Acquainting Embedded Elemental Wisdom of Omaheke's Sandveld into a Namibian Nature Foundation Knowledge Exchange Centre

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IDENTIFICATION

Proselytising Eco-agriculture: Acquainting Embedded Elemental Wisdom of Omaheke's Sandveld into a Namibian Nature Foundation Knowledge Exchange Centre

Namibia University of Science and Technology

Masters Design Thesis (MDT 911s)

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Co-supervisor : Prof Jaco Wasserfall

All images shown: by author, unless stated otherwise

DECLARATION OF OWNERSHIP

I, Cornelius Eduard Bezuidenhout, declare that I am the sole author of this thesis, entitled: "Proselytising Echo-agriculture: Acquainting Embedded Elemental Wisdom of Omaheke's Sandveld into a Namibian Nature Foundation Knowledge Exchange Centre".

- This thesis was conducted and written to fulfill the requirements for the Master of Architecture degree at the Namibia University of Science and Technology.
- All work presented within this thesis was independently completed by me, except where collaboration or assistance is explicitly acknowledged.
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A SPECIAL THANKS

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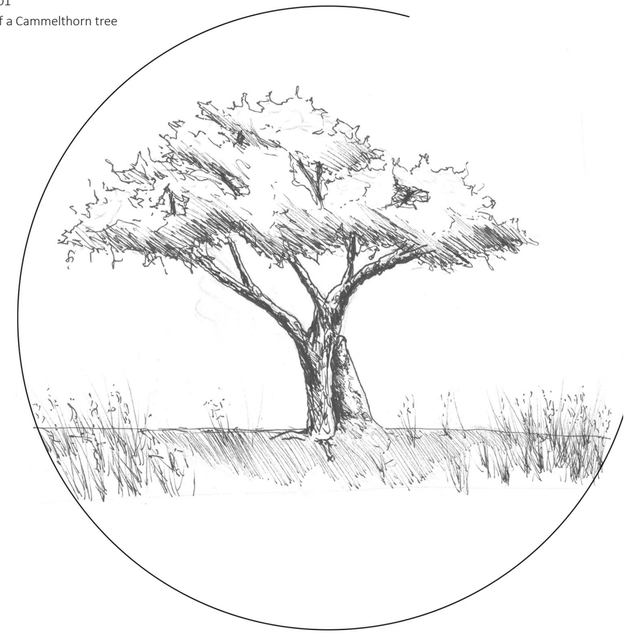
Finally, I would like to thank God for guiding me through this process and for being my shade in the harsh sun and providing me with the strength and resilience I needed to overcome challenges, all glory to my Lord and Saviour Jesus Christ.

Figure 001
Sketch of a Cammelthorn tree



(Author, 2024)

LIST OF ABBREVIATIONS

NNF	- Namibian Nature Foundation
NUST	- Namibian University of science and technology
UNAM	- University of Namibia
SRC	- Sandveld Research Center
NWR	- Namibian Wildlife Resorts
NGO	- Non Governmental Organisation

LIST OF TERMS

Genius Loci	- The spirit of place as the, distinct character and experience of a place
Place	- A specific space with a deeper meaning or purpose through human experience
Space	- The 3 dimensional body that contains all things
Eco- Agriculture	- Refers to the way of thinking of nature as a holistic entity
Herding	- Refers to the way one body moves in accordance with another's guide
Context	- In this case refers to the Sandveld of the Omaheke region
Sandveld	- Refers to the Camelthorn Savannah
Site	- Refers to the specific place on the farm Lammermoor, the Pannetjie
Pannetjie	- Translated as "Little Pan"
Boer	- Described as the Dweller or inhabitant of this place (the Sandveld)
Proselytising	- Advocate or promote (a belief or course of action)
Hais !naga !hao#nu	- Translated as gathering under the tree (a Place of knowledge exchange)
Pos	- A water point on a farm
Gang	- A corridor that asist in herding animals from one point of the farm to another

ABSTRACT

Located in Eastern Namibia, the Omaheke region functions as one of the key economic contributors, becoming known for, among others, its excellent produce farming, and specifically its cattle-related products. Known as “Cattle Country,” Omaheke faces challenges due to farming practices becoming less sustainable. Some farmers started to implement alternative income sources, some related to tourism to create better livelihoods. However, less knowledgeable farmers resort to unsustainable practices, such as overgrazing, leaving the same natural ecosystem needed to sustain their livelihoods to become degraded.

Through the question below, the Genius Loci of the context is investigated to reverse the degradation of the Sandveld. How could the embedded elemental wisdom of Omaheke’s Sandveld inform an architecture of acquaintance composed of gathered moments of knowledge exchange able to foster a deeper appreciation of this arid place and proselytize a community towards eco-agriculture?

A place could be defined as the cumulative nature of all the elements (natural, economic, social), creating its unique identity and meaning. If even one of these elements is disrupted, for example, the natural landscape (Camelthorn Savannah or Sandveld) in this case, the very thing that gives a place its meaning, could be lost.

Therefore, this phenomenological research approach comprises of a qualitative case study, through which tools and systems derived from Genius Loci (as a Phenomenological approach) will be applied to generate a proposed architectural design. Using Genius Loci as a theoretical lens, a deeper understanding of the meaning of place within the Sandveld of Omaheke’s veld pans and dunes was gained through sketching as an analysis technique. The technique of sketching natural landscapes and elements, to analyse the context, informing possible architectural spaces, forms, and design informants, as by Jacobson (2019) used to conduct the research. Using this technique, the Genius Loci was understood and implemented into a contextually relevant intervention.

To propose a place for research and information exchange, serving nature, researchers, tourists, and local farmers alike, could foster a deeper understanding of Omaheke’s Camelthorn Savannah. Possibly becoming the catalyst needed to revitalise and strengthen the relationship between the natural environment and its communities, harmonising and sustaining living, being, and place.

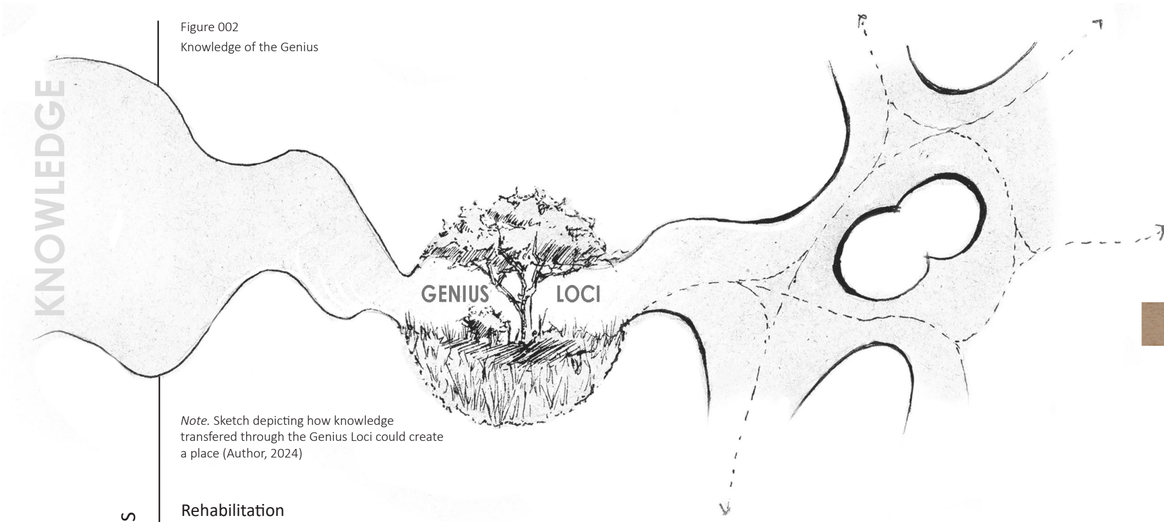


Figure 002
Knowledge of the Genius

Note. Sketch depicting how knowledge transfered through the Genius Loci could create a place (Author, 2024)

KEY WORDS

Rehabilitation
Research
Eco-Agriculture
Natural environment(Camelthorn, Savannah)
Genius Loci
Informed communities

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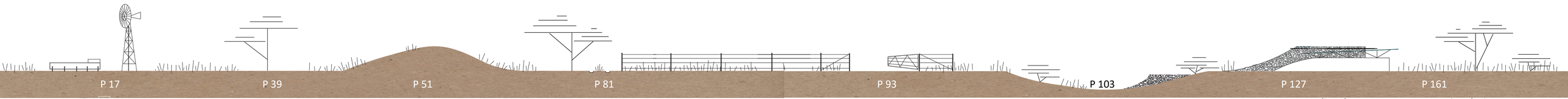

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Figure 003
'Agter op die Bakkie'

DIE BOER

Note. A photo of the veld from the back of a Toyota Cruiser on the farm , Lammer moor (Author, 2024)

En die Here het neer gekyk op sy skepping en besef dat Hy iemand sal moet maak om te kan **omsien na die aarde** , 'n gewone man sou nie doen nie. Dit sal n man moet wees wat voor die son kan opstaan en met sy **hande die grond kan werk**. 'n Man wat nie omgee oor die ure van die dag soos die **son die sweet van sy rug af brand nie**. 'n Man wat kan **draadspan, kampe bou, water kan soek en vir die diere bring**, en met sy **grof gewerkde hande** die sweet van sy wenkbroue kan affee en verder werk.

En toe maak die Here 'n **boer.**

'n Man wat sal opstaan in die nag om sy buurman te help vuur slaan, 'n man wat nie skroom vir bloed as hy sy **vers moet help kalf**, 'n man wat die klippe uit die land kan ploeg en die **potensiaal sien van 'n groen oes waar dit eens kaal en dor was.**

En toe maak ons Fader 'n **boer.**

'n Man wat nie wankel as **droogtes druig**, en plae hom oorval nie, 'n man wat n **siek dier dokter en glo hy han hom kan red**, 'n man wat moet **voorbeeld lei** sodat sy seun ook eendag kan sê dat "ek will 'n man soos my pa wees".

En toe maak ons Fader 'n **Boer.**

(Carstens, 2018)

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FIRST SIGHT

For someone to fully grasp and experience this place, one cannot go into it with a preconceived or a misconception of placelessness. To Dwell and engage with the Sandveld, one must start to understand the mind-set of the people within the place, you must understand what the heart of a "Boer" should be.

"omsien na die aarde" (omsien- om-te-kan-sien)
'Preserving the Earth'-
starts with the ability to see the uniqueness, beauty, and intricacies of a place, then only can measures be taken to preserve it.

"hande die grond kan werk"
'Can work with hands'
Refers to the way one has to engage physically with the context to understand it. A true encounter with a place's Genius Loci does not come from books, but from hands-on experience in nature, with the people, through the way of being.

"son die sweet van sy rug af brand nie"
'Scorching sun'
A reminder of the beauty and value of shade from the harsh Namibian sun.

"draadspan , kampe bou , water kan soek en vir die diere bring,"
'Way of being'
The way people form the activity of farming, to build camps, dams, and dwellings, but in a way also refers to how nature and farming form us. Or should I rather say should form us through the way we do farming. "kampe bou" should not be superimposing rigid lines of intervention, but rather follow the art of herding, of farming.

"**vers moet help kalf"**
'Preserving life'
All life is valuable, and therefore an intervention should be sensitive to its effect on the life surrounding it.

"potensiaal sien van 'n groen oes waar dit eens kaal en dor was."
'seeing potential where once whas barren'
Nature has a way of healing what was once a scar into a life-giving space. This mind-set should be adopted through the way we create meaningful, mutually beneficial spaces.

"droogtes druig"
'arid place'
The Sandveld is arid and therefore water and rain are precious, celebrated, and preserved.

"siek dier dokter en glo hy han hom kan red"
'addressing a sickness'-
The root of the sickness or problem should be addressed to cure and not only aim to manage the symptoms.

"voorbeeld lei"
'lead by example'
Insist on a way of thinking, designing, and being that does not conform to the norm, but allows one to be guided, or herded to a better place.

"Boer"
"dweller, inhabitant"
From old Dutch meaning "dweller, inhabitant", those who allow themselves to experience learn, and engage with this Place.

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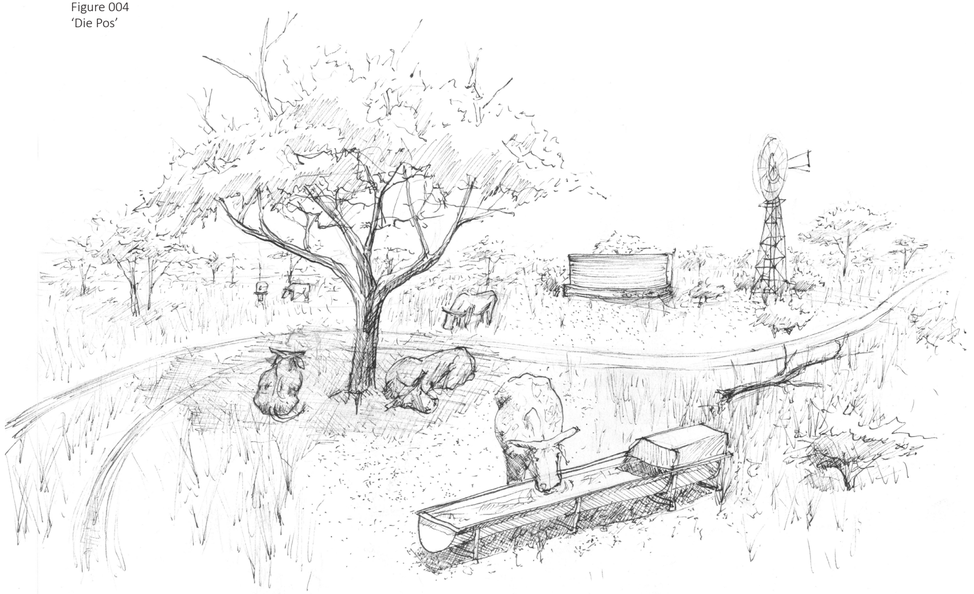
INTRODUCTION

Following this mindset of a 'Boer' as the dweller, a discussion of the general context of the study would now be laid out, aiming to reach an basic aquaintance with the context. Starting with a background to Omaheke, outlining the state of the region regarding the site and problem, with special mention of the Sandveld, tourism, farming specifically eco-agriculture and research. These essential drivers of the way of being within the Sandveld (as the natural context) is then discussed in more depth, explaining what would become key factors that influence the research moving forward. Understanding that the lack of knowledge within the Sandveld leads to unsustainable practice. Therefor the aim to combat the destruction of the natural place, would be to introduce a space of knowledge exchange rooted in the Genius Loci of the Sandveld. Therefor Jacobson's (2019) would be used to be used to spatialize the acquaintance of the Sandveld's Genius Loci into an architectural intervention re-conciliating man with nature. Procylatising Eco-agriculture by re-instating the call to be faithful stewards:

15. The LORD God then took the man and settled him in the garden of Eden, to cultivate and care for it.

- Genesis 2:15

Figure 004
'Die Pos'



Note. A sketch of 'die pos' place on a farm where animals gather to get water (farm post) (Author, 2024)

ACQUAINTANCE

- Background
- Sandveld
- Tourism
- Cattle faring
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- Significance

The proposed site is located in Omaheke, Namibia, a country that gains a large portion of its income from tourism of its natural landscapes, heritage, and in culture. The Omaheke Region, situated on the Eastern border between Namibia and Botswana, stands out as a distinctive Sandveld landscape known for its thriving cattle and game farms. This area, nicknamed “Cattle Country,” serves as a significant contributor to Namibia’s economic vitality, driven by key industries like subsistence farming, eco-tourism, and natural research.

However, the sustainability of traditional practices, particularly cattle farming, has declined in recent years. The decline has led to trends, such as less knowledgeable farmers resorting to unsustainable practices like overstocking and overgrazing. In response to these challenges, there is a growing recognition of the need for alternative approaches, particularly in line with eco-tourism and eco-agriculture principles.

Ecotourism, as defined by Vilho (2019), emphasizes environmentally friendly tourism activities that promote natural exploration and learning. Organizations like the Namibian Nature Foundation (NNF) advocate for such sustainable practices, recognizing their potential to foster economic and social development while preserving the environment. To address this challenge, the NNF promotes ecologically friendly alternatives, emphasizing the importance of knowledge exchange and sustainable development. In light of this, the term eco-agriculture is introduced as the main sustainable concept that could achieve similar effects as eco- tourism but rooted more in the farming way of being of Omaheke. Described as simply the state of minde that to be economical, agriculture must be ecological (Questor Cor, 2024). However, the effective implementation of such sustainable practices hinges on a thorough understanding of the local context, which is currently lacking in the Omaheke region, particularly in the Cammelthorn Savannah.

The absence of recent research in the region underscores the urgent need for a space dedicated to knowledge generation and sharing. This highlights the importance of creating a nexus between farming, tourism, and research that aligns with the natural environment’s qualities. Instead of adhering to standardised functional norms, the focus should be on designing structures that integrate with the unique landscape and foster a deeper understanding of the region’s essence as advocated by Norberg-Schulz (1979). By embracing this approach and proselytising Eco-agriculture through incorporating the embedded wisdom of the Genius Loci, the natural environment of Omaheke could be revitalised and preserved for future generations.

The site, a 3000 hectare farm in central Omaheke called Lammermoor, is therefore chosen. This site, embedded within this problem area and natural context, makes it a prime location adress the problem with an NNF Knowledge exchange center. Over the next couple of pages an overview of the general influencers affecting lammermoor, as well as the rest of Omaheke’s communities.

Figure 005
Cattle Country Statue

Note. A Photo of Cattle Country statue in Gobabis (Author, 2024)

The Camelthorn Savannah, known by locals as “Sandveld” (translated from the Herero word Omaheke), is located in the central Kalahari, a semi-arid desert landscape stretching from northern South Africa to Botswana and Namibia alike.

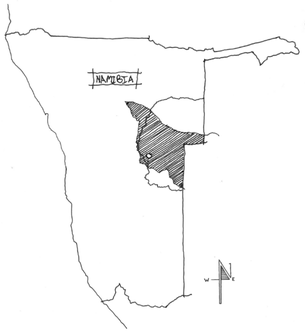
This is an exceptional natural biome, containing various fauna and flora specific to the landscape, with the majority being Acacia trees, shrubs, and grasslands. The vegetation zone, Camelthorn savannah (Sandveld) is specifically defined by the indigenous Camelthorn trees (Vachellia erioloba), an important element in this landscape as a source of food, shade, shelter, and even medicine to locals. Contains other similarly unique and important flora such as Devil’s Claw (Harpagophytum procumbens), African Truffle (Tuber magnatum), and Mutete (Hibiscus Sabdariffa) to name a few. The Sandveld could therefore be seen as having seemingly endless possibilities for a broad range of people and disciplines. The Camelthorn Savannah is also home to several noteworthy fauna species which include wild free-roaming Oryx (Oryx gazella), African Vultures (Gyps africanus), Ground Pangolins (Smutsia temminckii), Southern African Hedgehogs (Atelerix albiventris), honey badgers (Mellivora capensi), and aardvarks (Orycteropus afer) to name a few.

The “Sand Veld is also known for its contrasts of the blue skies to red loose sandy soil. Due to natural processes, the sandy soil is moved in different ways, creating areas of denser vegetation, as the sand is stabilised by the roots. This will be called the veld throughout this thesis. In other spaces the sand is completely blown away, creating low-lying areas, usually exposing clay soils, this will be called pans. Lastly, the places where the sand accumulates dunes form, these three different yet equally unique typologies come together to form the Sandveld. To understand the Spirit of the Sandveld better, these natural places will be explored further in Chapter (understanding the Genius), allowing for a holistic understanding of the Cammelthorn savannah.

Figure 006
Camelthorn Savannah map

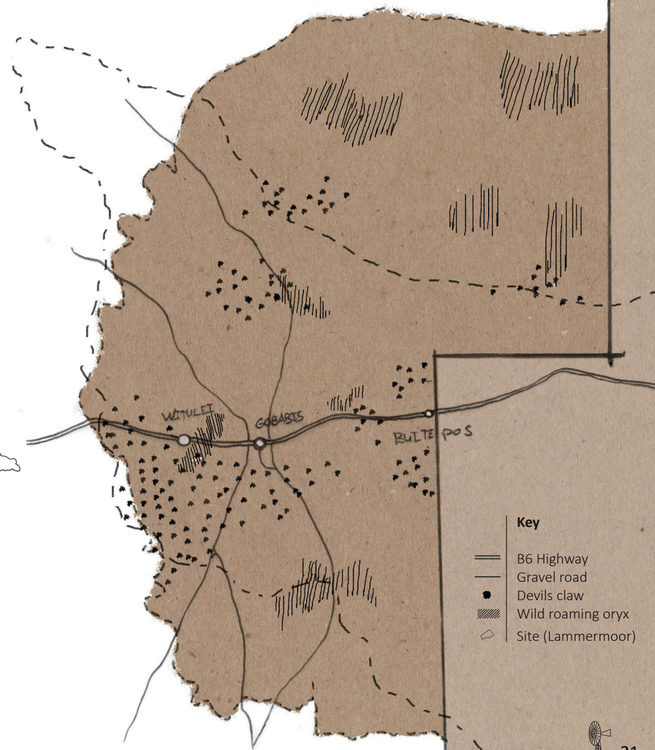
Note. A map depicting the Camelthorn Savannah (Author, 2024)

Figure 007
Camelthorn Savannah map



Note. A Map depicting the Camelthorn Savannah (Author, 2024)

Figure 008
The Sandveld Omaheke map



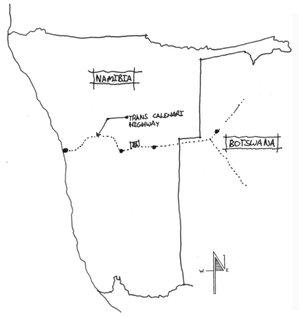
Note. A map of some existing Researched Sandveld elements (Author, 2024)

In the context of Namibia, it is well-known that the country is a popular tourist destination for its rich cultural heritage (German colonial, San indigenous, etc.). Possibly even more so its natural landscape, portrayed as harsh and unforgiving, becomes the very thing which countless lodges and eco-retreats base their attraction on, as a way to let tourists experience the landscape from within. Ecotourism in Namibia is described by Vilho (2019) “as an alternative tourism, that involves visiting natural areas to learn, to study or to carry out activities that are environmentally friendly, a tourism based on the natural experience, which enables the economic and social development of local communities.” With all considered, it is no wonder that Namibia holds the title of being the first country globally to implement natural environment protection policies into its constitution (Wingenbach, 2014).

