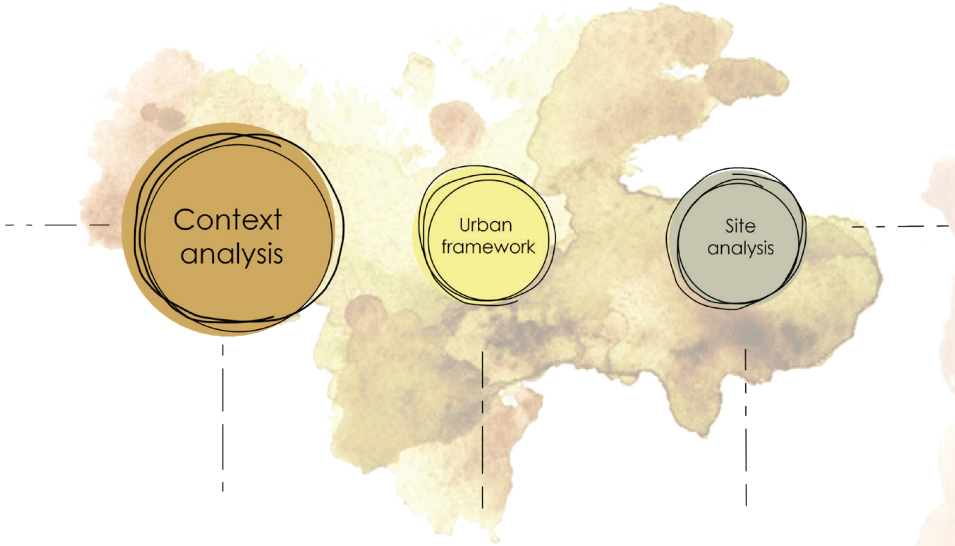


Figure 3.6: Kempton Park Hospital history timeline (Author 2020)


2015
New fence put up around the Kempton Park Hospital site by Expanded Public Works Program workers on request of Ward councillor Jaco Terblance.
2016
Plans scrapped to either demolish or renovate the Hospital according to Refiloe Ntsekhe DA MPL.
2018
Reported that the Hospital is to be demolished after years of unnecessary costs
2019
Shortage in funds is the reason no action has been taken. It would cost around R1.4 –billion to rebuild, and it would cost around R1.1 –billion to renovate. Residents felt demolishing is not the best financial option.
Investigation into the structural integrity revealed that the building is structurally sound. Influencing the discussion between demolishing or renovating the building once again.
2020
Healthcare is not coping, highlighting the urgency for action to take place



CONTEXT ANALYSIS

The proposed site that I will work with is located in Van Riebeeck Park, in Kempton Park, but to understand how the site can be used and what the potentials are that the site can provide for the greater urban environment and surroundings, a contextual analysis was done to understand the broader environment that the proposed site finds it's self in.

In figure 3.7 one can see that Kempton Park (where the proposed site is located in) sits between two major cities. Pretoria being north from Kempton Park, and Johannesburg begin south of Kempton Park. A conclusion can be made that Kempton Park can be seen as a sort of thorough fare between Pretoria and Johannesburg, and Figure 3.8 identify potential destination points close to Kempton Park and the travel time to those destinations. These two figures represent an overview of the places people in the surrounding area would visit resulting in understanding which users can be attracted to the proposed site in Van Riebeeck Park, Kempton Park.

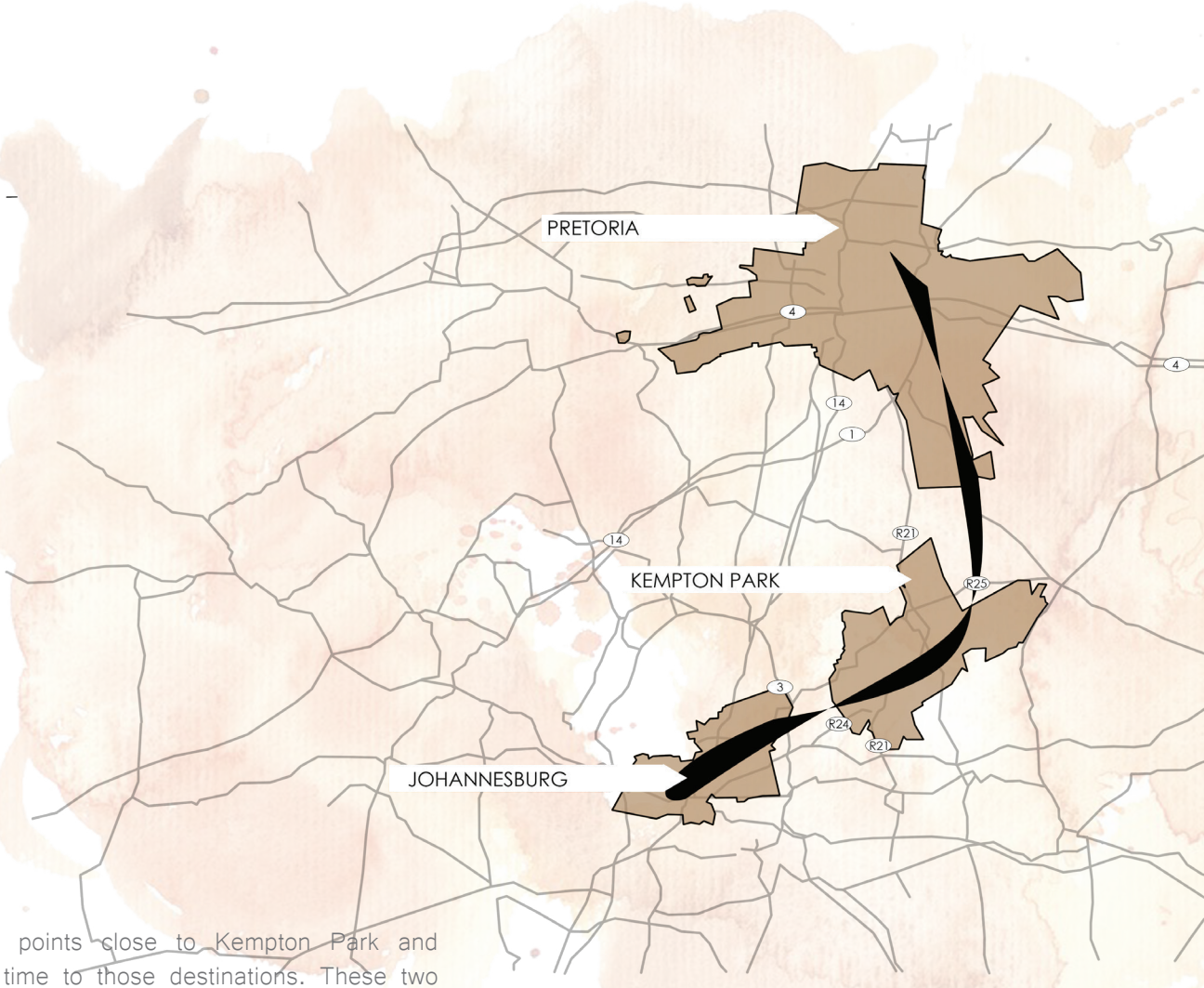


Figure 3.7: Diagram indicating major circulation through Kempton Park (Author 2020)

