





*context*

Chapter 3

Fig 3.1: Bourke Street Garden. [Author, 2016]

“Without a complex knowledge of one’s place on which such knowledge depends, it is inevitable that the place will be used carelessly and eventually destroyed.”  
(Wendell Berry 1972: 68)

### 3.1 Introduction

For the intentions of the dissertation to have effect, the best kind of site to select is one with evident barriers between man and the natural world and site which possesses opportunity for a didactic architecture through which man's biophilic origins could be restored. To the North of De Rapper Street, in Sunnyside, Pretoria lies an empty piece of ground, nestled between towering apartment blocks and the small urban river, the Walkerspruit. The once park, now dumping ground and storage space for various construction vehicles, has massive opportunity for didactic and ecological intervention and local community involvement. This chapter will highlight the importance of the place describing its current condition within the context of Sunnyside and the water networks of Pretoria and accentuating its potentials.

This dissertation also forms part of a group of six architecture students and one landscape architecture student working along the water systems within Pretoria. A collective vision was conceptualised and designed, and will be presented in this chapter as a response to the issues identified.

Lastly, the summary of informants will be related back to the principles of biophilic design in terms of what exists and what possible the biophilic intentions exist.



Fig 3.2: Aerial view of Site with initial program layout. (Author, 2016)

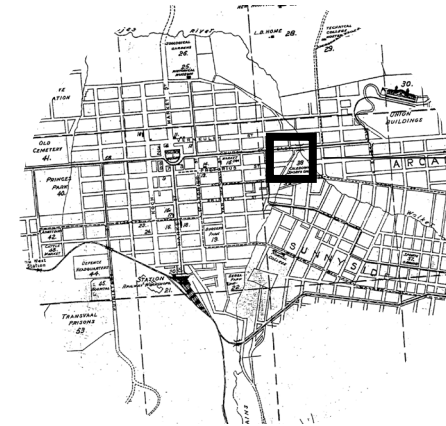


Fig 3.3 (right) Pretoria's development and shift in city grid due to the rivers. (University of Pretoria, Department of Architecture archives)

### 3.2 Pretoria's Riparian Network

One of the primary components that form part of Pretoria's development is water (Figure 3.3). Water was discovered in abundance in the form of dolomitic aquifers located at what is known today as Groenkloof nature reserve (Fig 3.6). The excess water not used for consumption from the two dolomite aquifers in Groenkloof flowed into the Apies River and continues to do so today. The other dolomitic aquifers, near Rietvlei dam were found to the south, known as Grootfontein and Sterkfontein (Fig 3.6). This water has been retained in large dams such as the Rietvlei and Hartebeespoort dams.

These aquifers form a vital part of Pretoria's heritage yet little understanding and appreciation of their significance as suppliers of water and symbols of Pretoria's identity exists among city dwellers. In addition the Apies and Walkerspruit Rivers embody broken ecologies and the control of natural systems due to their channelisation between 1910 and 1930 where a system of purely engineered concrete channels (refer to Figure 3.4 and 3.5) were built to divert the original course of the Apies in order to make way for urban development and to pass the water through the city as fast and efficiently as possible (Jansen Van Vuuren, 2016).

Spaces within the city facilitating holistic engagement with the water are few and far between. This is due to the impact the design of the channels have on the urban environment. They have a steep slope on either side, making them completely inaccessible and unsafe, especially for children, and no accommodation for vegetation or ecologies to develop alongside the channels has been made (Fig 3.7). As a result of the design of the channels, they have become forgotten, dirty, neglected barriers in a city that drastically requires urban renewal. The potential biophilic contributions of a water network in a city has been overlooked and engineered in a way that cuts the city in half, instead of connecting it. As concerns regarding ecology and natural systems are being introduced in urban design strategies and architectural design, Pretoria and its engineered past is experiencing negative effects in its much needed urban regeneration (Jansen Van Vuuren, 2016).

Fig 3.5 Cross-sections of the channels design.

(City of Tshwane Metropolitan Municipality, Department of Roads and Storm water, Pretoria. 2016)

Fig 3.6 Groenkloof and Grootfontein Springs respectively. (Grewar. 2014)

(Burger. 2014)

Fig 3.7 The current condition of the Walkerspruit channel (Author, 2016)

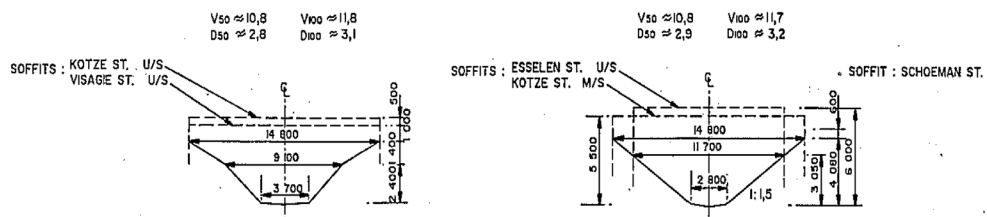
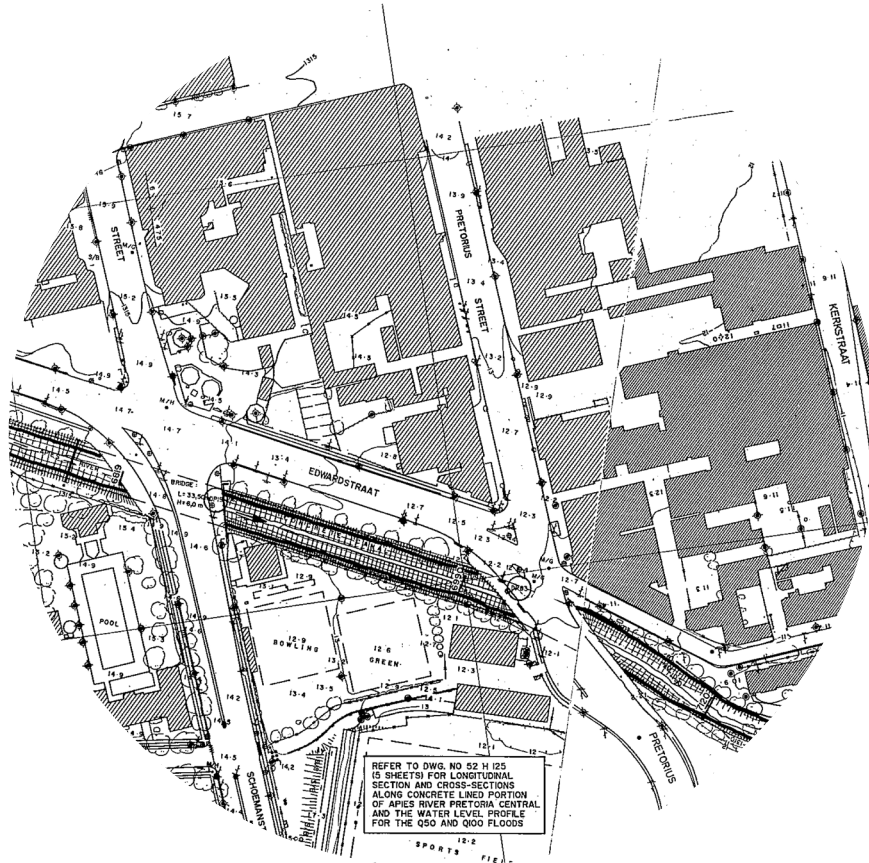


Fig 3.4 Engineering Drawings of the Apies River at Caledonian Sports Ground.  
(City of Tshwane Metropolitan Municipality, Department of Roads and Storm water, Pretoria. 2016)



Fig 3.8: Nolli map of water networks and surrounding urban fabric. [Author, 2016]

### 3.3 The Didactic Garden: Group Urban Framework

The group mapped all variables of the river space. These were everyday rituals along the river, which refers to how the water is used by different people along its edges; ecologies that still exist along the river; historical narratives; cross-sectional interfaces between river and city (fig 3.9); movement patterns alongside the river; ecologies that still exist and those that can be built upon.

The mapping concluded that the rivers act as barriers and dividers, not only between the urban fabric but between man and the natural world. Ecosystems are broken between the two ridges on the north and south sides of the city and therefore the services where humanity benefits in a multitude of ways from ecosystems are broken in the urban fabric . This is because the rivers serve as barriers, dead zones or lost spaces along the river edges, causing urban decay. Opportunities for intervention in these lost spaces were identified.

The aim of the vision was to build upon lost space along the river and use them to reconnect the broken river ecosystem as soon as it reaches the urban fabric. The redeveloped lost spaces will aim to foster public space adjacent and connected to the river, reconnect the water to the city of Pretoria to show its importance in everyday rituals, reconnect the ecological systems on the ridges that have been disconnected by the urban fabric and create an identity as a water city through celebration and awareness.