Taking a deeper look into Namibia’s eco-tourism, it becomes clear that the country relies heavily on its tourism infrastructure. The majority of tourists arrive in Namibia by either air travel to the centre of the country (Windhoek), where they then embark, or by car, to experience the majestic scenery. Or they arrive, entering through one of the borders, a subtler transition from the neighboring countries into the Namibian landscape. Either way, the B6 of the Trans Kalahari highway becomes the most used road, as can be seen in Fig 011 depicting various tourist routes offered by travel companies. Where tourist can choose to stay in various types of accommodation from camping to 5-star resorts, most of which make use of eco-tourism strategies. Namibia Wildlife Resorts (NWR), and more so the Gondwana collection are some of the leading facilitators of eco-tourism, allowing tourists to both experience and learn more about Namibia’s natural environment. In Omaheke, a variety of tourist accommodations can be found, from B&Bs to guest farms, lodges, and even hunting farms, which become one of the main attractions where a person can get the experience of hunting a local wild animal.

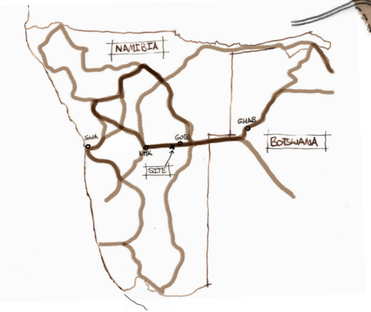
Although this might be the case, there is at the moment a missed opportunity within the Omaheke Region, where tourists could experience and learn about the spirit of the Sandveld, an important aspect of Namibia’s natural environment and a contributor to the country’s economy through its cattle farming industry (Kavari, 2023).

Figure 010
B6 Map



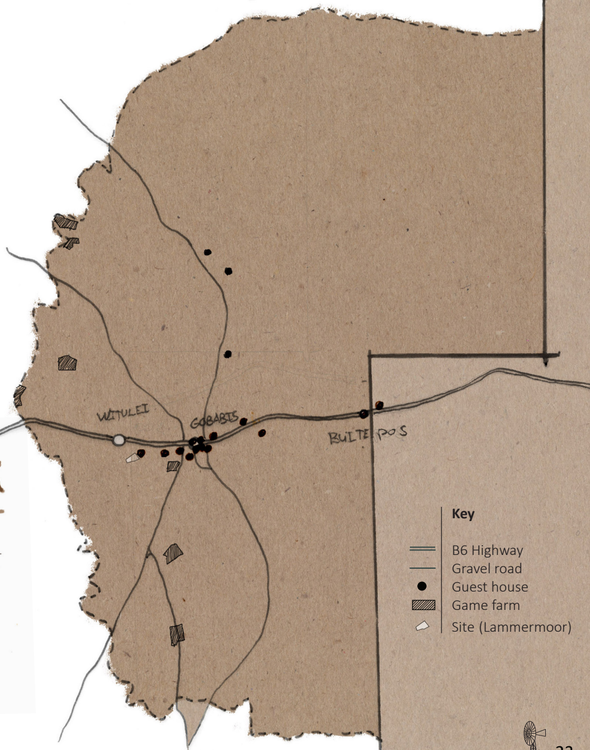
Note. A Map depicting the Savannah Ecosystem (Author, 2024)

Figure 011
Tourist routes



Note. A Map depicting the Camelthorn Savannah (Author, 2024)

Figure 012
Tourism in Omaheke



Note. A Map of existing researched Sandveld elements (Author, 2024)

CATTLE FARMING

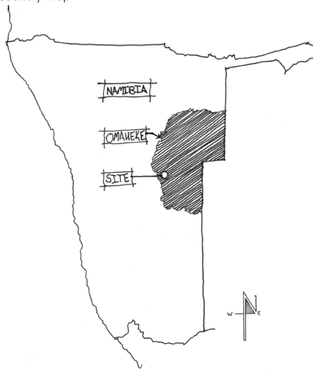
Although tourism within this context has not yet caught on like in the rest of Namibia, one industry became the primary economic contributor, along with setting its roots in culture as well. Cattle farming is a closely linked industry to the Herero culture, where cattle are incorporated into their traditions such as marriages, and even clothing, as can be seen by Herero women's Head dressings, resembling cattle horns. From an economic point of view, the farmers, specifically the Herero people rely on cattle farming for financial sustenance. Seeing that agriculture forms 47% of Omaheke's GDP and cattle farming, forms 70% to 80% of livestock produce (Raison, 2006). Therefore, it is safe to say that this NAD 2 billion industry is essential to Namibia and Omaheke's economic and cultural future (Hangara 2011). In the same way, the community relies on farming, farming, also relies heavily on the natural environment for support. The Sandveld is rich in grass, trees, and shrubbery along with good underground water supplies, and can therefore be considered to be among the best locations for cattle farming in the Kalahari. With this in mind, the Omaheke region became the capital of cattle farming in Namibia, as the well-known name "Cattle Country" suggests, and the region held this title to the present day.

Over the years, cattle farming became less economically sustainable, which on the one hand forced farmers to start bringing in other forms of income such as wood and coal production, wild hunting, crop farming, and even some tourism-related activities (Dieckmann, 2014).

Adding to this dilemma the, concept of Relocation farms was introduced after independence throughout Omaheke. The concept of relocation is a type of land reform, implemented by the government where people who have been historically disadvantaged are willingly relocated to plots of land, in this case of about 100 Hectares each (Glinz 2009). It is evident that, especially on these relocation farms, overstocking, overgrazing, a higher percentage of diseased animals, and a worse state of the natural environment can be found (Hembapo, 2024). Although this concept is not problematic, the fact that the new settling farmers lack the necessary knowledge of sustainable farming is placing both nature and indirectly, themselves in hardship.

For this reason, it is necessary to introduce the concept of eco-agriculture. Eco-agriculture is fundamentally a holistic system. Its basic premise is that all elements of creation are intimately interrelated and that there is an intrinsic harmony to the natural order which is governed by certain laws. Man's role is that of the 'faithful steward' and in the person of the farmer nature's partner. "Agriculture is seen as creative rather than mechanistic because it is fundamentally a biological and living process rather than a technological and industrial one" (Merrill, 1983). By approaching farming and the Sandveld holistically, could bring together all users of the land through knowledge exchange. For this reason, it is important to first understand the technicalities of cattle farming in Omaheke.

Figure 013
Cattle Country Map



Note. A Map depicting the Omaheke Region (Cattle Country) (Author, 2024)

Figure 014
Farming in Omaheke

Note. A Map depicting relocation farms and cultural land in Omaheke (Author, 2024)

The Camelthorn Savannah is an essential part of the Omaheke's Ecology, and as previously described it forms part of virtually all activity within the region. For this reason, the success of creating and implementing a context-specific eco-agriculture, more recent and in-depth research on the Sandveld is vital. At the moment more in-depth ecological studies are taking place, while the Sandveld is slightly neglected, as seen in the research sites of Fig 015. The Omaheke currently houses only 2 research stations, namely Harnas and the Sandveld Research Centre (SRC).

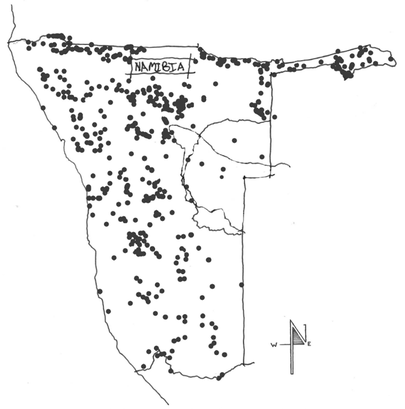
Harnas has been at the forefront of nature conservation and rehabilitation in Namibia, where experience has been gained focusing on local wild animals since 1975. This conservation had done a large portion of Namibia's Research on the African Wild Dogs, gaining in-depth knowledge on; genetics, parasitology, reproductive physiology, and vaccine testing, among others (Harnas, 2022).

SRC is located 60km North-east of Gobabis where it acts as the only research station in the East-central part of Namibia. Functional since 1968, it has focused specifically on the adaptability of different livestock breeds within this context (Swanepoel, 2002), aiming to:

- To investigate beef production per unit area
- To determine the relationship between the stocking rates for maximum production per animal and per hectare as well as maximum profit per hectare.
- To determine the optimum stocking rate for sustained optimum animal production under varying climatic and economic conditions

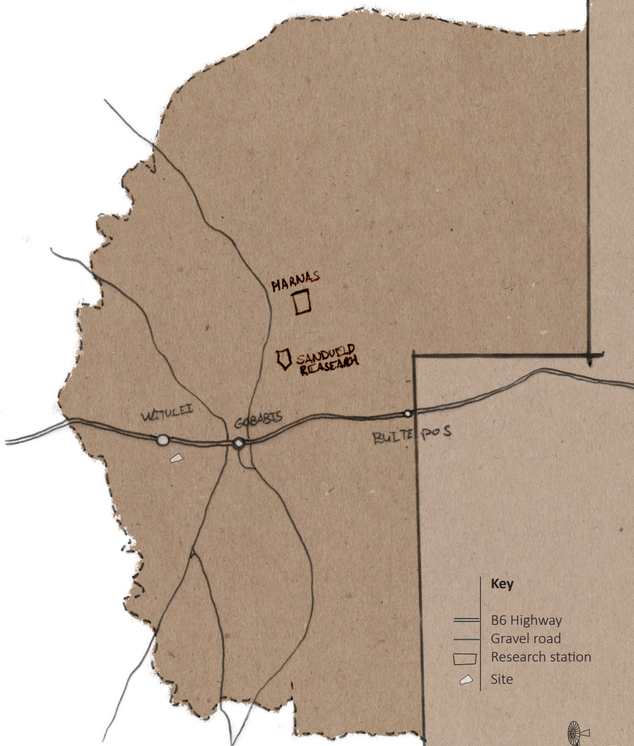
There is no doubt that this is important and valid research, but without a deep understanding of context, there might be a lack of validity in the research conducted at these centres. Introducing a scheme that does ecological research could therefore be a handy tool to assist these existing places of research. A place that these researchers can utilise to educate people will also be of great use.

Figure 015
Research sites in Namibia



Note. A Map Depicting the location of research sites in Namibia(Author, 2024)

Figure 016
Omaheke Research Map



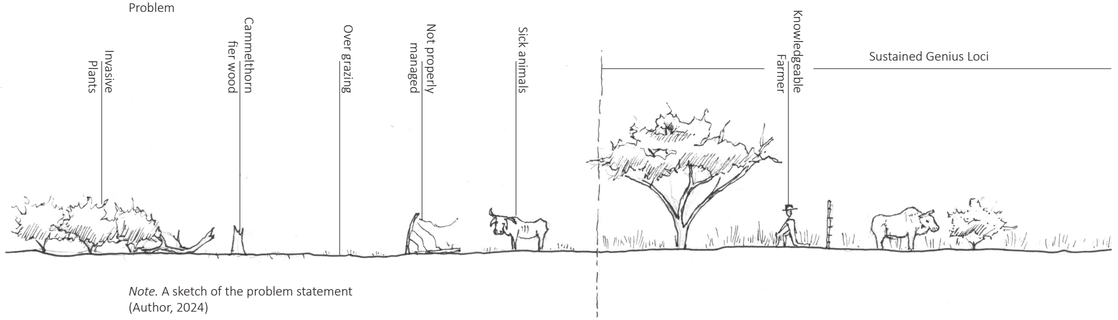
Note. A Map showing research stations in Omaheke (Author, 2024)

PROBLEM STATEMENT

In Omaheke's Sandveld, three key drivers—subsistence farming, eco-tourism, and natural/ecological research—are intricately linked to the region's vitality. For sustainable economic activities, environmental growth and practices, and the preservation of its unique identity these industries must harmonize. However, a significant barrier to achieving this harmony is the lack of comprehensive knowledge exchange, practices, and recent research on the Sandveld (Strohbach, 2023). This knowledge gap, among, other factors contributes to the degradation of the natural environment, particularly evident in industries like resettlement stock farms, which heavily rely on the quality of natural grazing grounds (Ngavetene, 2019). This degradation not only diminishes biodiversity but also disrupts natural processes, leaving lasting "scars" on the landscape and eroding the place's identity.

To address these challenges for sustainable livelihoods, there is a pressing need for a designated space dedicated to research, practice, and knowledge exchange within Omaheke's Sandveld. Such a space would not only facilitate the generation of essential knowledge but also provide a platform to rectify the damage inflicted on the environment. By fostering collaboration between stakeholders and the natural environment, this intervention can promote sustainable practices and ensure the preservation of Omaheke's unique landscape for future generations.

Figure 017
Problem



Note. A sketch of the problem statement (Author, 2024)

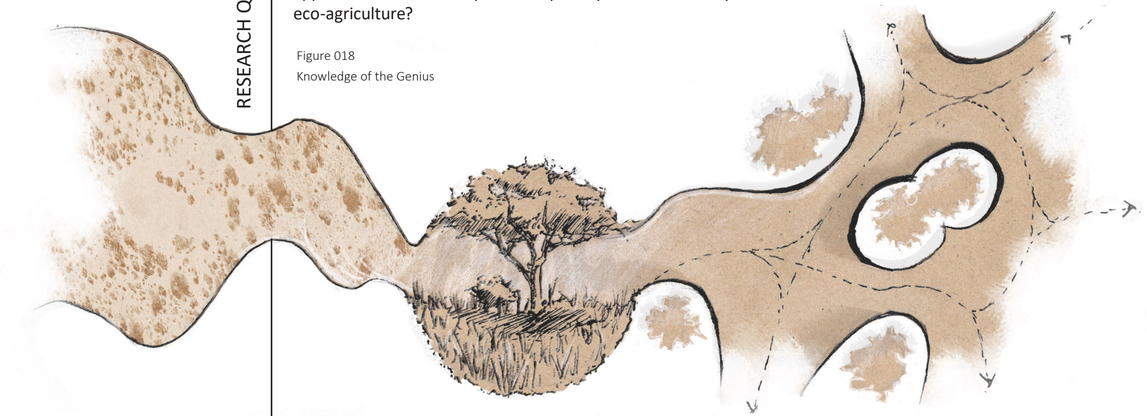
RESEARCH AIM

Considering the background and the problem identified, the intervention seeks to address the degradation or "scaring" of Omaheke's Sandveld identity by integrating the natural landscape, research insights, local farming practices, and tourism. The study endeavours to conceive an architectural intervention that harmonises with the Sandveld's intrinsic spirit of the place. This intervention aims to establish a collaborative space fostering knowledge exchange, and reconnecting communities to their environment, thereby safeguarding the Genius Loci.

RESEARCH QUESTION

How can the embedded elemental wisdom of Omaheke's Sandveld inform an architecture of acquaintance composed of gathered moments of knowledge exchange able to foster a deeper appreciation of this arid place and proselytize a community towards eco-agriculture?

Figure 018
Knowledge of the Genius



Note. A sketch depicting how Embedded Knowledge of the Sandveld could form an architecture of acquaintance. (Author, 2024)

*How can the **embedded elemental wisdom** of Omaheke's Sandveld **inform** an architecture of **acquaintance** composed of **gathered moments** of **knowledge exchange** able to foster a **deeper appreciation** of this arid place and **proselytise** a **community** towards **eco-agriculture**?*

Figure 019
Research design

Genius Loci

Understanding the Sandveld's embedded elemental wisdom (genius loci) will draw out data related to the context as a whole. This is analysed as a foundation to inform the succeeding research.

Knowledge Exchange

Using the knowledge gathered, an acquaintance is reached, focused on a more personal level. The site is experienced through encountering unique moments, and through this knowledge is shared.

Implementation

By introducing a community to the Sandveld's unique moments a deeper appreciation for this arid place could arise within them. Through this, the architecture could proselytise the users towards a more sustainable, eco-friendly way of being.

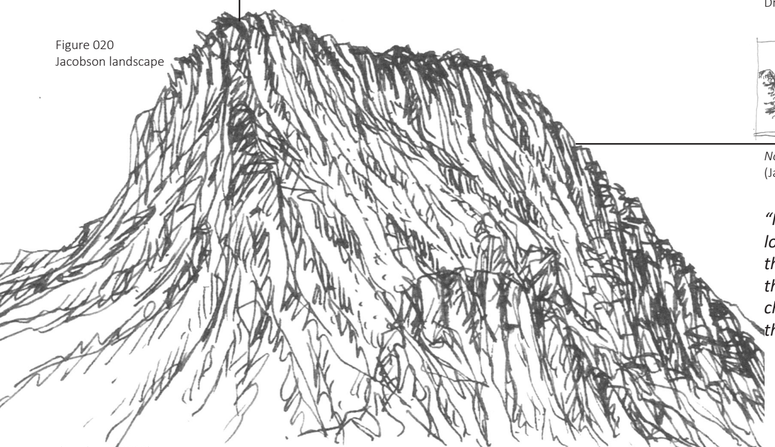
Note. Three consecutive scetches depicting genius loci , Knowledge exchange, and implementation . (Author, 2024)

Research Objectives	Research Questions	Approach	Methods	Expected Outcome
1. To define the characteristics of the Sandveld's Genius Loci to inform the creation of context-specific places.	1.What embedded elemental wisdom of the Omaheke's Sandveld could foster sustainable, meaningful places?	A Qualitative Case Study of Omaheke's natural landscape (Camelthorn Savannah) through the theoretical lens of Genius Loci. (see methodology)	1. Observation and documentation of Sandveld's patterns, climate, materiality, and vegetation, to mention a few. 2. Using sketches to portray experiences on site .	1. Photos uncovering various elements of the Genius Loci. 2. Text documentation of some meaningful experiences on-site. 3. Various sketches depicting a deeper understanding of physical and abstract elements.
2.To Investigate architectural responses related to meaningful peacemaking in Omaheke's natural environment.	2. How can an architectural acquaintance generate a deeper appreciation of Omaheke's Genius Loci?		1. Precedent analysis, of ways contemporary architects responded to similar situations or contexts. 2. Exploitative research through observation and sketching exploring spatial conditions and responses	1. Design response/s or approaches brought to light from various precedent analyses . 2. Multiple sketches exploring and testing possible design responses emerging from Genius Loci.
3. To propose an architectural intervention that respects or aligns with the context and Genius Loci.	3.How can a proposed knowledge exchange center, proselytise eco-agriculture in Omaheke's Sandveld into moments of knowledge exchange that foster a deeper a appreciation of this arid place ?		1. Exploitative research by design through: Sketching, model building, Testing, and reworking based on what was learned.	A series of exploitative sketches and models refined into finished building/s related to the context possibly fostering a deeper a appreciation of Omaheke's Genius Loci.

JACOBSON

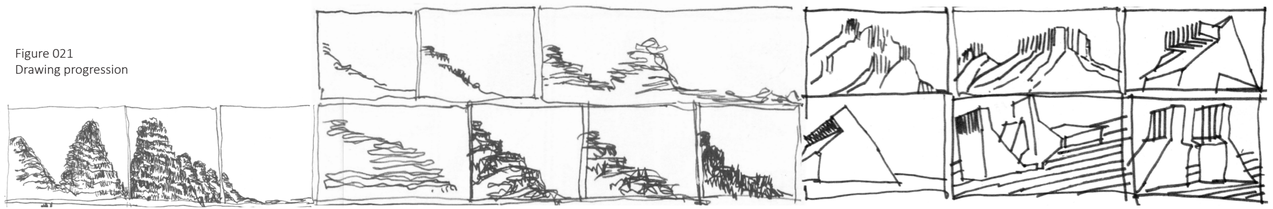
A phenomenological research approach will comprise of a qualitative case study, through which tools and systems derived from Genius Loci (as a Phenomenological approach) and from the literature will be applied to generate a proposed design. Using Genius Loci as a theoretical lens, a deeper understanding of the meaning of place within the Sandveld of Omaheke could be gained through sketching as an analysis technique. The technique, introduced by Jacobson (2019) will be used to conduct the research. By investigating architectural spaces, forms, and possible design informants, through sketching. Jacobson aims to achieve a deeper understanding of context, where he then utilises a progression from literal drawings to abstract and finally conceptual architectural drawings.

