

NEKROTOPIO

SCENERY OF THE DEAD

An unconventional landscape approach to designing a burial site that disposes of corpse sustainably, whilst taking users through a narrated landscape that confronts them with their own mortality and role in the greater cosmos.

by
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I further state that no part of my dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification.

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.

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Client: Johannesburg City Parks
Users: Deceased Johannesburg residents
Family and friends of the deceased buried on site
Nature lovers

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“then man's dust will go back to the earth, returning to what it was, and the spirit will return to the God who gave it.” -Ecclesiastes 12:7

Summary

The city of Johannesburg is rapidly running out of space to bury the dead. With 78% of cemeteries passive, it is necessary to rethink how corpses are disposed of, and how we, as landscape architects can redesign these archetypical spaces.

This thesis focuses on three grave matters: sustainable corpse disposal, atypical cemetery design through local grounding, and the experience of the user.

Sustainable corpse disposal

Conventional burial is not a sustainable manner to dispose of corpses. The only other available corpse disposal method in South Africa is cremation. Cremation is not an option to many cultural and religious groups in South Africa due to the fire being associated with hell or an undesirable afterlife. New sustainable corpse disposal methods that respect cultural beliefs are required. This thesis proposes the introduction of promession and green burial to South Africa. Finally the Author also designed a system to compost corpses in a safe and dignified manner.

Atypical cemetery design through local grounding

Cemeteries have become placeless due to their archetypical design. Burial sites should be grounded in the local environment. This thesis draws inspiration from the site's topography and unconventional corpse disposal methods to design a burial site that emphasizes the nature reserve in which it is situated.

User experience

Cemeteries are for the living, not the deceased. Typical cemeteries are one-dimensional and lack user experience. According to the theory set forth in the second chapter, cemeteries hold the potential to be powerful and meaningful spaces. Meaning in the landscape can be evoked through designing spaces that evoke a predetermined emotion. A narrated landscape can aid in creating a meaningful landscape. The narrative told through the site is one of mortality and holism.

All three of the focus points are overlaid and interwoven to create a rich burial site: Nekrotopio, scenery of the dead.

Samevatting

Die stad van Johannesburg sit tans met 'n dilemma: daar is nie genoeg plek om die dooies te begrawe nie. Aangesien 78% van dié stad se begrafplase onaktief is, is dit nodig om die manier waarop ons van lyke ontslae raak, so wel die wyse waarop landskapargitekte die ruimtes ontwerp, te herevalueer.

Hierdie skripsie fokus op drie hoofpunte: volhoubare lykswegdoening, atipiese begrafplaasontwerp deur middel van plaaslike begroning en die ervaring van die gebruiker

Volhoubare lykswegdoening

Konvensionele begrawing is nie volhoubaar nie. Die enigste ander opsie vir lykswegdoening in Suid Afrika is verassing. Talle kultuurgroepe is gekant teen verassing omdat die verbranding van 'n lyk lei tot 'n ongewenste hiernamaals. Suid Afrika benodig nuwe volhoubare lykswegdoeningmetodes wat kulturele gelowe respekteer. Hierdie skripsie stel voor dat stikstofbevriësing en natuurlike begrawing toegepas word. Die Outeur het ook 'n sisteem ontwerp wat lyke kompos.

Atipiese begrafplaasontwerp deur middel van plaaslike begroning

Begrafplase is tipies en het 'n gebrek aan identiteit. Begrafplase behoort gegrond te wees in die omgewing. Die natuurreservaat se topografie het gedien as inspirasie, en is beklemtoon deur die begrafplaas se ontwerp.