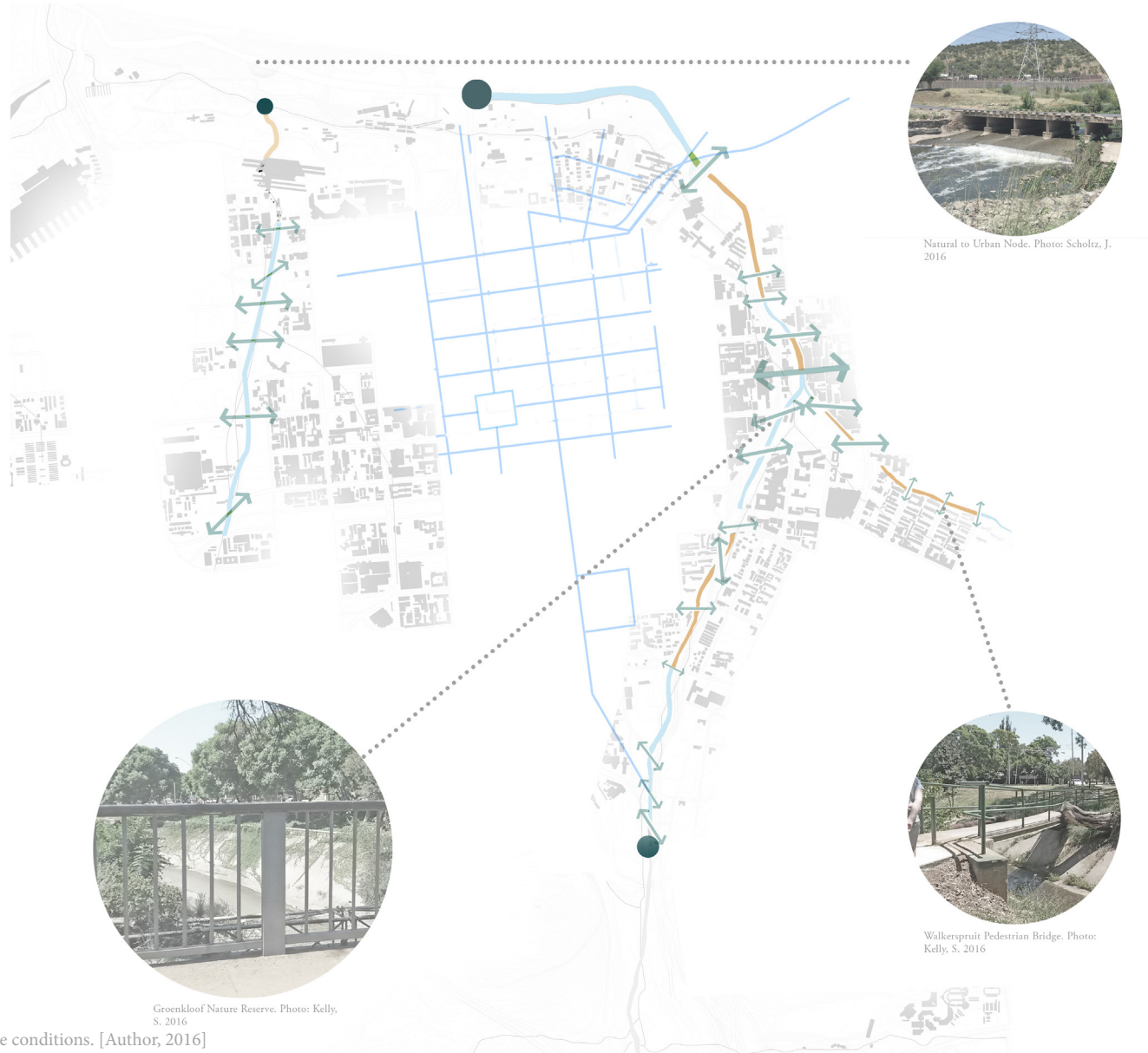


Fig 3.9 Mapping of river edge conditions. [Author, 2016]

Nodes of reconnection were identified along both the Apies River and Walkerspruit. These nodes were given specific identities according to their most apparent problems and appropriate resolutions with regards to the overall aim of the framework.

The chosen site, (indicated in Fig 3.10) is labelled “the didactic garden”. The aim of the vision for this node is to reconnect the lost park space along the Walkerspruit back to the identity of a natural river park as well as to reconnect the park to the existing schools situated on the western and eastern peripheries of the site.

The aim will be applied through, firstly, the identification of garden spaces from the analysis of the natural elements that still exist. These gardens will be the starting point of the identity of didacticism on the site. Secondly, a route that connects the existing schools on site is proposed. The relationship between the gardens and the route will facilitate the placement and essence of the architecture. Thirdly, it is proposed to introduce street parks along the roads around the site periphery. These minimise the issue that infrastructural barrier pose to children in urban environment that prevent them from accessing natural spaces.

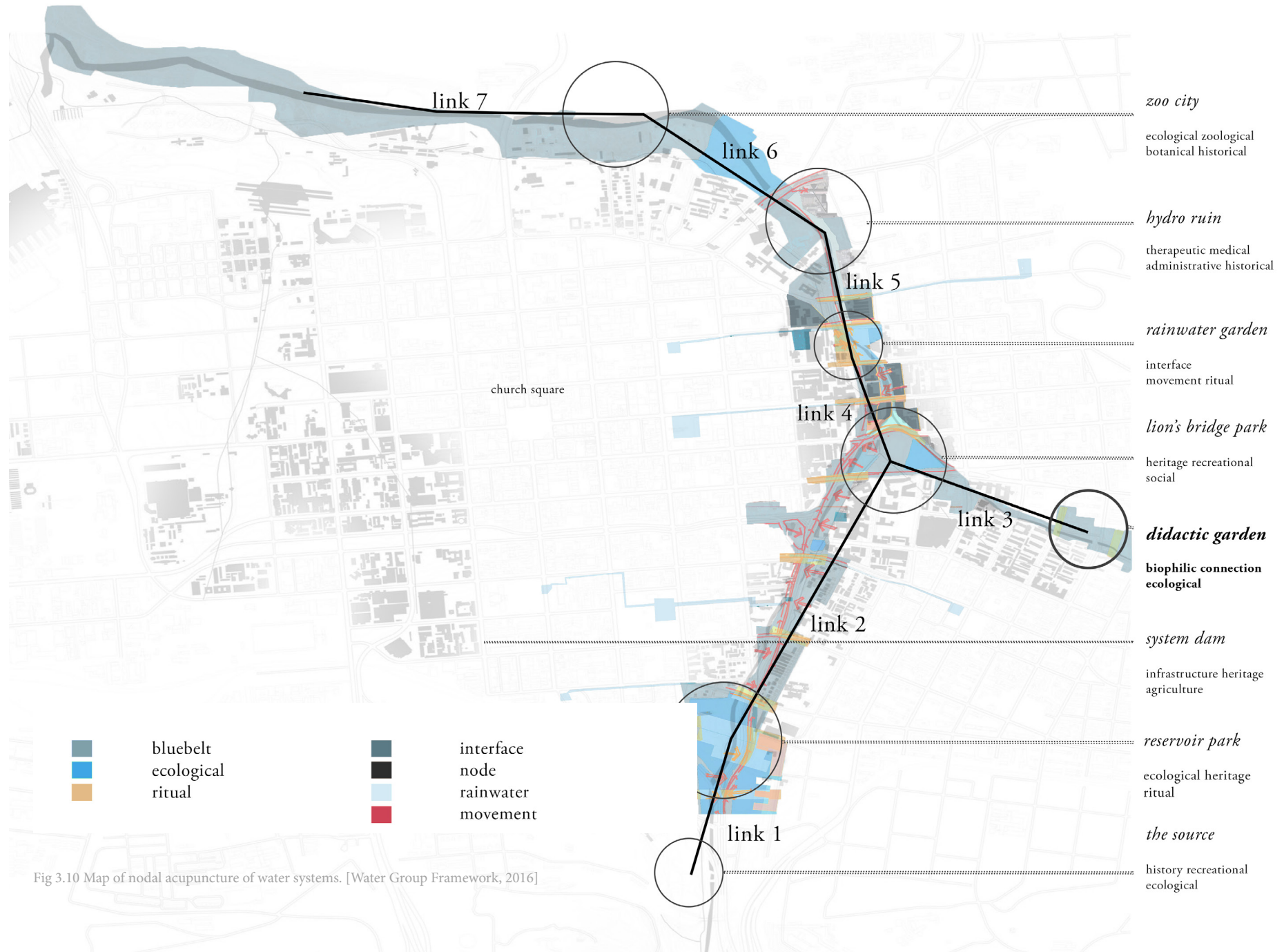


Fig 3.10 Map of nodal acupuncture of water systems. [Water Group Framework, 2016]

