

contextual study parameters



the city

socio-economic conditions

urban features

- * meso context
- * project area_ sunnyside

site construction

- * site photos
- * neighbouring buildings
- * ground-figure analysis
- * site construction

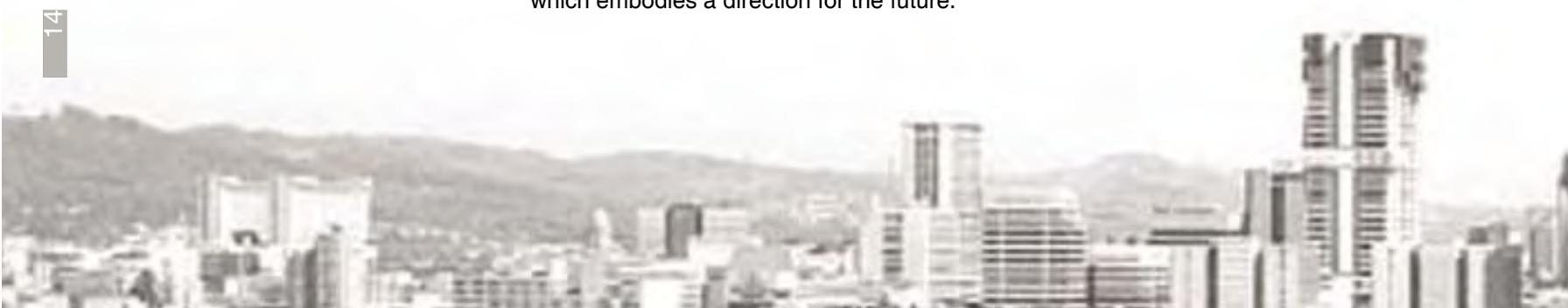
biophysical analysis

- * walkerspruit
- * climate
- * vegetation

The capital is currently undergoing an administrative identity crisis with the result that Cape Town and Johannesburg enjoy international focus as hubs for tourism and economic development. The public perception exists that Tshwane does not hold as much potential for development as other South African cities do [Illus. 3-7].

The Tshwane mission statement envisions that it will become an internationally acclaimed African capital of excellence. It is believed that this status will be achieved through the provision of sustainable services and activities which will improve the quality of life for citizens. As yet, there are few settings that promote community development within sustainable environments in the city. Emphasis is mainly placed on statistics, infrastructure and increased economic status by the city's administration.

Apart from efforts to improve the city's infrastructure for the 2010 Soccer World Cup, there is no overall vision to encompass its diversity. It is not necessary for urban identity to be provided by a symbol such as a landmark or natural feature. Since a city is not a personality which can assume a character, one could rather say that identity should form part of an underlying perception of and ambition for the city by its citizens, which embodies a direction for the future.



University of Pretoria etd – Peres, EM (2005)

Tshwane is a relatively young urban city, which owes its origin to early continental trade route settlements of the 1400's. From these beginnings it grew to become the ZAR capital in 1855. It was subjected to British influences during the early 1900's and was declared a city in 1931 [Jordaan: 65]. Its historical layering is not complex since it has always been an administrative capital. Like most cities, Tshwane neglects its history; existing buildings, trees, roads and parks make way for contemporary needs. The old is temporarily reflected on, and then abandoned. It must be accepted that cities evolve.

The 1944 Town Planning Scheme introduced mono-functional zoning to the city, which is prevalent even today. The 1970's and 1980's were marked by tower developments with arcade systems promoting dense pedestrian movement routes within city blocks [Jordaan: 68-69]. These systems terminate abruptly at the CBD peripheries, where a sharp reduction in scale occurs.

The CBD functions on two levels: formal and informal. The formal sector has all but disappeared and institutional buildings stand as empty reminders of their past functionalities. The city exists independently of humans, like a machine which humans inhabit. Urban growth is no longer holistically planned. Isolated mega-developments occur through private sponsorship. Because of this, the city will remain Post-Modern since it quickly adapts to trends. In a democracy such as this, even a Tuscan skyscraper may be built.

The decrease in urbanism that grasped the world after the May '68 student uprisings in Paris supports this trend. *Sous le pave, la plage* (under the pavement, beach) has not created a natural city; instead it has destroyed urban structure, resulting in indiscriminate consumer-based (image) architecture. Contemporary urbanism abandons that which doesn't work. In Pretoria, City Property's efforts to convert abandoned buildings into residential buildings seems small in comparison to the abundance of new construction on the peripheries. The city is exploding in size and numbers.



