

# GARDEN OF CAPTIVES

## Creating a place for Sanctuary

*An architectural investigation that aims to facilitate healing and rehabilitation of both man and animal, as well as the surrounding ecology in the natural setting of a zoological garden, in order to restore the proper relationship between man and beast.*



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MProf (Arch) 2016  
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## *Project Summary*

***Programme:*** *An Urban Rescue and Rehabilitation Sanctuary for Elephants*

***Location:*** *National Zoological Gardens of South Africa.*

*232 Boom Street, Pretoria, South Africa.*

***GPS Coordinators:*** *S 25 °44.39' E 28 °11.329'.*

***Research Field:*** *Environmental Potential.*

***By Chrysanthe Nicolaides***

*Submitted in fulfilment of part of the requirements for the  
Degree Masters in Architecture (Professional).*

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*Pretoria, South Africa.*

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Course coordinator: Arthur Barker*

*Editor: Irene Downer*

## ***Dedication***

*To my father. A man beyond his years, taken before his time. This is for you.*

*You taught me to always strive for excellence, and that hard work always pays off.  
May your memory forever live on.*

*2 August 1953 – 9 October 2009*

## *Acknowledgements*

*To my fiancé and best friend, Mike, who helped make all this possible. Thank you for your unwavering and constant support, and patience, throughout this year. For your love, advice and encouragement; for those late night motivational talks.*

*Thank you for helping me reach my dream.*

*Nico Botes, I am thankful for your meticulous guidance throughout the year and for being a tremendous source of inspiration. Thank you for believing in me. Thank you for your insightful comments and advice that contributed immensely to the clarity of the final project.*

*Thank you to both my family and future family, for your love and support.*

*My friends, for the motivation, laughs and tears. We did it.*

## ***Declaration***

*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 Master of Architecture (Professional) at the University of Pretoria, is my own work and has not 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, or is currently, being submitted for any such degree, diploma or other qualification.*

*I further declare that this dissertation is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.*

.....  
*Chrysanthe Nicolaides*

## *Prologue*

*Eleven elephants. One plane. Hurling together across the sky. The scene sounds like a dream conjured by Dali. And yet there it was, playing out high above the Atlantic. Inside the belly of a Boeing 747, eleven young elephants were several hours into a marathon flight from South Africa to the United States. Nothing could have prepared them for what they were experiencing. These were not circus animals, accustomed to captivity. All of these animals were wild, extracted at great expense and through staggering logistics from their herds inside game reserves in Swaziland. All were headed for zoos in San Diego and Tampa.*

*He [their trainer and owner of the game reserve] has heard the protests from the animal-rights groups, insisting that for elephants any fate would*

*be preferable to a zoo, that it would be better for them to die free than live as captives. As far as he could tell, nature cared about survival, not ideology. And on this plane, the elephants had been given a chance.*

*Wild elephants are accustomed to ranging through the bush for miles a day. They are intelligent, self-aware, emotional animals. They bond. They rage and grieve. True to their reputation, they remember.*

*– French (2010:1-3).*

## *Abstract*

*Previously, people elsewhere in the world laboured under the misconception that animals in Africa wandered freely across the vast open spaces of the African plains. However, in reality, as humans (elephants' greatest contenders of space) have encroached upon large areas of their natural habitats, countless animals are now forced to live within the confines of the controlled spaces of zoos and nature reserves. Despite many of these reserves being quite large, the movement and freedom of these animals are still restricted by 'human boundaries, human considerations and human priorities'. The concept of the circle of life, as described in the Lion King and explained by French (2010:5), and the endless African landscape and bushveld enjoyed by many species in the wild, is in truth continuously shrinking.*

*Humans have always embraced a strong sense of biophilia which drives them to seek diverse life forms when their own immediate spaces become too anthropocentrically homogenous and monotonous. Wild animals fascinate people; they reveal unknown worlds occupied by these diverse beings. They pose timeless questions of identity, confronting or strengthening life's beliefs (Acampora, 2010).*