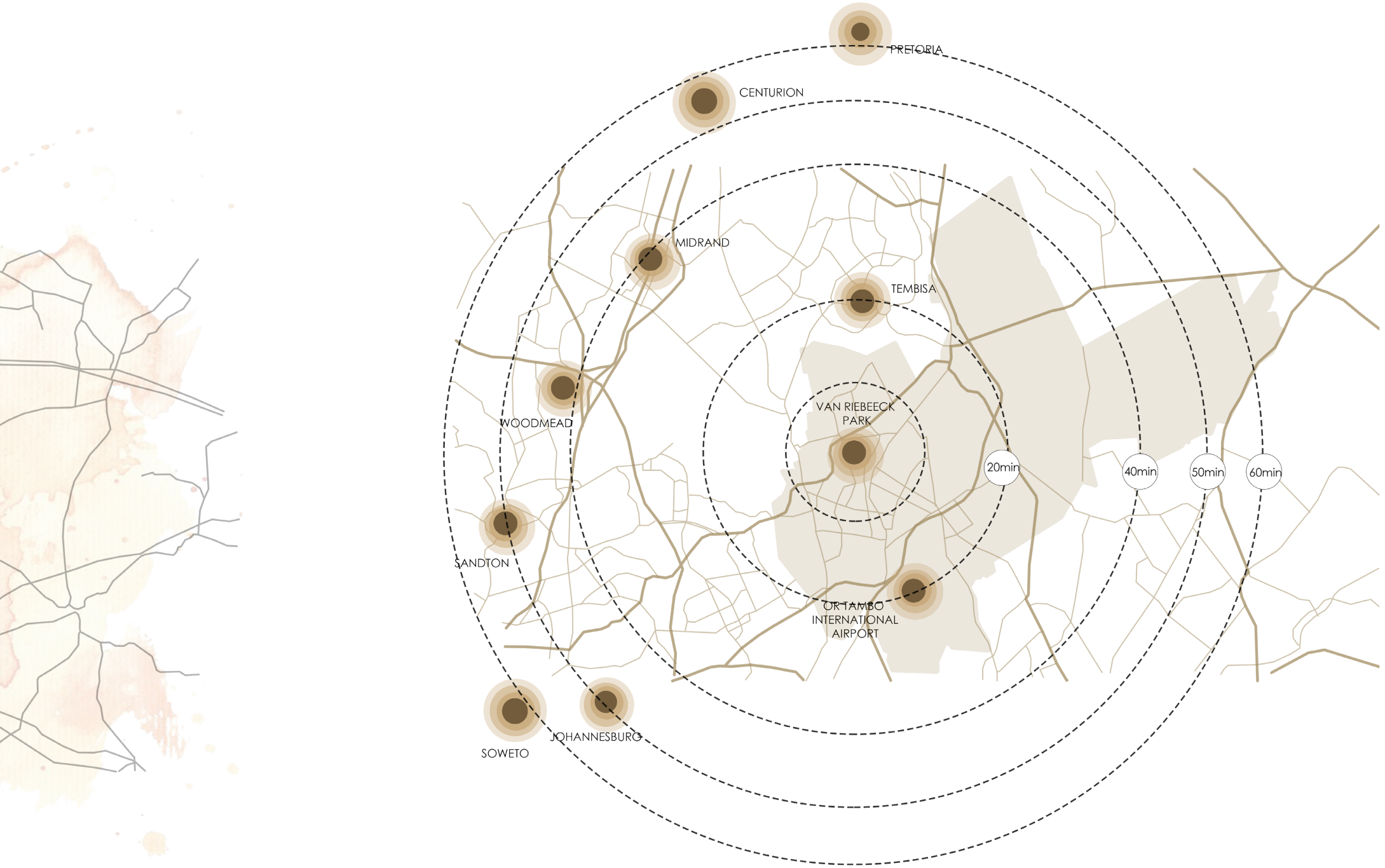


Figure 3.8: Diagram indicating the travel time to potential points of interest (Author 2020)

Figure 3.9: Contextual map of Kempton Park (Author 2020)

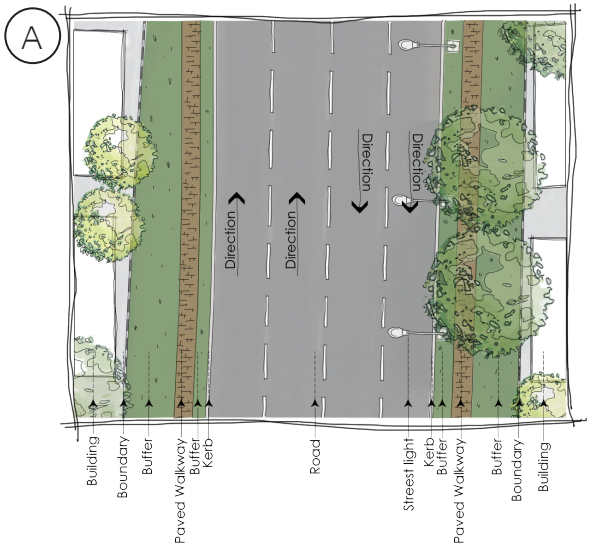


Figure 3.10.1: Major road typology A (Author 2020)

Typological movement study

A study was done on the different movement typologies found within the contextual area of Van Riebeeck Park. A typological study often refers not to singularity but to a whole. It attempts to discover the relationships between more than one entity (Güney, 2007). Franck and Schneeklith (1994) describes "types and the ways of typing" is often used to construct and manufacture our material world we live in, giving meaning to our place in it.

By understanding and identifying the different typological movement that occurs within the context, helps to classify and group them based on their similarities and to determine the level of distinction between them (Güney, 2007).

The documentation and analysis of classification has the potential to change incoherency to unity. By establishing a good understanding of how the immediate public moves and what the different typologies are within this context, improvements can be identified to be incorporated into the urban framework scheme, that can contribute to a more harmonious and unified contextual environment.

Four main typologies have been identified within the context of Van Riebeeck Park. I have classified them as major and minor typologies. The major road typology is identified as having a 4-lane vehicular road, with multiple non-motorized ways of transport. Only the main gateway street possesses this typology. The minor typologies all have a 2-lane vehicular road typology in common, with the difference found in the different non-motorized movement options and in the conditions provided for the public to use these non-motorized transport systems. In figure 3.9 I have identified where I documented these four different typologies and created a plan and section view seen in figures 3.10 to 3.11 that illustrated the current conditions of these movement typologies. This documentation and classification help generate reasoning and knowledge of how this area is being used by the immediate public, that will enable more informed decisions when it comes to creating a new urban vision for this area.

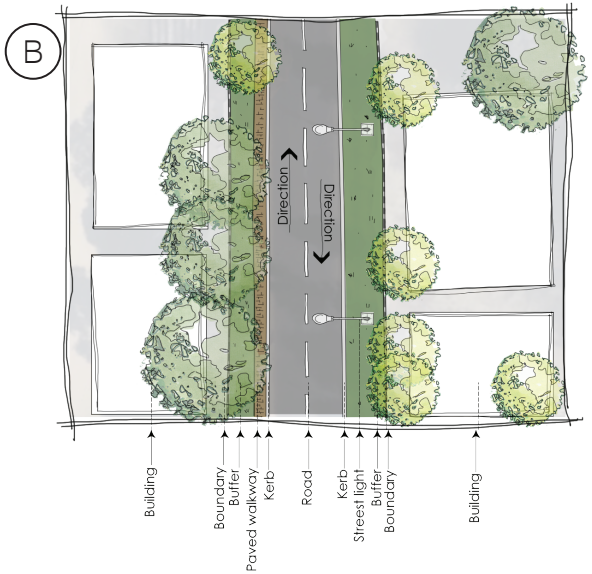


Figure 3.10.2: Minor road typology B (Author 2020)

