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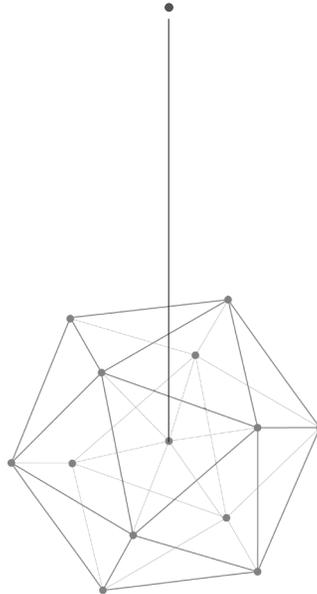
INTERCHANGING ANIMATION

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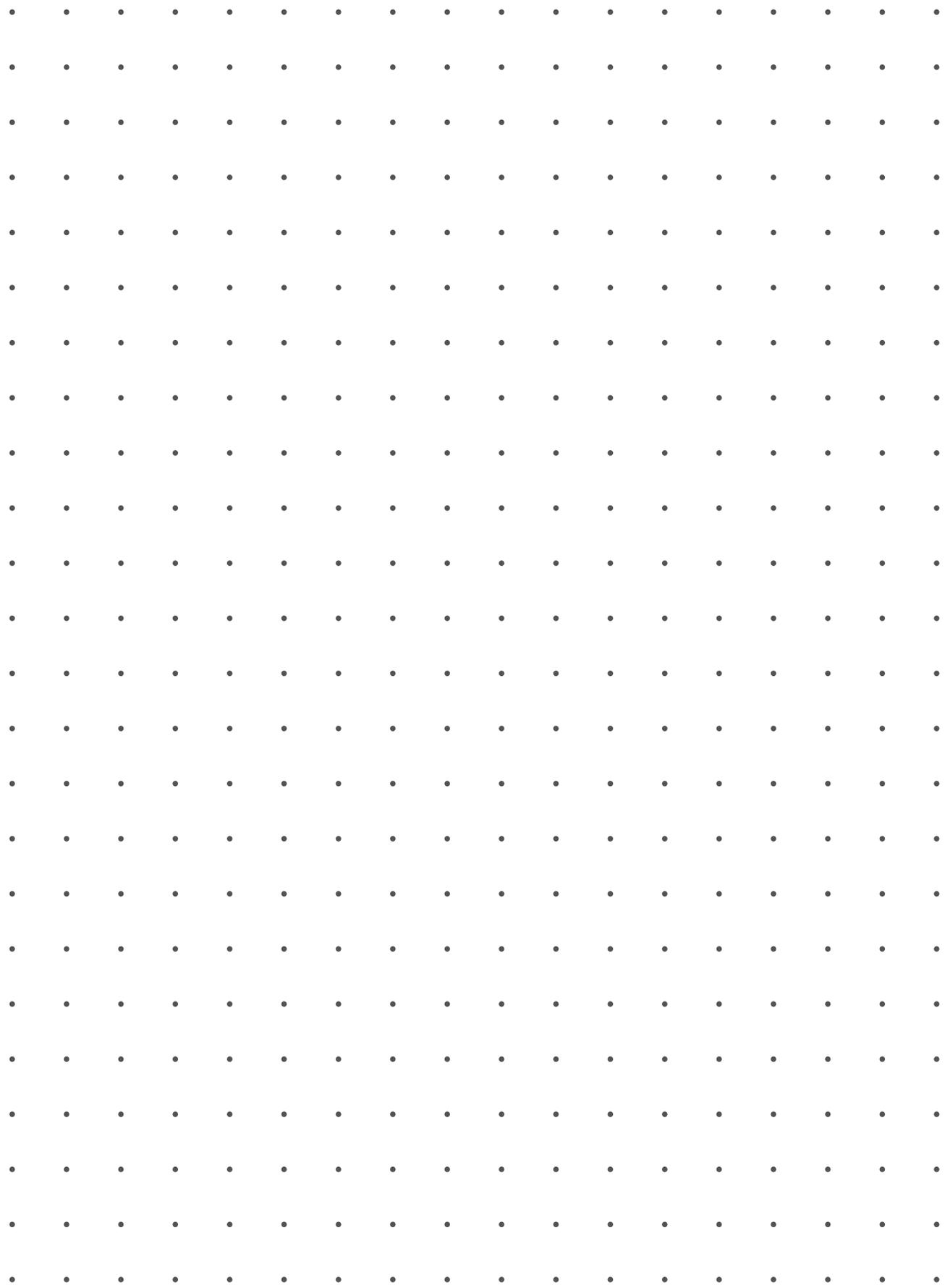
WILAN BURGER ROSSOUW