*The initial formation of zoos represented the age-old belief that humans were granted power over other creatures on earth. Zoos represent living catalogues of our own fears, fixations and presumptions of supremacy. They reflect the manner in which we perceive animals as well as ourselves; our longing for both pleasure and diversion for our own desires, no matter the cost to or implications on the animals themselves. They show our longing for the wildness we have*

*lost within ourselves; our instinct to both respect nature and control it; our deepest wish to care for and protect species even as we destroy and pollute their habitats, forcing them into oblivion. All of this is on display in the garden of captives (French 2010:24).*

*The few elephants in the National Zoological Gardens in Pretoria were once wild animals from Zimbabwe and the Kruger National Park. These are now forced to live in a confined space with no interaction with other wildlife, and the vast landscape of this once great circle of life.*

*It is therefore of imperative importance that an environment be created as close as possible to their natural habitat. This would be of benefit to both elephants and humans, where safety and security from poaching and human conflict would be provided to preserve these remarkable creatures.*



## Ekserp

*In die verlede het mense in ander gedeeltes van die wêreld vooropgestelde idees gehad dat diere in Afrika vry was om rond te wandel in die wye ope spasies van die horison en verder. Die realiteit is egter dat mense, olifante se grootste mededingers vir spasie, so 'n groot deel van die kontinent ingeneem het en bewoon dat 'n onbepaalde aantal diere gedwing word om te woon in die beperkte, beheerde spasies van natuurreservate en dieretuine. Alhoewel 'n aantal van hierdie natuurreservate dikwels groot spasies beslaan, word die diere se beweging en vryheid steeds beperk deur 'menslike grense, menslike oorweginge, en menslike prioriteite'. Die konsep van die sirkel van die lewe, soos wat dit in die rolprent "The Lion King" beskryf word, en deur French (2010: 5) verduidelik word, en die eindelose bosveld wat deur alle spesies in die wildernis, is inderwaarheid voortdurend besig om te krimp.*

*Die mensdom se historiese omhelsing van biofilie dien as motivering om diverse lewensvorme uit te soek wanneer mense se eie onmiddellike spasies te antroposentries homogeen, staties en eentonig begin raak. Wilde diere fassineer mense; hulle openbaar ongekende wêreld wat deur hierdie divêre wesens bewoon word. Hulle stel tydllose identiteitsvrae wat lewensooruiginge kan bevestig of uitdaag (Acampora, 2010).*

*Die aanvanklike vorming van dieretuine verteenwoordig die eeue-oue oortuiging dat mense mag oor ander wesens op aarde gegun is. Dieretuine verteenwoordige lewendige katalogusse van ons vrese, fiksasies en aannames van meerderwaardigheid. Hulle reflekteer die wyse waarop ons diere, sowels as onself, sien; ons verlange na beide plesier en afleiding vir ons eie begeertes, maak nie saak wat die koste of implikasies vir die diere self is nie. Hulle wys hulle ver-*

*lange na die wildernis wat ons binne onself verloor het; ons instink om die natuur beide te respekteer en beheer; ons diepste wens om spesies lief te hê en beheer terwyl ons terselfdertyd hulle habitat vernietig en besoedel en die inwoners daarvan in die vergetelheid in dwing. Dit is wat ten toon gestel word in die tuin van gevangenes (French 2010: 24).*

*Die paar olifante wat tans woon in die Nasionale Dieretuin in Pretoria, eens wilde diere oorspronklik afkomstig van Zimbabwe en die Kruger Nasionale Park, word nou gedwing om te woon in 'n klein beperkte spasie by die dieretuin, met geen interaksie met die ander wild en die wye landskap van hierdie eens grootse sirkel van die lewe nie.*