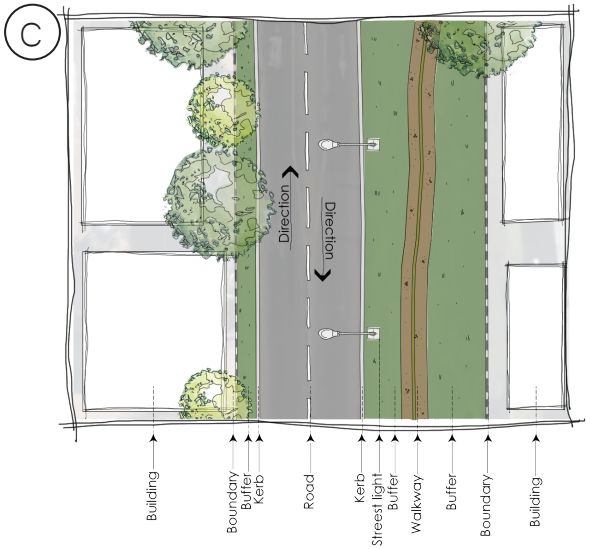


Figure 3.10.3: Minor road typology C (Author 2020)

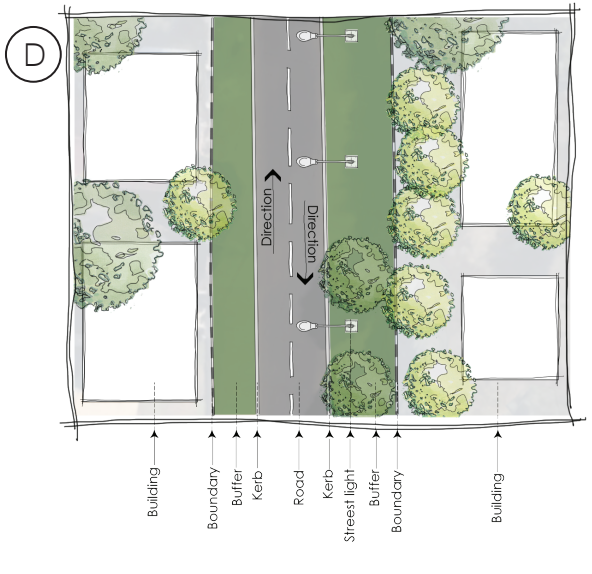


Figure 3.10.4: Minor road typology D (Author 2020)

The major road typology has a multi-lane vehicular road with two lanes going in each direction. Paved walkways on both sides of the road with a small buffer between the road and the walkway and a large buffer between the walkway and the boundary of the buildings. The walkways are approximately 800mm in width making is easy enough for two people to walk on the walkway. There is no provision for cyclist in the road thus people cycling also make use of the walkways.

This typology holds opportunity for improvements in the form of non-motorized transport. A formal cycle lane can be proposed because there is a large enough buffer space that can cater for it. Thus, the cycle lane can be placed where the existing walkway is, and the walkway can be place within the existing buffer area, creating more distance between the pedestrians and vehicles generating a safer non-motorized mode of transport.

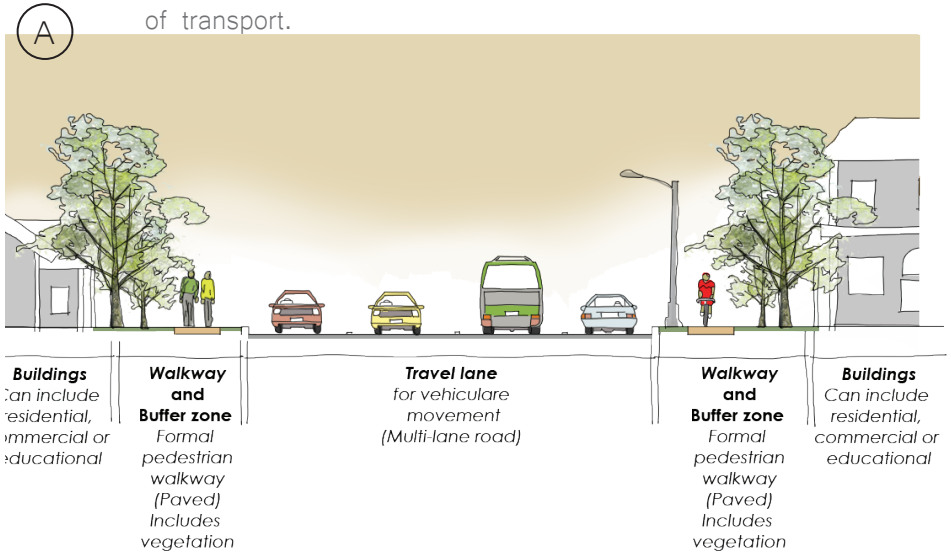


Figure 3.11.1: Major road typology A (Author 2020)

The first, minor road typology has a 2-lane vehicular road, with each lane going in a different direction. A paved walkway is found but only on the one side of the road. The walkway starts directly from the kerb of the road with a buffer on the side between the building boundary and walkway. In this buffer trees can be seen along some places. The walkway is approximately 800mm in width making it big enough for two people to walk alongside one another. On the other side of the road where there is no walkway, there is a green buffer between the road and the building boundary line.

In this typology there is again a lack in the provision of non-motorized transport. There is a large enough buffer area on the one side, with no exiting formal way of movement on that side, but it is large enough to allow for a new walkway along with sufficient space to introduce a cycle lane.

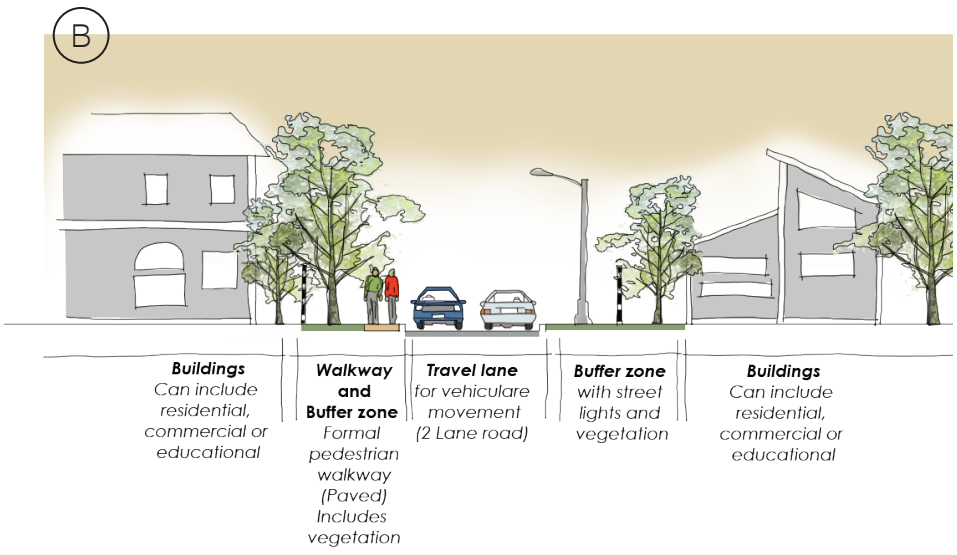


Figure 3.11.2: Minor road typology B (Author 2020)

The second, minor road typology also has a 2-lane vehicular road, with each lane going in a different direction. An informal walkway is found on one side of the road that is not paved but made up by gravel. There is a green buffer between the walkway and the buildings boundary lines. On the other side of the road there is no walkway because there is not enough space for a walkway due to the building's boundary starting so close to the kerb of the road.

A second minor road typology is found with no formal walkways, but it does have an informal ground covered walkway that have resulted over the years by people walking a specific route. This is a clear indication that there is a need for a formal walkway for pedestrian walking or cycling in this area. There is a large enough green buffer to be able to introduce a formal walkway to allow for a safer and more comfortable non-motorized route.