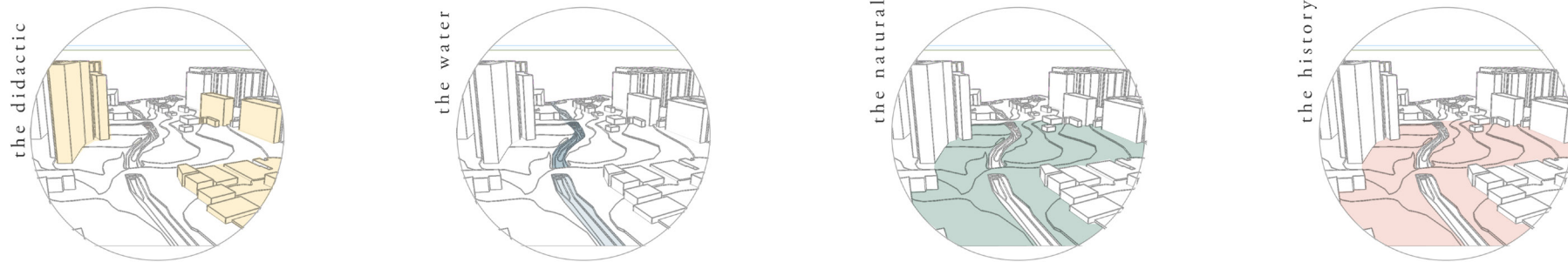


Fig 3.11 Primary attributes of site: the child, the river and the natural ground. [Author, 2016]

### 3.4 The Didactic Garden: Physical Attributes

The chosen site, in Sunnyside, between Bourke and Leyds Street is nestled between high rise apartment blocks and the small urban river known as the Walkerspruit. Bourke and Leyds streets are the north-south streets that serve as linkages to the primary east-west movement routes from Pretoria Central to Pretoria East. These streets are experienced as barriers to the site with most buildings turning away from the open land, creating negative or lost space as identified in the urban framework.

Currently, the site, owned by the City of Tshwane Metropolitan Municipality, serves as a place of shelter for homeless people, and a parking space for various construction vehicles. A distinct difference between high and low density housing within Sunnyside is also evident on its periphery. This 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, connecting communities and suggested nodal interventions that occur along the water system framework.

The site holds four key informants, namely: the river or riparian element, the sparsely scattered trees on the site, the biophilic heritage of the site and lastly, the densely populated pre-primary schools surrounding the site. These will be the drivers to the mini vision for the site as well as the architectural response (refer to Fig 3.11)

Looking at the public and private spaces on site, the site has a public nature on its periphery and more private spaces moving towards its center. This is due to the fact that its edge condition is used by the public for small scale trade and pedestrian movement. There is one small path just south of the Walkerspruit, that acts as a movement route through the site, however, no path or connection to the river is evident on the northern side of the Spruit therefore creating a lost space along the river (refer to Fig 3.14). The vast difference in scale is also seen as an issue on the site where twenty storey apartment blocks look down on a ground scale park, creating a sense of scale imbalance. The existing scattered trees are the only element that helps return the site to human scale.



Fig 3.12: Site location and informants. (Author. 2016)



Fig 3.13 Fig ground map of site with context. Edited by Author (2016) from Google Earth (2016)

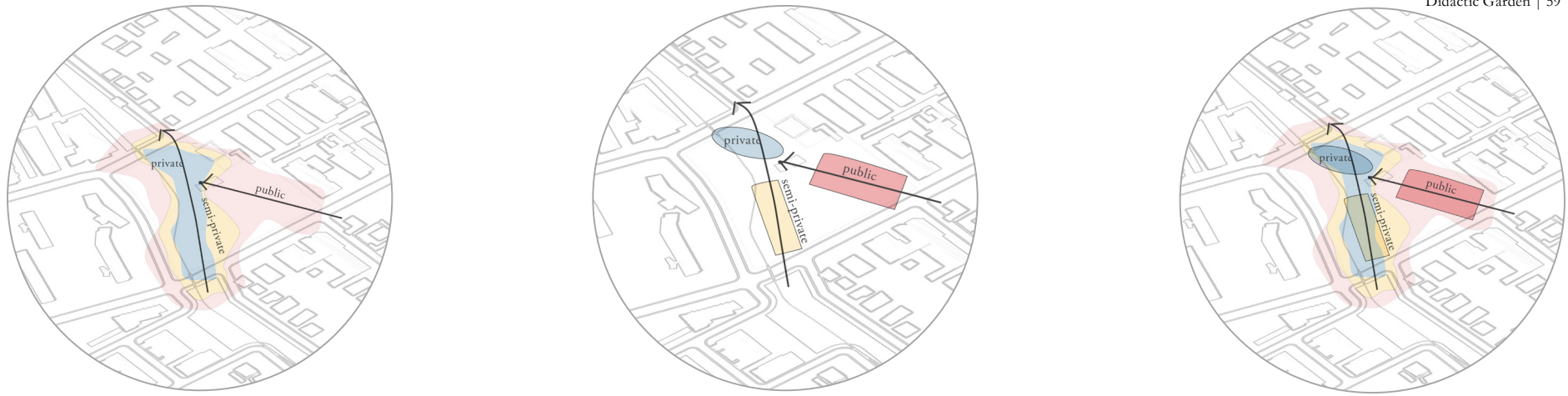


Fig 3.14 Physical nature of site according to public and private spaces. (Author, 2016)

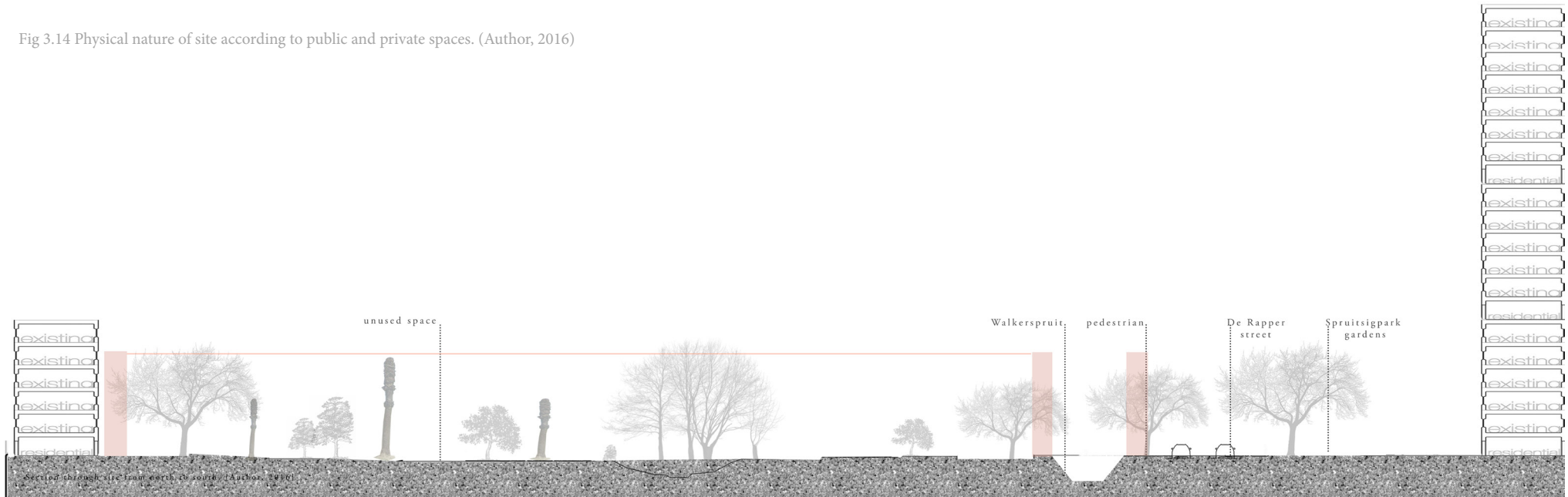


Fig 3.15 Section through site showing vast differences in scale between buildings and ground (Author, 2016)



### 3.5 The Didactic Garden: Macro Vision

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.

Figure 3.13 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 (refer to Fig 3.17). 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.

Fig 3.16 Visionary images of street parks along Bourke and Leyds Streets. (Author, 2016)

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. 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 (refer to Fig 3.18).

#### 2.5.1 From Streets to parks

In the suburbs, streets are lifeless. They are merely channels for vehicular movement. Cars dominate urban functions through the linkages created by these channels. The city is viewed through the car, resulting in high speed blurs, which supports an avoidance of physical interaction with the city and its natural elements [Koolhaas: 1252-3]. The lack of a coherent vision for Tshwane is aggravated by isolated developments and the ongoing eastern sprawl. Perhaps the answer to creating renewed interest in the city lies in small scale community initiatives that strive for the betterment of individuals as well as a re-adapting of particular streetscapes into park spaces that bridge between activities rather than creating barriers between them (refer to Fig 3.16).



Fig 3.17 Gateways, Nodes and activity and pedestrian movement. (Author, 2016)



Fig 3.18 Schools and green spaces. (Author, 2016)





Fig 3.19 Compilation of surrounding typologies. (Edited by Author (2016) from Google Earth (2016) and Peres, E. 2005)

### 3.6 The Didactic Garden: Surrounding Fabric

The adjacent urban fabric has a distinct character with most of the surrounding buildings built during the 1950's and 1960's composed of red brick, large balconied, multi-storey blocks. These red brick buildings form an integral part of the history of Pretorian Architecture (Fisher, le Roux and Mare, 1998: 123). According to the Burra Charter (1999: 1), 'places' of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape, to the past and to lived experiences.'