Illus. 3: Tshwane skyline



UNION BUILDINGS 10



Fig. 4. Tswana Pretoria landmarks (Peres, 2006)



Illus. 5: Resistance toward the city's name change



Illus. 6: Floor detail in Polley's Arcade



Illus. 7: Menlyn Park: eastern suburbs



Tshwane embodies several aspects of an African city, dominated by the impermanence of people, places and things. The demographics of the CBD and adjacent neighbourhoods are now multi-racial and multi-cultural. The eastward progression of business has not resulted in these areas becoming slums. Instead, the CBD and suburbs like Sunnyside continue to be inhabited by students, young families and middle to low income groups.

The African City relates to Rem Koolhaas' Generic City. A result of globalisation, it is found everywhere and is inherently the same wherever it occurs [Koolhaas: 1248]. Its character disappears only to be replaced either by a lack of identity or an imprisoning form of identity. It seems that Tshwane falls under the former, in which the lack of a coherent identity is gradually making it an open city, a medley of conflicting aspects: parking lots vs. parks, shopping centres vs. informal trade areas or gated communities vs. informal housing. The city no longer has a centre or core, but finds itself stretched in a linear way with no foreseeable destination.

In the suburbs, streets are lifeless. They are merely channels for vehicular movement. Cars dominate urban functions through the linkages created by these channels. They determine the layout, growth, activities and appearance of the city. The city is viewed through the car, resulting in high speed blurs, which supports an avoidance of physical interaction with the city [Koolhaas: 1252-3].

The lack of a coherent vision for Tshwane is aggravated by isolated developments and the ongoing eastern sprawl. The old and new are thought of with a mixture of nostalgia and contempt. Perhaps the answer to creating renewed interest in the city lies in small scale community initiatives that strive for the betterment of individuals and the improvement of their perception of the cityscape. We have to redefine our relationship with the city: we become its subjects, not its makers. With this understanding, the following becomes clear: Sometimes chaotic, overindulgent or excessive, the city also provides moments of calm in which, as Koolhaas says, "The city is no longer..."



Illus. 8: Intersection on Jacob Maree_ formal and informal meet.

South African cities built upon strong centralised political or economic forces are slowly decaying. There are no positive urban structures radiating from thriving city centres. Instead, cities explode, becoming linearly interspersed activity nodes.

Observation of the movements, interactions and exchanges between people is the best platform from which to understand how cities work. From townships to gated 'communities', the separated city prevails in Tshwane. However, there is a vibrant convergence of groups in areas such as Sunnyside. Here, a new culture emerges whose characteristics are no longer traditionally African, nor Western [Illus. 8, 9].

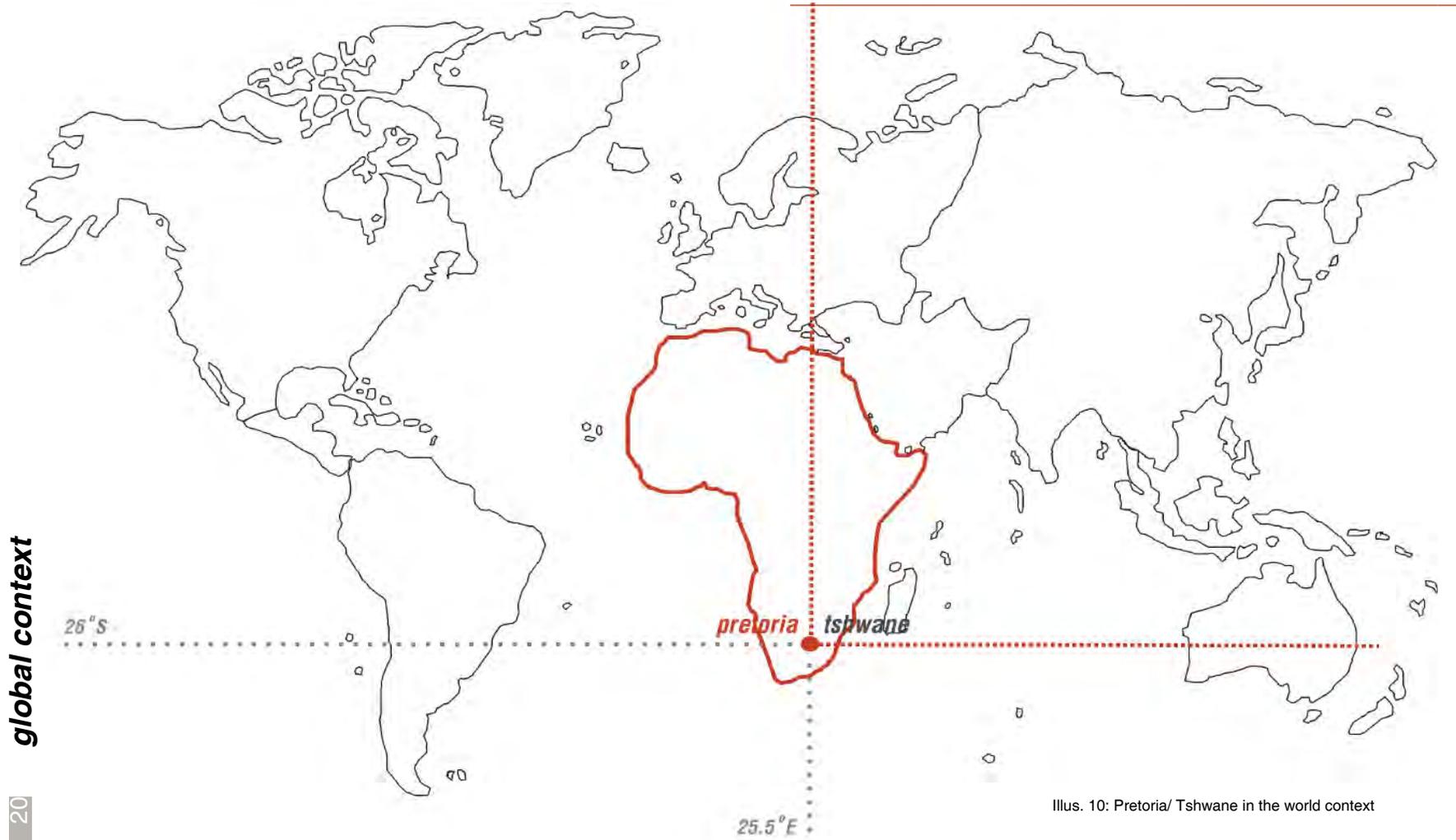
The eastward shift of business and residential typologies in Tshwane has resulted in a demographic swing within the greater city centre, which is now populated by a mixture of cultures mostly dominated by an emerging black middle class, who may not yet have great economic means, but who expect good opportunities. However, there are few places where individuals can gather in safety to participate in activities which support the genesis of this new culture.