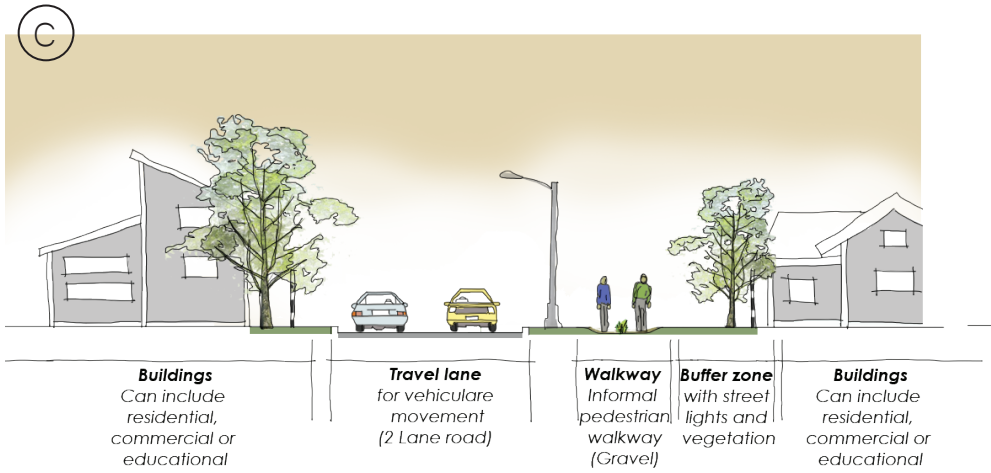


Figure 3.11.3: Minor road typology C (Author 2020)

The third, minor road typology again have a 2-lane vehicular road, with each lane going in a different direction, but with no walkway at all. There is a green buffer between the road and the buildings boundary lines but with no formal or informal walkway.

The third minor road typology was documented in locations with a low activity level, this includes vehicular and non-motorized movement. However, based on the previous typologies and movement activities in the area it can be useful to introduce some mode of non-motorized transport. If there are more options available for non-motorized movement, it can encourage the public to use these modes of transport.

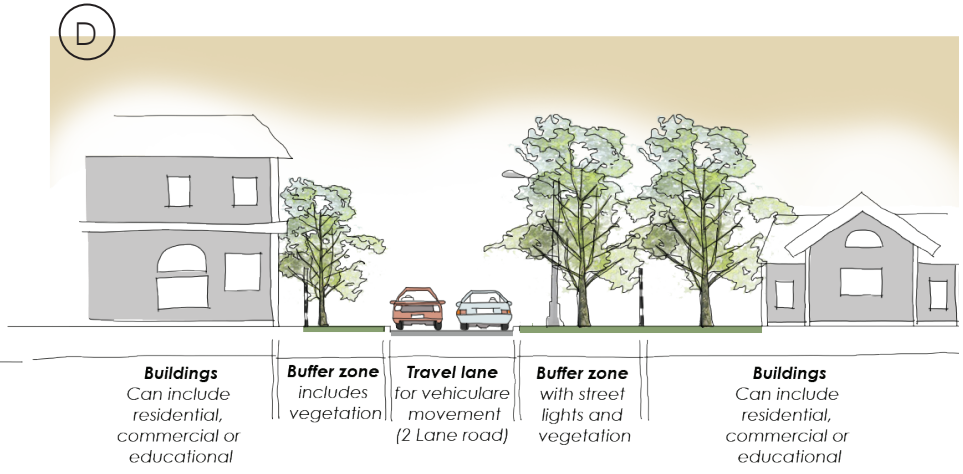


Figure 3.11.4: Minor road typology D (Author 2020)

Land uses in Van Riebeeck

A study of the different land uses was made to help understand what new programs and functions would be appropriate to introduce onto the new site. This is important to establish because the aim is to try and re-integrate the site back into the urban fabric making it important to identify the exiting land uses around the site and the greater context therof. If a good understanding of the different land uses is made it will be a contributing factor in deciding what new programs to introduce onto the site to allow the re-integration of the site into the current urban fabric. In figure 3.12 it is clear that the proposed site for this dissertation is surrounded by a number of residential areas. Small commercial areas have been identified close to the proposed site along with educational facilities in close proximity.

The site chosen for this dissertation being abandoned, ultimately creating an urban wasteland within the current urban environment, does however hold the opportunity to fulfil needs created by individuals in the area, referring to a wide range of users that includes families, children and elderly individual, along with any social needs, like outdoor activities. It can address economic needs, for example this abandoned site can be sold back into the urban fabric generating new economic value. It can also have environmental benefits, by rehabilitating green areas, balancing natural ecosystems and achieving sustainability goals for the urban environment.

Figure 3.12: On the right a diagram indicating the land uses in Van Riebeeck Park (Author 2020)


Residential
Commercial
Educational
Green areas
Recreational areas

Figure 3.13: Contextual perspective of the site and surroundings from the northern edge (Author 2020)