Ervaring van die gebruiker

Begrafplase word gebou vir die mense, nie vir lyke nie. Tipiese begrafplase is eendimensioneel en het 'n gebrek aan gebruikerervaring. Volgens die teorieë wat bespreek word in hoofstuk twee, besit begrafplase die potensiaal om kragte en betekenisvolle ruimtes te wees. Betekenis in 'n landskap kan bereik word deur om ruimtes te ontwerp wat voorafbepaalde emosies ontlok. 'n Verhalende landskap kan betekenisvolle landskap skep. Die verhaal van die skripsie se begrafplaas gaan oor mortaliteit en holisme.

Al drie hoofpunte word as 'n eenheid gebruik om 'n ryk begrafplaas te ontwerp. Nekrotopio, landskap van die dood.

Glossary

Active cemetery: A cemetery that has not reached its burial capacity. There is still space left for more graves.

Burial: The action or practice of burying a corpse. (The Oxford English Dictionary. 3rd ed. 2010. Online)

Cemetery: A large burial ground where corpses are buried or otherwise interred. (The Oxford English Dictionary. 3rd ed. 2010. Online)

Circle of life: The cycle of procreation, birth, life, death and predation.

Composting chamber: A constructed container, made from concrete and clad with timber on the inside, where a corpse and the added organic material decompose to form humus.

Composting: The biological decomposition and stabilization of organic substrates, under conditions that allow development of thermophilic temperatures as a result of biologically produced heat, to produce a final product that is stable, free of pathogens, and can be beneficially applied to land. (Haug 1993)

Conventional burial: The action or practice of burying an embalmed corpse placed in a timber/ or metal coffin in a government-owned cemetery and marking the grave with a personalized tombstone.

Corpse: a dead body, especially of a human being rather than an animal. (The Oxford English Dictionary. 3rd ed. 2010. Online)

Green burial: A practice where a non-embalmed corpse is buried in a shallow grave without a coffin to accelerate the decomposition.

Holism: The theory that parts of a whole are in intimate interconnection, such that they cannot exist independently of the whole, or cannot be understood without reference to the whole, which is thus regarded as greater than the sum of its parts. Holism is often applied ecology. (The Oxford English Dictionary. 3rd ed. 2010. Online)

Local grounding: Basing on the indigenous surroundings and local culture.

Nature reserve: Open space proclaimed by the government as a protected area for fauna and flora.

Nekrotopio: “*Scenery of the dead*”. Latin phrases *nekro*, which means death, and *topio*, which means landscape or scenery. (The Oxford English Dictionary. 3rd ed. 2010. Online)

Passive cemetery: A cemetery that has reached its burial capacity. All the graves have been filled; no more corpses can be buried in the cemetery.

Promession forest: The area where eco-urns containing ashes of the deceased, compost, and tree seeds are planted to form a forest.

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01

Introduction



Der Prediger. Der Tod. Der Tod zum Teufel. Der Tod zum Kaiser. Der Tod zum Kaiserin. Der Tod zum König. Der Tod zum Königin. Der Tod zum Cardinal. Der Tod zum Bischof.



Der Tod zum Aerey. Der Tod zum Kriegerin. Der Tod zum Grafen. Der Tod zum Abt. Der Tod zum Ritter. Der Tod zum Juristen. Der Tod zum Mathematik. Der Tod zum Schochern. Der Tod zum Doktor.



Der Tod zum Edelmann. Der Tod zum Edelmann. Der Tod zum Kaufmann. Der Tod zum Klebsen. Der Tod zum Krüppel. Der Tod zum Nalbinder. Der Tod zum Jüngling. Der Tod zum Wüchser. Der Tod zur Jungfrau.



Der Tod zum Kuchensetzer. Der Tod zum Aereid. Der Tod zum Schultzeiss. Der Tod zum Blatrogel. Der Tod zum Drucken. Der Tod zum Krämer. Der Tod zum Blinden. Der Tod zum Duden. Der Tod zum Teufel.



1.1 Danse macabre

Wer war der Tor, wer der Weise[r], “Who was the fool, who the wise man,
Wer der Bettler oder Kaiser? who the beggar or the Emperor?
Ob arm, ob reich, im Tode gleich. Whether rich or poor, all are equal in death.”