Article 5.1 (Burra Charter, 1999:4) indicates that the "conservation' of a place should identify and take into account all aspects of cultural and natural significance without unwarranted emphasis on any one value at the expense of other. The site does not contain heritage value in itself but does contain natural value due to the potential the river and scattered trees pose to future ecological growth.

An appropriate response would be therefore to respond to this vernacular in a manner that blends with the brick textures at some points of the design but at the same time form contrasts to it to indicate the proposal of a new biophilic paradigm. This is in accordance with Article 22.1, 1997.7 of the Burra Charter which states, "New work, where new functions will be brought to the site, with the assurance that it does not distort or obscure the cultural significance of the place, or detract from its interpretation and appreciation." As well as Article 22,2, 1999:7, which states: " The new work should also be identifiable as such."

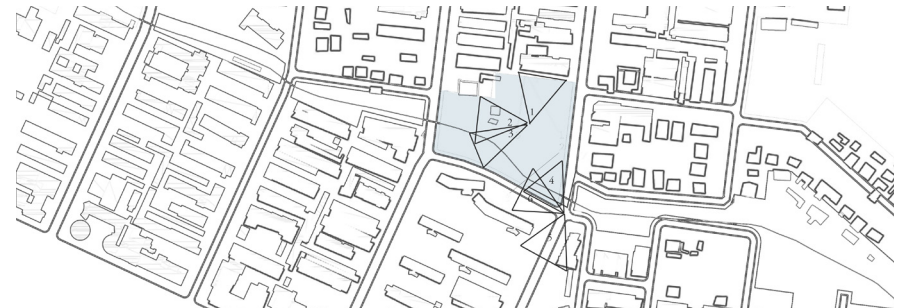




Fig 3.20 Current condition of river, looking West. (Author, October 2016)



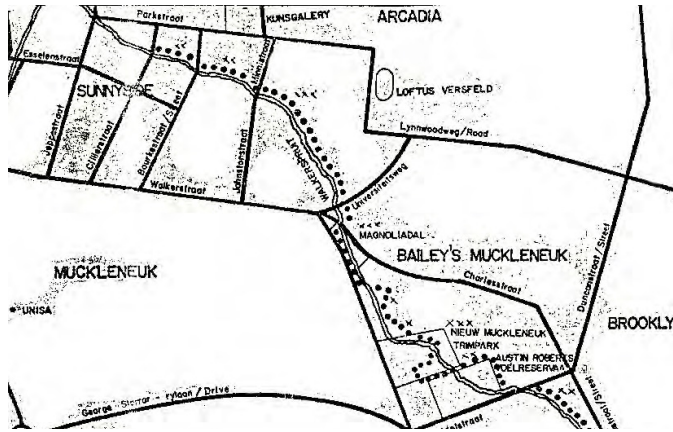
Fig 3.21 Current condition of site, looking South. (Author, October 2016)



Fig 3.22 Current condition of site, looking North-West. (Author, October 2016)



Fig 3.23 Current condition of site, looking South-West. (Author, October 2016)



### 3.7 The Didactic Garden: The Walkerspruit

The group vision focused on the water systems in Pretoria and therefore incorporation of the Walkerspruit into the design is a key feature in the design of this node. In 1984, a pedestrian route was proposed along Walkerspruit, from its origin in Brooklyn up to its connection with the Apies River. It was aimed to cater for the rising population in Sunnyside-Arcadia area and at the same time create green space in the form of a meandering route along the river [Beeld, 1984: 12] [fig 3.24].

It is envisioned that this trail will be revived, from its soft, natural character in Magnolia Dell into the hard-edged urban channel cutting through Sunnyside to the Apies River. The Walkerspruit is a key movement corridor through this area. It currently functions as storm-water control in the city as well as movement corridor, linking various city blocks through the pedestrian route. However, large motorways such as Leyds Street serve as barriers to this route (refer to Fig 3.25).

The river and pathways form a sense of procession of east-west public movement. This creates opportunities for different spatial experiences to occur. The landscape and the connection to river should be considered as well as the technical aspects such as improved flooding control and natural methods of water purification. These include softening techniques to the flow of water, bioswales and riffles (refer to Fig 3.26).

Fig 3.24 Upgraded Walkerspruit trail [Beeld, 1984]

Fig 3.25 Different Angles of the Walkerspruit. Photo: Peres, E. 2005

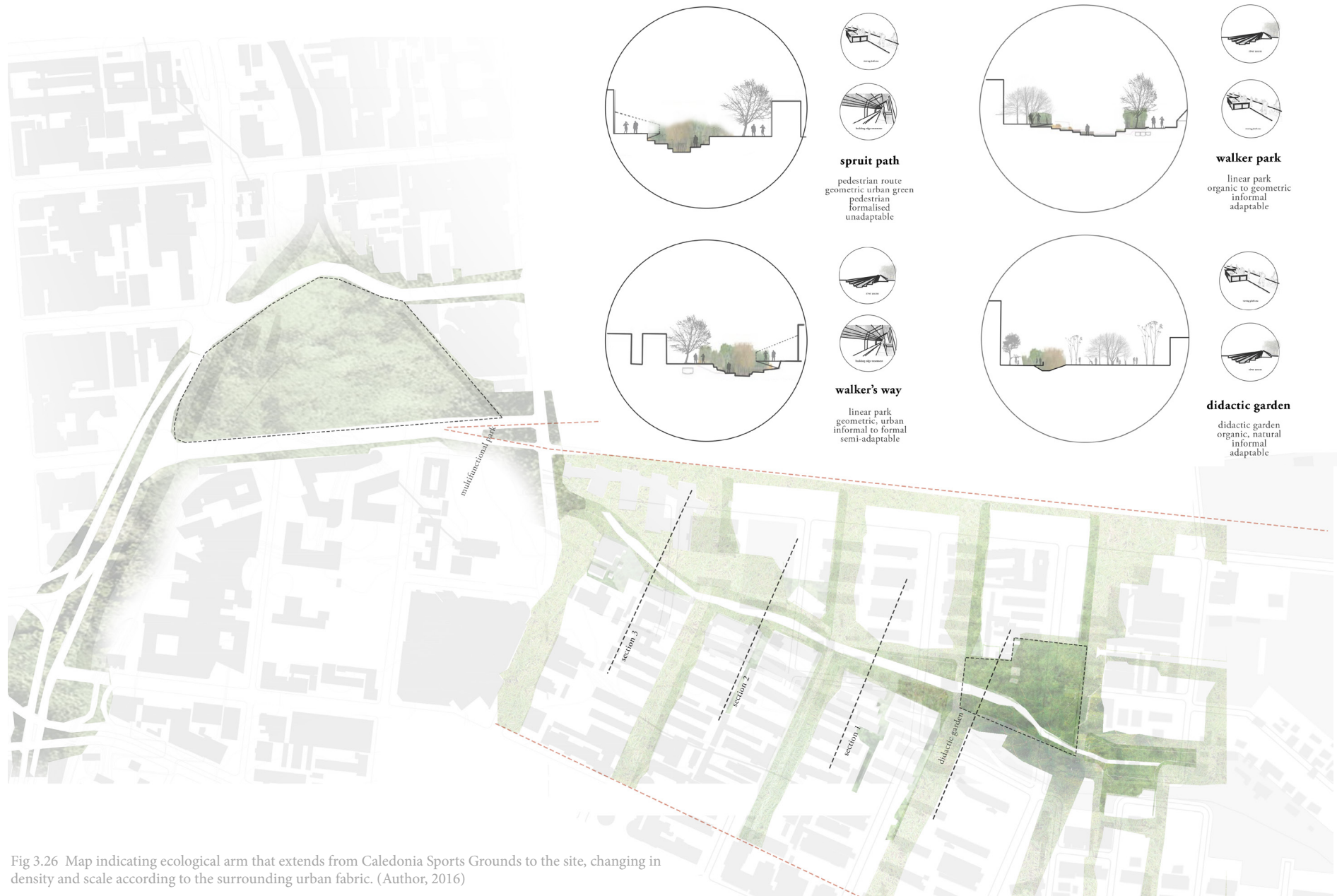
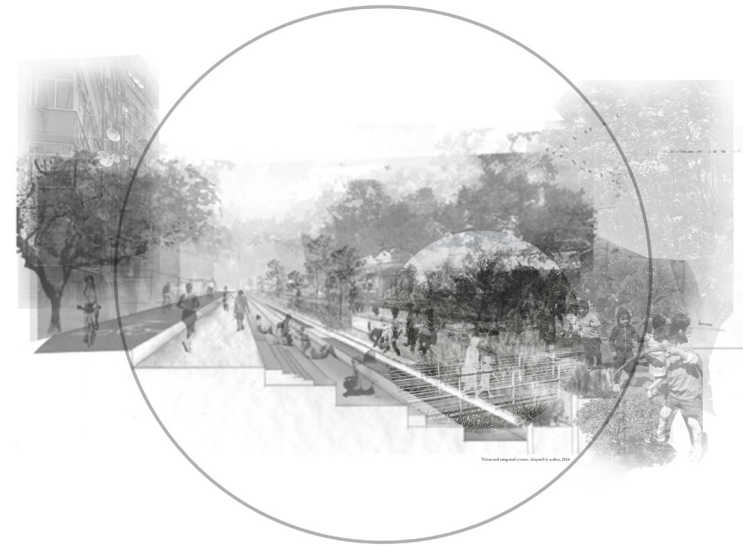
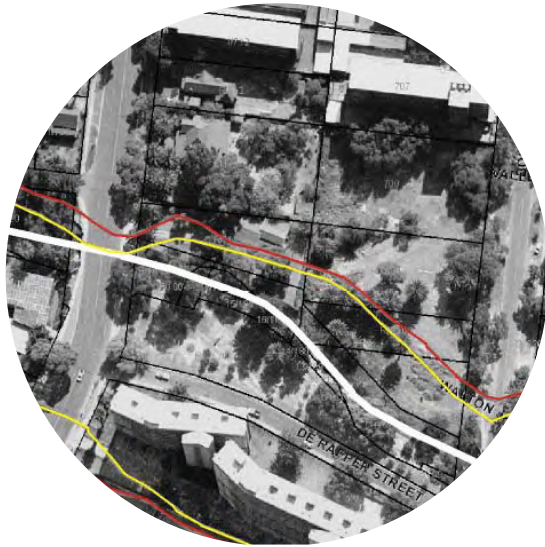