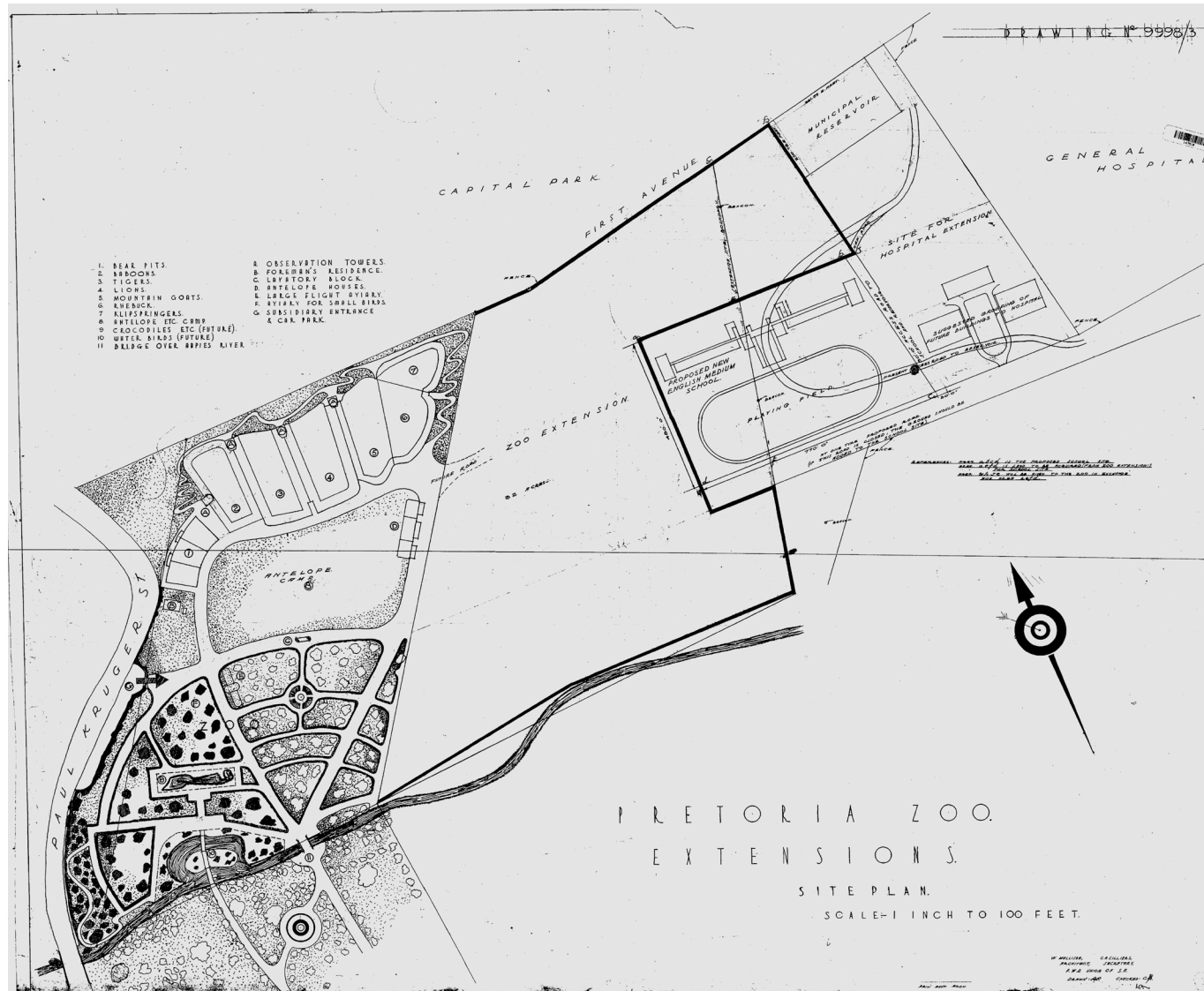


Figure 1.2  
Map of the Pretoria National Zoological Garden's extensions and Lion enclosures by W. Mollison (Department of Public works, n. d.).



# CHAPTER 1

## Introduction

*This chapter provides insight into the conceptual and theoretical direction of the dissertation and the primary intentions to be investigated.*

## General issue

### *Elephant Poaching in Africa*

African elephants are divided into two distinct species, the African bush elephant and the smaller African forest elephant. The African bush elephant, the world's largest living land animal species, has modified incisors (tusks) which are used for a variety of essential purposes and tasks in their daily lives. Unfortunately, these tusks are a significant source of ivory to be used in ivory ornaments and jewellery (Poaching Facts, 2016).