(Totentanz, Heidelberger Blockbuch 1460)

Figure 1. Watercolor copy of the Basler Totentanz of 1806 by Johann Rudolf Feyerabend (Miller 2010)

1.2 Prologue

Feyerabend's Basler Totentanz painting is a duplication of an image painted in the late Middle Ages in Basel on the inside of the cemetery wall at the Predigerkirche located in Zürich, Switzerland (Miller 2010). The painting is a *memento mori*, meaning it forms part of the medieval Latin theory and practice of reflection on mortality, it serves as a reminder that we are temporary and that death, regardless of our ranking, makes us all equal (Museum of Art and Archaeology 2007).

This *danse macabre*, *Dance of the Dead*, painting, as seen in Figure 1, illustrates a dance led by Death, followed by a chain of alternating deceased and living dancers. The mediaeval hierarchy is shown: Starting with the highest ranks, the pope or emperor, and descending to its lowest: beggars, peasants, or children. A skeleton or an extremely decayed body takes each of these mortals by hand. The obvious class distinction is entirely counterbalanced by Death, the ultimate equalizer. This painting successfully illustrates socio-critical elements, which is inherent to the entire genre. A short dialogue, as seen in the *Totentanz, Heidelberger Blockbuch* on page 2 is attached to each victim, here Death is summoning the mortal to dance and the summoned is moaning about impending death.

Corresponding with *danse macabre* the Author agrees that death makes all humans equal and that, like this *memento mori* suggests, the temporality of a human life and a physical human body should not be overlooked. *Birth* and *Death* are words we chose to describe the doorways in and out of a cycle. However, this cycle is connected to a much larger cycle, which awaits our return, for we are all part of the great circle of life, Figure 2.