Fig 3.26 Map indicating ecological arm that extends from Caledonia Sports Grounds to the site, changing in density and scale according to the surrounding urban fabric. (Author, 2016)



Enhancing the quality of the Walkerspruit channel by applying softening techniques and spatial methods of connection will improve the environment however, still may affect drainage during peak flows and may worsen the effect of flooding. Design changes are therefore 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 m<sup>3</sup>/s [SRK: 17].

Currently flooding is exacerbated by the limited sizes 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 maintenance of a safe environment around the channel should be considered and will be discussed further in the site vision. Safety is improved by providing adequate lighting, sufficient visibility and permeability. Passive surveillance should also be promoted by opening building façades towards the public spaces along the channel. Indigenous vegetation will be introduced along the stream to limit soil erosion and pedestrian priority will be emphasised.

Fig 3.27: The 50 and 100 year Walkerspruit flood-lines between Bourke and Cilliers street. [Tshwane City Engineer, 2005]

Fig 3.28: Initial vision of the river landscape, reconnecting to the surrounding fabric. [Author 2016]

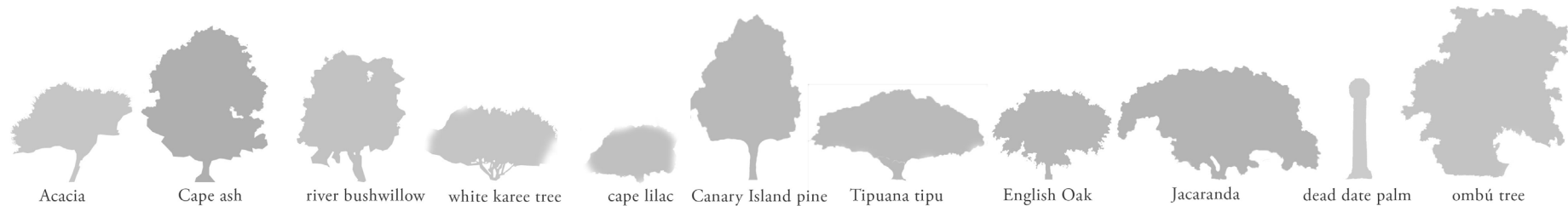


Fig 3.29: The profile of the trees on site, giving spatial qualities of each. (Author, 2016)

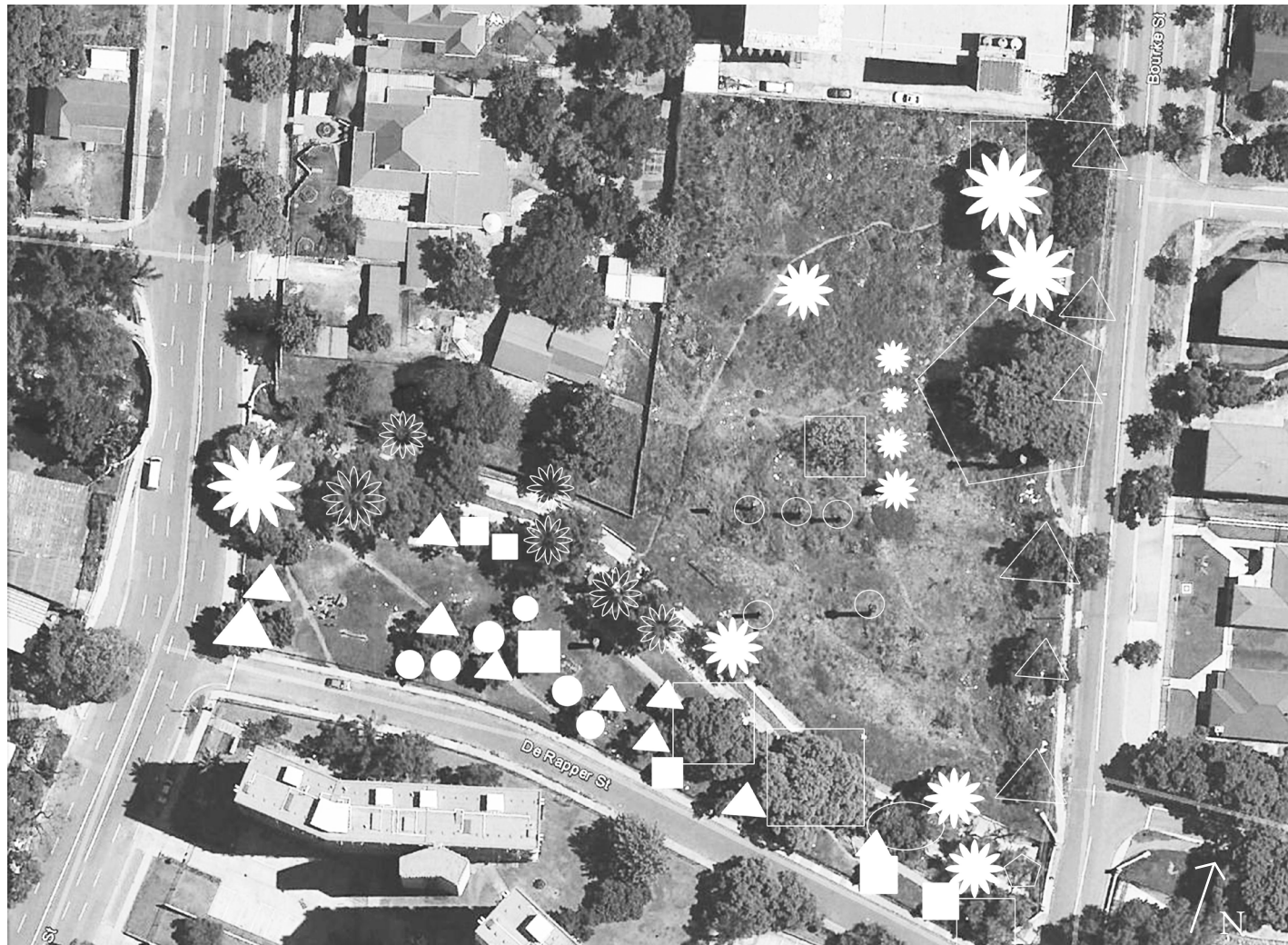
### 3.8 The Didactic Garden: The Trees

The trees on site consist of well established and healthy trees and some completely burnt by a fire, and have 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. These trees form one of the key informants of the design.

A range of different species of trees grow on site but the majority of trees is made up of Acacia and Canary Island Pine. The Pine trees are alien species and the well known Acacia tree is indigenous to South Africa and should be protected.

The Acacia tree has a large horizontally flat canopy with a medium sized trunk where the Canary Island Pine is a much larger tree with a more vertical canopy. The largest trees on site are the Rosewood trees and the acacia trees. On the eastern boundary there are quite a few English oak trees of medium size which serve as an edge condition along Bourke street. The position and species of each tree is indicated in Fig 3.30. The shape of each tree is shown in Fig 3.29, shedding light on the spatial qualities that each species of tree offers. Since the Acacia tree is the most common tree found on site as well as the fact that its indigenous, the spatial qualities of this tree will be taken further in design approaches.