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INTERCHANGING ANIMATION



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INTERCHANGING ANIMATION

THE FOUNTAIN AND THE ENVIRONMENT

An Architectural Threshold Device

WILAN BURGER ROSSOUW

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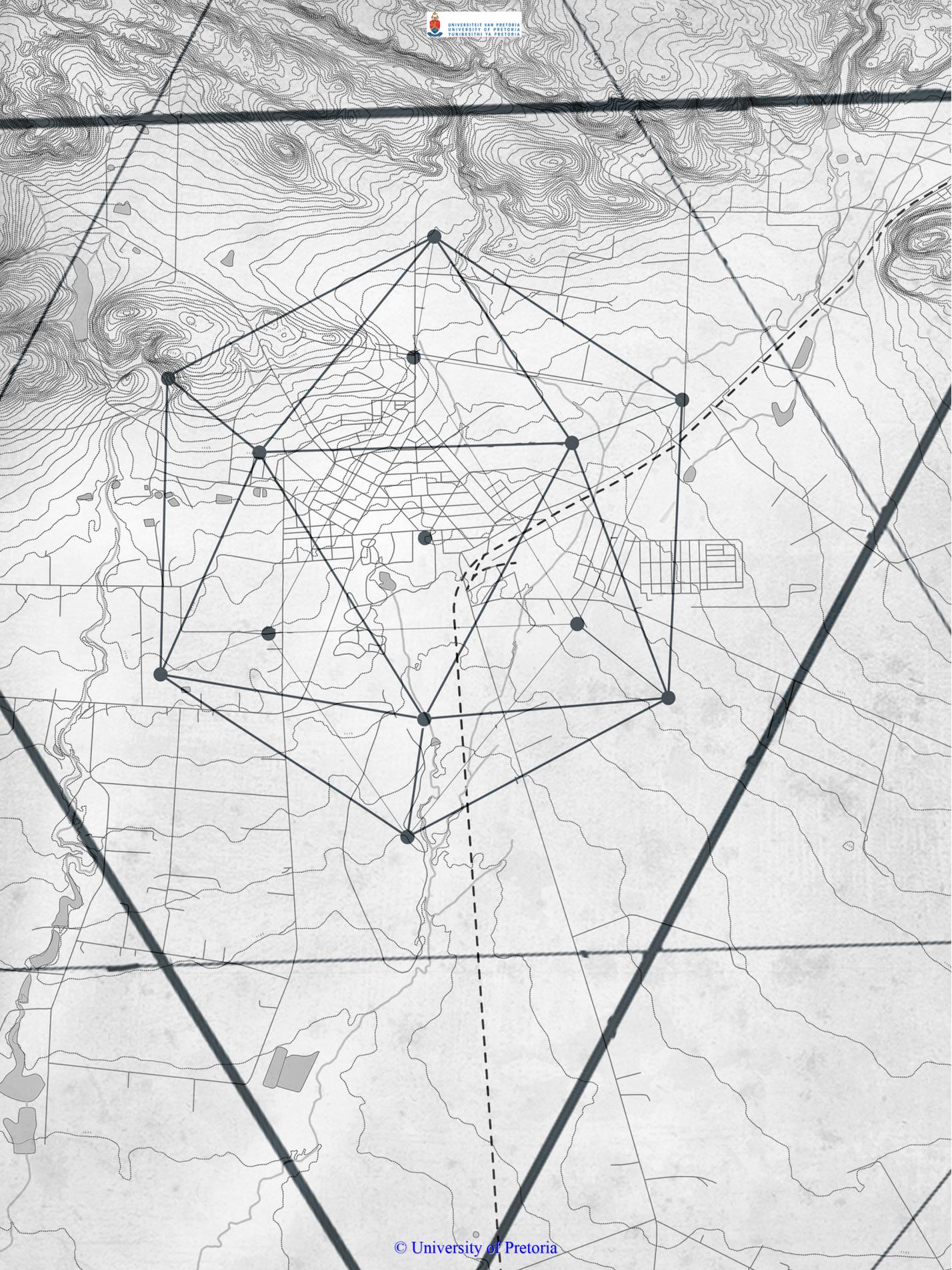
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ABSTRACT

This dissertation is rooted in the premise of stitching together and creating relationships between components and conditions that define a *place* and its essence. Through architecture, the project focuses on the creation of interconnections between these and subsequent reciprocal complementation and animation.