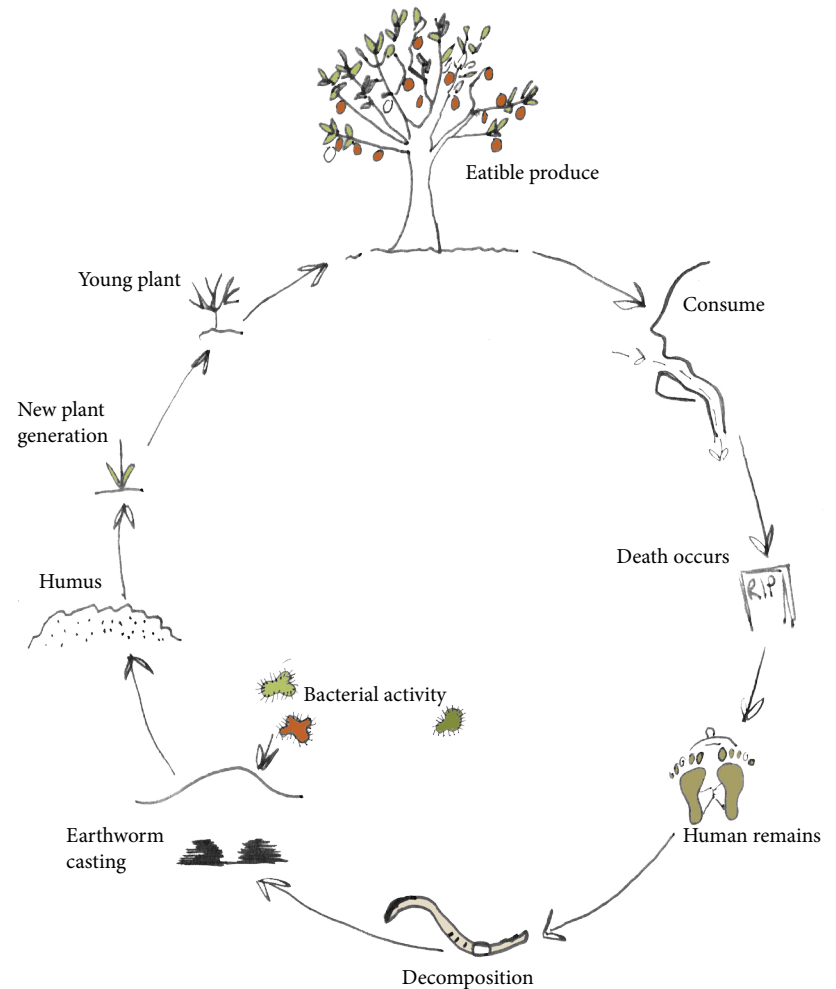


Figure 2. Circle of life: from death comes new life. (Author 2015).

¹ *Memento mori*: Latin phrase meaning: “remember (that you have) to die” (Oxford English Dictionary, Third Edition, June 2001.) It developed with the growth of Christianity, which emphasized Heaven, Hell, and salvation of the soul in the afterlife. The phrase is associated with a

1.3 Introduction

On 13 November 1789, in a letter to Jean Baptiste Le Roy, Benjamin Franklin stated that in this world, nothing could be said to be certain, except death and taxes (Shipside 2008). Death is inevitable, but rather than it being an ending; it is a sense of completion in which each human is returned to the cosmos that formed and nurtured them. The place and manner in which we return human remains to the earth is influenced by socio-politics, culture, and beliefs. Although burial in a cemetery is the most popular end of life choice in South Africa, it is neither a sustainable practice, nor a place that regards the experience of the actual user.

Designing a burial site is a sensitive topic; the landscape architect needs to design for the living, as well as for the deceased. This thesis will focus on three aspects of burial site design: sustainable corpse disposal; grounding the design locally; and the experience of the user through a narrated and expressive landscape. The Author believes that landscape architecture is the vehicle through which a sustainable and locally appropriate burial site can be designed.

Chapter 1 will clarify the focus and structure of this thesis. This includes discussing the real world problem and the landscape design problem which builds up to the problem statement, research questions, hypothesis and aims of this thesis.

1.4 Real world problem

Despite a range of alternatives in South Africa, conventional traditional burial remains the most popular end-of-life choice (Leuta & Green 2011). According to Buff (Johannesburg City Parks 2008), ninety-four percent of corpses are still being buried, whilst the remaining six percent are cremated. Various faiths, religions, and cultures believe that burial is the most respectful and dignified way to treat a deceased human. For the mourning loved ones, having a specific gravesite to visit brings great comfort and forms part of coping with loss (Leuta & Green 2011). The primary drawback to conventional burial is the excessive space it requires. There is a lack of suitable and affordable land for the development of urban cemeteries. Town planners have neglected to identify adequate space for cemeteries in urban and suburban areas (Moodley 2007).

Currently, within the boundaries of Johannesburg, there are 35 cemeteries, 27 of these are passive, meaning they have reached their burial capacity. The remaining eight cemeteries are filling at an alarming rate (Johannesburg City Parks 2008), as illustrated in Figure 3. The only other end-of-life option available in South Africa,

besides burial and cremation, is mausoleums. Mausolea offer a corpse catacomb option, instead of placing corpses in soil dug graves; bodies are laid to rest in tombs situated in a mausoleum above the ground. This is an extremely expensive method and is not widely practiced in South Africa. It is less space consuming than traditional burial, however, the bodies natural decay is hindered by not being buried.

In Gauteng alone, Johannesburg City Parks projected the death rate to be approximately 160 000 per annum, in Johannesburg, the death rate already exceeds the birthrate. According to Stats SA, the burial rate has doubled between 1992 and 2002, and has been increasing due to the high mortality rate throughout the city's townships. Poverty, horrific living conditions, and the accelerated spreading of HIV contribute to this hike (Moodley 2007). Consequently, in just half a century, 1000 hectare of land will be needed for conventional burial in Johannesburg, this is enough space for 100 000 low income houses (Wilkins 2011).