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which listed African elephants under Appendix I, restricted the international trade of elephant parts in 1989. However, the high demand for ivory has continued to stimulate illegal trafficking and poaching of elephants (Poaching Facts, 2016).

CITES reports showed that during the period of 2003 – 2014, estimated levels of illegal killings in Africa occurred at unsustainable levels relative to their natural population growth. This clearly indicates that their death rate exceeds their reproduction rate.

#### *South Africa*

The previous practice of culling elephants for various reasons was ended in 1994. It has been estimated that a population of nearly 8000 elephants existed at the time, with 7325 elephants culled between 1980 and 1994. During this same period, 1259 elephants were translocated out of the Kruger National Park to protected areas, zoos and other regions within the country or neighbouring countries such as Namibia.

#### *Elephant Ivory*

Ivory tusks and worked, ornamental ivory trophies reflected an indication of wealth for hundreds of years, possibly dating back 4000 years to the ivory carving industry in India. Nowadays male and female African elephants' tusks are still being illegally trafficked as trophies to consumers worldwide. As previously mentioned, African elephants were listed by CITES under Appendix I in 1989, to provide the utmost level of protection for elephants and to prohibit international commercial trade in any parts or live specimen. During the decade prior to this listing, the African elephant population is estimated to have declined from approximately 1, 3 million to near 600 000 elephants; more than a 50% total decline (Poaching Facts, 2016).



Figure 1.4  
An ivory flask for  
black powder.



Figure 1.5  
Ivory stockpile in  
Tanzania, 1988.

Figure 1.6  
Newspaper clipping  
of the biggest trophy  
haul found by police  
in 1978 in Nairobi,  
including elephant  
tusks, rhino horns,  
lion claws & skins.

ABC MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS No. 5491, Saturday, June 10, 1978 Kenya 1/20 Tanzania 1/40

By NATION Reporter

# POLICE SEIZE BIGGEST EVER TROPHY HAUL

POLICE have seized game trophies worth Sh. 2 million in three raids on houses and a shop in Nairobi.

Some of the trophies were due to be exported last night.

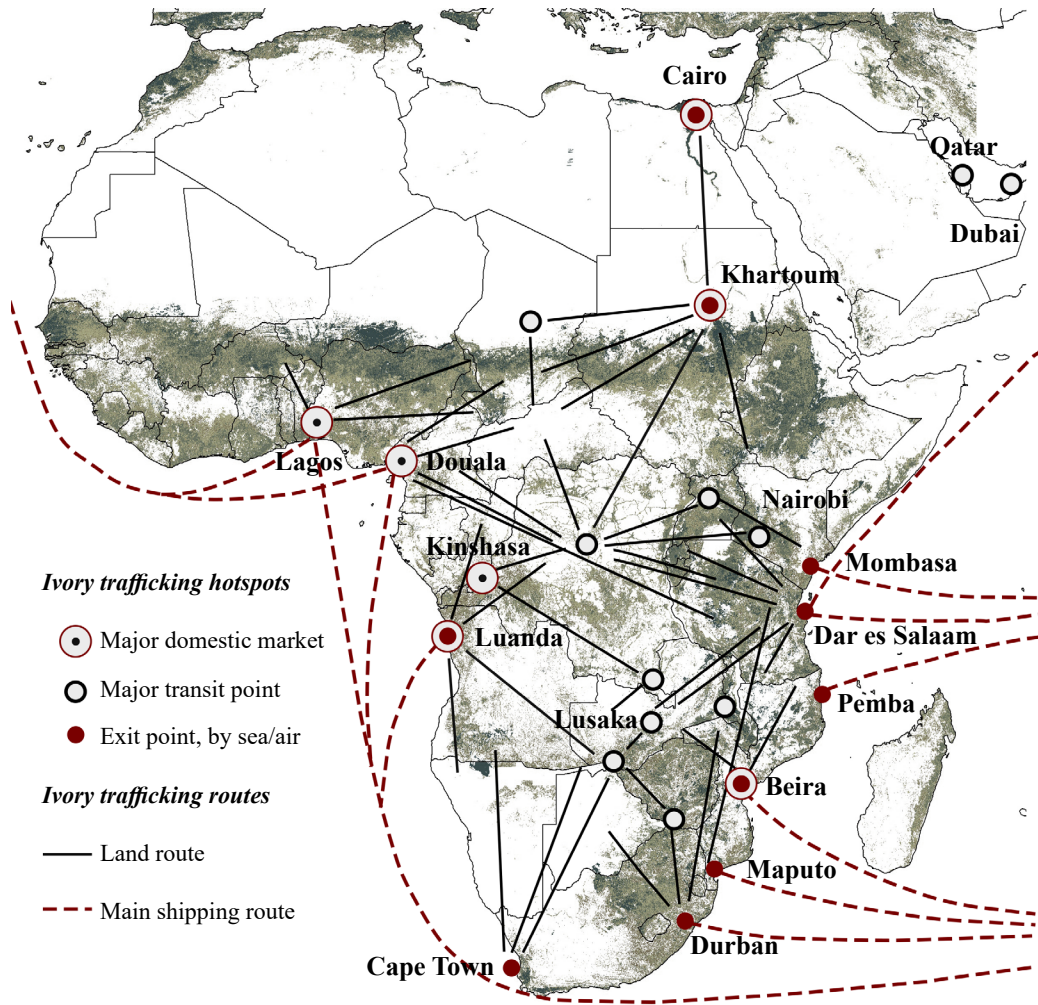
Items seized included tusks, rhino horns, lion skins and claws, leopard skins, zebra skins, ostrich eggs and skins, python skins, ivory carvings, watch straps and impala skins and pieces of various animal bones and skins.