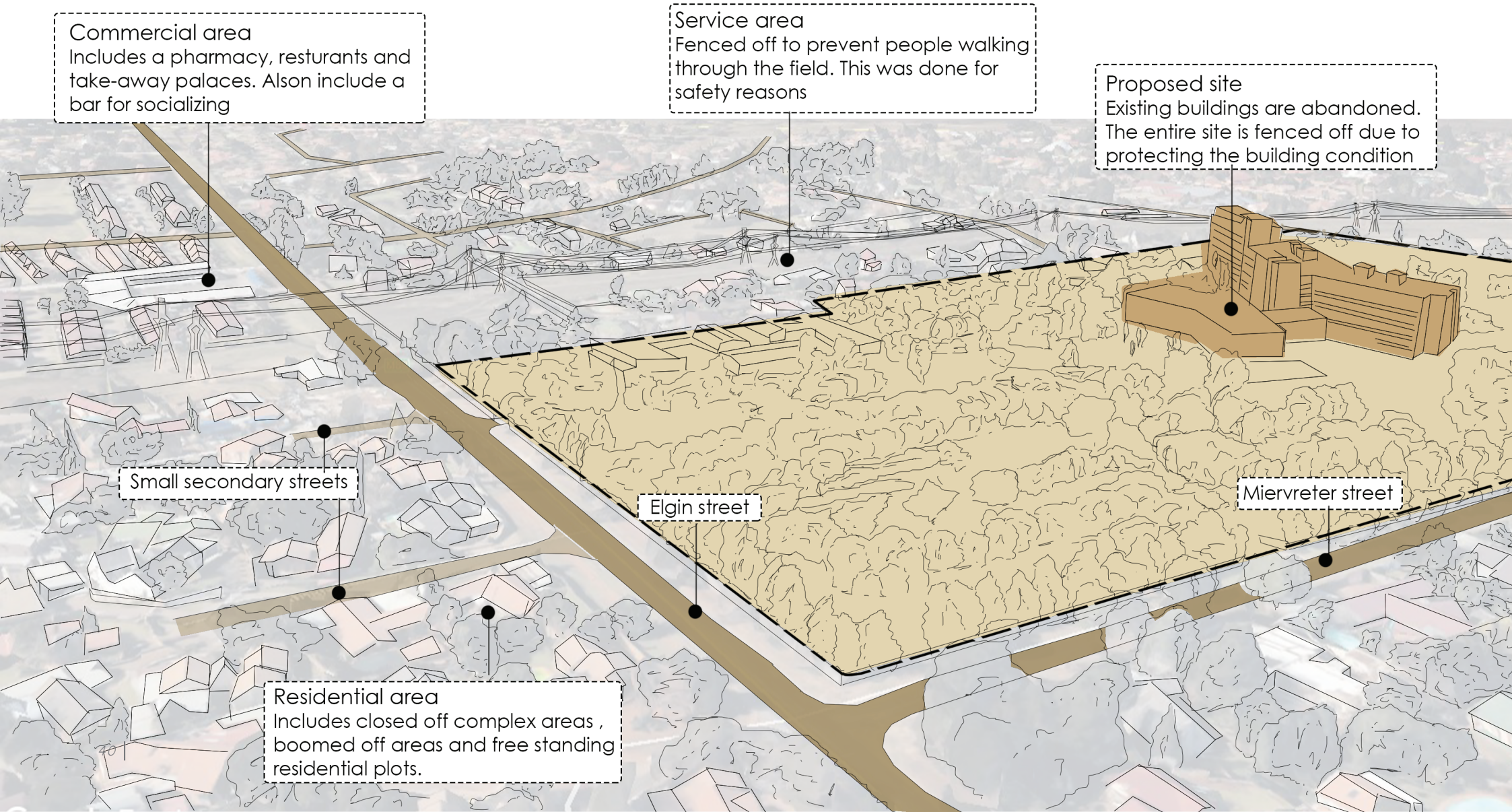
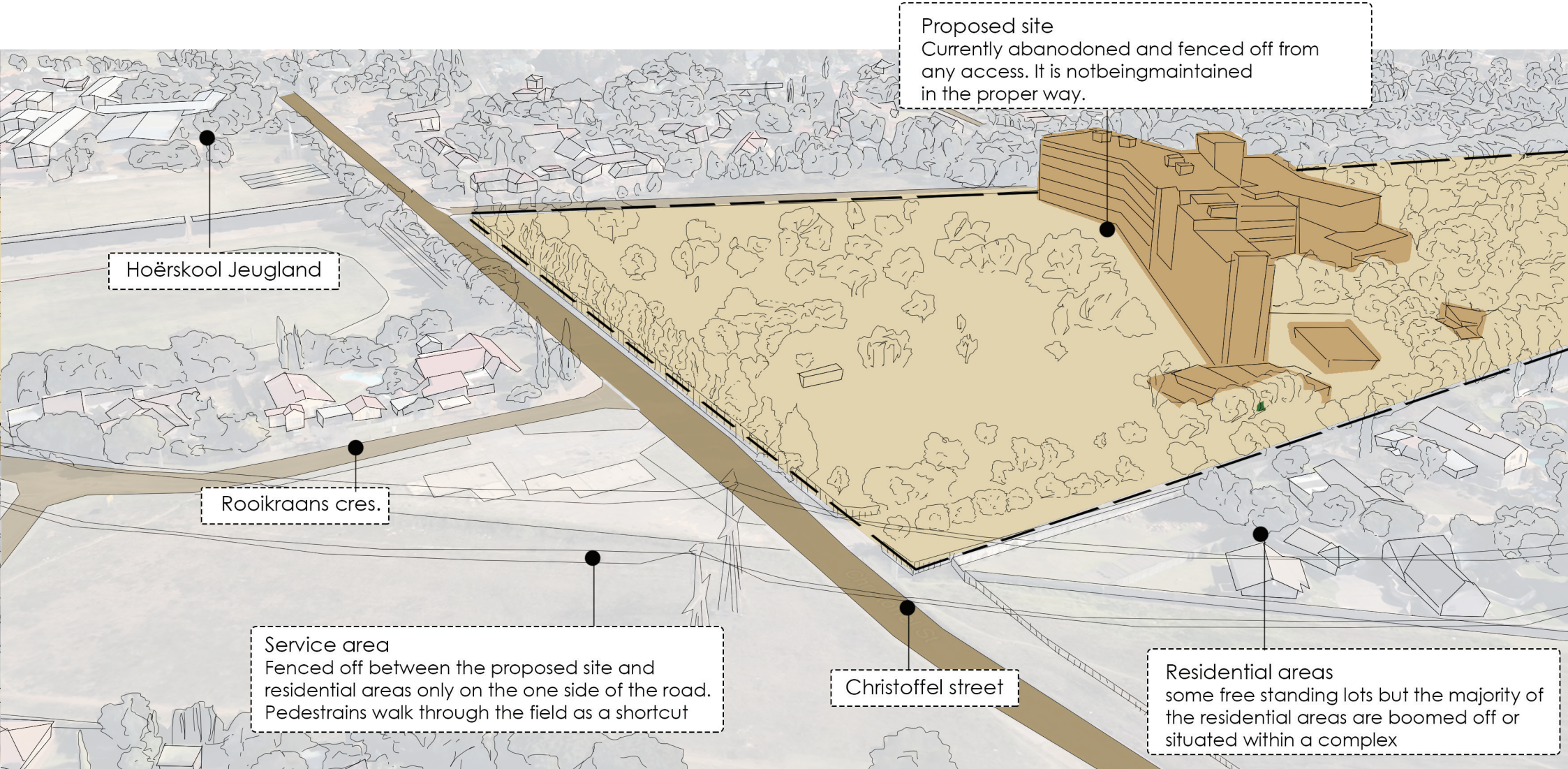
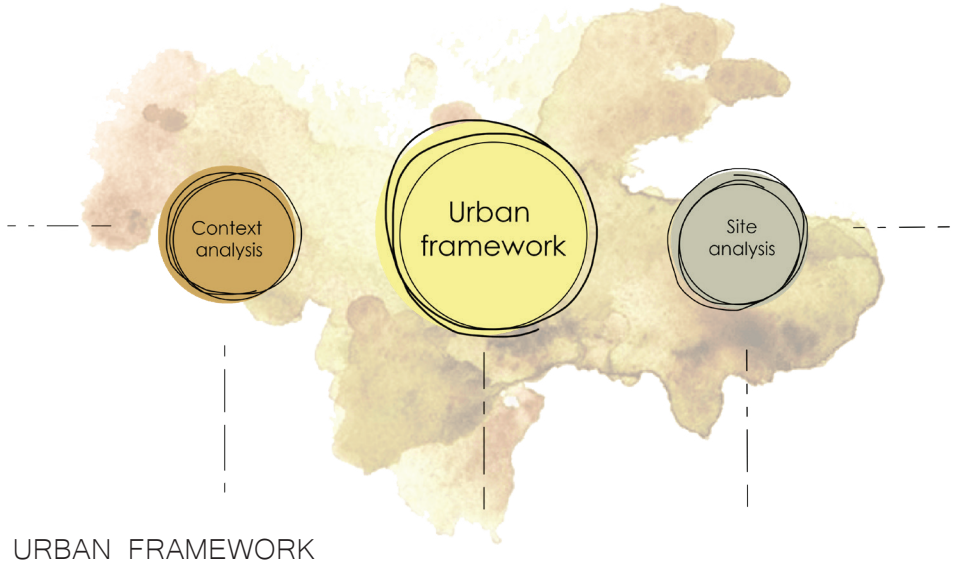


Figure 3.14: Contextual perspective of the site and surroundings from the southern edge (Author 2020)





URBAN FRAMEWORK

The urban framework for this dissertation has three main themes that it aims to achieve. 1] To allow for a *sustainable integration* between the built environment and the natural environment. 2] It should strive to re-establish *public connectivity* between public spaces, and most importantly 3] to *re-integrate the proposed site* back into the current urban fabric. These themes are set out to encourage thinking of a holistic urban environment for Van Reibeeck Park.

Figure 3.15: Indication of green areas in the surrounding area of the site (Author 2020)
Figure 3.16: Perspective of new greenbelt (Author 2020)
Figure 3.17: Creating connections within the urban context (Author 2020)
Figure 3.18: Perspective of multiple movement and connections (Author 2020)
Figure 3.19: Integration into the urban context (Author 2020)
Figure 3.20: Perspective of integrated and a shared urban context (Author 2020)

Fig.3.15

Sustainable integration

Sustainable development schemes can be dependent on the particular context in which a site finds itself in (Iqbal, 2014). In the case of the proposed site for this dissertation a large part of the site was kept as a natural landscape. The urban framework proposes to rehabilitate the existing natural setting and, adopt a sustainable and holistic approach for any new development to occur on the site. The implementation of a sustainable design approach can result in a regenerating and efficient urban environment.