Only 6% of South Africans are cremated. Many African communities have shown resistance towards cremation due to cultural beliefs and fire being associated with an undesired afterlife (Du Toit 1980). According to Anderson (2000), death is believed to be the beginning of a deeper relationship with creation, thus human remains need to be returned to the soil. In addition, if a body is not buried the spirit becomes a wandering ghost. Deviation from these conventions is seen as a sign of disrespect towards ancestors (Setsiba 2012).

Thus, despite land consumption, the high cost of burial and available cheaper alternatives, African communities are determined to burying their loved ones. This has become the source of even more problems. The high cost of funeral and burial means that many poor families cannot afford to bury their dead. This leaves them with two options: either apply for a Pauper's burial or bury the corpse illegally. A Pauper's burial is a burial funded by the government due to a family's inability to pay. An application must be submitted to a municipality for an indigent burial. Due to a lack of municipal funds and slow administrative processes, receiving a Pauper's burial could take up to a year.

This has led to overcrowding of hospital morgues in Johannesburg. One of the worst examples, shown in Figure 4, is the Chris Hani Baragwanath Hospital in Soweto. On an average day, the morgue stores a minimum of 90 adult cadavers, most of which have long passed the statutory 30 days for bodies to be kept in a mortuary. Additionally, a 100 babies who were either stillborn or abandoned

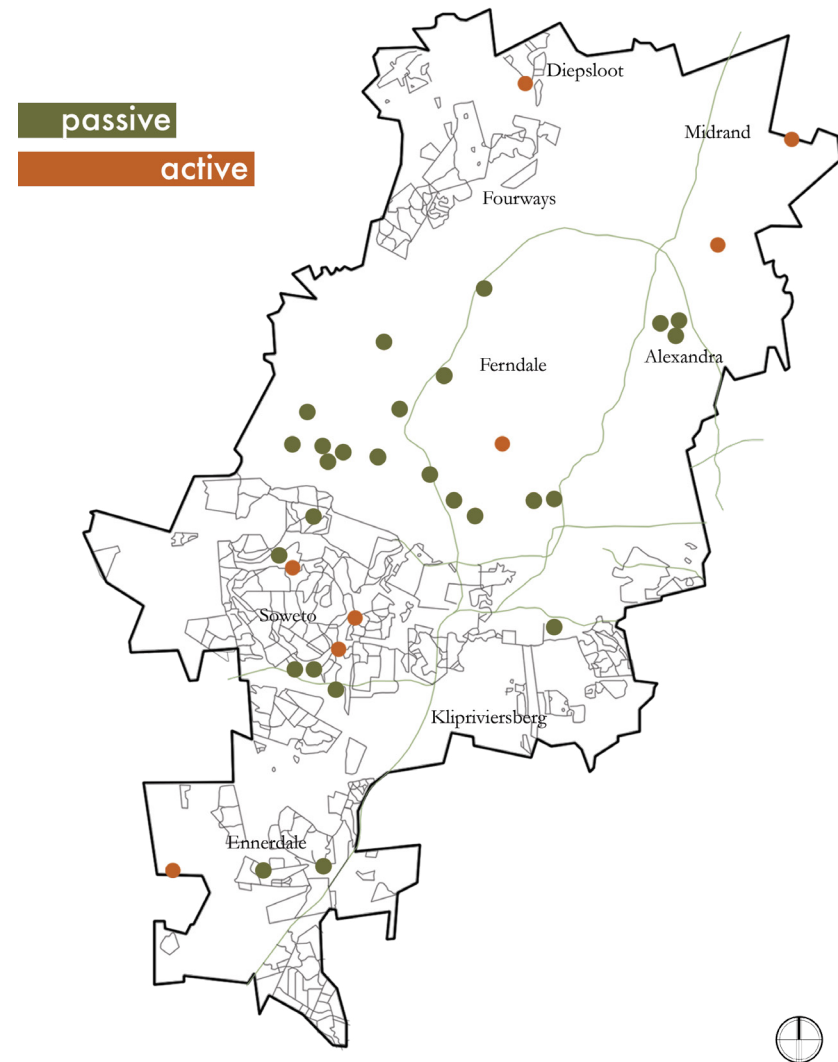


Figure 3. Johannesburg cemetery mapping (Author 2015).