- Indigenous trees
- ☀ Senegalia karroo (Acacia)
  - Ekebergi capensis (Cape ash)
  - ▲ Combretum erythrophyllum (river bushwillow)
  - Sersea lancea (White Karee tree)
  - ⬠ Ehretia rigida (Cape Lilac)
- Exotic Trees
- ☀ Pinus canariensis (Canary Island pine)
  - ⬠ Tipuana tipu (Rosewood tree)
  - Jacaranda mimosifolia (Jacaranda tree)
  - △ Quercus robur (English Oak tree)
  - Phytolacca dioica (ombú tree)
  - Dead trunks of Phoenix canariensis (Canary Island date palm)

Fig 3.30: Mapping of different tree species on site. [Author, 2016]



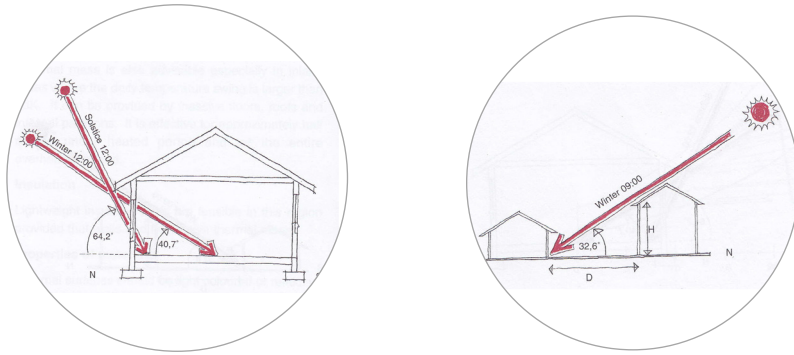


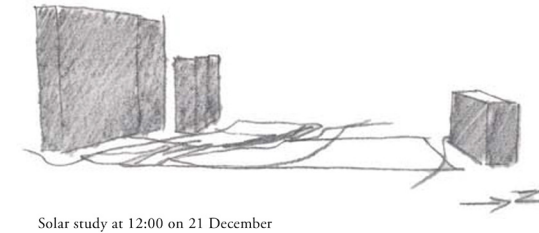
Fig 3.31: Solar access for building spacing. [Holm, D. 1996: 71]

Fig 3.32: Window height, overhang and positioning for Pretoria. [Holm, D. 1996: 72]

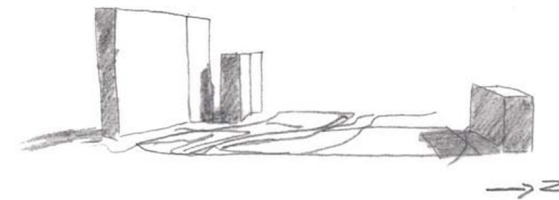
### 3.9 The Didactic Garden: The Climate

The city of Tshwane falls within the temperate eastern plateau and experiences an average summer rainfall that ranges from 125 to 375mm, most rain falling during isolated thunderstorms. The Winter rainfall averages between 62 and 250mm. The roof pitch and layout of the proposed building will affect the flow rate and direction of storm water during thunderstorms. Because of the frequent flooding of the Walkerspruit, attention to the runoff of this water on the site needs to be given. Rainwater may be stored in culverts, rainwater gardens or detention ponds and temporarily be allowed to permeate through the soil gradually. Daytime temperatures average 20-25 degrees Celsius and summer humidity is about 30%. 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. Sixty to eighty percent hours of daytime sunshine occur from the west during the afternoons.

The architectural implications of these climatic conditions result in designs with north-south orientated buildings and high thermal mass. Sun angles and their design implications are illustrated in Fig 3.31 and 3.32. A wind study and solar study on site is illustrated in Fig 3.33. The large scale of the buildings overlooking the site creates an overshadowed and colder northern boundary. The winds on site are affected by the tall buildings creating slight turbulence in the centre while the river embankment provides relief from humid conditions.



Solar study at 12:00 on 21 December



Solar study at 12:00 on 21 June

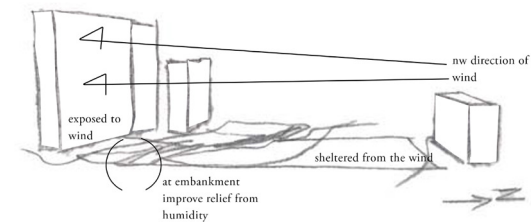
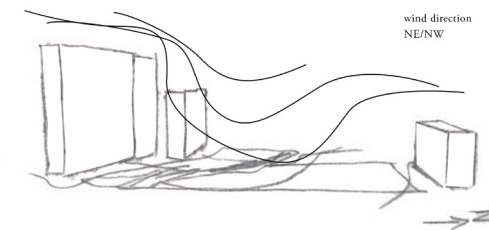


Fig 3.33: Site Wind and shadow Study. (Author, 2016)

### 3.10 The Didactic Garden: The Ground

**Geology:** The rock type mostly consists of shale which can be quite soft. Additional stabilising materials may have to be added to the foundations when structures are built upon it.

**Soil:** The soil on site is made up of hutton soils (34%) and avalon soil (22%). These soils are good for agriculture as they drain well. They do, however, have slight tendencies to erode.

**Topography:** The park has a gentle slope towards the south-west where it slopes towards the banks of the Walkerspruit. The banks themselves are unnaturally steep and mostly inaccessible to humans and children therefore serving as a barrier between the existing playground and the site (Meyer, 2011: 53).

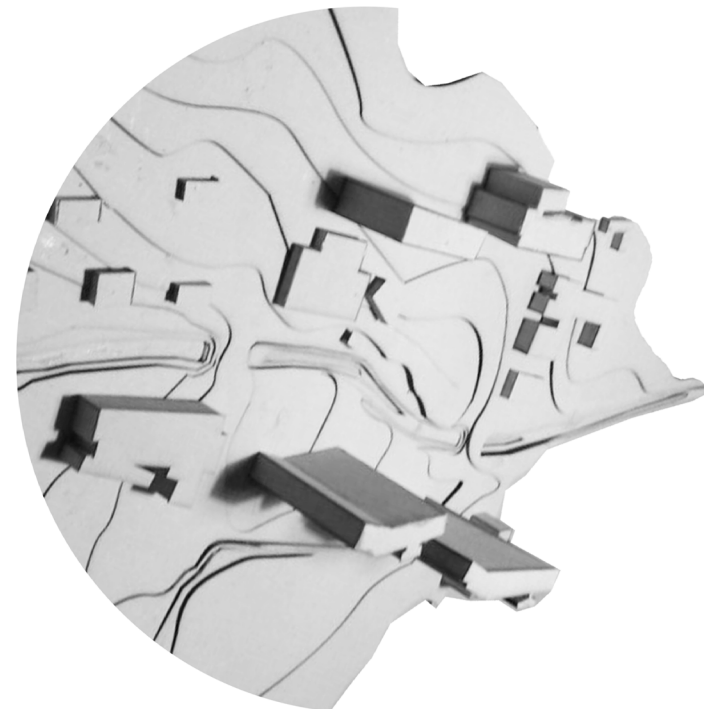
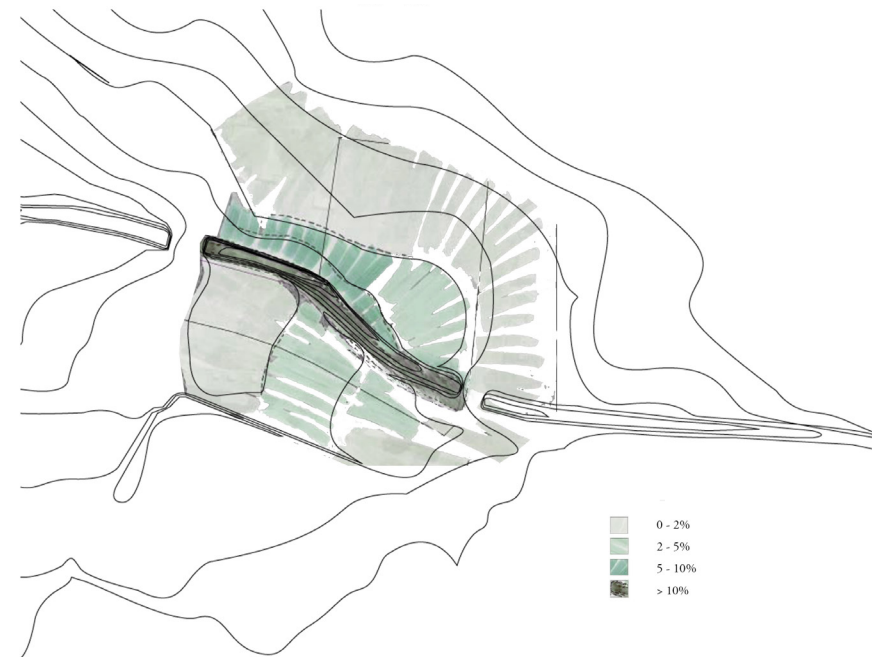


Fig 3.34: The slope of the site according to gradual or steel slopes [Author, 2016]

Fig 3.35: Contour Model of site [Author, 2016]

### 3.11 The Didactic Garden: A Story of Place

The site has little information regarding its history and past function, but according to early satellite imagery taken in the early 1990's, the area north of De Rapper street, always served as open park space, besides a single Victoria Household built between 1905 and 1906 and later demolished in the late 1980's. Its position is indicated in Fig 3.36. What is notable, however, regarding this household is its position in relation to river and the reason for its demolition.