Figure 020
Jacobson landscape



(Jacobson, 2019)

Figure 021
Drawing progression



Note. Drawings depicting how nature is turned into architectural massing (Jacobson, 2019)

"I don't believe you get to the depths of anything just by looking at it. We deal with form and we deal with making things, so you need to do something where you initialize the things that you are working with. Whether its abstract architectural spaces or whether you are trying to understand the site, the drawings allow you to encounter your subject in a haptic, in a real and felt sort of way"

(Jacobson, 2019)

By first sketching a particular element or scene of a landscape he engages with it on a more personal level, bringing out the feeling of the place. He then steps into a more abstract mode of sketching, aiming to draw out what makes the scene aesthetically pleasing or unique, engaging with it on an even deeper level. Lastly, Jacobson makes use of the previous abstractions to create drawings, resembling form, facade, silhouette, or even detail in some cases. Using this technique, the Genius Loci may be understood and implemented into this intervention.

Figure 022
Abstractified Landscape

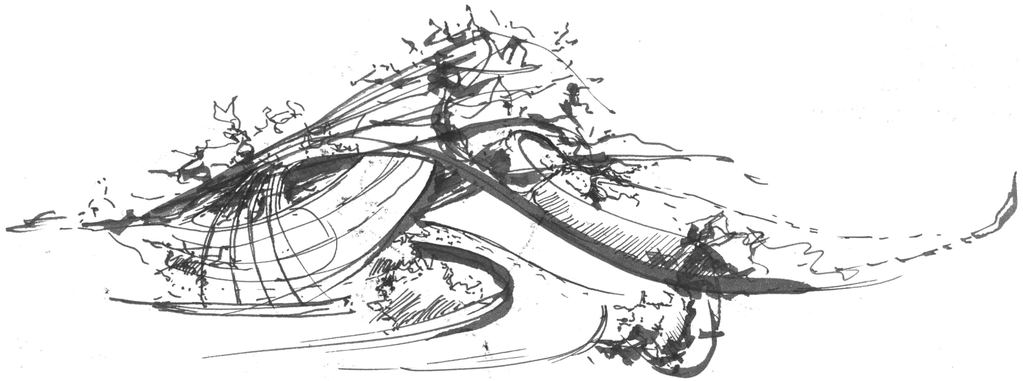
Note. A drawing, depicting how the landscape in fig 020 is abstractified. (Jacobson, 2019)

Figure 023
Rudementory Massing

Note. A drawing showing an emerging mass from Fig 22 (Jacobson, 2019)

Thus, the primary focus areas through which this technique will be carried out could then be defined as the natural environment, people, and way of being of the cattle farming community in the Omaheke region. This allows for purposive sampling to be used, focusing only on the aspects that may influence the Genius Loci of the site (research, cattle farming, tourism). Whereby a combination of Jacobson's technique, and qualitative observation, is used to outline the data defining the Genius Loci, and through this, possibly introduce architectural responses that could make an intervention that adheres to the meaning of the place.

Figure 024
Herded by Sandveld



Note. An initial sketch of how the Sandveld could Become spatial, merging Nature, Architecture, and Genius Loci. (Author, 2024)

SIGNIFICANCE

A lack of knowledge and implementation of the Genius Loci within Omaheke's Sandveld needs to be addressed to create a sustainable way of being. Therefore, this research by design could contribute to a deeper understanding of place, and be taken further by spatializing this understanding

This approach could then be used to spatialize the acquaintance of the Sandveld's Genius Loci into an architectural intervention reconciling man with nature. Challenging prevailing societal norms that often prioritise inauthentic, globalized design over context-driven approaches (Robinson, 1973). By implementing a contextualized intervention, surrounding communities and the landscape can significantly benefit. People will acquire knowledge that, when applied, can lead to them adopting a more sustainable way of living. This, in turn, can revitalize and preserve nature, safeguarding the Genius Loci of the Sandveld for future generations.

""There is no wealth like knowledge, no poverty like ignorance."

- Ali Ibn Abi-Talib.

Figure 025
Old Camelthorn tree

Note. A Photo of an 800+ years old Camelthorn tree on the farm, Lammer moor, based on 10cm diameter = 100 Years (Steenkamp, 2008). (Author, 2024)

CONCLUSION

Within the bacgroun of Omakeke it is highlioghterd that the Sandveld becomes the overarching natural context , through which essential users of the land is defined. By analising the current situation of the Sandveld, tourism, cattle farming, and research within omaheke a pressing need arose to promote a more sustainable form of farming. Eco-agrculture , a form of holisticaly approaching the natural envidonment, is proposed as a meanse to bridging the knowledge gap between the community and their natural environment. To prosylatise eco-agriculture as a way of aderssing the problem statement, designates space of knowlede exchange is needed within the Sandveld of Omakeke.

A phenomenological research is therefore proposed, making use of the technique introduced by Jacobson (2019) as a wy of of understanding the embeded elemental wisdom of the Sandveld . This approach could then be used to spatialize the acquaintance of the Sandveld's Genius Loci into an architectural intervention in the persuit of reconciling man with nature.

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INTRODUCTION

The Sandveld is a broad and complex entity, in order for Jacobson's (2019) technique to be applied, the theory of Genius Loci, an branch of Phenomenology , is explored. Defined by Norberg-Schulz (1971) as the prevailing character or atmosphere of a place. The place and space dynamic is explored, understanding that place is a form of experienced space with a deep rooted meaning. The Sandveld as veld, pans, and dunes, was therefore compared to cosmic, romantic and classical landscapes, as a method of understanding types of places. A more contemporary understanding of peacemaking focused on the experiential principles is highlighted by Zumtor (2006). This understanding will be one of the bases through which moments of experiential knowledge exchange could be carried out within the intervention.

Hais !naga !hao#nu is translated "to gathering under the tree". This is the method through which various cultures traditionally tell stories and discuss important matters and will be seen as an important contributor to designing for Knowledge exchange.

Figure 026
Hais !naga !hao#nu

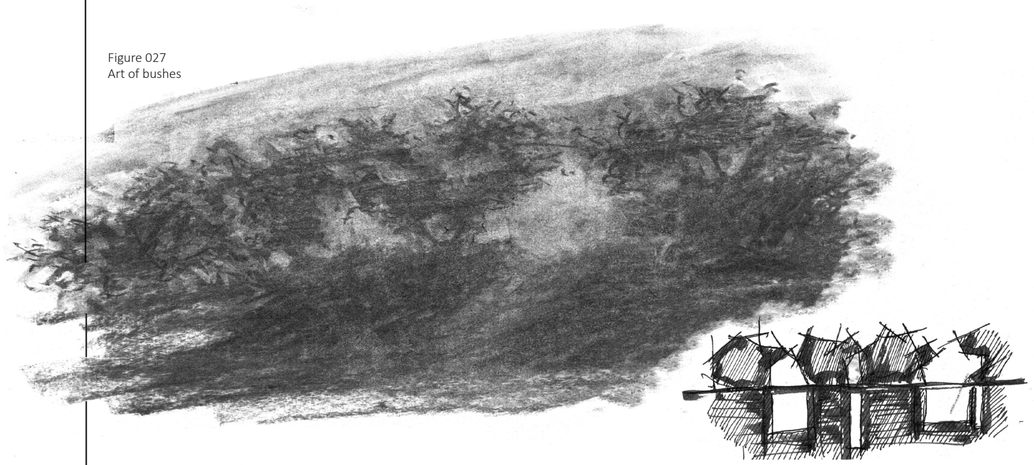
Note. A sketch depicting a location on site consisting of 3 large camelthorn trees (Author, 2024)

THEORETICAL WISDOM

- PHENOMENOLOGY
- GENIUS LOCI
- LANDSCAPES
- CONTEMPORARY UNDERSTANDING
- CRITIQUES

The understanding of place hinges on the knowledge of ‘being’. Edmund Husserl (2013) is considered the founding father of Phenomenology (the study of phenomena related to the way of being), his research aimed to “find the un-interpreted basic experience of things” (Kelly, 2003), where he argued that there could be more to an object or phenomenon than what we can immediately perceive through scientific measurement or senses. As stated, “the hidden aspects of an object, those that transcend our experience of them are hypothesized but sensuously absent.” (Kelly, 2003). This is an idea that becomes very apparent when comparing the experience of looking at a photo of a place and being there. This can be also seen in the way art aims to represent this “feeling” of something (Figure 027) rather than the physical. Therefore, proving that things are more than just the physical (the photo) and rather something deeper (the art).

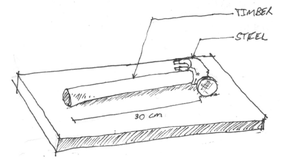
Figure 027
Art of bushes



Note. A charcoal work of art depicting bushes on site relating to Genius Loci (Author, 2024)

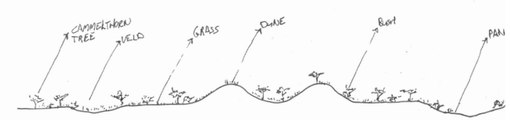
Martin Heidegger (2010) continued in his footsteps whereby he introduced arguments on the relationship between human perception, its connection to practical engagement with the world, and our understanding of being. Heidegger argues for concepts like ‘pre-reflective understanding’ where the observer always has an unconscious background understanding, shaping his perception (Blattner, 2023). He also introduced concepts of “ready-to-hand” and “present-at-hand” as attitudes toward observing and experiencing the world. Whereby ‘Ready-to-hand’ he described as a way of doing things with the view to achieving something else, and ‘present at hand’ is when we observe or regard an object in isolation and study it with an attitude like that of a scientist, of merely looking at the object’s bare facts as they are present (Macquarrie, 1973). Heidegger (2010) uses the idea of a hammer to explain this, one unused and studied and the other to drive a nail Fig 028. The argument could therefore be made that the Sandveld is lying dormant in the present at hand state. By using its Genius loci as an active design generator of being, it may become active in our everyday lives, rising into the present at-hand state within this context seen in Fig 029.

Figure 028
Heidigger’s concept

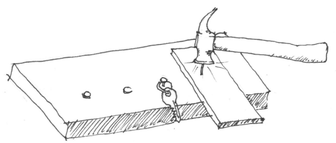


(Author, 2024)

Figure 029
The Sandveld Reddy to hand



(Author, 2024)



Concepts of Heidegger's work on phenomenology formed the basis of Christian Norberg-Schulz's theory of Genius Loci in architecture. Where he used the term Genius Loci, originating from Roman folklore which depicted the 'Genius of a place' as a spirit that originates there, acting as its guardian (Norberg-Schulz, 1979). To form the theoretical bases through which contemporary architects would strive in the pursuit of meaningful place-making related to context. Norberg-Schulz (1979) starts to describe Genius Loci by first defining the meaning and then comparing place and space, where he argued that place is the combination of 'intangible and tangible phenomena'. Vecco (2020) went further stating that there is a dimension of underlying processes that emerge between humans and nature that can be used to explain the "intrinsic and extrinsic nature of Genius Loci."

Regarding these phenomena, a design needs to be sensitive as "changing the position or the relationship of one element will imply a change in the system as a whole" (Vecco, 2020). Norberg-Schulz explores existential space through 'schemata' of space, namely pragmatic space which "integrates man with his natural, 'organic' environment, perceptual space is essential to his identity as a person, existential space makes him belong to a social and cultural totality, cognitive space means that he can think about space and logical space, finally offers the tool to describe the others" (Norberg-Schulz, 1971). In essence, he described space as the physical three-dimensional organization of elements (without meaning) and place as more the intangible meaning, atmosphere, and character of a certain space (with meaning). Similarly, to Heidegger's statement, Schulz (1979) describes that the "human identity presupposes the identity of place", as man's dwelling is only set into practice when he can interpret the context into building. Vecco (2020) argues for the thinking of place not as fixed areas, but rather as constantly changing articulations of social relationships through time, assuming that Genius Loci is made of various layers that can "allow us to contrast and combine more subjective and objective perspectives on places, respecting their underlying factors" (Vecco, 2020). This can only be done if a complete understanding of the phenomena in nature can be reached. As Schulz (1971) explains "the world is experienced as a "thou" rather than an "it" and in this, we should acknowledge the origin of the concept of space as a system of places in man's perception of nature.

To make a meaningful place Norberg-Schulz introduces symbolism, he describes that the relation between man and natural places should happen by first visualizing his understanding of nature and then building what was seen through the natural place. "Finally, he has to symbolize his understanding of nature (including himself)." (Norberg-Schulz, 1979), through which a different medium is used to represent the experienced meaning and its phenomena.

By grasping this concept a question arise , what would an intervention that adhere to this do or become within the natural context ? Bidwell (2010) describes that natural interventions is considered "more acceptable" when the architecture visualise "environmental situations". By utelising this idea of almost blending into the natural context, the build form and its context will not be seen nor experienced as separate , but will rater become a single entity. Thompson (2004) argues that the Genius Loci could be utelised in this regard, where an intervention that adhere to the natural phenomenological patterns allows the build and the natural to merge. This harmony between the natural and man made (depicted in fig 030) could become a way of preserving and strengthening the Genius Loci of the Sandveld.

Figure 030
Harmony with nature

Note. A work of art depicting the concept of This harmony between the natural and man made. (Author, 2024)

LANDSCAPES

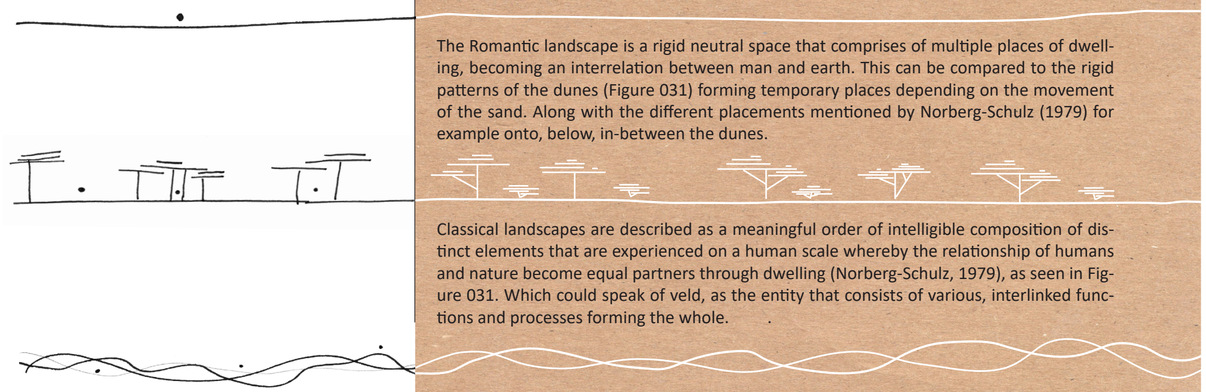
Norberg-Schulz (1979) divides contexts into Romantic, Cosmic, and Classical landscapes as a way of distinguishing between different phenomena affecting the Genius Loci of a place. In comparison, the “Sandveld” is divided into pans, dunes, and veld from which each typology will be explained. Where each forms a small part of the whole, yet in of itself are also unique..

Cosmic landscapes are described as a place where the earth fails to provide a foothold, being structured with a lack of form, an endless expanse where the sky is defined by the sun rather than the earth, describing the Genius Loci as “manifestation of absolute” (Norberg-Schulz, 1979), whereby pans (Figure 031) can be seen as the embodiment of this landscape typology.

The Romantic landscape is a rigid neutral space that comprises of multiple places of dwelling, becoming an interrelation between man and earth. This can be compared to the rigid patterns of the dunes (Figure 031) forming temporary places depending on the movement of the sand. Along with the different placements mentioned by Norberg-Schulz (1979) for example onto, below, in-between the dunes.

Classical landscapes are described as a meaningful order of intelligible composition of distinct elements that are experienced on a human scale whereby the relationship of humans and nature become equal partners through dwelling (Norberg-Schulz, 1979), as seen in Figure 031. Which could speak of veld, as the entity that consists of various, interlinked functions and processes forming the whole. .

Figure 031
Pan, Veld, Dune

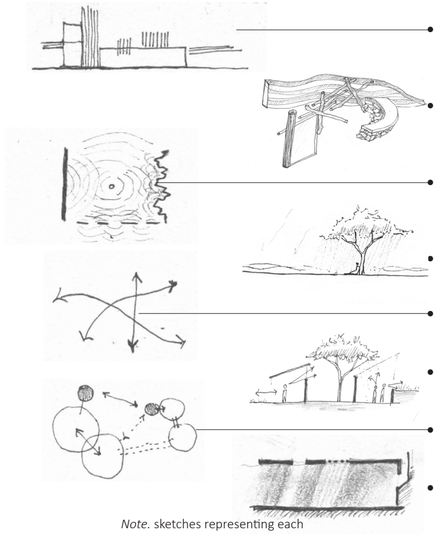


Note. A abstract sketches of veld, pans, and dunes (Author, 2024)

CONTEMPORARY UNDERSTANDING

In the following paragraph the phenomena and development of the Genius Loci over the last 20 years is explained. Starting with the configuration of place. Place and space are interconnected concepts in architecture where space refers to the measurable, physical dimensions of an architectural element, while place is a location that carries significance, emotion, and experience. Space provides the container, while place is the meaningful experience within. Place is therefore the realm in which the Genius Loci could be observed. Peter Zumtor (2006) argued that there are several qualities that translate a space into a place which he calls “the Magick of the Real”. He introduced these factors of peacemaking:

Figure 032
Qualities of place



- **“The body of Architecture**” which is elaborated on as the frame or body of a space. This factor refers to the skin of space and adds to the sensual experience of the enveloped place.
- **“Material Compatibility”** , refers to the way materials react differently in different combinations, at different times of the day, and when used in different amounts. “
- **The Sound of a Space”** is explained as a peculiar influence on character. Zumthor stresses that interiors are in essence large instruments as they resonate, collect or absorb sound made within and without.
- **“The Temperature of a Space”** is understood as both a physical and psychological factor.
- **“Between Composure and Seduction”** is discussed as the sixth element and elaborates on how people’s movement should influence architecture.
- **“Tension between Interior and Exterior”** relates to the threshold of the environments that have the most direct impact on a sense of place.
- **“Levels of Intimacy”** not only refers to the scale of a space, but also the proximity, distance, detail, and mass.
- **“The Light on Things”** denotes the way light falls into and within a space (Zumthor, 2006).

Note. sketches representing each quality of place (Author, 2024)

Furthermore, Vecco (2020) argues that Genius Loci should be interpreted as a meta-concept where Genius Loci could be observed in three interrelated layers, the visible, tangible layer the invisible experiential layer, and the underlying processes of human and natural activities. This may cause one to wonder, how one could see these unseen layers and experiences. To observe and “valorize” the Genius Loci, Jones (2022) describes a circular process of rethinking, protecting, and transmitting the place and its spirit could be taken. And that this value should then be interpreted. “The care and reconstruction of places in sustainable forms therefore require active, conscious citizenship, capable of combining contextual knowledge with expert knowledge through forms of participatory democracy”(Jones, 2020). In agreement Lokas (2023) insists that the focus of investigating Genius Loci should move away from the signifiers of the past, to the active present users, shaping the place. Describing that the essence of a place lies in the perceptions and experiences of the users of a space rather than historical artifacts (Lokas, 2023).

This can be seen on the proposed site, how the past created a ‘scar’ in the landscape, but the current users (natural environment, fauna, and flora) created a pan, a place that is in a sense life nurturing in this arid environment, a new Genius Loci from that of the past. Lastly, for a researcher to capture the genius loci, Clevis (2020) describes that art could be used, where the researcher (Artist) must be immersed in the experience of a place to create art. In this way, the researcher can accurately understand and communicate this unquantifiable entity that is Genius Loci. “Artistic research involves acts of thinking through making” (Clevis, 2020). This will be used as the basis of this research’s Methodology.

The Genius Loci must not be taken up lightly, to ensure that the spirit of the place, as the experience and atmosphere of the Sandveld’s way of being, is not lost. Heidegger (2010) introduces the idea of ‘Das man’ where he argues that conforming to social structures may cause a person to lose their way of unique being. Rasa Čepaitienė (2015) concurs with the statement, carrying it through to design, describing that loss of the spirit of a place is most likely to take place when it undergoes a practical and functional transformation driven by modernization and technological advancements (Čepaitienė, 2015). Frampton (1983) contradicts this modernist movement, and through this in a way preserves the meaning of place by proposing a theory slightly different from Genius Loci. He introduced the concept of critical urbanism is not so much in tune with the meaning and feeling of place, but rather aims to create a middle ground between traditional context-specific design with universal trends while moving away from the typical modernism movement (Frampton, 1983). Having similarities to Schultz’s theory on Genius Loci, critical regionalism also regards the response to identity and the poetical dimensions of place-making, drawing on inspiration from the local context (Frampton, 1983).

Lastly, I would like to discuss some critiques against Norberg-Schulz’s theory of Genius Loci. Champion (2018) believes, that due to Genius Loci being a subjective theory, that usually only considers the designer experience, it could disregard the awareness of the “other”. It may be meaningful to one person, while not being to another (Champion, 2018), stating that “That is to say, culture is understood in terms of the various representations and practices that people experience within social and historical contexts defined by the living presence of one human being to another” (Champion, 2018). He also states that meaningful place can be created through Craft, Care, and Time where he uses the Greeks as a reference proving the point, “The ancient Greeks are rightly lauded for their architectonic genius, but they were stunned when they encountered the Persian temples for the first time, precisely because they could fully appreciate the sacrifice and effort and sheer time required.” Possibly, they created a meaningful place, but this critique falls short in terms of relating to the site. Genius Loci primarily considers the ‘environment’ (without architecture) as a driving factor for the sense of place, overlooking the potential influence of architecture.”