lay piled on a tray designed for a single adult cadaver. Stretchers and shelves are stacked with bodies, which have already started to decompose (Bauer 2011).

Aside from a Pauper's burial, many corpses are buried in illegal cemeteries. According to Dambudzo (2012) in the City of Johannesburg, an increasing percentage of corpses are being disposed of illegally. People partaking in illegal burial are usually poor township dwellers. Informal cemeteries on the outskirts of townships have become standard. In the Diepsloot Township in Johannesburg, between 16 and 40 people die daily. Many of these corpses are illegally buried in the veld adjacent to the township. Unfortunately on many occasions, the residents find that stray dogs dig up their deceased family members (Dambudzo 2012). To conclude, South Africa partakes in unsustainable burial practices. We need a space saving, cost effective, and environmentally friendly alternative.

1.5 Landscape design problem

The Author argues that the designers of cemeteries are guilty of first designing generic cemeteries, and secondly disregarding the experience of the mourner when designing them.

Generic Cemeteries

The majority of cemeteries in Johannesburg are extremely similar with regard to aesthetics and layout. They are imitations of European examples, which haven't been adapted to fit into the South African context.

The first cemeteries in Johannesburg came with the discovering of gold in 1886 and the gold rush, which followed. Optimistic prospectors from Europe stormed to Johannesburg, hoping to find wealth. Due to the accelerated increase of Johannesburg residents, a town leapt into existence, which quickly required burial facilities. The cemeteries were built according to the only frame of reference



the residents had: a European one. Thus, cemeteries were lush and evergreen, consisting on lawn and trees, something that felt foreign to the grassland biome of Johannesburg (Johannesburg City Parks 2008).

More than a century later, cemetery design remains unaltered. In addition, the Author believes that the emblematic quality embedded in cemeteries has been lost due to the commercialization of the funeral and burial industry.

For the most part, cemeteries are typical and undistinguishable; they have lost their identity and become placeless. This thesis will aim to demonstrate how this can be prevented through understanding the burial practices of local cultures, responding to it, as well as celebrating the Egoli Granite Grassland with the goal of locally grounding the design of a burial site in its context.

Disregarding user experience

The average Johannesburg cemetery is designed according to a grid to accommodate as many corpses as possible. It usually consists of a single horizontal plane with marked graves, trees, and a few allocated walkways. The site has no hierarchy and the commemoration of a loved one is restricted to a tombstone. In the Author's opinion the experience of the user is limited and dissatisfactory. The Author argues that a place of burial should not only be a place where loved ones are bid farewell, but also, like a *memento mori*, make the user come to terms with their own morality. The user should realise that death is not the end, but rather a sense of completion. We are all part of the greater cosmos; from our death, comes new life. "The landscape becomes a vehicle to understand the self, rather than the place", Treib (1995).

This thesis will aim to illustrate how the experience of the user can be improved through a narrated and expressive landscape.

Figure 4. Chris Hani Baragwanath Hospital: Corpses littered and stacked on stretchers and shelves in an open-plan refrigerator (Bauer 2011).



1.6 Problem statement

The problems this thesis aims to address are threefold:

1. **Unsustainable practice:** Passive cemeteries render large pieces of land unsuitable for any future use. With suitable burial space being limited, an environmentally beneficial, and space saving approach has to be considered.
2. **Placelessness:** Cemeteries are generic and undistinguishable, leading to a loss of identity and the notion of non-place. The Author argues that cultural knowledge should be referenced as inspiration to locally ground the design of the burial site.
3. **Disregarding user experience:** Seldom the experience of the cemetery visitor is taken into account. The author suggests that through a narrated and expressive landscaped burial site, the place will become meaningful to its users.