Fig.3.16

Fig.3.17

Public connectivity

Creating spaces for the immediate public to be able to relate to strengthens the connection between the public and the places that they share (Project for public spaces, 2020). The urban framework proposes to create a new urban space that includes the immediate public and a space that they can relate to, specifically generating a space that looks at physical, social, and cultural connection to a site.

Fig.3.18

Fig.3.19

Re-integration into urban fabric

The proposed site has been disconnected from the urban fabric since 1996. The urban framework strives to re-integrate and re-establish the sites significance and function within the greater urban fabric. Abandoned wastelands holds the ability to have a negative reflection on the social life, safety, and community interaction in urban areas. For this reason, it is important to activate the site and re-integrate it into the urban fabric to remove negative connotations and perceptions that might occur due to urban wastelands.

Fig.3.20

Urban design strategy

Urban wastelands, abandoned and derelict buildings often stand in isolation and is inaccessible, but still holds the potential to create stronger continuity in the urban fabric that includes the immediate community and environmental surroundings. Thus, the urban focus will take into consideration the immediate community, integrating programs and designs that would allow urban wastelands to be seen as part of the greater context and no longer isolated. Four strategies have been identified to help materialize this urban focus.

Existing development and green networks on site

Identifying what rehabilitation and sustainable measures can be conducted onto the site to help overcome issues of further deterioration. It becomes a question of how should we treat the existing urban condition of the site to revitalize the site once more. Using a sensitive approach towards the current urban condition can contribute towards the integration of the site (Postekkis & Lapithis, 2012). Thus, rehabilitating natural settings on the site and incorporating sustainable systems and services into new development processes.

Development that could happen on site

An important strategy to incorporate is a planning system for new development. Having a planning system in place can help encourage good design decisions (Transport & Regional Affairs Department.of the Environment, 2000). It does not only refer to the conservation and development of an area, but also the relationships that will be shaped between the existing developments in place. Figure 3.22 identifies possible areas for development on site, based on existing construction on site.

Major movement on the site

Movement on the site is influenced by multiple urban design strategies. The movement on site is based on existing access areas and street activation around the site. Movement is guided by green networks incorporated onto the site, and it is also defined through user activity, and potential programs on site to ensuring maximum comfort and a feeling of safety.

New green network system

A big part of the urban strategy is rehabilitating existing green network systems and incorporating more green network systems that would correlate with that of new development on site and form a greater part in the whole complex of the urban environment. Green networks are characterized to have multi-functionality, where it is seen as a network that is shaped through strategic interventions, that includes green corridors, greenspaces, and landscape design elements (Tulisi, 2017).

> "Architecture is bound to situation. And I feel like the site is a metaphysical link, a poetic link, to what a building can be."
> -Steven Holl

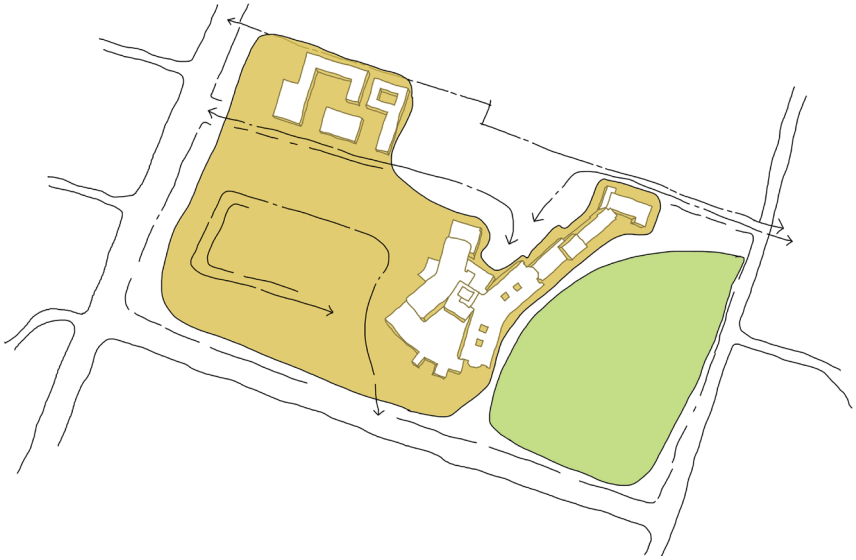


Figure 3.21: Existing development and green networks on site (Author 2020)

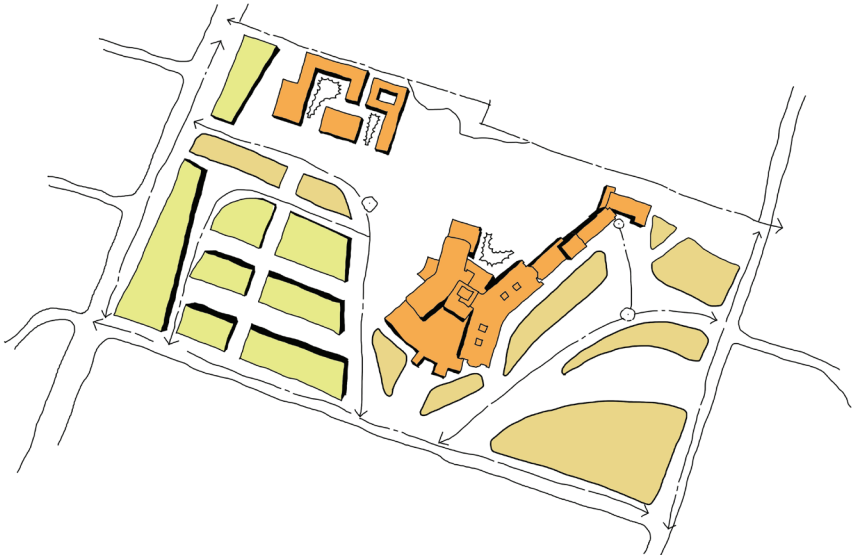


Figure 3.22: Development that could happen on site (Author 2020)

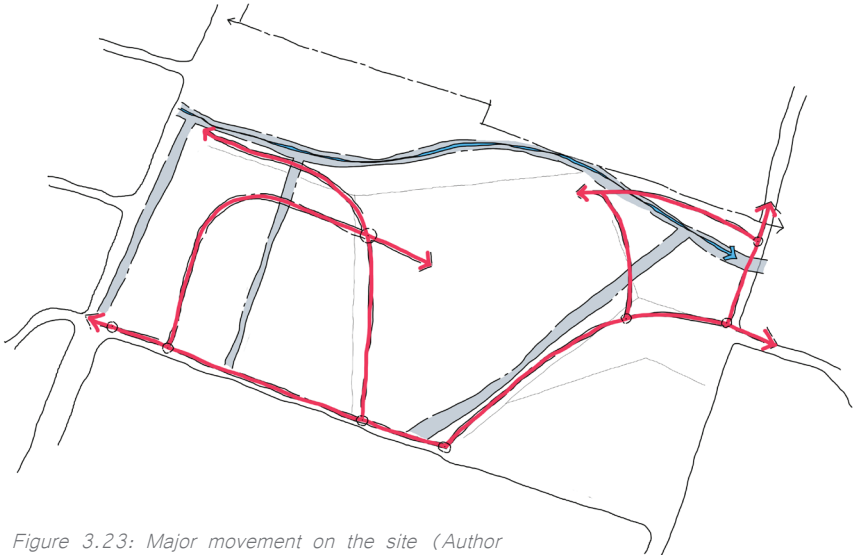


Figure 3.23: Major movement on the site (Author 2020)