They were seized at Pangani, Highridge and in a shop in city centre, and taken to the Ministry of Tourism and Wildlife Conservation Department at the National Museum under heavy guard.

According to a senior police officer, the trophies were seized after police received information. "We went straight to a house in Pangani at dawn. The house had been turned into a factory by the owner," the police

THE ivory and some of the ostrich eggs found in the police raids. More pictures on Back Page.

# Illegal ivory trafficking



## Ivory in disguise



*Mombasa  
8 July 2013*

*Three tons of ivory were seized in Mombasa, Kenya. The haul had been disguised as peanuts in attempts to avoid detection. One week prior, 1,5 tons were discovered disguised as dried fish.*

*Hong Kong  
18 July 2013*

*Authorities in Hong Kong seized 1,148 trafficked ivory tusks which were hidden in containers and declared as timber from the Togo. Hong Kong is known as one of the major transit points for illegal ivory.*

*Zanzibar  
13 Nov 2013*

*Officials at Zanzibar's main port, just off the coast of Tanzania, seized 1000 ivory items destined for the Philippines. The ivory had been hidden in sacks containing shells and other articles.*

Figure 1.7 Illegal ivory trafficking routes (Author, 2016).

*“This much is certain: the richest wildlife communities in Africa are found neither in pure woodlands nor in pure savannas, but in areas where the two general types of habitat meet and become interspersed with each other. Elephants are one of the most important agents influencing the dynamics of that mixture, and their activities generally increase the overall biological diversity of a region. Conserving elephants, then, becomes much more than an issue about how to protect a single great species. It is about protecting one of the forces that shapes ecosystems and helps sustain the wealth of wildlife found across much of the continent. It is about saving the creative power of nature.”*

*- Douglas Chadwick.*

## Urban issue

### *The Urban Animal*

Clear and defined rational consideration is required regarding the protection and welfare of animals in an urban environment. Urban context issues are usually focused on the idea of a city as only a human habitat, not an animal habitat. Therefore, the numerous aspects of urban development within a city have overshadowed our perception of 'non-humans'. Ethical considerations, as well as ecological, political and economic ones, have been left for the attention of conservation experts and those involved with the protection of endangered fauna and flora. Such a divide between the responsibility of these considerations causes the lives and living spaces of these urban animals to be ignored. The everyday animal in the city should matter (Acampora 2010:223).