CONCLUSION

Figure 033
4 Tenk pos

Note. A photo of a cow at a watering trough on the farm, Lammer moon (Author, 2024)

This literature review points out the fundamental way of understanding a site through experience, a more itamate method, in comparison with purely scientific understanding. This methods and way of thinking that is introduced by Norberg-Schulz, would also assist in the spatialising of something that is unseen, the Genius of the Sandveld. This more inamite connection between the intervention and place would become a form of knowledge exchange, promoting the Sandveld to the users.

Therefor, to set the foundational understanding of place, the Phenomenological theory of Genius loci, as the spirit of place, becomes the method of understanding, through which the research would be carried out.

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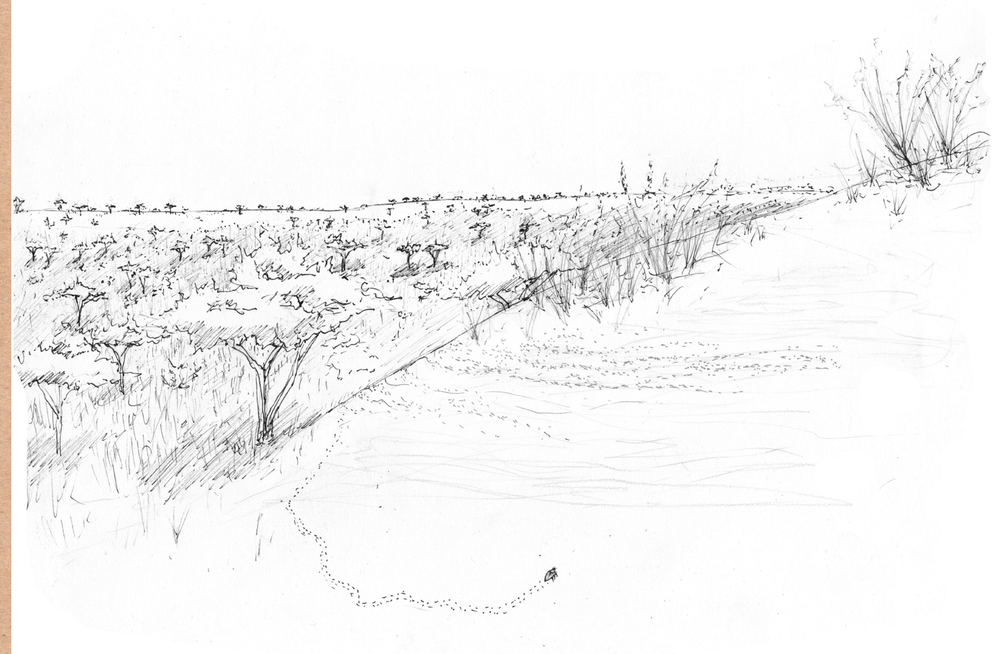
INTRODUCTION

In the persecute of understanding the Genius Loci, this topic starts by rooting the process within the context, by engaging with the Sandveld's way of being, by herding cattle. This allowed for both an intrinsic and extrinsic mode of data collection and analysis to be undertaken.

Next the Sandveld is described as an holistic entity containing the Genius Loci of Omaheke. Although this place is considered a holistic entity, the study uses the natural typologies of veld, pans and dunes to understand the elemental wisdom of the Sandveld. By gaining an deeper understanding of the Genius Loci of this place, the study enrages further with the context, outlining elements from a contextual, farm, and site scale. Engaging with points of consideration that could affect design program in the context, the layout and rationale of the farm Lammer moor on which the site is located. And lastly the Pannetjie (the site) is analysed, with a in depth focus on the sun and wind, soil conditions, flora, and fauna. Reaching a good understanding of place through which the design rationale could be explored.

Figure 034
Dune sketch



Note. A Sketch from the dune (Author, 2024)

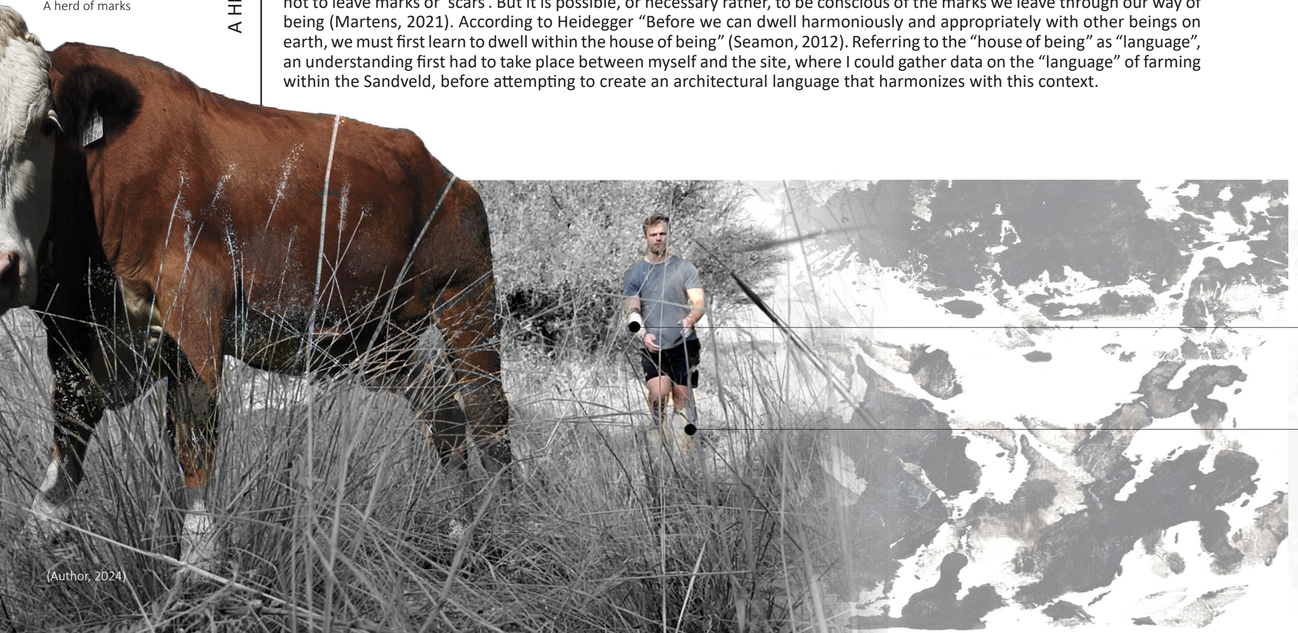
THE MARKS OF PLACE

- A HERD OF MARKS
- UNDERSTANDING THE GENIUS
- THE PLACE
- LAMMERMOOR
- TANGIBLE WISDOM

"To understand a space one must first get to know it on a deeper level, and this only occurs when you spend time within it and engaging with its being" (Oret, 2024). With this said a decision was made to first understand the concept of herding. When herding is understood, its way of being would become the way that data would be analysed into usable information, simply stated, I would allow myself to be intuitively herded, as knowledge is exchanged.

Farming, tourism, and to a certain degree research have a continuous interaction with nature, making it virtually impossible not to leave marks or 'scars'. But it is possible, or necessary rather, to be conscious of the marks we leave through our way of being (Martens, 2021). According to Heidegger "Before we can dwell harmoniously and appropriately with other beings on earth, we must first learn to dwell within the house of being" (Seamon, 2012). Referring to the "house of being" as "language", an understanding first had to take place between myself and the site, where I could gather data on the "language" of farming within the Sandveld, before attempting to create an architectural language that harmonizes with this context.

Figure 035
A herd of marks



(Author, 2024)

Therefore, an extrinsic mode of study was taken, rooting myself in the essence of "Cattle Country" through herding. The Sandveld was therefore allowed to embed wisdom onto me through a 'second skin' capable of receiving marks or 'scars' as I herded cattle on the farm.

The device takes form through the place itself, inspired by Omaheke's veld, pans, and dunes. Viewing the veld as the facilitator, the pans (clay) as the embodiment of marking, and the dunes inspiring movement, change, and flow through the veld, a form of herding perhaps. Created by engaging with local farming practices, specifically leatherwork (the straps to attach it to oneself) "draadwerk" (the medium used to tighten the materials to each other), and making marks through the clay (laid on top of a transparent layer bringing it close to the skin of the user). By essentially bringing together the Sandveld, a "second skin" was created.

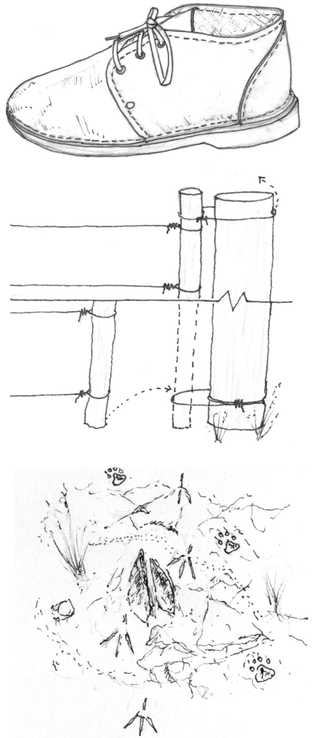
Figure 036
The Second skin

(Author, 2024)

Figure 037
Second skin Detail

Note. A photo of the second skin focusing on the detail of 'Draad werk' and leather work. (Author, 2024)

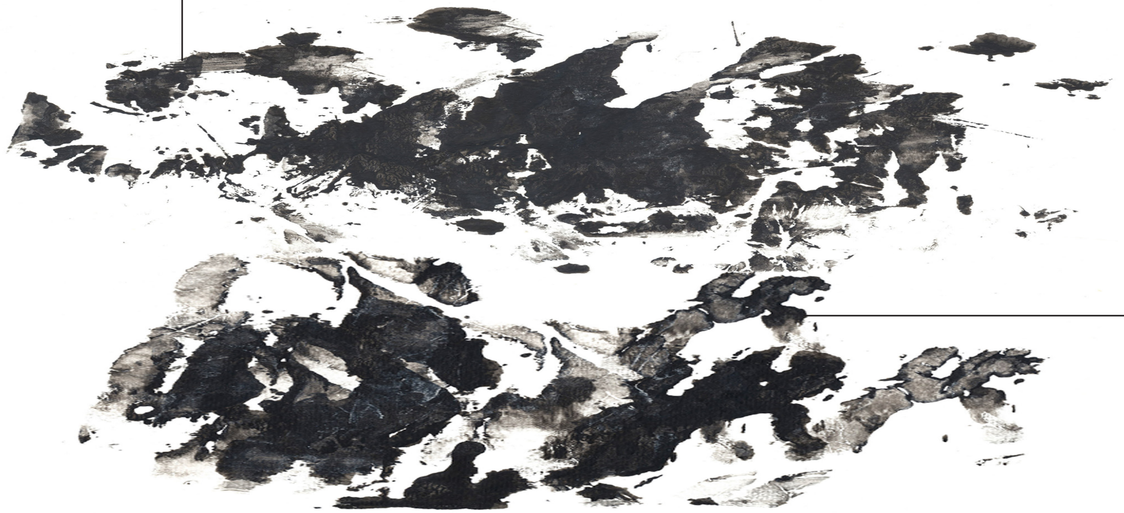
Figure 038
Way of making



Note. A series of sketches depicting, leatherwork, 'draadwerk', and making marks in clay. (Author, 2024)

Strapping it to one's arms and legs the user was able to fully engage with the activity of herding cattle while gathering data as the movement through the veld marks the clay. Afterward, an exchange of knowledge took place by applying ink to the clay and then to paper, a representation of the scars of cattle herding was revealed. When one understands the way one being marks or scars another, then only can action be taken, in an attempt to minimise or rectify the harm done..

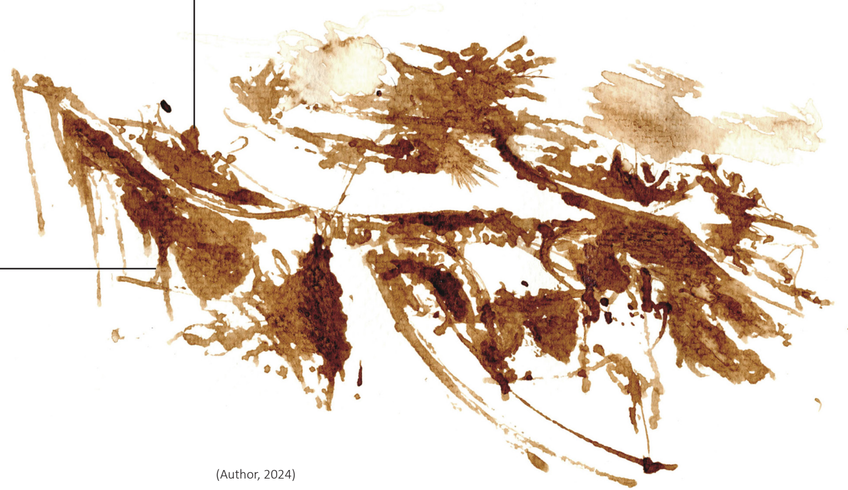
Figure 039
Marks as data



(Author, 2024)

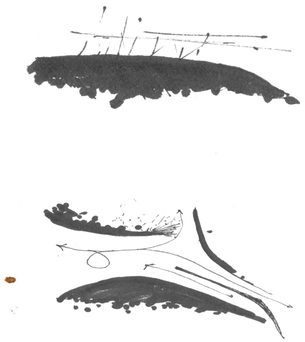
This representation of marks is used to inspire a possible method through which an intervention could not only remember the scarring that was done but also a way of minimising further scarring. Allowing myself to be herded by the raw data of the marks left, new drawings were made. These drawings outline the folding and merging of spaces that were brought to light by Fig 040. The way the marks on the left of the page create darker patches with thinner strokes coming from it could inform a structure that makes use of a stereotomic element with tectonic elements flowing along it as seen in Fig 41.

Figure 040
Herded by data



(Author, 2024)

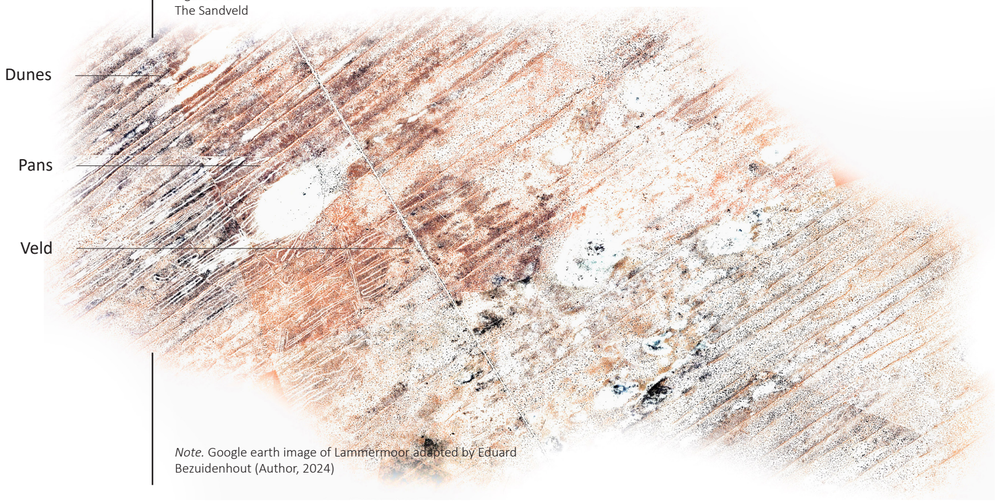
Figure 041
Techtronic and steriotomick marks



(Author, 2024)

Previously the Sandveld was divided into veld, pans and duns (romantic, cosmic, classic). But this model of the Cammelthorn savannah can (as a top down approach) is revealed to be flawed. As the only way the Sandveld should be experienced and analysed, is by wandering through it and physically being within it , by becoming an equal partner within it as Norberg-Schulz (1979) stated. Although I have divided the veld pans and dunes into these categories, its not to say that each of them don't share qualities related to another classification. Rather, showing that the Sandveld as a place, is an interwoven entity that can be sub-divided into multiple places, connected and interlinked with each other forming the overarching context of Omaheke's Sandveld. Therefore it contains all three of Schultz's (1979) characteristics of Romantic, Classic, and Cosmic landscapes which in my opinion should not be experienced separately , but as a single entity. And possibly only encountering moments where one of Norberg-Schulz's characteristics is more evident within the place.

Figure 042
The Sandveld



Note. Google earth image of Lammermoor adapted by Eduard Bezuidenhout (Author, 2024)

This becomes even more so evident when looking at a singular typology for instance when viewing the veld through a phenomenological lens. Then the complex combination of various elements all interlinked and connected, becomes more evident. Werther it is the contrast in color that somehow merge to a singular aesthetic, or the various types and species of foliage that blend into one another, to the relationships between the topography, water, fauna, and flora, all interlinked and holistically important. This holistic understanding and experience of the Sandveld is therefore crucial to keep in minde when setting out to understand the *Genius Loci* (fig 043) . By gaining a understanding of the individual spirit of place, the overlapping and merging points will become more clear. The veld pans and dunes will therefore now be unraveled , allowing the holistic entity that is the Sandveld to emerge through its sub elements.

Figure 043
A holistic Sandveld

Note. A watercolor abstract painting of the Sandveld containing different elements, that holistically merges into each other. (Author, 2024)

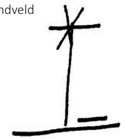
The veld consists of various species of trees, bushes, and grasses, arranged in various densities and patterns based on a large array of variables from water table depth, animal density and movement, species, and season to name a few. The topography of the veld is relatively flat, thus making movement through this place subject to the flora that creates both tangible and intangible barriers.

The term Veld is not only the land grass bushes and trees, it is so much more than the sum of its elements. It is a place of intricate patterns, space, therefore requires complex movement between the various barriers within it. This complexity and at the same time intimacy, experienced when within the veld can become overwhelming as sense of direction becomes clouded between the foliage. When dwelling within the veld, identifying markers become a part of the experience of moving within this space. By adhering to the sensory understanding of location, orientation, recognition, and direction would allow one to dwell seamlessly within this place.

By being within this place the most prominent sensory experience becomes the scorching sun, which at the same time creates beauty through the shadows that litter the red sand. This deep red sand is contrasted seasonally by a burst of green at the turn of the rainy season. In contrast to this, is the redness is accentuated in periods of drought, with only the canopies of the camelthorn and shepherds trees showing a dull green. This dirty red and neutral color scheme becomes a large part of the visual genius loci.

Taking a deeper look at the veld from an experiential perspective, Figgure 045 compares the eye level perspective to the top down experienced through movement.

Figure 044
Markers of the Sandveld



LOCATION

A marker as a place, such as a ‘pos’ or a pan, a known point within the veld.

RECOGNITION

Refers to recognising a uniqueness or memorable element like a fallen tree

DIRECTION

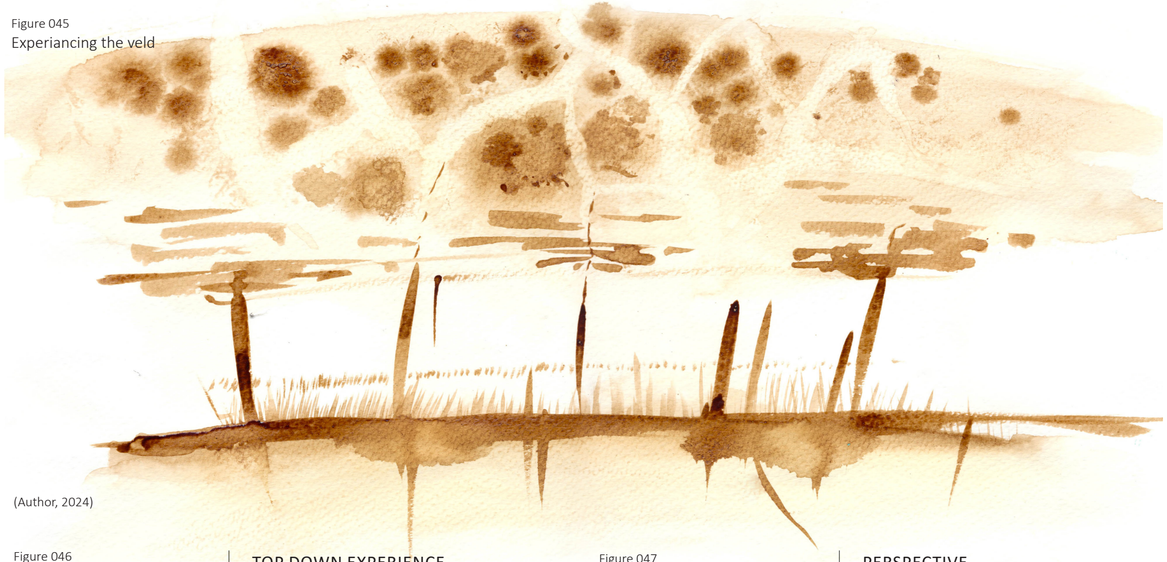
Moving on an existing path will ultimately lead you to a location.

ORIENTATION

of which the Sun is the most prominent sense

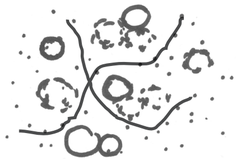
(Author, 2024)

Figure 045
Experiancing the veld



(Author, 2024)

Figure 046
Organic Movement

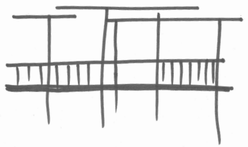


(Author, 2024)

TOP DOWN EXPERIENCE

Experiencing the veld through movement the place becomes organic in a sense (Fig 046). As there directing elements like clear paths is scarce, one moves through the space at a much slower rate as a good amount of focus, deciding the be path of least resistance.