Challenged by criminal activity, these dynamic central suburbs host a high number of drug dealers, street children, prostitutes, and incidents of gang-related violence: the demand for safety is vital. Each year, 1400 missing children and 25,000 cases of rape and sexual assault are reported in South Africa, but the actual figure is probably higher. Furthermore, more than 2,000 children are murdered each year [SACMEC: 2005]. In Sunnyside, day care can not always be afforded, so children are often left to care for themselves. It is difficult to control what these children do when unsupervised considering the degree of risk and exposure to criminal activity that they are exposed to. Can appropriate development occur in this environment?

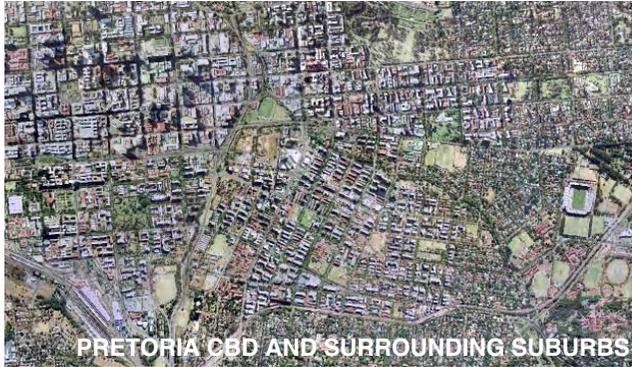
The need to provide a safe setting where the entire community may gather, is obvious. A demand exists for recreational activities, as well as a safe environment for children to go to after school. Here, architecture has a high capacity to direct and create positive experiences for individuals, providing facilities where people can meet, play and explore in a familiar environment.



Illus. 9: Two homeless "residents" of Sunnyside



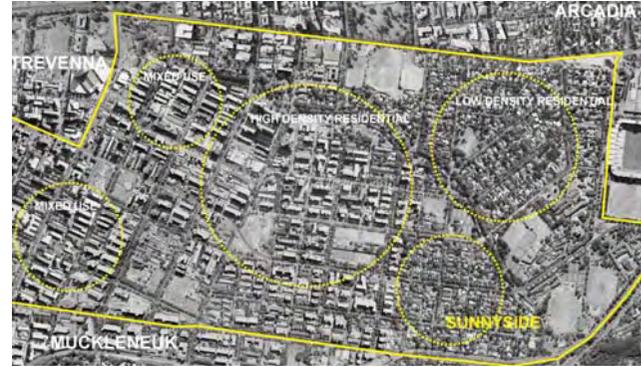
Illus. 10: Pretoria/ Tshwane in the world context



Illus. 12: Aerial photo of central Tshwane. [GIS UP, 2005]