The town of Bela-Bela developed radially around the Warmbaths fountain, which served as the settlement genesis and origin. Due to the water's mystical, mythical and medicinal allure, favourable weather conditions and the serene natural environment, recreational facilities were envisaged and developed here to accommodate the intersection with the water and natural environment enveloping it. The recreational facilities and the town were conceived to be inseparable entities but have evolved to operate independently through privatisation and insulation of the physical and metaphysical nucleus to the *place*: The central gardens and fountain.

The site of investigation is the eastern boundary condition of the Warmbaths Forever Resort. The CBD and major transportation infrastructure ring this site and extend into the urban and rural environment. The urban intention is to create a condition that re-instils a public relationship between the nucleus and the urban context, while the programmatic intentions are to facilitate and reference the characteristics and conditions that define and make up the *place*, so as to interconnect and animate the town and the *everyday* with the *extraordinary* that presides. The architectural intentions are to enable an interchanging animation between architecture, the natural environment and the context, while creating a sensorial intersection with the inherent poetics of the water from the fountain and those from the natural landscape.

Keywords: Urban landscape. Natural landscape. Reciprocity. Responsive architecture. Recreation. Regeneration. Symbiosis. Threshold. Liminality

Programme: An integrational facility between the enveloping urban and rural environment of Bela-Bela, and the central gardens and recreational facilities at the nucleus.

Client: Warmbaths Forever Resort – Bela-Bela

Site: Erf 262 Warmbath

Site description: The north-eastern boundary condition between the resort and the town.

Coordinates: 24°53'9.15"S; 28°17'31.66"E

Address: 1 Chris Hani Way, Bela-Bela, 1240

Research fields: Environmental Potential, Heritage and Cultural Landscapes, Human Settlements & Urbanism

TO MY PARENTS

With gratitude and thanks to:

Dr. Arthur Barker

André Rossouw + Thonél Rossouw

Ferdinand le Grange

Gardiol Crous

In accordance with Regulation 4(e) of General Regulations (G. 57) for dissertations and theses, I declare that this thesis, which I hereby submit for the degree Master of Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

I further state that no part of my thesis has already been or is currently being submitted for any such degree, diploma or other qualification. I further declare that this thesis is substantially my own work. Where reference is made to the work of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

Wilan Burger Rossouw



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INTRODUCTION
INTERCHANGING ANIMATION
The Fountain and the Environment



CONTEXT

THE WARBATHS FOUNTAIN

Where the Springbok flats meet the Waterberg mountain range, a fountain is located in a fault within the substrata of the earth, which allows mineral-rich hot water to surface from a deep-lying aquifer. Due to the water's mystical, mythical and medicinal allure, favourable weather conditions, and the serene environment recreational facilities were envisaged and developed here to govern the water "that flows out of the Earth at a rate of 22 000 litres per hour, with a temperature of 52°C" (Accommodation-warmbaths.co.za, 2015).

Bela-Bela, the town formerly known as Het Bad, Hartingsburg and Warmbaths, was conceived around, and developed radially from, the recreational facilities that are located at the physical and metaphysical epicentre of the town. The subsequent formalisation of the town was conceived in the fashion of Ebenezer's *Garden City* due to its close proximity to the major metropolises (107km from Pretoria CBD,) and the presence of the mineral spring that could uniquely animate the central garden. The town, however, developed as a synthesis between Ebenezer's *Garden City* model and the segregating spatial planning models of the Apartheid regime.

The town forms part of the Waterberg district, which is the only Savanna Biosphere Reserve in Southern Africa, and "features a mix of rock formations formed over millions of years, significant San (Bushmen) rock art sites, and abundant bushveld plains that support a diverse array of fauna and flora" (Southafrica.net, 2015). The resort, along with the Waterberg district and rural Bela-Bela, serve as an important tourist destination. Rural Bela-Bela furthermore produces agriculture on a national level and houses the Toowoomba Agricultural Research Centre of the Limpopo Department of Agriculture. Along with this facility, urban and rural Bela-Bela hosts a multitude of other academic institutions and almost all of the medical and medicinal facilities of the region.

Figure 1.1
The township of Bela-Bela
and the fountain
(Author, 2015)



PROBLEM STATEMENT

GENERAL PROBLEM

IN THE SHADOW OF SILENT MAJORITIES

The recreational facilities and the town were conceived to be inseparable, but have evolved into individual entities and continue to operate as such. The fountain and central gardens, due to appropriation by individual interests, have become insular and thus the nucleus of the town evades an internalised dialect and relations with the urban environment as well as with the extended rural environment of Bela-Bela. The resort, the major economic stimuli to Bela-Bela's economy, currently offers the oar of the spring and the gardens primarily to paying recreation seekers, while depriving the local population of an existential foothold within the centre of their environment and an association with the essence of their environment.