Figure 047
Planes of veld



(Author, 2024)

PERSPECTIVE

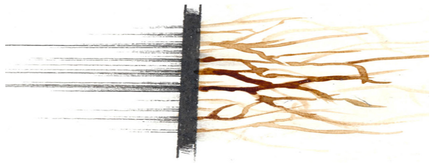
The topography of the veld dictates that it is mostly experienced in elevation. from this perspective clear planes forms between the ground, grass, canopies, and tree trunks. An intervention should therefore also be experienced from eye-level, rooted to the ground.

Pans are low lying places within the this landscape. Contrary to the abundance of sand and foliage in the veld and dunes, it contains minimal of both. For this reason the colour and texture of the pans can vary in color and texture, mainly based on the soil conditions. Usually made of clay or rock or a combination of the two, the ground becomes able to hold water for a period after the rainy season, which juxtapose the sandy soil of the veld and dunes. The availability of surface water also increases the chance to see wild animals . In this, the pan acts as a memory device, taking the marks of its visitors in the wet clay, allowing one to observe a gimps of a moment in the past.

These spaces' are also experienced as a pause within the landscape. Becoming as a void which in a way magnifies the experience of the veld and dunes, depicted in Figure 048. It is open, simple, grand, evoking feelings of scale and magnitude, and in a way, a sense of the bigger picture emerges. It is also a place where the direction isn't relevant as there are no obstacles, making it a hidden landmark of sorts. The increasingly denser foliage surrounding the pans acts as boundaries, forming dune like banks falling inwards to the center of the pan as seen in Figure 049. By observing the pan from the perefury, the center becomes a focal point, especially when containing water. When the observer is in the center the banks is experienced as a siloet of the veld , were certain moments of uniqueness becomes evident. contrary to that of the veld and dunes, Pans have no pattern or texture associated with it as it become s the subject to the pattern imposed on it through water, footprints, or the natural flaking of dry clay.

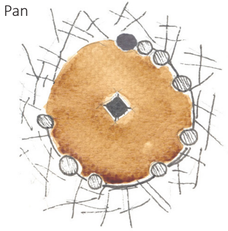
Scattered within the Sandveld the pans becomes nestled between the veld and dunes, this relationship is explored in Figure 050.

Figure 048
Point of absence



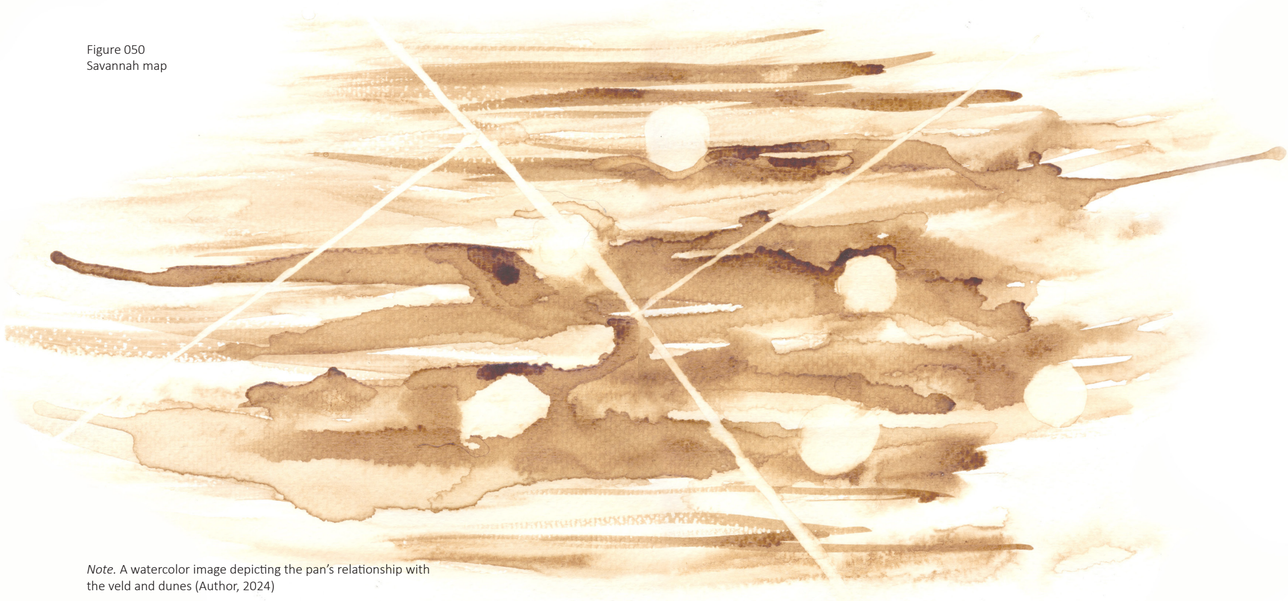
Note. An abstract drawing showing the Pan as a point of absence, magnifying the dunes and the veld's experience. (Author, 2024)

Figure 049
The Pan



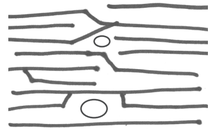
Note. An abstract drawing depicting the folage on the pan's perufery and the observation points, becoming moments. (Author, 2024)

Figure 050
Savannah map



Note. A watercolor image depicting the pan's relationship with the veld and dunes (Author, 2024)

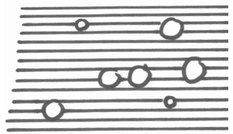
Figure 051
Veld giving away to pan



(Author, 2024)

The Pans could be Perceived to be an entity of its own , but more often it is perceived to be as the absence of veld and dunes, as depicted in Figure 051. There fore the pans is seen to emerge where the dunes and the veld disappear, exposing this cosmic landscape.

Figure 052
Pan vs Dunes



Note. An abstract drawing depicting the folage on the pan's perufery and the observation points, becoming moments. (Author, 2024)

The relationship between pans and dunes is therefore within favour of the dune , as a pans can only exist in the valley of a dune. With these spaces mostly falling under the typology of veld, a pan can therefore exist seemingly anywhere within the veld.

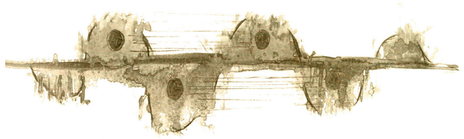
Dues is natural bodies found within the Sandveld, consisting of a large mass of sand, this entity becomes a prominent feature of omaheke, comparable to the red sand dunes of the Namib desert. Dunes within the Sandveld is not always barren like that of the Namib desert. Although there is a clear distinction in the density of foliage between the veld below and the crest of the dune, dunes almost always contain trees and some grass. The change in density from the veld is due to the increased rate of infiltration as one move higher onto the dune. This allows only deep rooted trees to thrive here, along with closely packed grasses, acting as a sponge to keep water closer to the soil for as long as possible.

Dunes can therefore be described as the embodiment of opposites and change (figure 053) , high-low, warm-cold (due to the rising of less dense air making the top or the dune considerably warmer), light and dark (as the dune has most of the day a light and a dark side as the sun moves over it). Due to the nature of its topography, dunes should be experienced through movement, and therefore the location, being on top, below, and in between is of great importance.

The dune's pattern , as seen in Figure 054 becomes the embodiment of movement, fluidity, and change, facilitated by the sand's constant motion conforming to the wind , obstacles, and other variables. In Figure 055 the fluidity and change of the dune, around an object is examined, this becomes the basic principle on which a dune's pattern and being emerges.

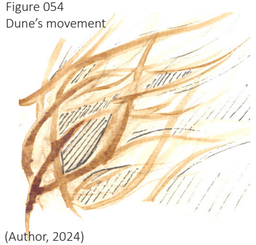
Using Figure 56 the dynamic of the pattern of dunes, is compared to other patterns found with in the sandveld

Figure 053
Opposites



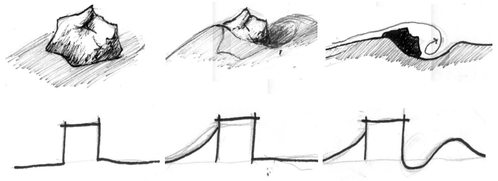
(Author, 2024)

Figure 054
Dune's movement



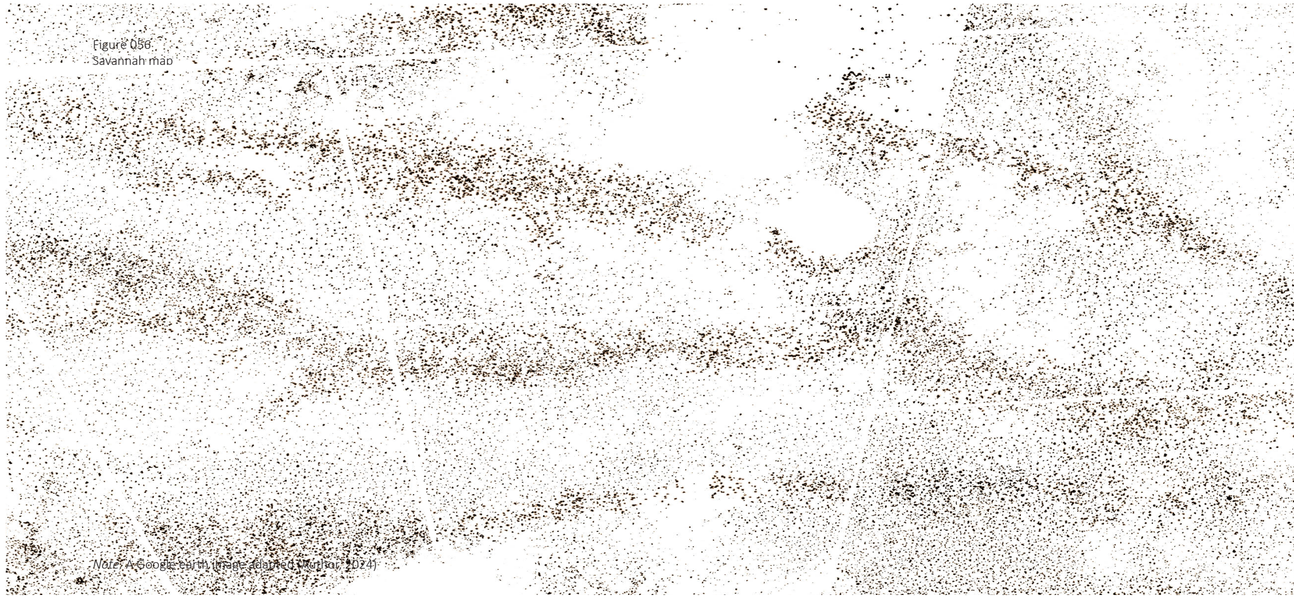
(Author, 2024)

Figure 055
Fluidity of sand



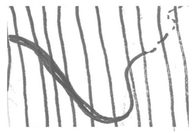
(Author, 2024)

Figure 056
Savannah map



Note: A Geodetic Earth Image Data (Mapbox, 2024)

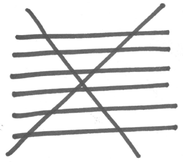
Figure 057
Dune's pattern



(Author, 2024)

When observing the dunes close up in comparison to a larger scale the patterns making up the larger community of dunes , and the ripples within the sand becomes almost identical. This pattern is formed in a linear grid , where the individual lines slightly deviate, yet following the same orientation as shown by figure 057.

Figure 058
Dune's pattern interceted



(Author, 2024)

Figure 058 depicts the way dunes follow the linear pattern through the Sandveld, and then intersected by movement patterns of farmers and at some cases the linearity of the dune is brought to a halt by the veld. This end to the pattern becomes a place of interest , as it adopts in a sense the patterns of both veld and dune.

As the genius loci of the Sandveld is understood on a deeper level, the analysis will continue into understanding the contextual place.

The site is located on a cattle farm named Lammer Moor, sitting approximately 5 km from the B6. This proximity to the Trans Kalahari highway gives people traveling from far away easy access to acquaint themselves with the Sandveld. Immediately exiting the B6, Jooste Abatuar is located, supplying its services to butcheries in Omaheke and some in Windhoek. Going deeper, you will find West Nest sitting on the northern side of the site. A Guest farm that draws various tourist and local visitors to its rustic camps, chalets, conference space, restaurant, and hiking trails displaying wild animals and the Sandveld. Finally, to the west of Lammer Moor is the Kalk pan, the closest one of the many relocation farms in Omaheke.

The site is therefore surrounded with opportunities to connect the users of the land. Engaging with the Abatuar, a butchery could benefit the restaurant and tourists of West Nest. Adding additional activity through Knowledge exchange will convey a Sustainable way of being to, tourists, and both to relocation and respected farmers of Omaheke.

Figure 059
Context map

Note. A adapted google earth image of lammermoor depicting relevant elements of its immediate context .

Figure 060
Map of Lammermoor

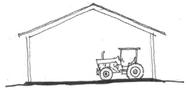
Note. Google earth image of Lammermoor adapted by (Author, 2024)

Gang

Allows for animal herding from within the farm

The *'Pannetjie'* (site)

The proposed site shares the embedded elemental wisdom



***'Plaas huis'* (homestead)**

Place of dwelling, and where the 'skuur' is located

***'Poste'* (Water points)**

Place water is pumped and stored allowing animals to drink and occasionally given fodder

***'Lyn draad'* (farm boundary)**

The primary separation between Farms

Dunes

Contributing to the visual Genius Loci of the area

Pans

Only filled in rainy seasons

LAMMERMOOR

The farm is named after Lammer Moor in Australia, Oom Kassie (the farm's owner) describes that place as being "the most beautiful place on earth", a place where grass fields endlessly stretch over the running hills, he says that this farm reminds him of that. Housing the proposed site, Lammer Moor will thus become the place where the Genius Loci will be used to proselytise eco-agriculture.

Used to be a game farm that was later converted to be more cattle-focused. The farm is now divided into camps ranging from 100 to 400 hectares with a 'gang' running through the centre of the farm, allowing, for efficient herding of animals throughout the farm. The 'plaas huis' is located on the northern boundary of the farm acting as the dwelling place of the 'boer'. The 'skuur' is also located at this point, becoming a centre point of non-animal related farm work, building gates, fixing equipment, housing sick animals, and storage are some of the most important functions carried out here. Similarly, 'poste' forms markers within the farm, assisting in orientation and communicating location, as each 'pos' has a specific name: 1.-Fier tanks pos; 2.-Middel pos; 3.-Ou huis pos; 4.-Suid pos. It also becomes a point where animals can quench their thirst and get sustenance from the 'Boer', giving them salt lick, or occasionally fodder.

Now that a good understanding of the farm scale is reached, the discussion will dive deeper, bringing out the tangible wisdom on a site scale.

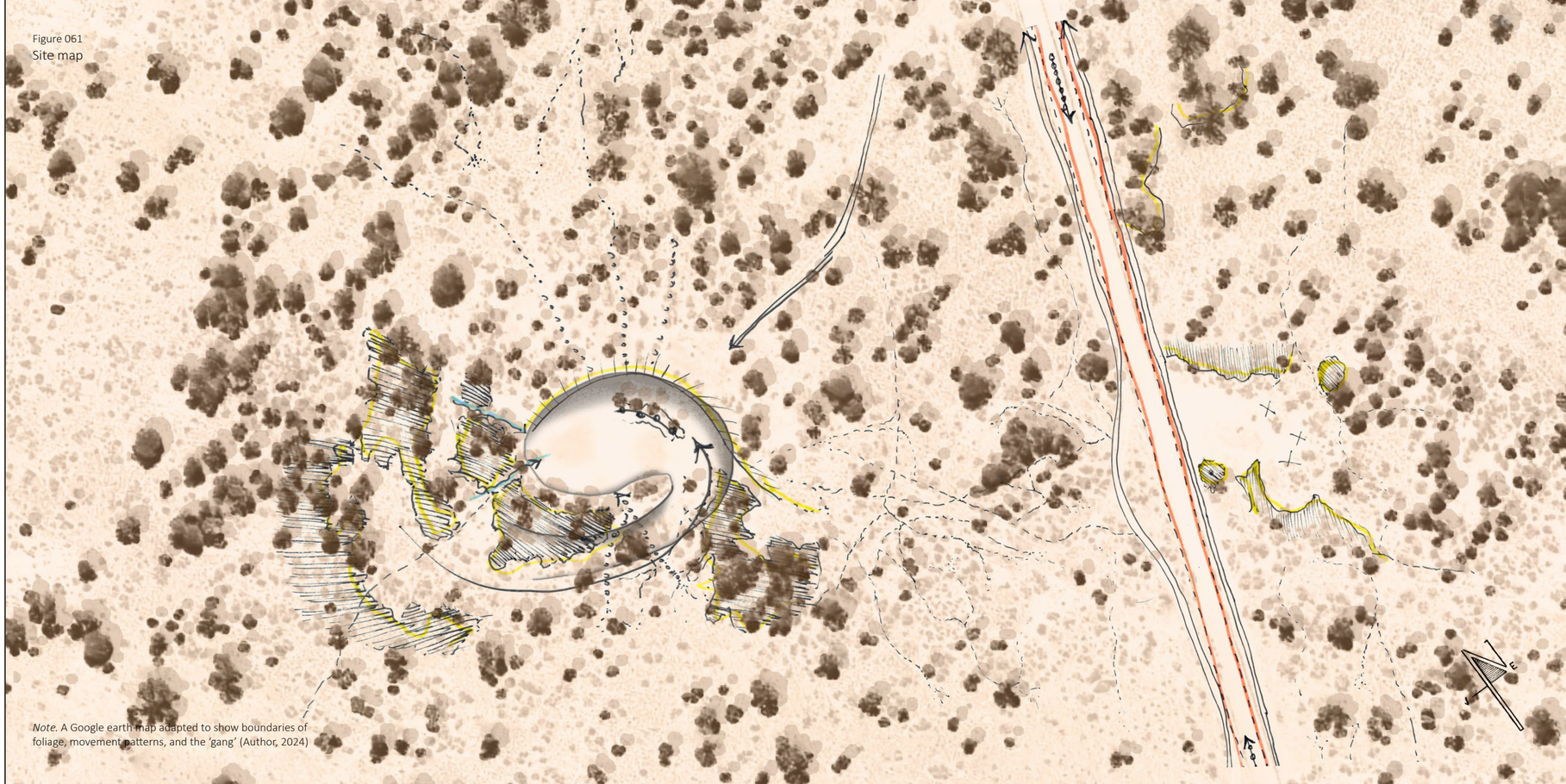
TANGIBLE WISDOM

The site is located on the Northcentral border of Lammer Moor. Although the pan is perceived as life-giving at the moment, historically it was a scar. Before the B6 was constructed, connecting Windhoek to Buitepos, the road lying on the farm's Northern boundary was the only way of conversing between Windhoek and the border. This gravel road was constructed around 1912 by the colonial administration of German South West Africa (Dierks, 2001). It came into existence like countless others, by extracting gravel next to the road, leaving a scar in the landscape.

Over the years the road was used, while nature slowly healed the scar. What was once a gravel quarry, filled with water in rainy seasons became part of nature once more. Now it sustains life, proven through the densities of flora surrounding it along with the marks left in the clay of animals that came to quench their thirst.

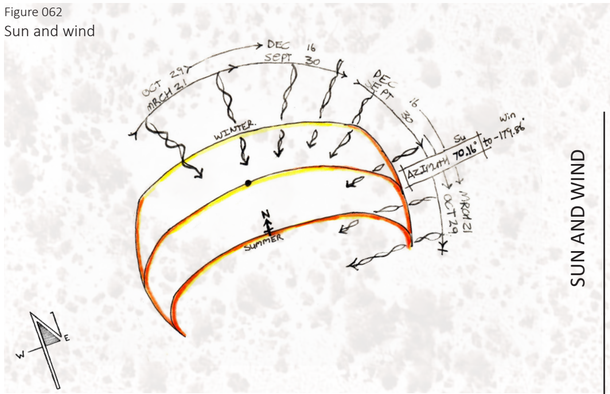
The decision is thus made to not cover up the scar, but to celebrate the way the Genius loci of the natural place reclaimed a man-made scar. It is therefore important to understand this place fully and to intervene as sensitively as possible. The following pages will aim to gain a deeper understanding of this 'pannetjie'.

Figure 061
Site map



Note. A Google earth map adapted to show boundaries of foliage, movement patterns, and the 'gang' (Author, 2024)

Figure 062
Sun and wind



(Author, 2024)

SUN AND WIND

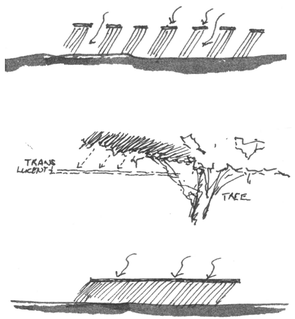
Namibia is known for its harsh sun, with an average of 300 days of sunshine a year, making it one of the sunniest places in the world. In the context of Omaheke, more and more people started to resort to photo voltaic solar systems as a cheaper and more sustainable source of power over the long run. Apart from this, most farmers rely heavily on both sun and wind as a way to sustain their animals, be it through the energy grass and trees need to grow and spread their seeds, or the use of windmills or solar pumps to extract water for them and their animals.

Needless to say the wind and more so the sun become important drivers of people's livelihoods, and this research argues that it forms a large part of the Sandveld's Genius Loci as well. Apart from the scenic views of the sun setting and rising, it also dictates behavior, specifically the activity and movement patterns of both animals and humans alike. Both are also Major elements of the Sandveld that give pattern to the surface, for instance when the sun shines through trees or when wind creates patterns on the sand of the dunes.

Types of shade were thus investigated as ways of translating into the design, utelising dappled light, full shade, and shade as tools to link inside and outside spaces (figure 063). These different types of shade and light could therefor be used to influence movement and spatial articulation.