### *The Human-Animal Divide*

The Human-Animal divide, as put by Acampora (2010:223), results in both humans and animals social-

ly constructing their own worlds and deeply impacting on each other's worlds. While these animal constructs may differ greatly from ours, they are in fact no less real and should not be ignored. Animals have their own realities, their own views and fears, and are therefore *subjects* and not objects. Most forms of progressive environmentalism have objectified animals to avoid the question of animal subjectivity.

Reclaiming this subjectivity implies an ethical and political commitment to reconsider the problematic urban strategies and praxis from the viewpoints of animals. Allowing animals subjectivity from a theoretical stance is a first step. A far more difficult step would include the revalorisation of animal subjectivity to become meaningful in terms of daily practice (Acampora 2010:224).



### *Re-enchanting the City*

The elephant sanctuary will embody healing landscapes which will allow humans and animals to engage with the environment and restored ecology in the proposed Garden. The design aims to facilitate this healing of both humans and animals in attempts to encourage dialogue and interaction between the two.

To reaffirm an ethical stance for politics and practices in the city that considers the well-being of animals, we need to renaturalise the city, creating inviting spaces for animals, and thus in the process re-enchant the city. This accessible reintegration of animals will provide city dwellers with the local, relevant knowledge and understanding of animal life resulting in their respect for animals including their viewpoints and place in the city. Such awareness would inspire a rethinking of our wide range of daily urban activities and practices that

impact on nature and animals.

An interspecific ethical stance, once it has replaced man's assumed dominion over nature, will encourage designs of urban spaces where animals are not incarcerated, killed, culled or displaced in confined 'concrete prisons'. Instead, animals and city dwellers can become valued neighbours trying to survive the city (Acampora 2010:227). A place-specific dualism of both nature and culture in Pretoria is needed that does not exclude these animals. This radical exclusion of most animals from daily urban life can hinder the development of human identity and consciousness, and the simple matter of concern for wild life.

## Urban vision Water group, 2016

### *Ecological restoration of the Apies*

Previously, early settlers had a respectful, mutualistic relationship with nature. This relationship became parasitic over time as a result of the channelisation of the river and urbanisation of the city.

The aim for the proposed urban group vision is to remove the artificial disturbance from the Apies River, both in and around it, in order to restore and maintain the integrity of the river's ecosystem. This restoration of the river's ecology and the integration of retention ponds into its fabric will restore the low water channel to guarantee the self-purifying capacity of the water as well as the ecological habitats for both plant and animal species. This will create water-friendly features and green spaces for the public, particularly in the zoo itself.

Intervention measures to achieve this will include the planting of seeds of indigenous grasses, the removal of alien species, the dredging of contaminated sediments,

the construction of wetlands and retention ponds to slowly release, filter and improve water quality. This will allow river biota to survive and thrive.

#### *Green space*

Pretoria's most successful open green space was, and is still, Church Square. This is largely due to the layout of the public square, where all neighbouring buildings face the open space, creating activity along the edges that filter into the open space.

As the city started developing, the Apies River was not recognised as an open space that needed to be taken into careful consideration and was therefore overlooked. The resulting lack of interaction between the buildings along the river as well as the fast moving traffic and roadways, caused open spaces adjacent to the river to become derelict spaces for unwanted, illegal activities. To resolve this, a successful green space is

proposed to be expanded to the green space along the river, with new buildings to face towards the river. This establishment of new edges and green spaces will create an identity of humans in symbiosis with nature and the reclamation of lost space.

#### *Movement*

Historically, the main routes leading into the city centre were far away from the river. Currently, Nelson Mandela drive intersects the city, creating an East West divide. Several existing spaces running along the river do not allow for any interaction with the water. The proposal looks at the addition of more spaces to bridge the river, to reduce the scale of Nelson Mandela drive and to cater to pedestrians.

### *Rituals*

As Pretoria developed, various rituals that took place along the river changed during the course of history. From a previous recreationally focused, romantic river condition, the Apies has changed to a channelised stream, drawing city dwellers to its banks for washing and cleaning clothes, providing shelter, supporting church groups and providing space for city recyclers.