URBAN PROBLEM

VIOLENT COLLISIONS

The resort and its facilities are orientated 'inward' and towards the southern natural environment, while all access routes ring the facilities or radiate from the fountain. The resort's premises are demarcated by a wall and fence where it abruptly meets the urban parameters of the town. The rigid and static boundary-condition perpetuates Apartheid planning ideals and its subsequent manifestation in Bela-Bela, represented by the radial of social hierarchies and sectorial and transportation buffer zones around the fountain and resort that limit access to opportunities and amenities.

This condition yields autonomous development and a dilapidating public environment at the core of the town while discouraging a cultural and physical diversity. It limits connections between conditions and components of the *place* and serves as deterrence to the positive progression of each through its fragmented operation. In the absence of any urban 'condenser', the grain of the town remains of low density and fragmented at the nucleus while residential development sprawls over productive land. Tourism initiatives associated with the Warmbaths fountain are starved due to the facilities encouraging the visitor to not even leave the resort and that the fountain, and with the central gardens being walled off.

ARCHITECTURAL PROBLEM

How can architecture re-instil a dialectical condition between the physical and metaphysical nucleus of a *place* and its essentials?

How can architecture illuminate and enhance the unique and tourist-attractive qualities of a *place*, while allowing the urban and rural environment to have an existential relationship with the same qualities (such as those of the central gardens and fountain)?

Figure 1.2

The boundary of the
Warmbaths Forever resort

(Author, 2015)



URBAN POTENTIAL

The town has developed a spatial liminality in that it serves as seat to the municipal government, and that major vehicular routes diverge from the nucleus into the rural environment that is rich with agricultural produce, natural splendour, conservation and game farms, and other recreational facilities. The project's mapping concludes Bela-Bela to be a tourist destination; an agricultural-, rural-, and eco-tourism centre; an urban residence; a learning centre as well as a health centre.

SITE

The site of investigation is the eastern boundary condition of the Warmbaths Forever Resort. The CBD and major transportation infrastructure ring this site and extend into the urban and rural environment. The intervention is proposed on the northern end of this site where the urban framework and urban design extend towards the south. North of the site is the municipality and beyond, and to the west a higher-income residential suburb with tourist accommodation integral to it. It thus intersects with traversing tourism, the resident population in and around their *place*, and the lingering recreation seekers within the resort.

CONCEPTUAL APPROACH

INTERCHANGING ANIMATION

An interchanging animation is where conditions or components of a *place* are allowed, through architecture, to animate and complement one another. These become interlinked and serve as a reference to one another within a larger framework. Like the fountain, the urban settlement and the natural environment are the essentials to the *place*; the project proposes a re-stitching of these essentials through an interchanging animation between architecture and the natural environment, the *everyday* and the extraordinary, and the urbanity and the rural or natural environment.

URBAN VISION

A NEW URBAN CONDITION

The central core is envisioned to become a transactional zone and threshold between local and global conditions, cultures and components. The central gardens are proposed to become publically accessible and that a spatial dialect with the extended rural environment and its natural splendour transverses the urban fabric. The project proposes the insertion of a responsive public condition through a framework that stitches together, facilitates, and creates new relations, connections, and associations within the nucleus of the town. The condition is proposed to serve as catalyst to an urban renewal and condensation towards a compact form around the nucleus with creates a shared investment in public space around the fountain and central gardens.

Figure 1.3

The site of investigation
(Author, 2015)

DESIGN INFORMANTS

CONCEPT

An interchanging animation is proposed a central concept that influences the site location, programmatic requirements, design and technological investigations and decisions, as well as a contextual response. The design and urban design is proposed to become the 'threshold device' that allows for this reciprocal complementation.

CONTEXT

The site forms the intersection between the urban grain and the central gardens. The distinct spatial and architectural themes of the resort influence the design vernacular as the intervention is envisioned to become an extension of the resort's facilities but also of the central gardens. A spatial dialogue between the proposed urban form towards the town, and the integration of the building with the gardens, is envisioned.

CLIMATE

The arid climate of Bela-Bela, a distinct diurnal variation in wind, and the ample amounts of water (hot and cold) available, all influence the design and technology of the device - it is proposed to integrate the presiding natural environment and water from the fountain with the architecture. Passive cooling and ventilation of spaces are proposed through adapting the design towards a symbiosis with the climate and environment.