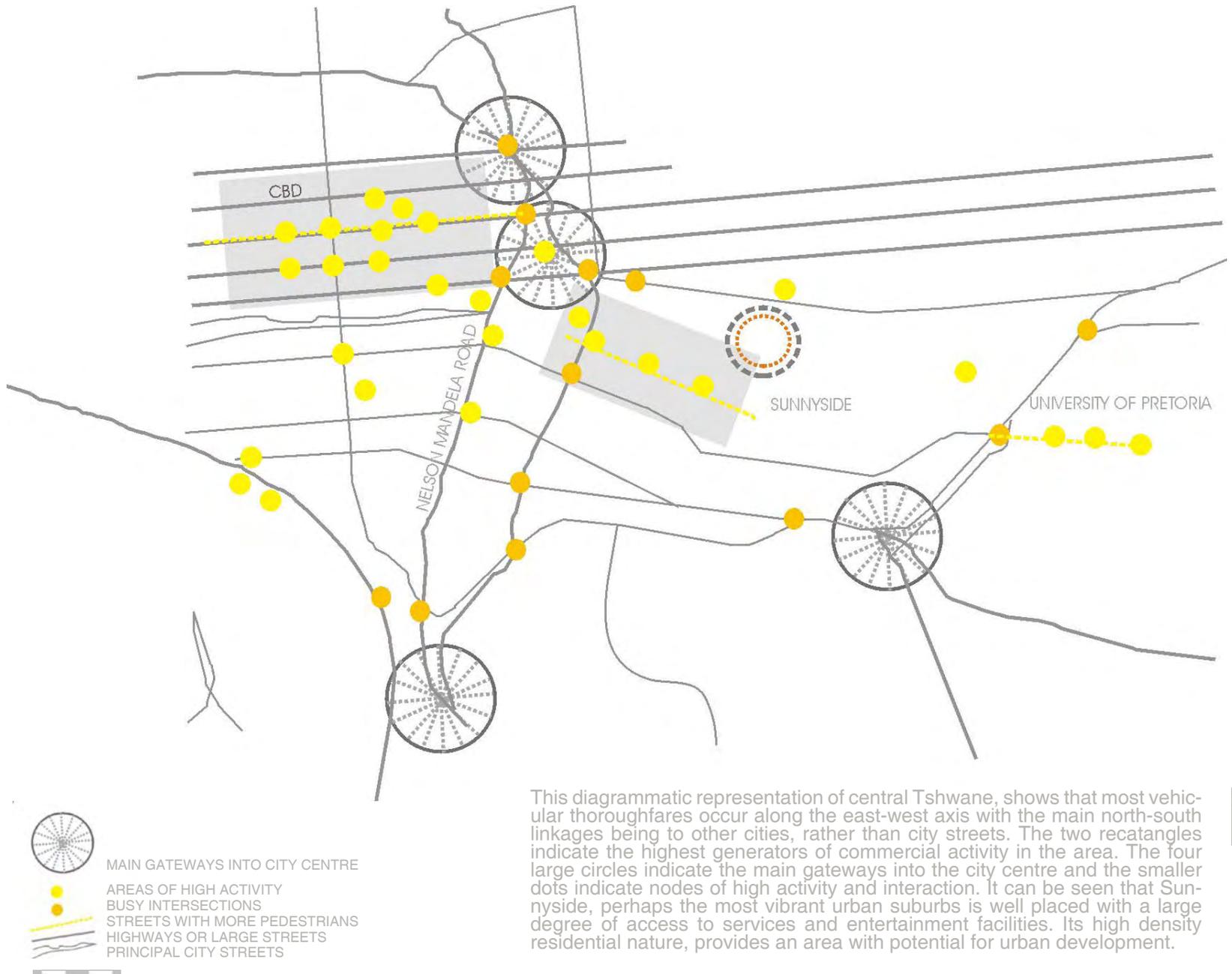
Illus. 13: Aerial photo of Sunnyside. [GIS UP, 2005]



Illus. 14: Land uses within Sunnyside: commercial, residential and other.



Illus. 15: Site in relation to landmarks and activity nodes



This diagrammatic representation of central Tshwane, shows that most vehicular thoroughfares occur along the east-west axis with the main north-south linkages being to other cities, rather than city streets. The two rectangles indicate the highest generators of commercial activity in the area. The four large circles indicate the main gateways into the city centre and the smaller dots indicate nodes of high activity and interaction. It can be seen that Sunnyside, perhaps the most vibrant urban suburbs is well placed with a large degree of access to services and entertainment facilities. Its high density residential nature, provides an area with potential for urban development.

Illus. 16: Diagrammatic representation of the main movement routes, activity nodes, intersections and commercial hubs in the city centre.



Illus. 17: Sunnyside usage construction_ a locus with further development opportunities.

Analysis of the infrastructure in the city centre and the surrounding high density suburbs shows that services and public facilities are well established and adequately support the day to day functions of these areas.

The Sunnyside district, has since its densification in the 1960's, grown to become a vibrant, well functioning suburb within the city centre. Despite the recent movement of business and major commercial activities to the eastern peripheries, Sunnyside hosts a diversity of cultures, demographics and age groups. It is

because of these features, that Sunnyside holds potential for urban renewal and further strategic development, such as facilities which promote community involvement.