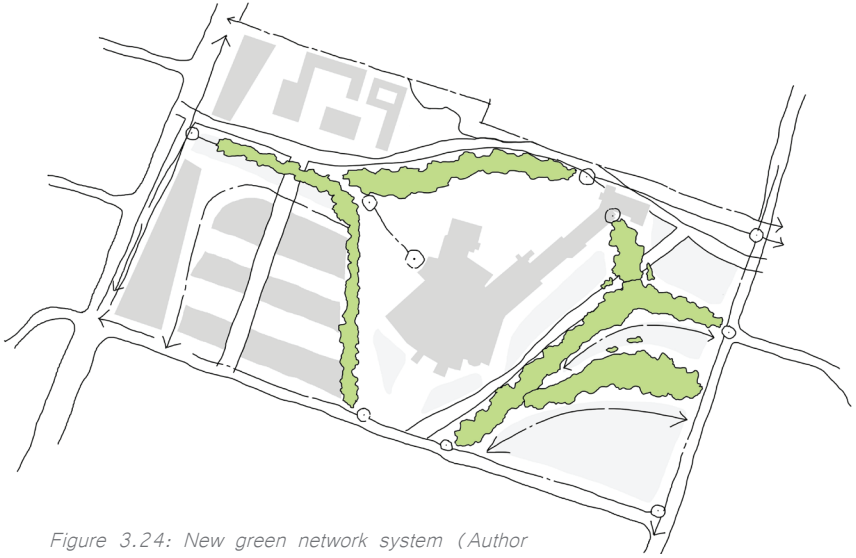


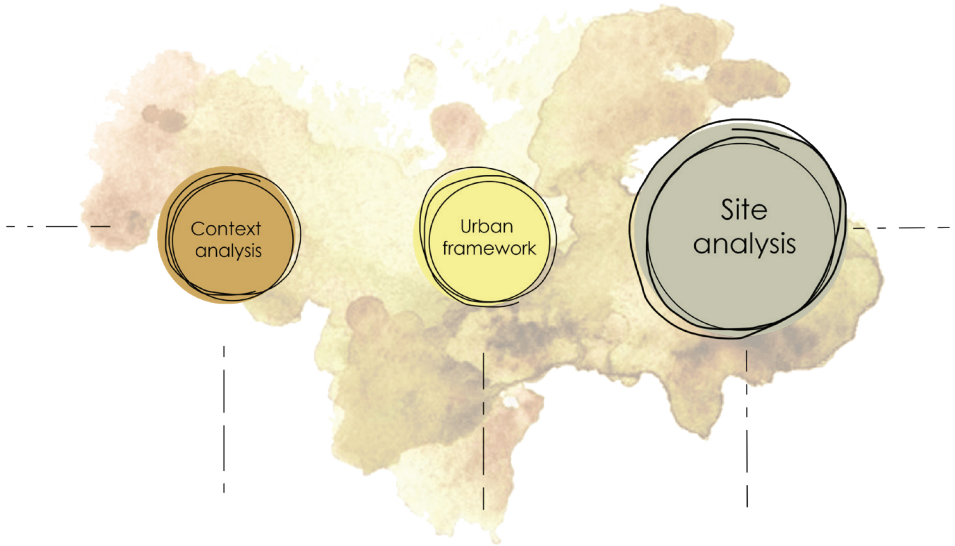
Figure 3.24: New green network system (Author 2020)

Implementing an urban design strategy contributes to making places for people. It focuses on creating connections between people and places, it takes into consideration movement and urban form, and it is concerned with the connection between nature and the built fabric (Transport & Regional Affairs Department.of the Environment, 2000). It is up to these connections to ensure a successful urban environment.

The strategies previously mentioned aims to revert the challenges created by urban wastelands and to provide a setting for commercial architecture that merges with nature. The urban strategies influenced the greater urban layout of the site in the following ways; breaking the site into smaller areas to reduce the large scale of the site, having part of the site kept as a natural setting with the intention to add value to the land, part of the site to be sold back to the urban fabric to attract interest in mixed use programs and housing, once again generating more value to the land, and the existing building will be renovated with a new program that can be beneficial for the urban setting. Due to the scale of the site I have identified a specific focus area for this dissertation that I will address in further detail. The new urban designs objective is to create a sustainable new development, creating opportunities for prosperous public life and social progress, sensible use of natural resources and encouraging better economic life.

The intended client is developers that would like to consolidate around a novel green space in an established area with potential.

Figure 3.25: New proposed urban framework (Author 2020)



SITE ANALYSIS

After establishing a better under understanding of the broader context around the site, that lead to the development of the urban framework, an investigation was conducted specifically looking at the site in question for this dissertation. It is important to get a firm grasp on the current site conditions, by analyzing it along with the existing buildings conditions. This site analysis forms part of the design informant to establish where the focus area for new development will be.

Figure 3.26: Kempton Park Hospital (edited by author 2020)
Figure 3.27: Kempton Park Hospital western facade (Gerhard Leimecke 2017)
Figure 3.28: Kempton Park Hospital entrance way (Gerhardt Coetzee 2020)
Figure 3.29: Kempton Park Hospital vehicular access (Gerhardt Coetzee 2020)
Figure 3.30: Kempton Park Hospital neighbours view (Kempton Express 2016)
Figure 3.31: Kempton Park Hospital public entrance (Reddit 2020)
Figure 3.32: Kempton Park Hospital abandoned (eNCA 2019)
Figure 3.33: Kempton Park Hospital western street view (Kempton Express 2018)
Figure 3.34: Kempton Park Hospital facade (Traveltourxp 2016)
Figure 3.35: Kempton Park hospital overhang (Gerhardt Coetzee 2020)

Fig.3.27

Fig.3.28

Fig.3.29

Fig.3.30

Fig.3.31

Fig.3.32

Fig.3.33

Fig.3.34

Fig.3.35

Site dimensions (fig.3.36)

Analysis

The site dimensions give a clear view of the enormity of the site in comparison to the other existing sites in the surrounding area.

Synthesis

When designing it would be important to try and create a more cohesive and less abrupt transition between the existing context and the proposed site. The urban design for the site should try and mitigate the large scale of the site and try to integrate and connected it to its surroundings.

Contours (fig.3.37)

Analysis

From the contours a naturally occurring slope can be seen. It is sloping down to the eastern and southern part of the site. The north-western part of the site being the highest and the south-eastern part of the site being the lowest part of the site.

Synthesis

When considering adaption to a site the contour can be a good informant in terms of drainage on site, which can be used strategically in the design to benefit the site, the user, and the design.

Drainage (fig.3.38)

Analysis

The contour on the site indicates a downward slope indicating the natural direction of water drainage on the site.

Synthesis

When considering design and design strategies, the catchment and re-use of water runoff can be introduced using the contours slope to your advantage. When designing the natural occurring drainage can be used as a guide and a design influence for new proposed architecture and programs on the site.

Vegetation on site (fig.3.39)

Analysis

A large part of the site is covered with trees and shrubs. The northern part of the site's vegetation was created as shading for parking on site. The southern part of the site's vegetation forms part of the natural landscape.

Synthesis

Clusters of trees can cause dark and cool areas blocking off views that may cause safety issues. The vegetation on site can play a big role in uniting and integrating a site by creating a continuous landscape language.

Vehicular movement (fig.3.40)

Analysis

On the northern and southern part of the site there are two main roads with high traffic during the day. This is due to a school across from the site and this also being the gateway road for going in and out of Van Riebeeck Park.

Synthesis

In the design proposal the edge condition can be address to accommodate high traffic and to promote alternative movement routes around the site.

Pedestrian movement (fig.3.41)

Analysis

There are no official demarcated pedestrian walkways around the site, there is however a large green buffer around the site. Informal gravel walkways can be seen on the opposite side of the streets from the proposed sites periphery.

Synthesis

New proposed pedestrian and non-vehicular movement system can be proposed around the site, incorporated in the green buffer located around the site.