1.7 Study area

The selected study area is the southern half of the Diepsloot Nature Reserve (DNR), Figure 5. It is located in Region A of Johannesburg and falls within the Egoli Granite Grassland. The Diepsloot nature reserve, also known as the Northern Farm, is separated into a northern and southern half by two highways: the R114 and the N14, Figure 6. Due to these roads, the two halves function as unrelated entities. The northern half of the nature reserve is well protected and used for recreational purposes, while the southern half is neglected.

Its close proximity to the Diepsloot township, the waste water treatment plant, and the lack of a defined edge have led to the degradation of the nature reserve.

In 2007 the Diepsloot cemetery, marked on Figure 5, was constructed on the property of the southern half of the reserve. An extension of this cemetery is planned to accommodate more corpses.

The Author argues that instead of expanding the existing cemetery, which practices unsustainable corpse disposal, a burial site practicing sustainable corpse disposal should be designed into the reserve, as a supportive program to the proposed upgraded nature reserve.

Appropriate locations for new burial sites in Johannesburg are limited. The process of rezoning land to be used for corpse disposal is tedious. Thus since the Diepsloot Nature Reserve is owned by Johannesburg City Parks and a part



Figure 6. Diepsloot Nature Reserve split in two by the R114 and the N14 (Author 2015).

of the southern half has already been approved and zoned as appropriate burial space, it is deemed to be a suitable site to propose an alternative to conventional cemeteries.

1.8 Hypothesis

Through an expressive landscape design, a sustainable and locally grounded burial site, which focuses on the experience of the living visitor, can be designed.