The residential characteristics of Sunnyside are however inadequately supported by few community facilities within the suburb. Private entertainment and commercial centres are found in Sunny Park on the western fringe of the suburb, and sports facilities are located along Kotze Street. Open public parks are scattered and for the amount of residential stock, limited [Illus. 17-21].



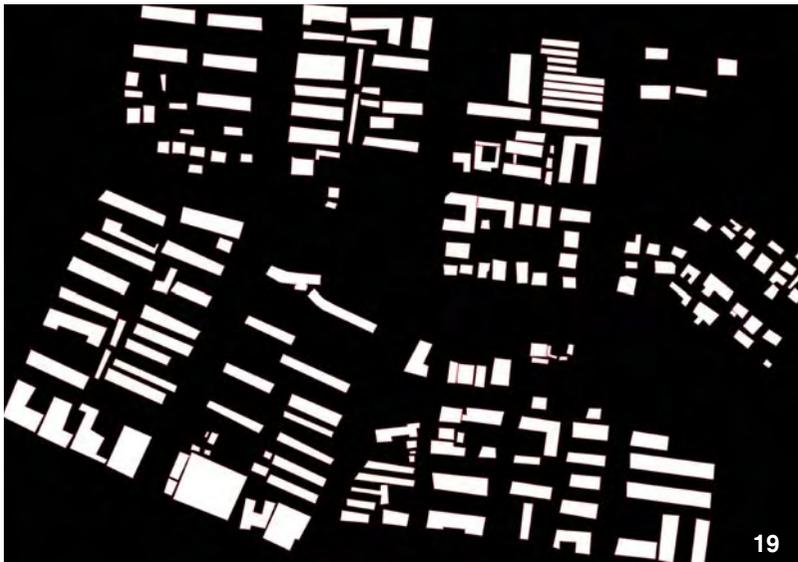
Illus. 18: Figure ground study of central Sunnyside

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Illus. 20: Site in relation to major vehicular movement routes

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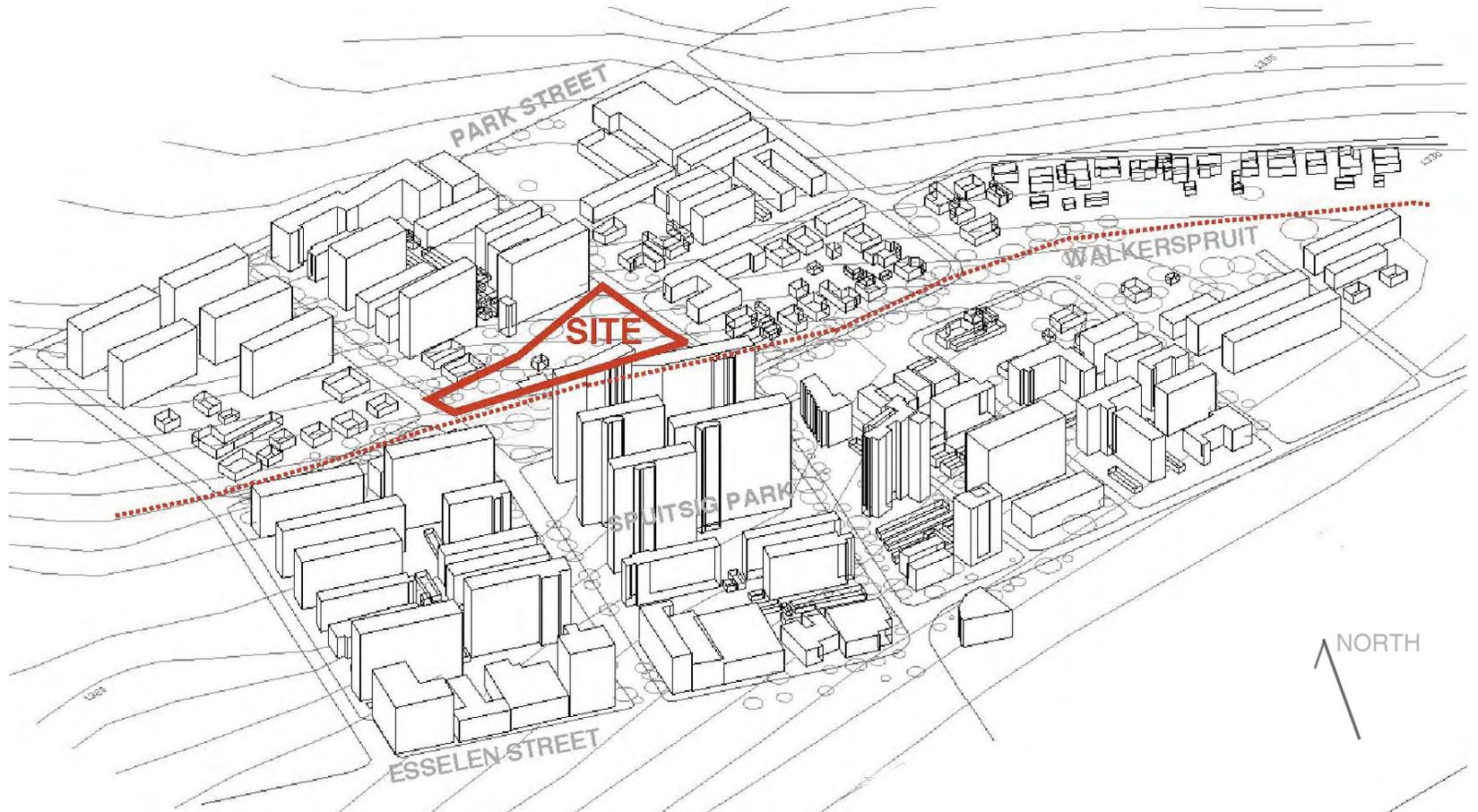
Illus. 19: Ground figure of central Sunnyside showing high and low densities