Hard and soft landscapes (fig.3.42)

Analysis

From the plan in figure 3.42 one can see that a large portion of the site is made up of soft surfaces and only the existing buildings and parking on site make up the hard surfaces of the site.

Synthesis

When designing it would be beneficial to the user and environment to use the hard landscape areas in a sustainable way, either by incorporating sustainable services and systems into the design. It would also be beneficial to preserve some part of the site as a green area in the form of a park or natural landscape.

Accessibility (fig.3.43)

Analysis

The current access condition to the site is completely blocked off from the public with a fence around the entire site. Figure 3.43 indicated previous access roads onto the site.

Synthesis

To allow the site to be integrated back into the surroundings better access and permeability can be incorporated into the design by removing the fence around the site and improving access areas to the site.

Fig.3.36

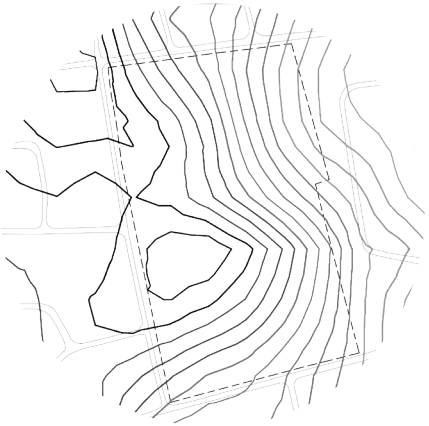


Fig.3.37

Fig.3.38

Fig.3.39

Fig.3.40

Fig.3.41

Fig.3.42

Fig.3.43

Figure 3.36: Site dimensions (Author 2020)
Figure 3.37: Contours (Author 2020)
Figure 3.38: Drainage (Author 2020)
Figure 3.39: Vegetation on site (Author 2020)
Figure 3.40: Vehicular movement (Author 2020)
Figure 3.41: Pedestrian movement (Author 2020)
Figure 3.42: Hard and soft landscapes(Author 2020)
Figure 3.43: Accessibility (Author 2020)

Focus area

The re-integration of abandoned buildings have been faced with two major approaches (Aspasia, 2007), The first option is deciding on exercising maintenance of the previous character of the building and restoring the memory, and structural techniques used in the original structure. The new added structures respecting the old and attempting to be a continuation of the original building creating harmony among the old and new. The second option is to introduce a completely new use of the building with no references to the original structure or purpose of the building.

For this dissertation I have chosen to implement the first approach of the above mentioned. I will allocate new functions and programs to take place within the existing building keeping the memory of the previous programs in mind. These new functions will be decided based on the new program and the user analysis that will establish requirements and guidelines for these spaces that will be discussed in chapter 4.

Looking at the existing building, an “open courtyard” was created by the existing buildings footprint, but was left with no function, interaction, or program to occur between the building and the urban condition. The existing urban condition and buildings edge does not respond to the eastern boundary, creating a bad edge condition between the building, urban condition, and site boundary.

I have chosen this area, indicated in figure 3.44 on the right, as my focus area to introduce a new design. By developing this area, it could connect the existing buildings better with the surrounding urban condition and allow programs to open up into that space ultimately activating these dead spaces.

My dissertation will thus place focus between the edge of the exiting building and the urban environment and how to create that transition through a concept of shared spaces.

I will be addressing the medical facility that is standing in isolation that does not connect with its surrounding environment. I will attempt to deal with the hard edges of the building that does not allow for a communion with natural aspect, and incorporate missing programs in the building that does not allow for step-down facilities.

Figure 3.44: Focus area to be used for new design proposal (Author 2020)

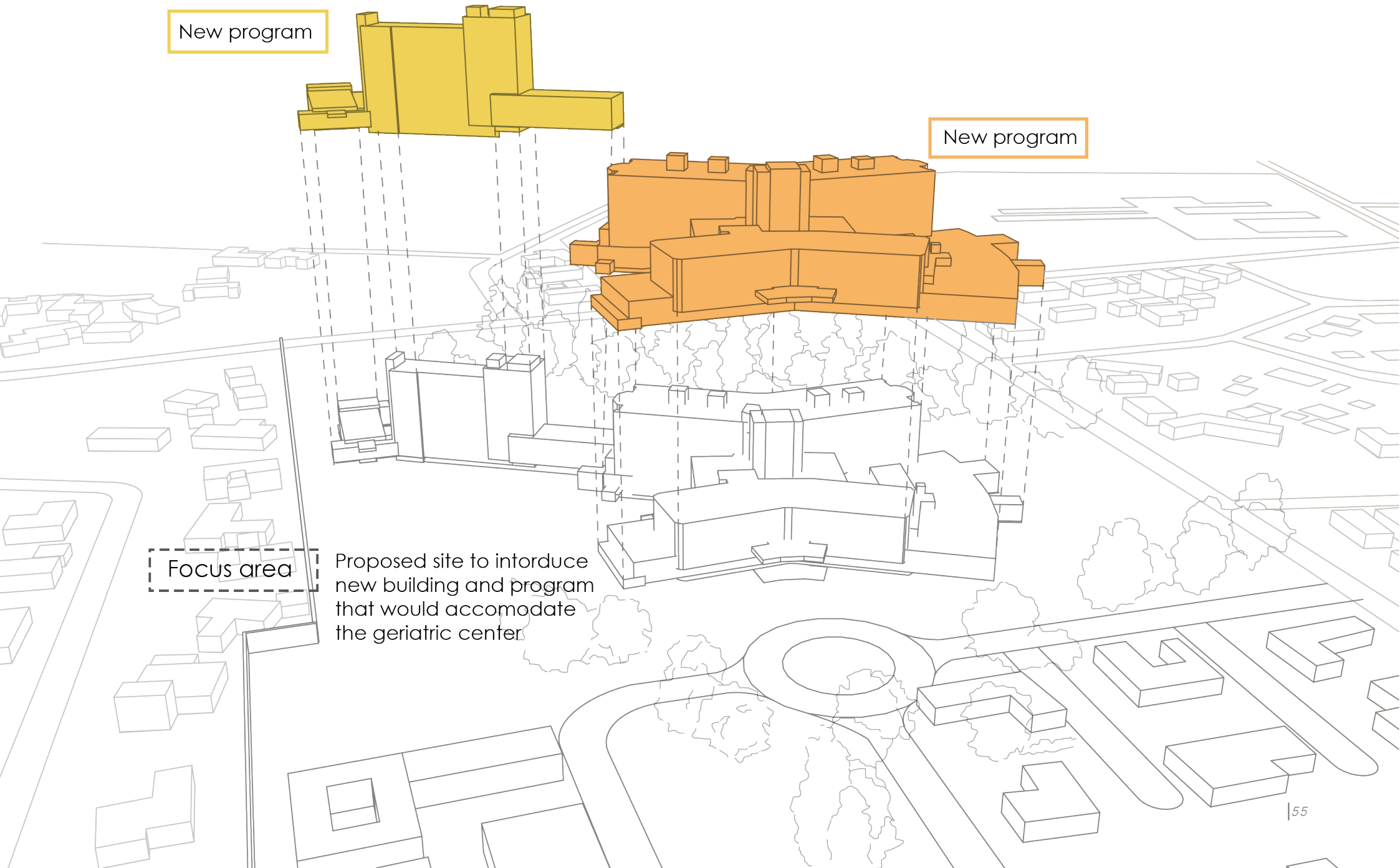


Figure 3.45: Chapter 3 diagram (Author 2020)

CONCLUSION

The contextual analysis helped to inform what architectural style can be applied onto the site, along with building material selection, to re-establish the sites significance and function within the greater urban fabric. The objective for the contextual analysis was so establish ways to generate connections between people and place to create continuity.