According to researchers, the occupants of the house probably enjoyed peaceful afternoons spent on the veranda, overlooking the Walkerspruit and the house's garden.

It was a simple Victorian style home which was privately owned from construction until the year 1964 where city council bought the land and where it was later demolished. The research addressed possible methods of protection of the house's history regarding safeguarding some of the elements found in the house and displaying them in restaurants and museums at a later stage after demolition. None of this was

carried out however, and no physical memory of the small house remains on site.

However this brings one back to the notable aspect of this house's memory – It served as a reminder of man's biophilic attraction to all that is living. In this case, the water running in the Walkerspruit served as the pleasing view and sound to which occupants enjoyed many afternoons listening to and looking at. The reason for its demolition to make way for a engineered barrier between man and the natural world is an example of the slow separation of these dimensions in the last century.

The intention would be to revive the biophilic spirit this site once possessed and bring the river, the land and man back together once more (Adapted from University of Pretoria, Department of Architecture, Bourkestraat 31 Archive. 1986).



Fig 3.36 1990 Satellite Imagery of Site and old photos of Victorian House that once occupied the site [University of Pretoria, Department of Architecture Archives, 1990]



Fig 3.37 Compilation of adjacent schools in the area. (Google Earth, 2016)

### 3.12 The Didactic Garden: The Children

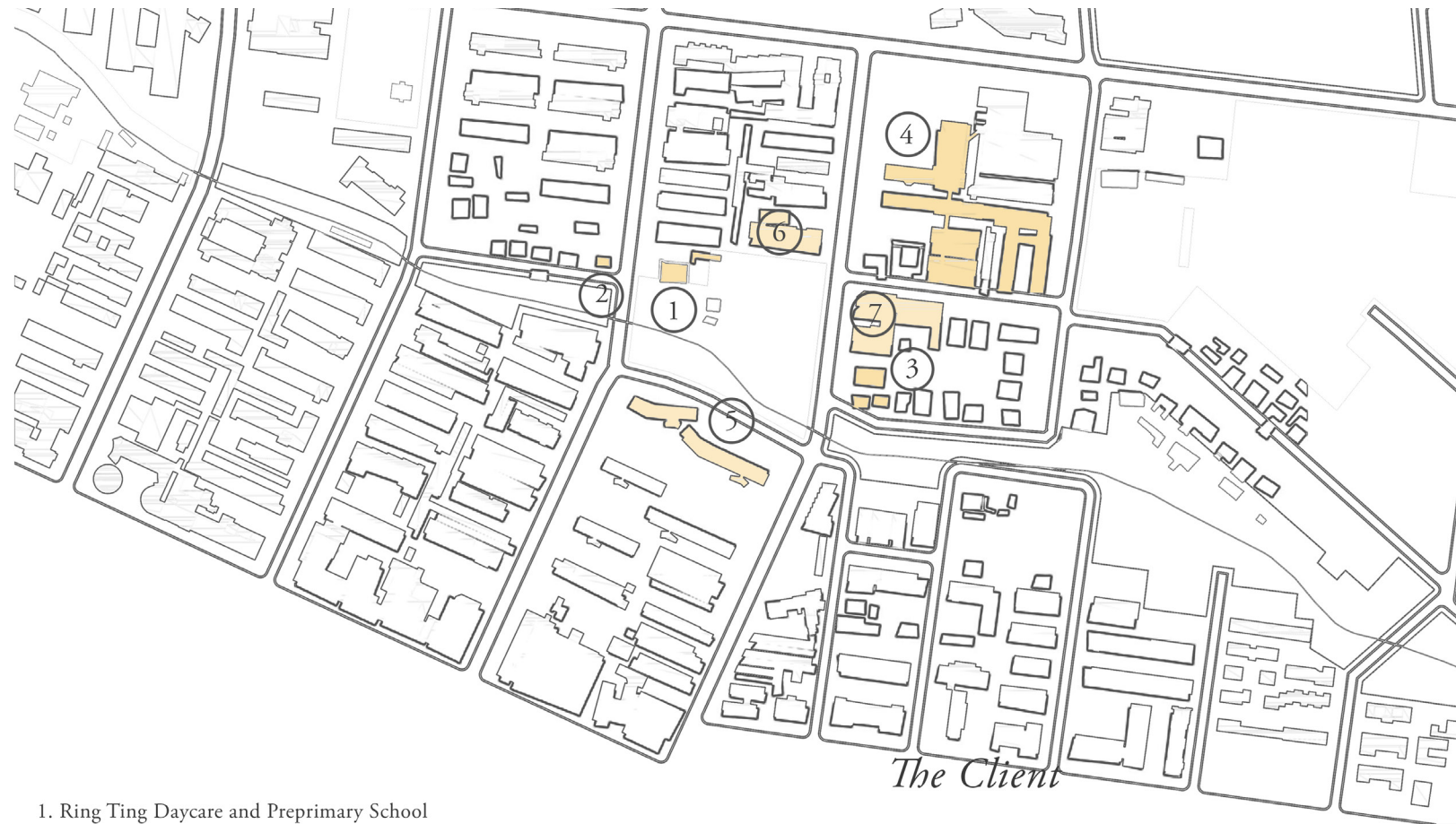
The surrounding schools in the area consist of 3-6 year old children attending pre-primary school that aim to prepare them for primary school when they reach the age of seven through learning exercises such as writing and drawing. The type of pre-primary education is based on the mainstream approach which does not incorporate the surrounding natural environment as a facilitator of learning. Each school holds about 100 children and most don't have sufficient outdoor play areas for the children to play in.

It has been proven that green spaces in urban areas tend to pull residents outside their apartments, according to some environmental psychologists such as Coley, Kuo and Sullivan (1997:468). According to Coley (1997:469), children and the elderly living in low socio-economic status neighbourhoods such as Sunnyside would rather spend more time at home compared to people living in higher socio-economic neighbourhoods. Litter and filth in these low income neighbourhoods leads to further reason for children to stay indoors (Morrow, 2000:144-147)

Because of these factors, the neighbourhood itself becomes a barrier and do not want to move too far away from the vicinity of their homes. This makes the need for a safe space for children even more essential.

This environment is factored together with the fact that many children are falling behind in their cognitive and conceptual development due to an increase in video game culture and a decrease of experiential play, (Crace, 2006: sp). Because of this, there is an increasing need among South African children for occupational therapy (timeslive.. 2016). Seeing as the site contains such a great number of childcare facilities, the growing need for occupational therapy becomes even more crucial. There needs to be safe, appropriately programmed faculties implemented, that incorporate natural elements in the learning environment in order to address these issues.

The Ring Ting School situated on site will be primarily focused upon for the purposes of this dissertation and the children of the surrounding schools and children living in the adjacent apartments will be the secondary focus.



1. Ring Ting Daycare and Preprimary School
2. Sunnyside Orphanage Home
3. New Beginning Preprimary
4. Pretoria Technical Highschool
5. Spruitsig Park Apartments
6. Costando Apartments
7. Bourke Court Apartments

Fig 3.38 Map showing position of schools and apartments in relation to site. (Author, 2016)

### 3.13 Theory related to site

In Fig 3.39, the existing site condition and the intended site condition is related back to biophilic principles. Environmental features as they exist on site are seen as informants and opportunities to deepen into richer, more fulfilling principles and that is place-based relationships which mean landscape features defining building form and cultural, historic and ecological connection to place. The other more fulfilling principle is that of evolved human-nature relationships which develop into design principles such as prospect and refuge, order and complexity, curiosity and enticement.

he summary of biophilic intentions together with the site informants result in the formation of a culminating intent of a didactic landscape. In Fig 3.39 the image shows the theoretical and contextual intentions where the attributes of the natural environment that can be learnt by the child is shown. In Fig 3.40, the diagram shows what aspects of the existing landscape and ecologies can be learnt by the child.