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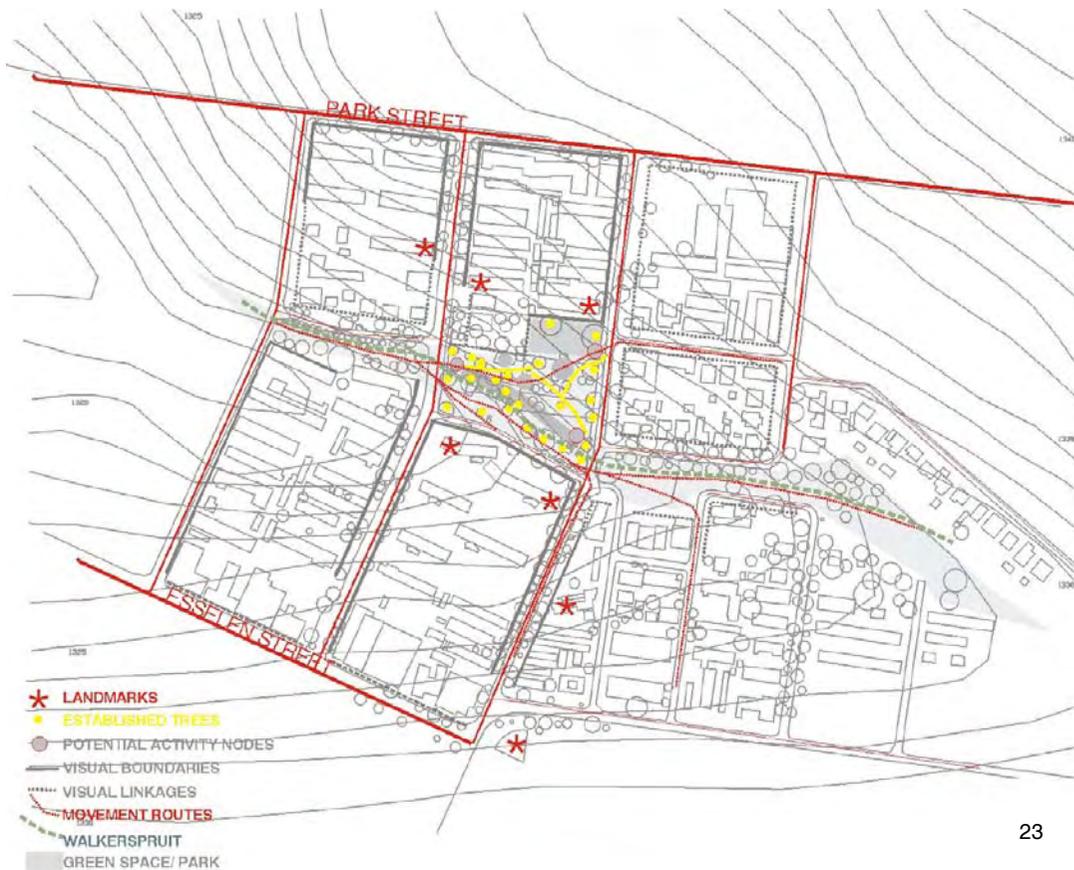


Illus. 21: Aerial photo showing the site and surrounding streets

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Illus. 22: 3D view over the site from the South-East showing the existing buildings



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North-south streets function mainly as linkages to the principal east-west movement routes. These streets form axes that are experienced as negative spaces, with most buildings turning away from them. The selected site for the proposed building of this dissertation, has through the years been identified as one such negative space. However, it has carried its own importance within the context of the city and is by no means characterless. Its spaces are rich with activity and purpose, be it as a place of shelter for homeless people, or an abandoned landscape which forms part of the urban cityscape [Illus. 22].