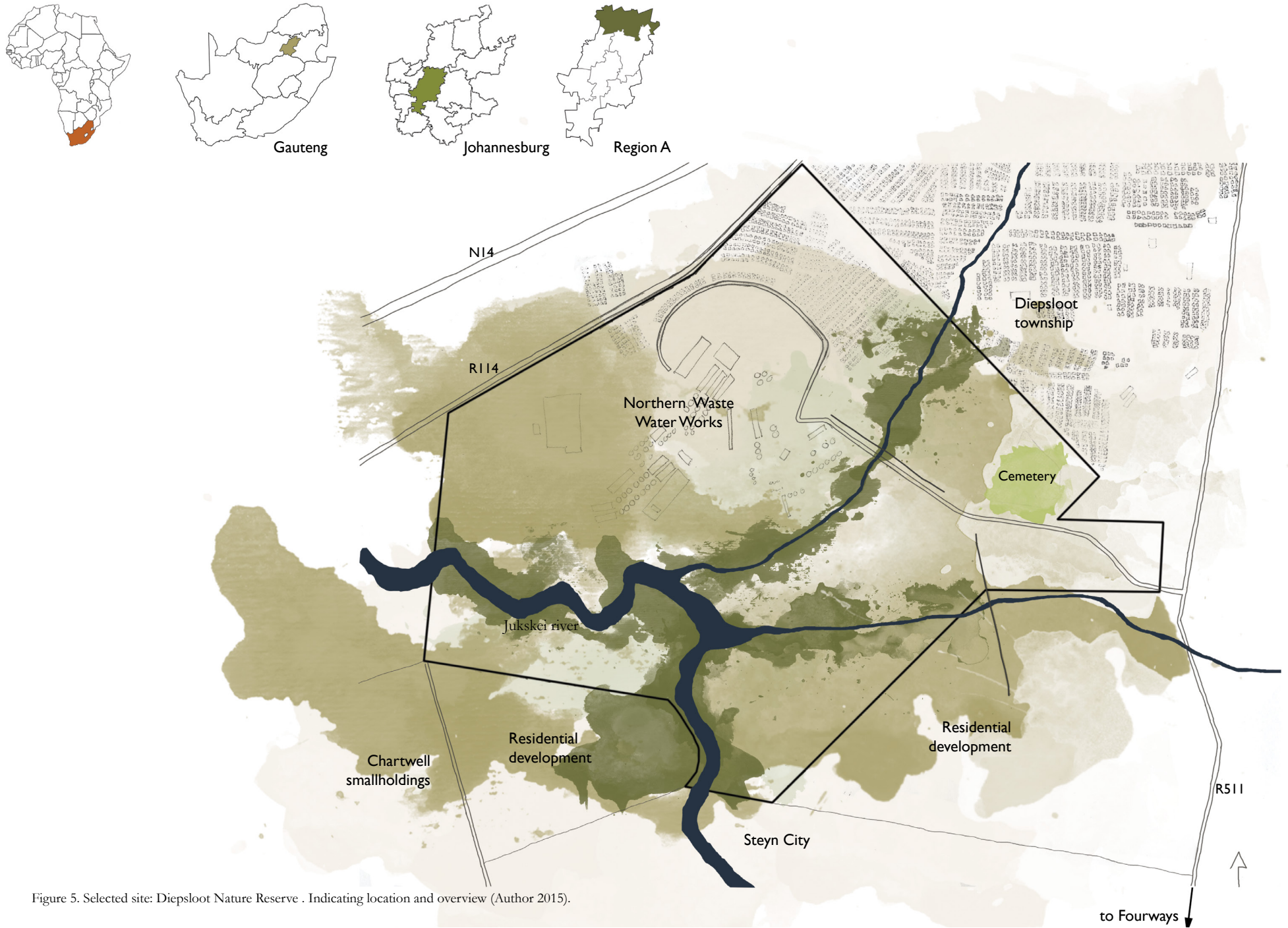


Figure 5. Selected site: Diepsloot Nature Reserve . Indicating location and overview (Author 2015).

1.9 Research questions

How can a burial site be designed to stay active through sustainable corpse disposal practices?

How can landscape architects prevent generic cemetery design through local grounding?

How can a burial site be designed to not only focus on the deceased, but rather to also acknowledge the experience of the living visitor?

Integrated living between the wealthy and marginalized is not the focus of this thesis and will not form part of it.

1.10 Aims and objectives

This thesis aims to:

- Illustrate that landscape architecture is a vehicle through which a sustainable burial site which disposes of human remains in a manner that is beneficial to the environment, can be designed.
- Demonstrate how using culture knowledge as inspiration can locally ground a design to create a non-generic burial site with a strong identity.
- Engage with the notion that landscape design, which draws on the experience of the user can be effective in creating places that evokes predetermined emotions and thus suggest meaning.
- Argue that landscape narratives enrich commemorative landscapes, such as burial sites.

1.12 Research methodology

The design process is a non-linear, it is iterative. It is where research, analysis, and intuition come together.

A descriptive survey method will be used in order to investigate and observe the site, the intangible qualities, and the site's context. An analytical survey will be conducted during the site analysis and will include mapping and data analysis. A literature review will take place to investigate suitable landscape architecture theory. The analysis of contemporary and appropriate case studies will enrich the theory.

1.11 Assumptions and delimitations

- The site borders on the Diepsloot Township. The upgrading or improvement of the township's conditions will not form part of this thesis.
- The site, southern half of the Diepsloot Nature Reserve, is dealt with as a proclaimed nature reserve. Areas of proposed development are based on analysis of vegetation sensitivity and disturbed areas.
- The Northern Waste Water Works in the DNR is assumed to be a sanitary and safe operation.
- Although the DNR is situated between gated communities and Diepsloot, the issue of isolated living due to financial hierarchy will not be addressed in this thesis. The Author acknowledges this issue and accepts this division.