URBAN VISION

The urban framework, to which the intervention is integral, proposes a spatial layer over the violent collisions where the various land usages meet the unresponsive wall of the resort. The new condition, the 'urban commons', is zoned for proposed public and tourism facilities, urban landscaping and infrastructure that extend from this core into the environment along transportation linkages. The intervention becomes an extension and integral component to the framework.

MAN AND BIOSPHERE PROGRAMME

The Waterberg region was the first region in the northern part of South Africa to be named as a Biosphere Reserve by UNESCO. A biosphere is an area designated by UNESCO'S Man and Biosphere (MAB) programme that "aims to establish a scientific basis for the improvement of relationships between people and their environments" (Unesco.org, 2015). This framework proposes the initiative to investigate human settlements, to foster their cultural values, and to promote their harmonious integration with the remarkable natural environment as to conserve the biological diversity (Ibid).

URBAN INTENTION

The project proposes the insertion of a new dialectical condition instead of the irresponsive “wall” or boundary that encloses the fountain and the central gardens. It proposes new public and tourism amenities within a newly established framework. It furthermore proposes the re-introduction of the recreational heart as integral and active part of the *everyday* of urban Bela-Bela. It also aims to reference the extended enveloping natural splendour that presides through integrating it with the design.

PROGRAMMATIC INTENTIONS

The intervention facilitates recreation programmes that interlink and merge with the facilities of the resort and the fountain in the central public gardens. It hosts commercial spaces that animate and interlink with tourism and recreation to animate the urban edge. The device hosts a public floral greenhouse and a multi-purpose hall that support the lack of civic facilities in the town and diversifies tourist attractions. The building becomes an extension of the public gardens and the recreational facilities, as well as the urban and rural environment of Bela-Bela.

ARCHITECTURAL INTENTIONS

The project is aimed towards the creation of an interchanging animation between architectural spaces, the water from the fountain, and the natural landscape that, through architecture, becomes ‘visible’ and animates the architectural space. It proposes a design of a threshold device, which becomes the spatial, referential, and programmatic linkage between urban and rural components and conditions of Bela-Bela, and which allows synergies to exist in-between these. The design is aimed towards intertwining the *everyday* of Bela-Bela with the fountain, the central gardens, and recreation hosted at the nucleus of the *place* and towards the creation of a device that engages sensibly with the natural environment to evoke its inherent poetics and potential.

INVESTIGATION STRUCTURE

The dissertation's investigation aligns with the chapter progression:

Chapter 1 Introduction:

Chapter 2 Aquapoetics: This chapter outlines a study into the poetic reality of water and existence's intersection therewith. It describes the qualities of the water from the Warmbaths fountain and portrays the author's mapping of the intersection at the Forever Resort. It concludes with a spatial synopsis and response to the existing spatial fabric and architectural theme of the resort.

Chapter 3 Context: Portrays the Author's analysis of the Warmbaths fountain and the natural environment as settlement genesis to Bela-Bela. A study of the historical development of the town is undergone which is followed by a study into the historical development of the resort. The problem statement is derived from the condition arising from the historical and urban landscape and concludes the chapter.

Chapter 4 L'Esprit Nouveau: A conceptual premise is developed from theoretical discourse. The premise draws from a discourse that proposes the integration of dualistic conceptions between a "cultural realm" and a "natural realm", architecture and environment, self and other, and between difference and monotony.

Chapter 5 Bela-Bela: This chapter outlines the author's mapping of the urban environment around the nucleus by analysing the liminality of the location, and introducing the site on the north-eastern boundary of the resort. An urban vision is proposed concluding the mapping that intersects with this liminality. An urban framework for development in and around the nucleus of Bela-Bela concludes the chapter.

Chapter 6 Interchanging Animation: Introduces the concept of the intervention as 'threshold device', which allows an interchanging animation between components and conditions of the *place* and environment. Prec-edent studies and their respective influences are described where after 'Sensory Architecture' is presented as the spatial theme and narrative to the intervention. The author draws from concept and the liminality of the location to produce a programmatic response to the site.

Chapter 8 Design: This chapter introduces the main design generators, where after the design of the 'threshold device' and the 'sensorial promenade' is expressed through its narrative, site intentions and the creation of an 'interchanging animation'.

Chapter 9 Techne: Chapter nine introduces the major influences to the structural and other systems, and technology of the building. The technological concept is introduced, which is followed by the structural concept. The technology and materiality of the device is described through its spatial, programmatic and functional arrangements. The water and ventilation systems of the building are presented along with a planting palette of floral species.