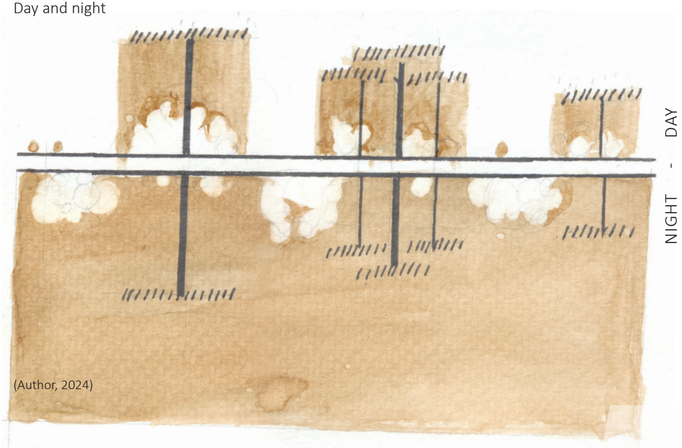
Due to the fact that more farmers have started incorporating solar pumps, replacing wind pumps, a large amount of un-used wind pumps is scattered in the context. This excess of steel could be used as a construction material reducing cost and increasing sustainability.

Figure 063
Shade types



(Author, 2024)

Figure 064
Day and night



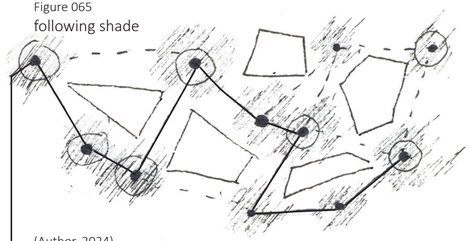
(Author, 2024)

Before the utilisation of shade could be implemented into an intervention, the way that different light levels and shade is experienced within the Sandveld should therefore first be understood.

Looking at the clustering of animals at night in comparison with the day, a tenancy emerges. Fig 064 highlight how in the day animals would be usually clustered around trees with only some grazing in the field. While at night the opposite occur, where the animals will graze in the open and even pick a open as possible spot to rest for instance the road. This is interpreted as the more open, less shaded spaces could be considered space of movement while shades spaces becomes gathering, resting spaces.

Furthermore shade is not stagnant, its constantly moving as the day progresses depicted in fig 066. As the angle of the sun gets lower and higher, spaces of resting can change, revealing different elements of focus, based on time.

Figure 065
following shade



(Author, 2024)

It is incredible to see how much movement is dictated by shade. I've noticed my patterns are arranged not in a straight line but in an organic line, from shade to shade as seen in (fig 065). The shortest route from point A to point B, in the Sandveld is not a straight line, but following the shade.

Figure 066
Shade

(Author, 2024)

Figure 067
Soil conditions

(Author, 2024)

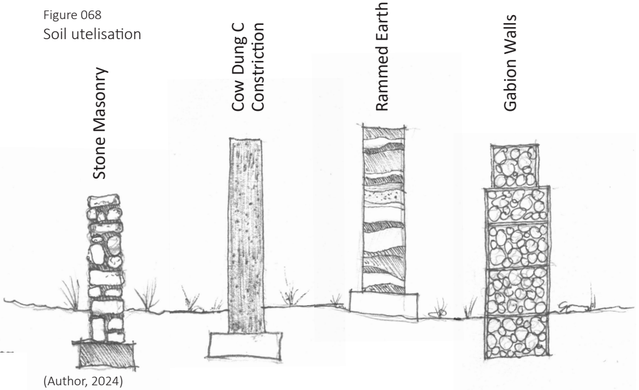
SOIL CONDITIONS

The Sandveld is known for its sandy soil rich in iron , giving it a notable reddish hue especially when its dust fills the sky , creating the world famous Sandveld sunsets. The majority of the Sandveld consists of this sandy soil, forming the topography and aesthetic of the veld and dunes. But when encountering pans the types of soil varied widely from various colors of clay, to harder limestone or dolomite rock, making each pan slightly different, yet staying relatively, topographically similar.

Key

1m contour line
Sand
Clay
Lime stone

Figure 068
Soil utelisation

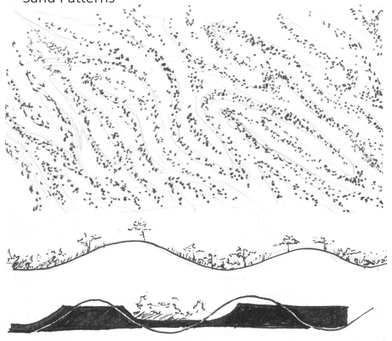


(Author, 2024)

The aesthetic of the Sandveld is heavily reliant on the soil conditions, contributing to plant growth, drainage, and certain animal's shelters to name a few. Utelisation of the soil conditions can also be seen in the vernacular of Omaheke. Most prominently seen in old 'boere' houses, constructed out of limestone, or the cattle dung clay huts seen in construction practices of various cultures within the Sandveld.

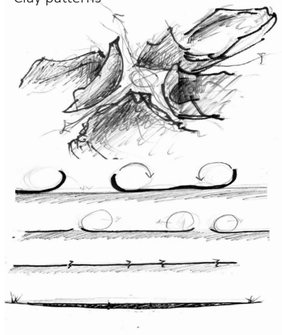
Utelising this element of the Genius Loci , could not only root the design in the context but also allow a cultural way of doing to be drawn in. In the light of this an exploration of possibilities of utelising the soil conditions was carried out in fig 068. The outcome , allowed for culours, texture, and patterns to be related to that of the Sandveld.

Figure 069
Sand Patterns



(Author, 2024)

Figure 070
Clay patterns

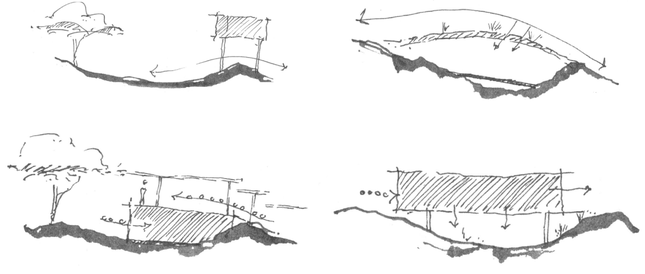


(Author, 2024)

Analising the form and patters formed by sand in comparison with clay soil of a pan, it becomes clear that a vast difference emerges between the two. Fig 069 observed sand as a loose material that is shaped in smooth organic patterns and forms, almost causing a rhythm in section of rising and falling heaps of the dandy soil. it is also observed that objects in the way is slowly engulfed by the loose sand. While the clay is almost completely the opposite, starting as sharp rugged flakes that become smooth as rain fall. Contrary to sand the clay takes the form of the object placed within, for instance a hoof of an animal.

These analised patterns , holds a certain form of spatial quality to it and could be implemented into a design for instance rising and falling walls with thin flake like canopies, in this relating to both sandy condition of the veld and the clay soil of the pan.

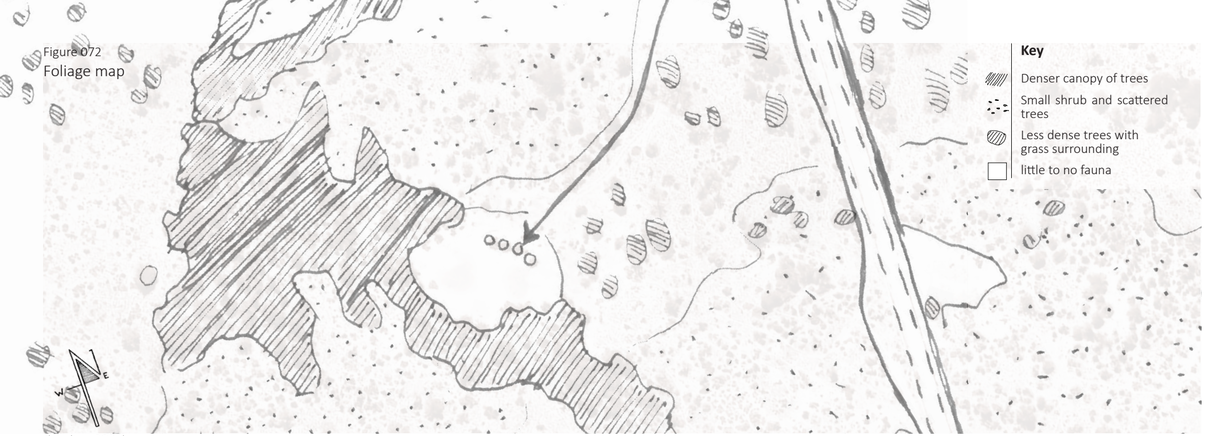
Figure 071
Topography responses



(Author, 2024)

Although the Sandveld mainly consists of the veld, pans, and dunes, as larger topographical entities, the topography of the chosen site is not an intersection of all three. It does, however, contain elements of each within the immediate context. The veld and the pan is most prominent, with the majority of the scheme is considered veld with a pan on the North Western side. As the veld is seen to be relatively flat, it allows the banks of the pan to become more prominent topographical element. The banks becomes a boundary of sorts, and therefore fig 071 depicts explorations in how to possibly intervene on this element.

Figure 072
Foliage map

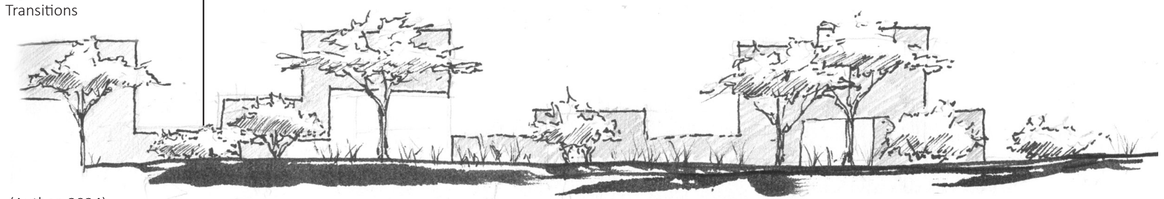


(Author, 2024)

FLORA

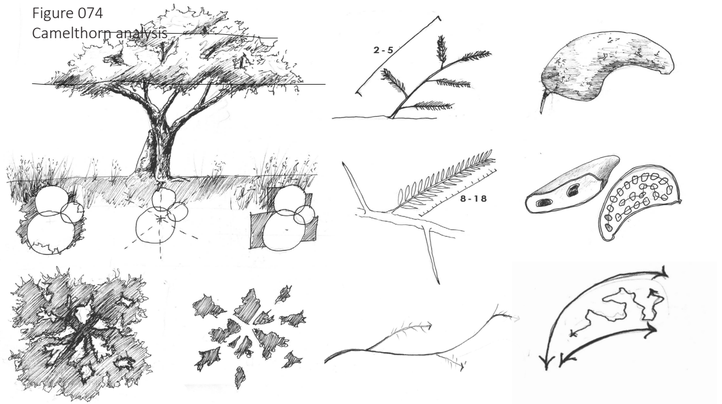
The Sandveld is home to a wide variety of flora, from trees to bushes, shrubs, grasses and everything in between. Arranged in Patterns based on various factors such as seed dispersal method, water requirements, soil type to name a few, allows for this divers array of species to survive side by side creating the Sandveld's unique ecosystem as well as a variety of sub-ecosystems within. Looking at figure 072 it becomes clear that site contains zones of different densities and types of flora , some areas being more bushy, others having a denser canopy of trees with dense grass surrounding it. These changing densities should be taken into account when intervening on site, where only the void and less dense space should be used to reduce destroying fauna, especially indigenous species like the Camelthorn. Although these boundaries is indicated, in reality these densities consist of subtle transitions, through the changing of the horizontal planes making the change becoming barely noticeable (fig 073), but still experiential.

Figure 073
Transitions



(Author, 2024)

Figure 074
Camelthorn analysis

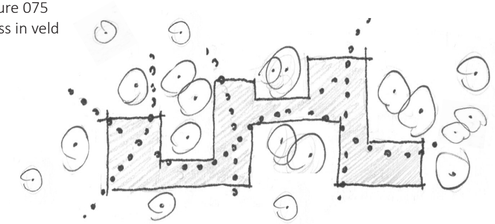


(Author, 2024)

One of the Sandveld's most prominent flora is the Camelthorn tree. A slow growing hardwood, that is scattered all over this natural place, providing shade, shelter, food to the fauna, and its roots used as a medicine by the indigenous bushman people. As it is an important element within the sandveld, the canopy is analised in figure 074. Here the camelthorn is understood to contain multiple intersecting canopies, creating an space underneath it that could extend to the sides as the shade moves. Viewing the tree in plan it is divided into various intersecting spaces with voids forming across the canopy. The branches and leaves of the Camelthorn is also analised, gaining an understanding of its proportion and method of growing. Lastly the Seed pod was dissected in attempt to gain a deeper understanding of its being. Moving forward this gained wisdom could benefit the design process by applying the proportion or following the arrangement of seeds.

This transition of within the veld, becomes less subtle, Lets use a scenario of placing a mass within the veld (Fig 075). The mass would have to move around the foliage, with possibly a small transition where a mass could fit under neath the canopies. These harsher, in between spaces could then become available space to intervene while the subtle transition would still be experienced from an eye level.

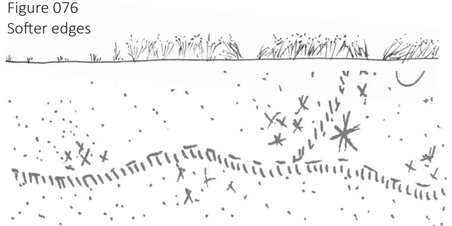
Figure 075
mass in veld



(Author, 2024)

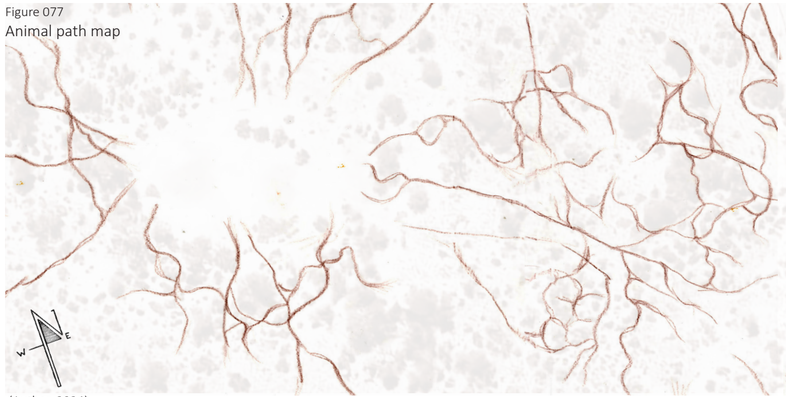
Moving through the veld the, some flora can act as barriers causing a drift in movement, while other flora like grasses gives way creating visible paths. This motion of folding away could also be implemented as a way of softening edges within an intervention.

Figure 076
Softer edges



(Author, 2024)

Figure 077
Animal path map



(Author, 2024)

Arguably one of the most important natural drivers within the Sandveld is its diverse account of fauna. Its fauna plays a crucial role in almost all vital aspects of this ecosystem. Seen in animals like the Aardvark (a pest controller) that eats ants and termites that kill hardwood trees like the Camelthorn, or the African Dung beetle, that works dung back into the earth, returning nutrients to the sandy soil. By therefore analising and incorporating the tendencies and the way that fauna dwell within the Sandveld could completely intertwine a design within the Genius Loci of the pace.

FAUNA

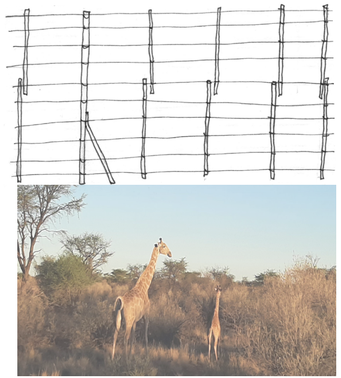
The presence of fauna within this context is made known by the marks they leave. These marks can vary largely, depending on the species of animal and type of mark. Taking droppings for example, cattle leave their dropping as they feel the need, so it is relatively evenly spread throughout the veld. Spaces where more time is spent becomes also evident by looking at the concentration of digested plant matter in the soil. While some other animals like the Oryx have designates spaces for excreing. Acting as proof of the interconnectedness of the sandveld, these dropping patterns in some cases forms the pattern and densities of the flora.

When repeated movement occurs around the barriers introduced by the flora a mark or a path is carved out within the grass, or the ground itself. When analising these movement patterns of fig 077 tendencies emerge depending on the direction of movement and the distance to a prominent point (pan or water point) where movement will in a way be drawn towards it. In the general veld tendencies emerge, based on the placement of foliage , merging, intersection, gathering, and meandering occurred.

Figure 078
Intersection types

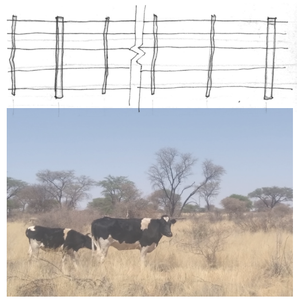
(Author, 2024)

Figure 079
Wild Animal barriers



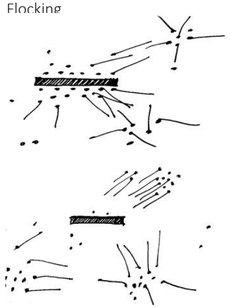
(Author, 2024)

Figure 080
Domestic Animal barriers



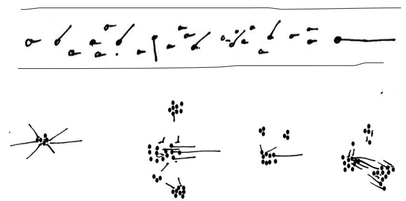
(Author, 2024)

Figure 081
Flocking



(Author, 2024)

Figure 082
Herding



(Author, 2024)

This uncontrollable movement of animals is placed into a more structured form by farmers. By implementing fences, gates , a gang, and ‘ farm roads that cuts through the veld becoming camps allows for a farmer to keep track of the amount of animals in a given space, while separating certain animals ad deemed necessary. These man made boundaries can also vary in hight and material based on the animal, take wild animals and domestic animals for instance. The wild animals are more prone to jumping over a fence that could easily keep in a domestic animal (figure 080). With this said, the movement of wild animals is therefore less restricted, and usually move freely anywhere on a farm while the domestic species remains confined to controlled movement between camps.

Although controlled movement occurs with the implementation of these man made barrier, an interesting phenomena of flocking , and crowding occurs wen a place contains for instance water or food.

When a valuable resource like fodder, salt lick, and water is placed with in the veld, flocking occurs as animals move towards these. Water points could become over crowded when the fodder for instance is placed near. The relationship is explored in figure 081, where the bottom half depicts the flocking pattern when elements is placed a couple hundred meters apart allowing more space for transition between points of internist. Lastly the dynamic of being herded in confined space like a ‘gang’ is compared to being herded within the veld. Figure 082 therefore indicates that cattle, herded openly allows for a more dynamic movement and an overall increase in moments of interaction.

These more desirable patterns of flocking and herding could be leaned from, and implemented, by allowing for more open transition space, mimicking the Veld.

Figure 083
'Wind Pomp'

Note. A photo of a 'Wind Pomp' on the farm, Lammerhoer (Author, 2024)

CONCLUSION

Through this topic the embedded elemental wisdom of the sandveld, the context, and the site was outlined. The understanding of the sandveld as a Holistic natural body containing veld, pans, and dunes set the benchmark by which the context could be understood. This understanding started to bring out the experience of place, allowing this arid place to be analised further, where important design informants where outlined , on a contextual, a farm and a site scale. Highlighting informants and possible ways of addressing them.

This understanding of context and site allows for a connection between the users of the land, the site, and design to begin forming. In the light of this, the discussion will no address dwelling within context, describing how the client and users, as the dwellers, could be placed within this context.

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INTRODUCTION

The Sandveld highlighted valuable knowledge that would be utelised to identify a client that will align with this natural place. The NNF is identified to be a near perfect client. This NGO's way of being is outlined, with a special focus on the overlaps of their objectives, addressing the natural site, its users, and the related problem. From this the users are defined as being all who relies on the well being of the sandveld. Incorporating the user into the Sandveld, is then outlined through a narrative of movement through the site, laying out the overarching moments of experience and knowledge exchange of each user. By understanding both client and user, the program, that would connect the user, client and site is divided into perspective, research, teaching , gathering, and implementation. This creates an overarching understanding of spatial allocation before focusing on specific spatial requirements and allocation.

Figure 084
Farm Gate sketch

Note. A Sketch of the a lyndraad with a cammelthorn
(Author, 2024)

DWELLING IN THE SANDVELD

- Dwelling as the client
- & THE USER
- Proselytising Program

The Sandveld is an essential component of the Omaheke region's distinct identity. However, there is a crucial knowledge and research gap regarding this priceless ecosystem which results in damaging practices like unsustainable farming harming the Sandveld, as highlighted by Strohbach (2014) and Ngavetene (2019). This negatively affects tourism, farming, and cultural heritage in addition to damaging the environment and thus the Genius Loci of the place.

The NNF will be seen as the client to propose a Sustainable Research and Information Exchange Centre, designed to bridge this knowledge gap. This scheme could serve as a catalyst, addressing the goals of the NNF, and providing a means of acquainting the users with the Genius Loci of the Sandveld. By bringing together users of the land namely, nature, tourism, and local farmers, the centre aims to create a space for collaboration and sharing of knowledge and information. It could become a place that herds people, strengthening the relationships between communities and the natural environment, towards a sustainable way of being that benefits all.