A distinct difference between high and low density housing within Sunnyside is especially evident at its periphery. This also reflects the economic and demographic division existing within the suburb. It is a divide which may be diminished by generating linear activity on a seam between neighbourhoods, thereby maximising cross-community involvement within the area [Illus. 23].



Illus. 24 on this page: Views over or from the site mapped on an aerial photo.





Illus. 25: Photos of the neighbouring buildings of various scales and plotted on map

The incorporation of Walkerspruit as a feature in the design is an important aspect of the project. In 1984, a walking route along Walkerspruit, from its origin in Brooklyn up to its connection with the Apies River, was introduced. Its aim was to cater for the rising number of residents in the Sunnyside-Arcadia area who had little access to green space [Beeld: 12] [Illus. 44]. It is hoped that in future this trail will be revived, from its soft, natural character in Magnolia Dell into the hard-edged channel cutting through Sunnyside to the Apies River [ISDF: 38].

Walkerspruit is a key movement corridor through this area. Its duality needs to be considered. Firstly, it fulfills a technical role, namely the improvement of stormwater control. Secondly, it acts as a link or route which connects various districts [Illus. 41-43].



Illus. 26: Photos of Walkerspruit as it meanders through the site.

Illus. 27: "Nou kan 'n mens behoorlik wandel." Beeld article showing the upgraded Walkerspruit trail [Unknown, 1984]

The directional process of public movement on this scale creates certain spatial experiences. Here, the landscape can be manipulated using built forms to prompt a new perception of space. Secondly, technical aspects are considered, namely the improvement of flooding control.

Enhancing the quality of the Walkerspruit channel by applying softening techniques like riffles or weirs to its base may considerably affect drainage during peak flows and may exacerbate flooding. Design changes are limited to the extent in which the channel banks can be widened to accommodate the 50 and 100 year flood lines and the minimum flow of 110-120 m³/s [Illus. 45] [SRK: 17].



Flooding is currently aggravated by the position and limited dimensions of the bridges on Bourke and Leyds Streets, resulting in a differential water capacity beneath the bridges, evident in a return flow of water over the bridges and erosion of the channel banks [Chunnett Fourie: 16].

After the severe 1996 floods, the following improvements were determined by the city engineers [SRK: 29] and are incorporated in the site design:

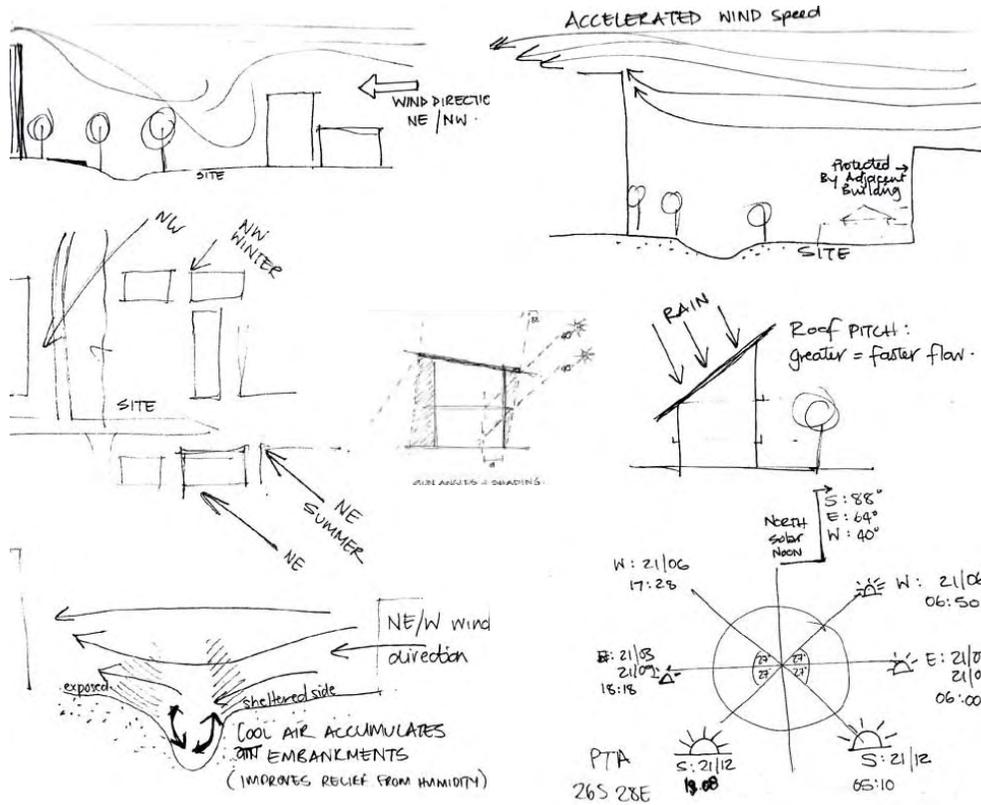
1. Widening of the channel
2. Using flood attenuation structures
3. Removing obstructions (such as trees which are too close to the channel)