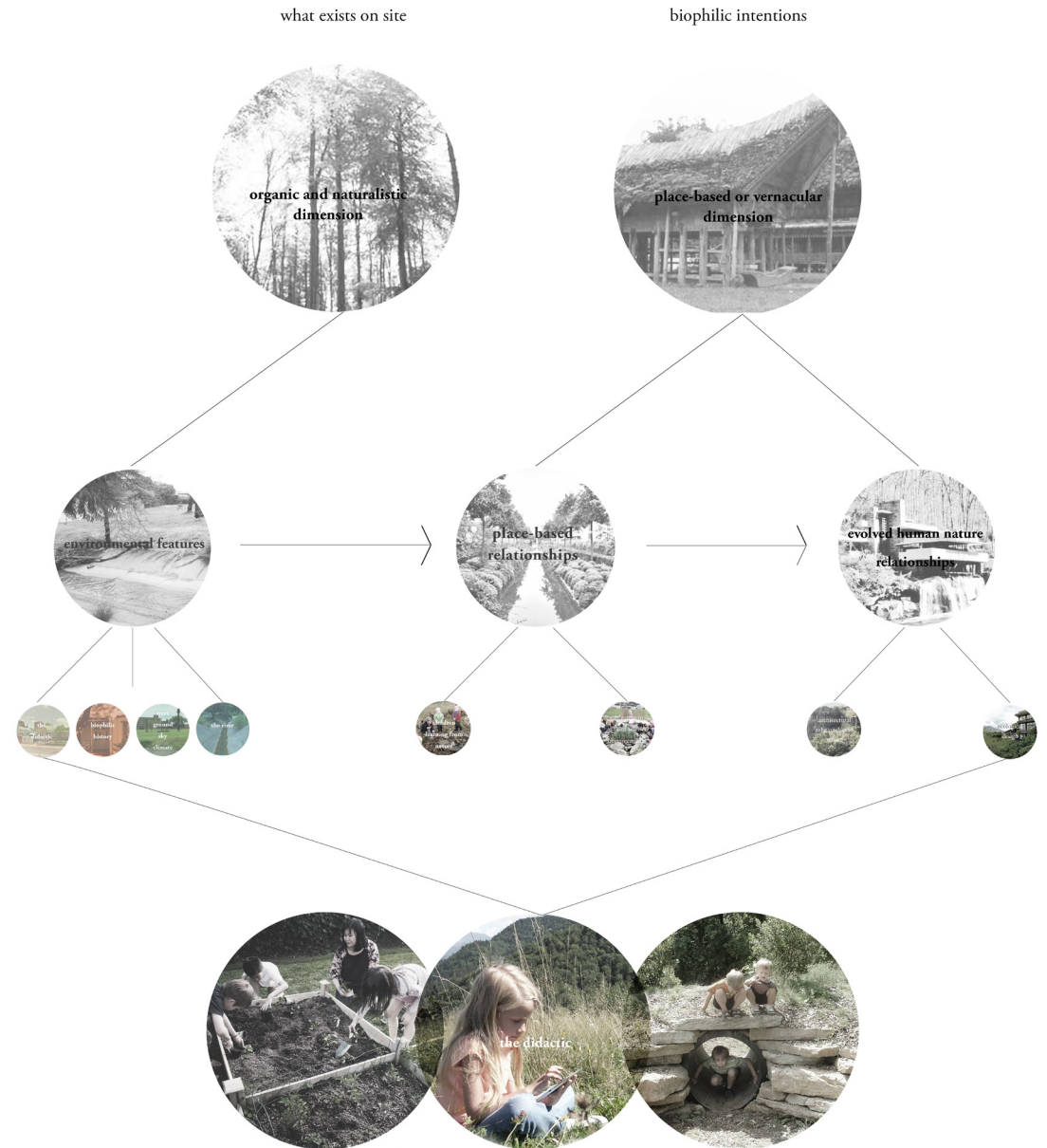


Fig 3.39: project's intentions as interpreted through the attributes of biophilic design. (Author. 2016)

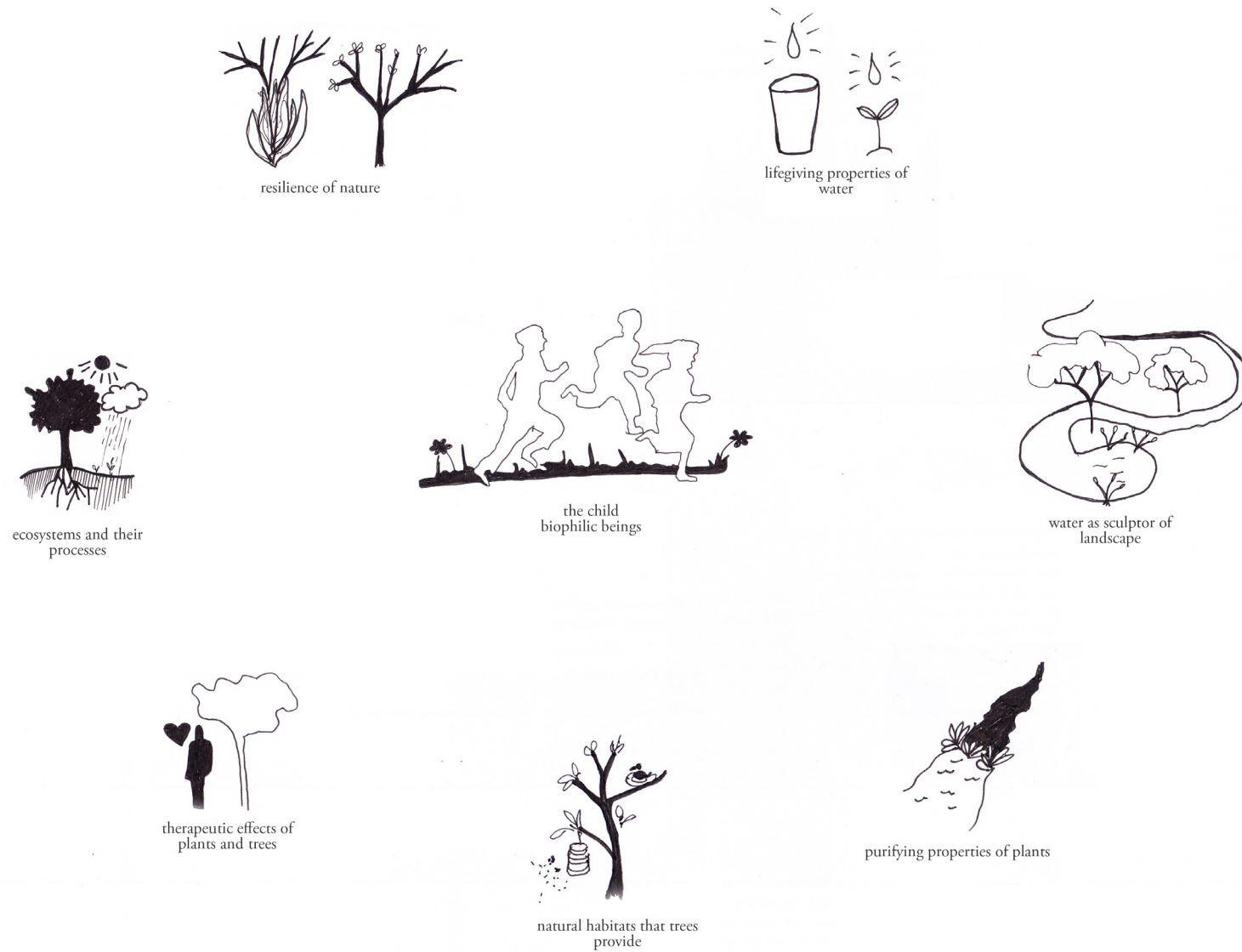


Fig 3.40 Diagram showing the different aspects of natural systems, and water that can be learnt on site. (Author, 2016)



### 3.14 Summary of Issues and Vision

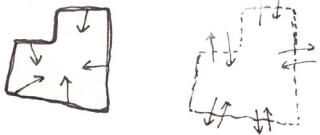



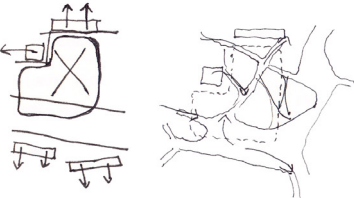
<p><b>Barriers</b> The vehicular roads between the schools and the site inhibit access to an open natural space alongside the Walkerspruit</p>		<p><b>Links</b> The vehicular movement between the schools and the site will be softened and pedestrian movement prioritised with the creation of street parks.</p>
<p><b>Broken Ecosystems</b> The natural site, as it is, shows signs of neglect and degradation, depicting how Pretoria and its engineered past have disregarded the need to integrate natural sites into the urban fabric.</p>		<p><b>Connected Ecosystems</b> The natural site will be conserved and rehabilitated to become a renewed ecosystem</p>
<p><b>River serves as a barrier and safety hazard</b> The river serves as a barrier in itself as it proves inaccessible to children as well as unsafe.</p>		<p><b>River as integral part of new ecosystem</b> The river will become a didactic element in the landscape, and an integral part of the new ecosystem</p>
<p><b>Schools ignore ecologies</b> Current early childhood development centres in the area ignore the potential of the open site as a vehicle for biophilic involvement.</p>		<p><b>Schools involve ecologies</b> The vision proposes that the schools become integrally involved in the conservation and rehabilitation of the site in a didactic manner.</p>
<p><b>Dead zone</b> The space has become a lost space along the Walkerspruit, due to the nature of the area. The high rise flats and lack of safe green spaces for children result in a dead space. The large scale difference between buildings and ground leave it feeling lost and out of place</p>		<p><b>Vibrant, active space in community</b> It is proposed through the integration of didactic conservation and rehabilitation of the space, as well as the proposed new program, it will play a key role in the community as a space for ecological, social and cultural involvement from all individuals.</p>

Fig 3.41 Issues and vision diagrams (Author, 2016)