An overview of the NNF will now be given, as an indication as to why this would be considered the most suitable client. Through understanding the vision, mission, approach, and objectives of the client the scheme will be better incorporated into the arsenal of the client. This information will also act as guidelines to assist

Figure 085
NNF Badge

Note. An Image of NNF's Badge retrieved from www.nnf.com.na

Vision

"An equitable, informed society living in harmony with natural and sustained, physically and mentally, by the natural richness of our environment".

Mission

To promote sustainable delelopment, the conservation of biological diversity and natural ecosystems, and the wise and ethical use of natural resources for the benefit of all Namibian's both present and future".

Approach

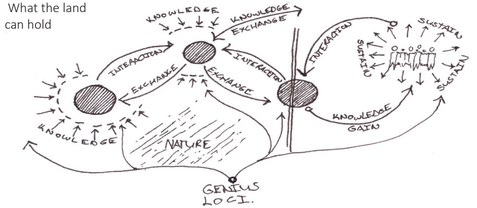
Environment and development issues are not neatly compartmentalised. Our goal at the Namibia Nature Foundation (NNF) is to see the integration of different sectors across Namibia's environmental landscape. To this extent, we want to drive integrated solutions and work based on an ecosystem approach.

NNF	**(Namibian Nature Foundation)**
Established :	1987
Form :	Not for Profit Trust Namibian NGO Independent Board of Trustees
Annual Turnover :	>US$ 4.5 million
Head Office :	Windhoek

The Namibia Nature Foundation (NNF) has adopted the following objectives, we will:

- Initiate, support and promote activities that **conserve Namibia's environment**, protect biological diversity and foster the **sustainable and ethical use of natural resources;**
- Support and promote initiatives that strengthen Namibian institutions to **better understand and manage natural resources;**
- Raise funds for conservation and environmental initiatives, in support of the mission statement;
- Administer and manage funds for partners, donors, private sector, government, communities and project implementers;
- **Plan, develop, implement and manage** selected projects and programmes, in support of the mission, with an **emphasis on integrated, sustainable development;**
- **Encourage and support sustainable community-based natural resource management initiatives;**
- Initiate and support activities that **promote more effective and efficient use of resources**, particularly where management of resources is devolved to the appropriate level and where local groups have identified good initiatives that could make a real difference;
- Help strengthen natural resource institutions in ways that **help them better understand and sustainably manage natural resources;**
- Cooperate and foster partnerships with other organisations - government, NGO, private sector, community and donor - to better **promote sustainable development**; and
- **Raise awareness, promote and support environmental education** and help build capacity in the fields of renewable natural resources and sustainable development;

Figure 086
What the land can hold



(Author, 2024)

It is clear that the NNF strives to develop more sustainable communities. By incorporating the users of the land this foundation has been leading Namibia into a better future, this intervention would be wise to also incorporate the specific users of the Sandveld. By designing for 'what the land can hold', (everything and everyone that engage with the land) could be a crucial stepping stone in reaching the NNF's vision.

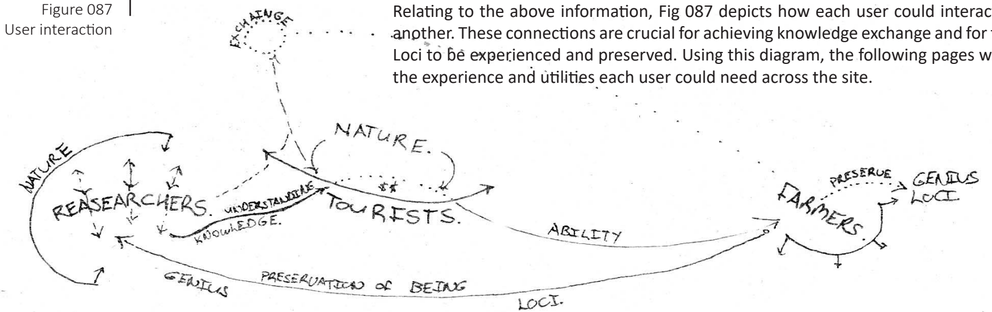
& USER

Exploring this idea of ‘what the land can hold’, the communities that relies on the sandveld is outlined. By focusing on the types of entities that relies on the natural environment the most, the effectiveness of achieving the NNF’s goals will be maximised. The users could therefore be seen as, the farmer (Boer), tourist, researcher (specifically related to environmental studies), and lastly to a certain degree Nature itself. An outline of each user will now be given, with potential stakeholders regarding each.

	Nature	FARMER	TOURIST	RESEARCHER
Dweller	Fauna Flora	Relocation farmers Private farmers	Students Tourist Local nature lovers	Researchers Teachers Scholars
Stakeholder		• Namibia National Farmers’ Union • Farmers Assosiation • Resettlement Farmers • Owner of Lammer Moor (farm)	• West Nest Lodge • Gondwana	• NUST • UNAM • Sandveld research station

Figure 087
User interaction

Relating to the above information, Fig 087 depicts how each user could interact with one another. These connections are crucial for achieving knowledge exchange and for the Genius Loci to be experienced and preserved. Using this diagram, the following pages will propose the experience and utilities each user could need across the site.

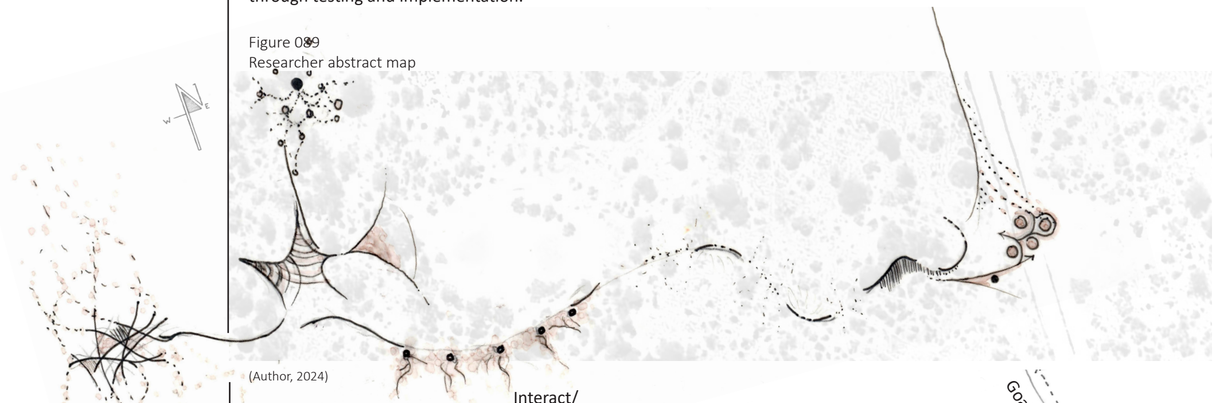


(Author, 2024)

Researcher

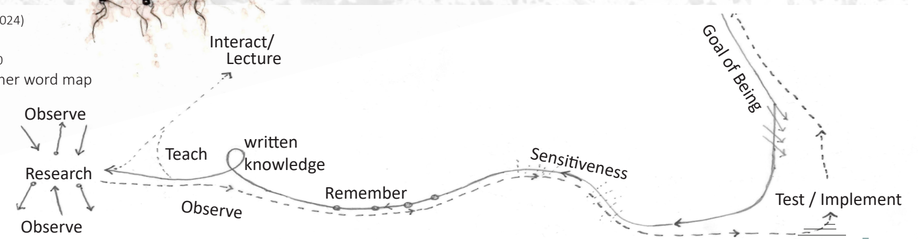
The researcher will enter the scheme where they will get a glimpse of the goal of being, where they will see a more sustainable way of farming. They will then set off into the veld where they might be reminded of the sensitivity they should have to the context while researching. Moving along with this, they can gain a deeper understanding of the written knowledge, before adding to it through research conducted in a close observable proximity to the research matter. Occasional opportunity to teach, lecture or even interact with locals for cultural insight. Going back to where they started, they will be able to contribute to eco-agriculture through testing and implementation.

Figure 089
Researcher abstract map



(Author, 2024)

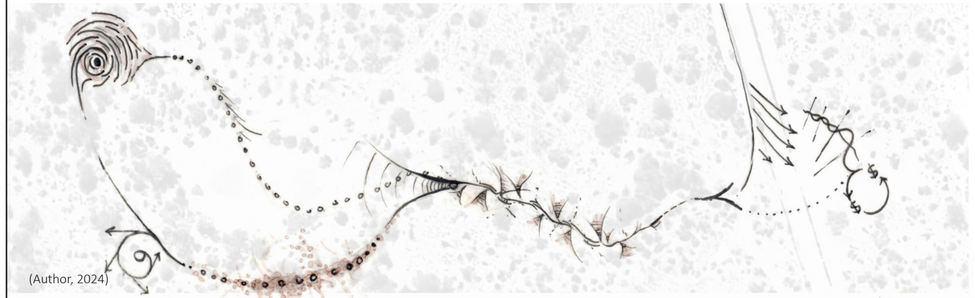
Figure 090
Researcher word map



(Author, 2024)

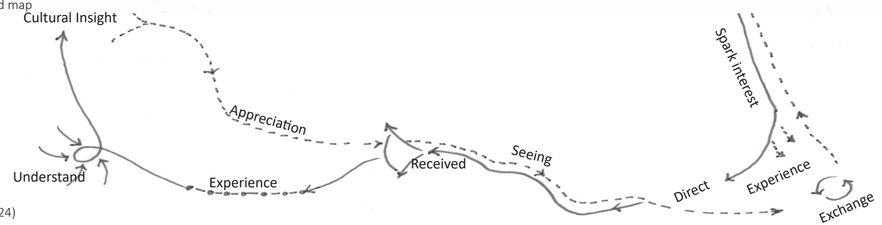
The interest of the tourists will be sparked at the earliest point in the scheme, seeing the alternative cattle farming. They will then be directed into the veld along a footpath engaging, truly seeing nature, and then be received with the full view of the ‘pannetjie’ (the coming together of veld, pan, and dune). They will then move through a space where they will be able to experience the Sandveld before they can learn and gain a deeper understanding of this place. An engagement with locals will give them insight into the way of being that might grow a deeper appreciation of the Sandveld. Lastly, they will be able to experience farming first-hand, where knowledge and possibly goods could be exchanged. Leaving with a good lens through which to experience Omaheke and the rest of Namibia.

Figure 091
Tourist abstract map



(Author, 2024)

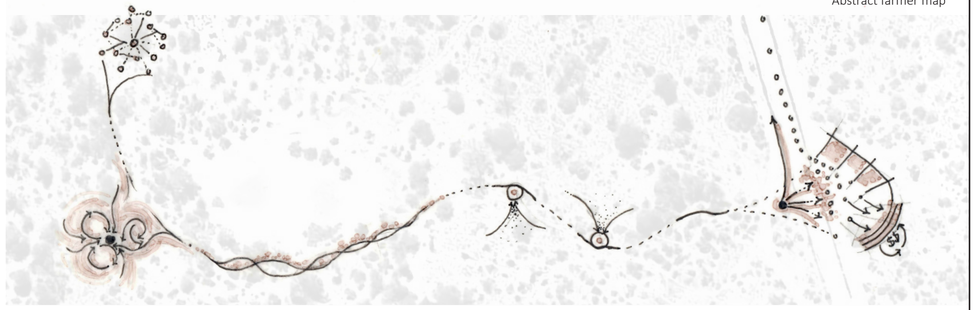
Figure 092
Tourist word map



(Author, 2024)

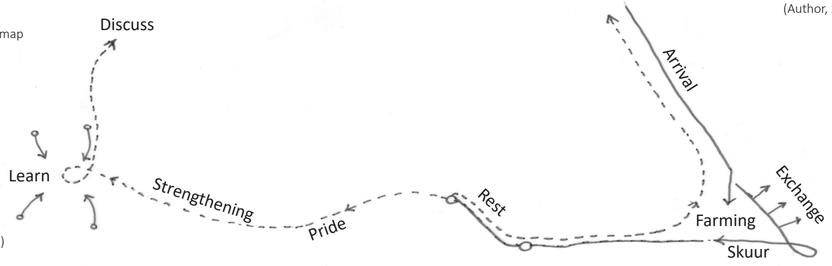
The Farmer will be able to come to the scheme for not only knowledge exchange but also to engage with the daily necessities of farming. The skuur will give them access to storage, and feed for their animals, also allowing for working space where they can build gates, and fix tractors among others. Having facilities to work their animals (dipping, weighing, sorting, tagging, cutting horns, etc.) They can spend a day working, buying biltong and a snack to rest, or even selling some of their handmade products. Occasionally, they can find pride in who they are by moving through the scheme, at the same time allowing a stronger bond with the Sandveld. Moving along with the scheme they can learn more about the context and farming and occasionally discuss their wisdom with others.

Figure 093
Abstract farmer map



(Author, 2024)

Figure 094
Farmer word map

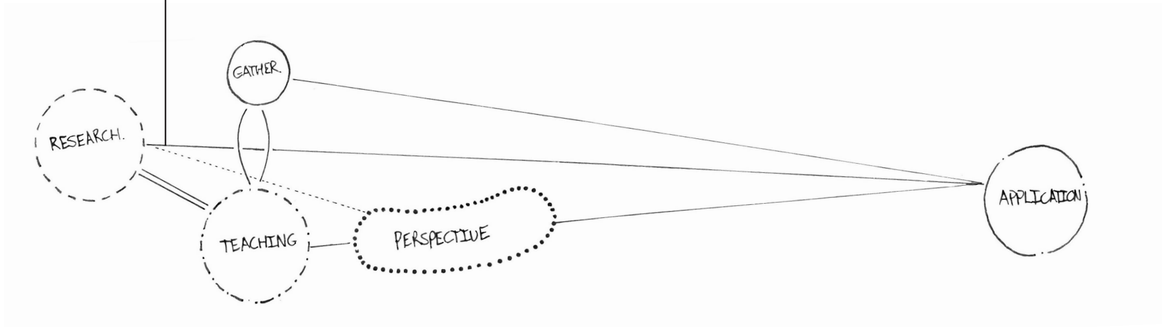


(Author, 2024)

PROGRAM

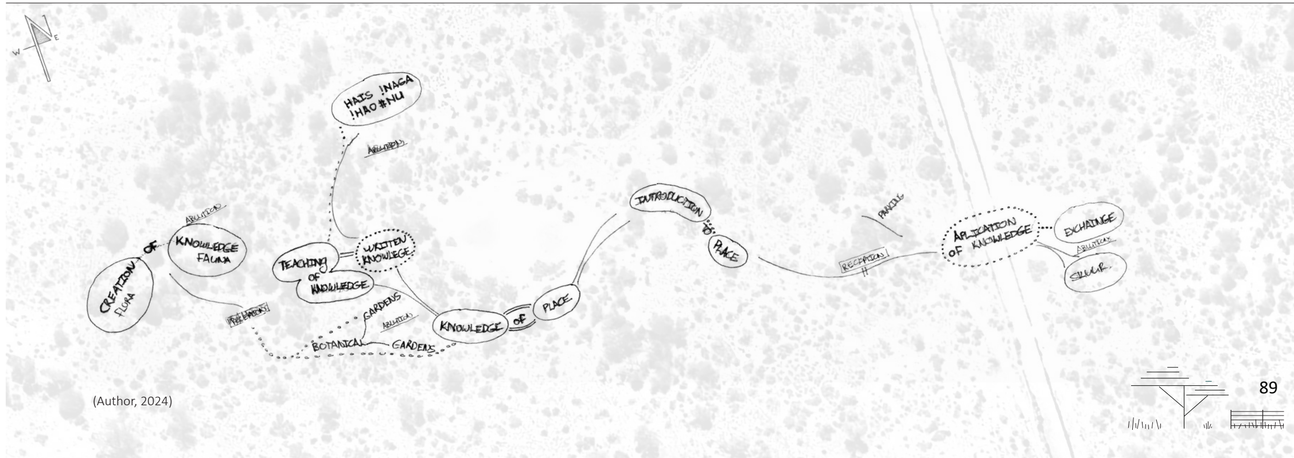
Perspective	Research	Teaching	Gather	Implementation: Farming	Implementation: Other
• Reception Office, WC • Exhibition space Omaheke, trees, bushes, grass, useful flora (food, medicinal), Fauna • Pathway • Seating, shade	• General Lab • Storage • Sleeping space (4x people) • Office, • Bathroom • Recreation space Dining space, kitchenette, braai space	• Library librarian's desk, storage, reading space, book exhibition • Teaching space • Ablutions cleaning storage, access to envira-Lue (waterless toilet system) • Recreation space	• Amphitheater • Storage • Kitchen • Ablutions • Braai space	• Sorting pen • Push pen • Demonstration space • Storage • Cattle neck clamp • Water storage • Resting space	• Skuur storage, working space, storage • Koeka shop • Butchery shop, walk in cooling, work benches, delivery, WC • Ablutions

Figure 095
Basic program



(Author, 2024)

Figure 096
Program allocation



(Author, 2024)

Figure 097
Through the Gate

CONCLUSION

Note: A photo of a farm gate on the Omaheke farmer moor (Author, 2024)

The NNf became has now become part of the Sandveld, where it will beguin to work to wards its goals within this place. By striving to achieve its reach it's objectives, it too becomes a 'Boer' walking as the client in the shoes of herding a community towards eco-agriculture. And the researcher, tourist and local farmer becomes unified through the proposed program, creating a ecosystem of sorts, one relying on the other, and all dependent on the wellbeing of the Sandveld. Through this the user and client becomes part of the holistic entity of Omaheke's natural environment.

To be able to implement the program and user into a intervention within this natural environment, one must first understand what the existing knowledge on herding and peacemaking is.

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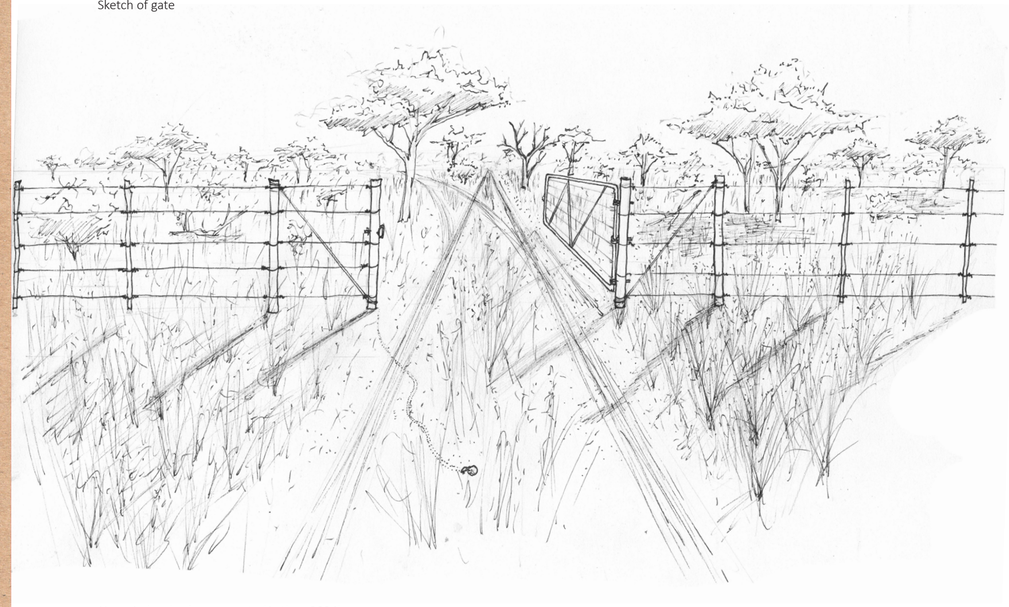
INTRODUCTION

In this chapter the existing architectural scape is observed, to find precedents, that aimed to achieve firstly an intervention that is designed in a natural setting, that blends into the context by designing with the Genius Loci of the place. Secondly a place is analysed that strives to reach sustainable, eco-friendly design within the Namibian context and climate, focusing on materiality and detail. And lastly an alternative mode of herding is analysed, focusing on the methodology behind herding cattle in a safer and more efficient way, through which architectural principles would be drawn out.

For this reasons, the Lignon Whine museum by K-studio, the Habitat research and development center by Nina Maritz, and the Methodology of Dr. Temple Grandin, respectively is analysed. These precedents allowed for valuable techniques of designing, in line with the Genius Loci to be understood and implemented into the Intervention.

Figure 098
Sketch of gate



Note. A sketch of a open gate (Author, 2024)

EXISTING KNOWLEDGE

- With the Genius
- A place of knowledge exchange
- Alternative herding

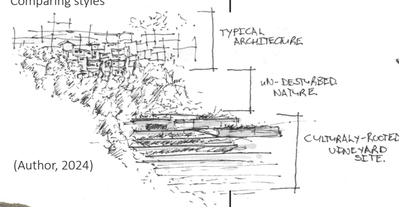
LIGNON

K- STUDIO
2022
GREECE

Lignon is a wine museum that is situated in a context where the typical Greek-style architecture construction forms the genius loci of the place. The design team from K-Studio decided to approach this intervention aiming to bring out the General loci of the place. An alternative route was taken, by not intervening in the logical style, but by following the genius of the terraced vineyard the scheme almost disappears in the landscape (fig 099). By designing this museum as just another terrace of the vineyard (fig 101) the architect created a space that seamlessly blends the interior, exterior, and the actual vineyard into a coherent scheme, following the typological movement depicted in Fig 103 of a vineyard.