4. Using indigenous vegetation
5. Not allowing any buildings below the 50 year flood line
6. Using erosion preventative measures

The use, maintenance and safety of the channel environment must also be considered. Safety is improved by providing sufficient visibility, permeability, and adequate lighting. Passive surveillance is promoted by opening the building facades towards public spaces. Street furniture requiring limited maintenance has been designed and vegetation has been used along the stream to limit soil erosion. Pedestrian priority is emphasised at road crossings by employing traffic calming techniques.



Illus. 28: The 50 and 100 year Walkerspruit floodlines between Bourke and Cilliers street. [Tshwane City Engineer, 2005]



Tshwane falls within the temperate eastern plateau and enjoys a comfortable climate. The summer rainfall average ranges from 125 to 375mm, with most rain falling during thunderstorms. The Winter average ranges between 62 and 250mm. The pitch and design of the proposed building will affect the flow rate of storm water during thunderstorms. Because of the characteristic flooding of Walkerspruit, attenuation of runoff within the built environment is advisable. Rainwater may be stored in culverts or flooding plains temporarily and be allowed to percolate through the soil gradually.

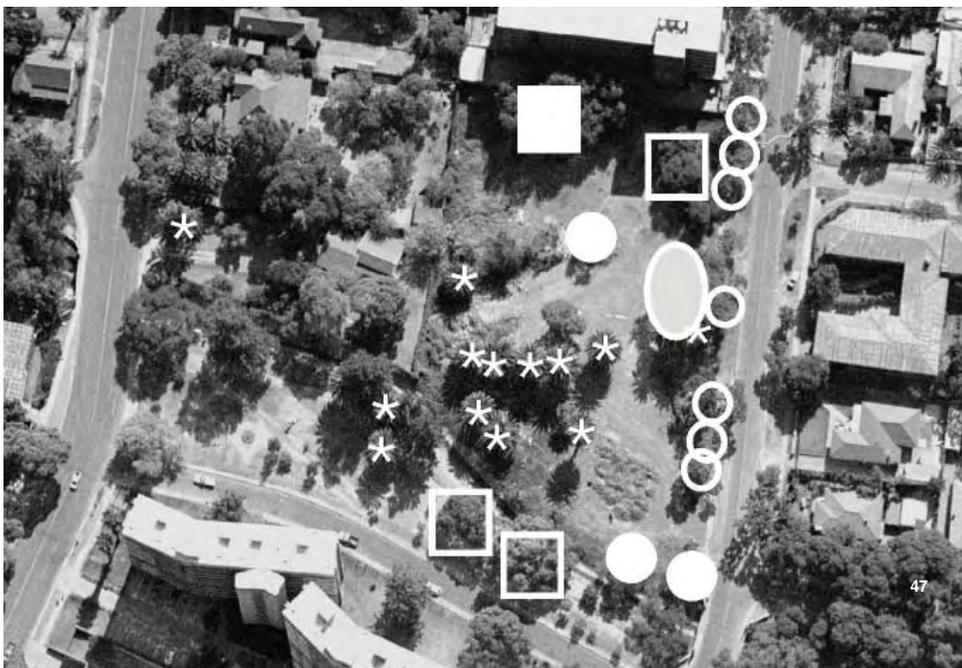
Summer humidity is about 30% and the daytime temperatures average 20-25 degrees Celsius, easily reaching the mid 30s. Winter days are sunny and temperatures range between 10-15 degrees Celsius. In Summer, winds prevail from the North-East and in winter occur from the North-West as well. Sixty to eighty percent hours of daytime sunshine occur from the west during the afternoons. The architectural implications of these climatic conditions are illustrated [Illus. 46].

Illus. 29: Author's interpretation of the climatic conditions and the architectural consequences.

The trees on site are well established and healthy, and have, where possible, been incorporated into the design. The existing vegetation gives an established character to the site and provides the area with a neutral quality essential to the green spine formed by the Walkerspruit.

The site contains a high number of historic Pretoria palms which are of heritage value to the Pretoria cityscape. On site, there are more than 12 Palms and since they are not indigenous and are easily transported, some of them will be relocated to a more suitable setting.

Following the recommendations of the SRK City Engineers' report, all trees which are too close to the Walkerspruit and are thereby obstructing high flows will also be relocated as required.



Illus. 30: Mapping the types of trees on site

- * Pretoria palms
- Querous Sp - Oak tree
- Acacia karroo - Soetdoring tree
- Schinus molle - Pepper tree
- Jacaranda mimosafolia - Jacaranda tree
- ◌ Tipa tipuana - Tipuana tree