These rituals form an important factor of city life and cannot be disregarded. The framework therefore proposes a space where rituals are celebrated and formalised through architecture. Public spaces for these rituals help to expose the result of non-ownership to establish a new river identity in the city and for the individual: an everyday river for everyone.



Figure 1.11 1947 Map of Tshwane, showing the zoo's relation to Church Square and the Apies River (Author & Water Group, 2016).

## Architectural vision

### *Architectural vision*

The Garden of Captives aspires to create spaces that initiate programmes of outreach, conservation, preservation and restoration of the environment. It questions contemporary urbanisation methods from the perspective of animals as well as those of humans, who, together with animals, suffer from habitat degradation and urban pollution. It addresses those who are denied the experience of animal interaction, an integral contributant to our well-being. The project seeks to create spaces where nature and animals are no longer incarcerated in small, confined areas but are free to roam - re-enchanting the city by this animal kingdom (Acapora 2010:238).

If certain species are found harmoniously co-existing in the wild, why are they isolated and separated from each other in zoos? This notion will need to be investigated and engaged with in order to create an informed architectural response that best serves the captive animals.

This can be realised by modernising the concept of the waterhole in an urban context, to recreate a condition that exists in the lives of wild animals.

The rehabilitated and purified water of the Apies River, a scheme proposed by the framework and urban vision, can be used to create this urbanised concept of the waterhole that certain species will have access to. The purpose here is to recreate a more realistic and natural condition of how animals actually live in the wild. This simulation of the wildlife experience and exhibition of animals can be achieved through an architectural and landscape solution. Taking an analogy of ecology, a successful architectural design depends on adaptation, and the avoidance of unnatural juxtapositions of wild animals in an urban context. The zoo should, to some extent, be reorganised around the central 'Garden' – to be highlighted it as a landmark and as a strong element in the design. Viewing spaces, towers, bridges and

other structures surrounding it that enable visitors to view the animals, have the potential to be characteristic architectural elements in the broader site plan design and are essential to the educational experience and enjoyment of the zoo. The design should protest against typical ideologies of any zoological exhibition that places animals on display as passive objects to be viewed, with humans as mere spectators unable to participate in the encounter. Free-ranging animals should have the freedom to avoid or engage with humans – a condition quite contrary to the standard zoo protocol.

## *Programme*

The sanctuary will provide visitors with insight into the conservation, medical treatment and rehabilitation of elephants, to focus on educating the public through maximised, varied interaction. Rescued elephants that cannot be released back into the wild (as they would be unable to survive), are given permanent residence in the shared Garden. Responsible and enlightening interactions between the elephants and humans will allow for the appreciation of these remarkable creatures, whilst simultaneously providing freedom for the animals to roam the landscape. Although there will be no traditional fences or electrical barriers to hinder any close encounters, safety will still be maintained. The Garden will encourage elephants and other wildlife to exhibit more natural behaviours.

While several elephant specific sanctuaries are located around the country, including Knysna, Plettenburg Bay and the Kruger National Park, none of these pro-

grammes are either easily accessible or affordable to most urban children and city dwellers living in Pretoria. These educational programmes are paramount in educating the public of issues regarding conservation and protecting ecosystems and endangered species, and to build a culture of resilience through science and education.

Elephants will act as a catalyst in facilitating human-animal interaction which is currently severely lacking at the National Zoological Gardens for normal, everyday visits - due to visual and physical barriers. As they are highly intelligent, empathetic, emotionally-responsive and social creatures, they are far more accessible than most animals. They will thus provide humans the opportunities to interact with them through responsible and educational programmes – always on elephant terms. Elephants should be allowed the freedom to choose where they want to travel, what they want to eat

and who they want to interact with (Knysna Elephant Park, 2016).

The programme will also incorporate a captive breeding facility that aims at safeguarding the earth's rich genetic heritage and re-diversifying genetic pools of endangered species. The necessity of this is to prevent “in-breeding” which is typical of most captive breeding situations, in order to prevent breeding weaker species susceptible to illness, deformities and sterility (Koebner, 1994).