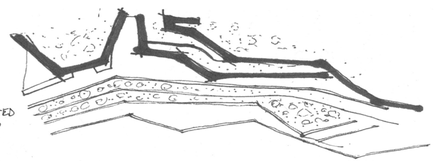
A route was first laid out after which functions were attached to the route creating a logical yet natural movement and interaction with the various spaces and experiences. This experience was strengthened by using on site materials in a way that speaks to the traditional way of creating a vineyard. The architect for example used a colour scheme that fits with wine and vineyard, using deep brown timber, stone masonry, and a woven pergola shading device to link to the way grape vines row. The experience is also enriched by framing certain processes and views as a way of exchanging knowledge about the place and the way of making wine. Lastly, the scheme makes use of retaining walls and a green roof, that acts as both passive cooling methods (cross ventilation, and thermal mass). While at the same time allowing for a good interior-exterior dialogue.

Figure 099
Comparing styles



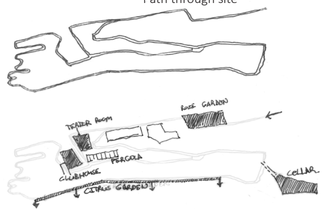
(Author, 2024)

Figure 101
Following the landscape



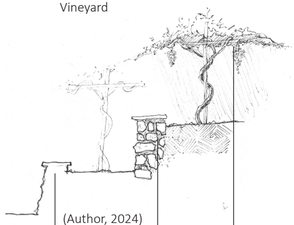
(Author, 2024)

Figure 103
Path through site



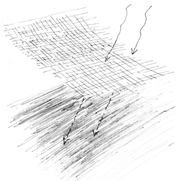
(Author, 2024)

Figure 104
Vineyard



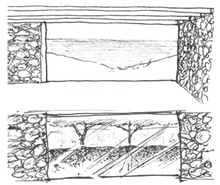
(Author, 2024)

Figure 106
Woven Shading device



(Author, 2024)

Figure 107
Framing



(Author, 2024)

Figure 109
Sustainability

(Author, 2024)

Figure 100
Context photograph

(Daniilidis, 2022)

Figure 102
Site Photograph

(Daniilidis, 2022)

Figure 105
Pergola

(Brechenmacher, 2022)

Figure 108
Soil room

(Brechenmacher, 2022)

Figure 110
Transition space

(Brechenmacher, 2022)

HABITAT RESEARCH & DEVELOPMENT CENTRE

NINA MARITZ
2004
NAMIBIA

Designed to act as a research project into low cost housing, this intervention falls into the mindset of the 'Boer', leading by example. The architect created a layout that is embedded between the existing trees on the site, with organic pathways flowing around it. Although this scheme is embedded into the urban fabric of Windhoek, it does not conform to the norm of construction within Windhoek, but rater makes use of, among others, recycled and natural found material such as gumpole, natural stone, and even old tires, giving a unique aesthetic to this place. Taking a look at the detailing of this scheme which does not aim to hide the materiality, but rather place it on displace could be considers a form of knowledge exchange , conveying the message of sustainable construction (Maritz, 2008).

The roves, especially the long spading relies greatly on steel space frame structure , creating large spading open structures. Supported on steel columns the roof becomes like a tree shading the users underneath, the addition of translucent sheeting accentuates this experience. To the timber droppers, used to create both permeable sides, as well as shading devises that casts a dappled rhythmic shadow. The Habitat research and development center focuses on sustainable practices like water capture and control, where some spaces allow rain water to flow off into a planter watering it directly , or storing the water in tanks for later use. Lastly notable design detail is the use of a double layered roof with solar panels on top, creating a much cooler interior space (Maritz,2008). This scheme is a valuable informant on how to utilise natural materials in a sustainable way.

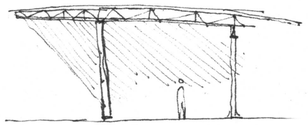
Figure 111
Site Diagram

(Maritz, 2008)

Figure 112
Sketch of materiality

(Author, 2024)

Figure114
Space frame structure

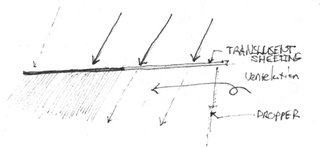


(Author, 2024)

Figure 113
Photos of materiality

(Maritz, 2008)

Figure 115
Ventilation and Light

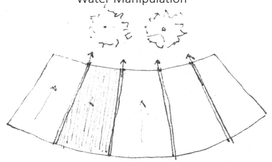


(Author, 2024)

Figure 116
Exhibition Area

(Maritz, 2008)

Figure 117
Water Manipulation

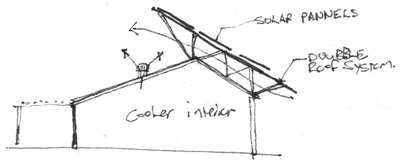


(Author, 2024)

Figure118
Water collection

(Maritz, 2008)

Figure 119
Double roof system



(Author, 2024)

Figure120
Roof connection

(Maritz, 2008)

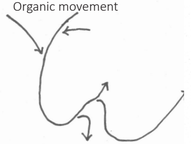
DR TEMPLE GRANDIN

Dr Temple Grandin is an American Ecologist that specialises in animal behavior studies, where she has developed various techniques that allows for both efficiency in animal handling, while increasing animal calmness and safety to a large degree. She finds her inspiration from the way animals natural move through the woodland farms, rooting her designs on organic movement. Dr Grandin make use of a mixture of see through and solid barriers as a way of making it easier for animals to understand where to go. This principle could be applied to architecture as well, where visual elements could allow a user to easily follow the intended path. She makes use of circular points with gates to easily dictate the direction the animal should go.

Figure 121
Photo of Dr Temple Grandin

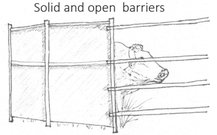
(Winward, 2024)

Figure 122
Organic movement



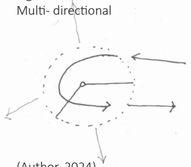
(Author, 2024)

Figure 124
Solid and open barriers



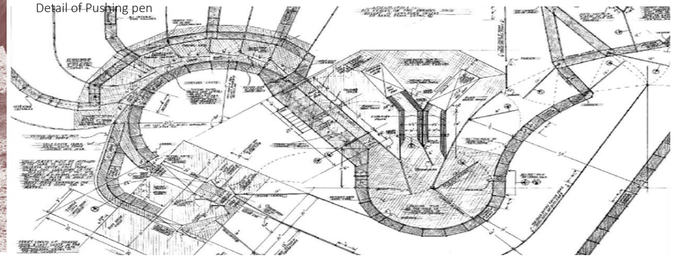
(Author, 2024)

Figure 125
Multi- directional



(Author, 2024)

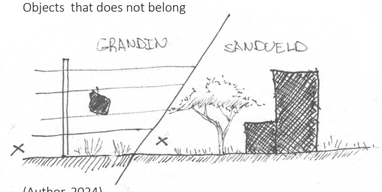
Figure 123
Detail of Pushing pen



(Grandin

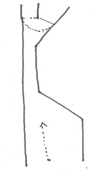
Dr temple Grandin highlights the importance of the sensory field. She describes that even the slight sense of misplacement could stir up uneasiness in other words the design has to “feel as if it belongs there” (Grandin, 2017). Furthermore, she makes use of compression and expansion in places where more control and concentration are required. A special emphasis is also placed on the light quality, saying that the animals will follow light rather than going into darker shaded places, while also refusing to go into blinding light. Lastly she highlights that in order for efficient herding to take place the animal needs to be able to see at least 3 body lengths ahead before the intervention turns. This might be interpenetrated into an spatial principle that no space must feel as if it has come to an end, there should be a continuation of movement throughout the scheme.

Figure 126
Objects that does not belong



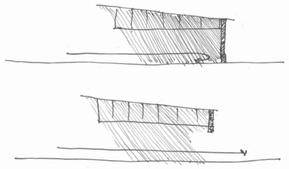
(Author, 2024)

Figure 128
Compression/ expansion



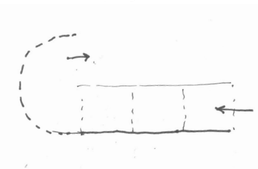
(Author, 2024)

Figure 129
Light affecting movement



(Author, 2024)

Figure 131
3 body lengths



(Author, 2024)

Figure 127
Photo of pen pushing pens

(Grandin, 2008)

Figure 130
Photo of donkey cral

(Grandin, 2008)

Figure 132
A Dam

CONCLUSION

Note. A hoto of a dam on the farm, Lammer moor (Author, 2024)

The understanding gained from these presidents allowed for a understanding of how the natural Genius Loci could be utilised to inform an intervention. Designing with the site, highlightiong unique elements thereof for instance the materiality found on site could sid in a designh thet relates with the place. Along with this, designing in a sustainable manner , would allow for the natural place to be preserved, through this sustaining the Genius loci of the natural place. And lastly an alternative mindset to herding, introduced by dr Grandin, could be incorporated allowing for a safer herding of animals. Implementing this, more natural way of moving, into architecture would enhance the natural experience of the users moving through it.

Using the knowledge gained from these precedents along wit that of the previous chapter the design process will now be discussed.

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INTRODUCTION

Herded by the genius loci of the Sandveld and some of the methods outlined by the precedents, the following chapter aims to give an overview of the design process. By following the way of experiencing the Sandveld (through moments) the design process is carried out through modes of experiencing these moments, namely Knowledge exchange, phenomenological flow, and Proprioceptive Awareness. Using these principles the spatial rationale could be laid out in a way that follows nature, this became the rooting elements of place-making through gathered moments. Next a path through the Sandveld is defined onto which these spaces as moments where attached. By exploring methods of herding a user through these spaces, using walls moments of experience started to take form.

Now that a clear understanding of spatial creation was undertaken the Genius loci was deepened through exploring materials and implementing them as methods of herding the user, creating internal, external relationships in the pursuit of harmonising the design with the natural landscape and Genius Loci. And finally the combination of form space and structure was tested within the context through section, to determine if acquaintance of the sandveld is achieved through the proposed design.

Figure 133
Sketch of Dune

Note. A Sketch of the 'pannetjie (Author, 2024)

HERDING A DESIGN

- The Genius
- Modes of experience
- Fillowing nature
- Spatial rationale
- Place making
- On a path
- Materiality
- In- form

Now that the functional identity of the building has taken root, the design's identity needed to emerge in the same way, rooted in the Genius loci of the Sandveld.

By allowing myself to represent the Sandveld as a physical object, an understanding was gained of how I experience the Sandveld. This was the first step towards designing an intervention rooted in the experience of this arid place.

The touchstone was constructed in an attempt to mimic the branches and foliage of the Camelthorn tree. A motorized element turns it casting a dancing shadow on the canvas, as if sitting in the sand under a tree. Analysing these dancing patterns, each unique, yet almost following a sequence, where each intercepting shape forms a new moment. This is the Sandveld.

Not the Sandveld in the Physical sense, but in the way the Sandveld is experienced. The Sandveld is thus not experienced in a constant continuation, but is rather experienced in moments. That moment where the sun sets over the red dunes turning the once blue sky into a Namib red, that moment when you take the first smell of rain after a long drought.

Figure 134
Touchstone

(Author, 2024)

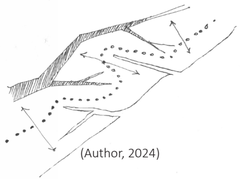
Moments within the Sandveld a is not random, there is always a rationale behind the experience. Take a tree for example, a tree is just a tree nothing more nothing less. But a tree can become a place or a moment if submitted to the right circumstances. For example on a hot day one can sit in the shade of a large Camelthorn and watch the shadows of the branches play on the red sand, this becomes then more tan just a space it becomes a moment, a place. Therefor designing the circumstances that could facilitate moments of knowledge exchange becomes the primary focus. Therefore the Camelthorn tree is analised as a start to draw out elements that enrich and compose a moment like sitting under a tree. Before giving an overview of modes through which the Sandveld in general is experienced. A moment can be made through various means, depending on type of engagement , time, place, and circumstance to name a few.

But within the Sandveld , the physical , movement, and relationship where experienced as facilitating the majority of moments. The physical moments could be described as all physical attributes that can create a moment for instance texture, colour smell to name a few. Relationships between different elements can create moments that connects the place. These could be the experience of opposites for instance sun and shade, warm and cold high and low, or even the way trees bushes and shrubs interact and transition between one another. Lastly moments can be created by movement either the physical movement through the veld , stumbling onto a uniqueness. Observing the movement of the veld and the marks left could also be experienced as special moments. These methods of creating moments would in partial be used to create Architecture.

Figure 135
Moment from the physical

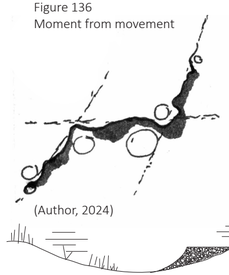
(Author, 2024)

Figure 136
Moment from relationship



(Author, 2024)

Figure 136
Moment from movement



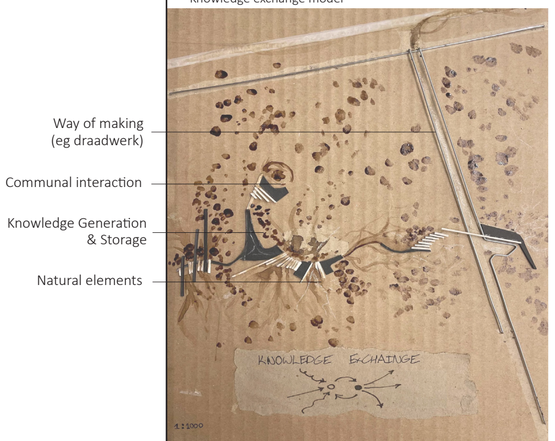
(Author, 2024)

MODES OF EXPERIENCE

Knowledge Exchange

This fosters a space of shared learning, where users become active participants, not just observers. Here, knowledge flows not just from nature to us, but also between people as they collectively experience and interpret the environment. Therefor by incorporating elements of the Genius Loci throughout the intervention can allow for a more effective exchange of elemental wisdom of the place. Knowledge exchange can take place by incorporating:

Figure 137
Knowledge exchange model

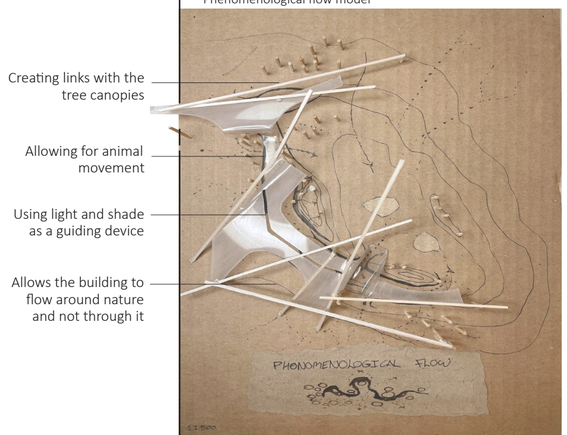


(Author, 2024)

Phenomenological Flow

This characterises the sensation of being completely immersed in the dynamic relationship between an designed space and its surroundings. Architectural features that are thoughtfully positioned to enhance sensory perception and gently direct movement could enhance this. Therefore architecture that in a way harmonises with the processes on the site could allow for the Genius Loci to be strengthened. To achieve this the proposed design could adopt the following:

Figure 138
Phenomenological flow model

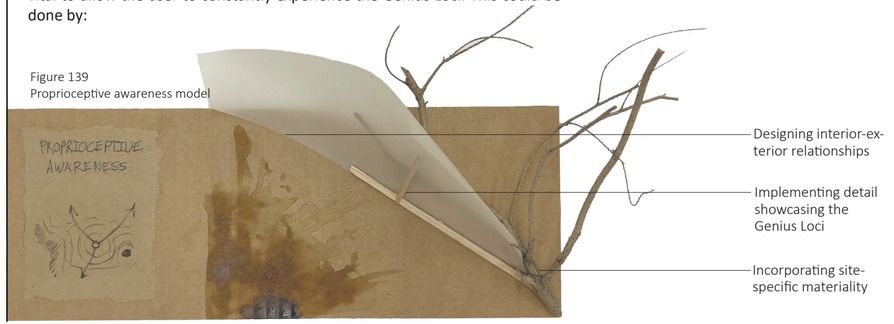


(Author, 2024)

Proprioceptive Awareness

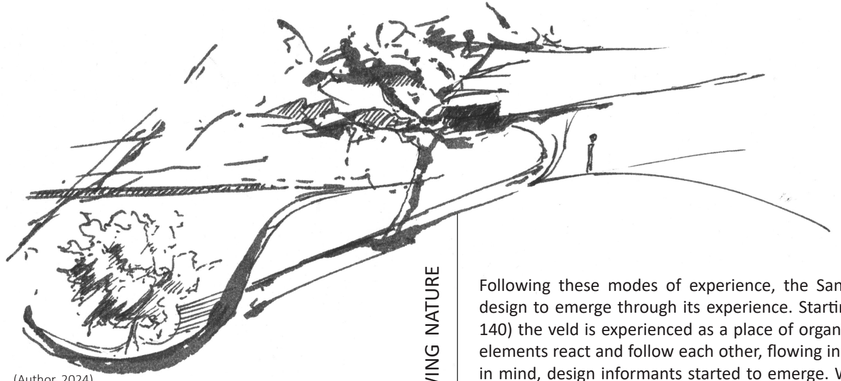
Creates a link between a user's bodily experience and the Genius Loci of a place. Users gain an embodied sense of their place in the greater ecosystem by the subtle sensations of their bodies. This becomes a type of embodied wisdom that helps one comprehend their place within the Sandveld. Crating architecture that thus constantly remind the user of this place could be proven vital to allow the user to constantly experience the Genius Loci. This could be done by:

Figure 139
Proprioceptive awareness model



(Author, 2024)

Figure 140
Organic Coherence

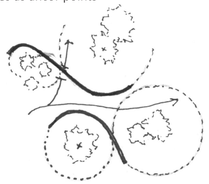


(Author, 2024)

FOLLOWING NATURE

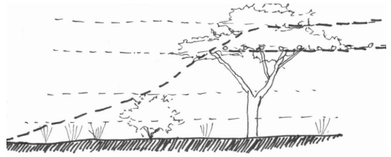
Following these modes of experience, the Sandveld was used to allow for a design to emerge through its experience. Starting with an abstract drawing (fig 140) the veld is experienced as a place of organic coherence of sorts. Where all elements react and follow each other, flowing in unity with each other. With this in mind, design informants started to emerge. Walls were set out to mimic this phenomenological flow, using the trees for example as anchor points to flow around it. By allowing for the building to align with the natural planes of the site, along with creating internal-external relationships the intervention began to also flow with the site.

Figure 141
Trees as ancor points



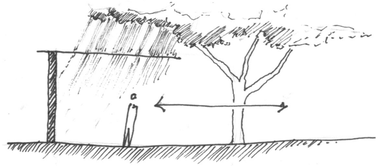
(Author, 2024)

Figure 142
Natural planes



(Author, 2024)

Figure 143
Internal external relationship

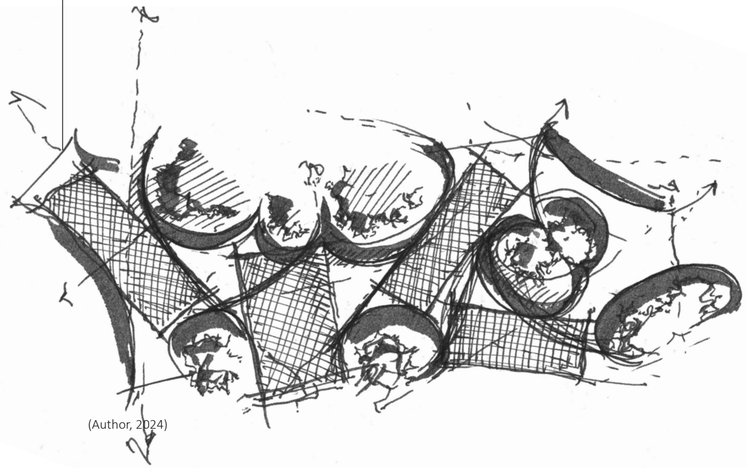


(Author, 2024)

SPATIAL RATIONALE

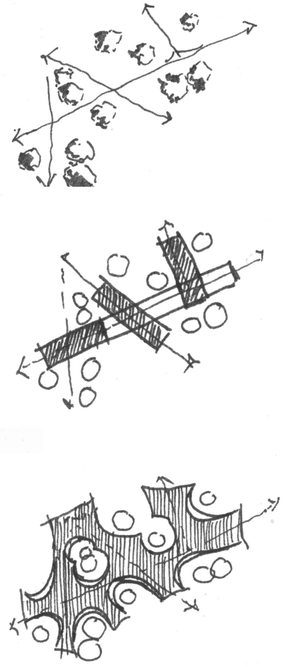
Taking this idea of following or being herded by the site, inspired exploration of how spaces could be embedded in the natural context. The exploration started with identifying the movement through the site, dictated by the tangible and intangible barriers. The possibilities of benefiting the site were also kept in mind, for example, how open spaces could be enhanced by introducing a shaded space. Orientations of the massing were then inserted into the identified movement and open spaces. After which the spaces are connected further, in a way that allows the intervention to merge with the genius loci of the site.

Figure 144
Spatial rationale



(Author, 2024)

Figure 145
Exploring spacial placement



(Author, 2024)

Figure 146
Abstract Arrangement of space

(Author, 2024)

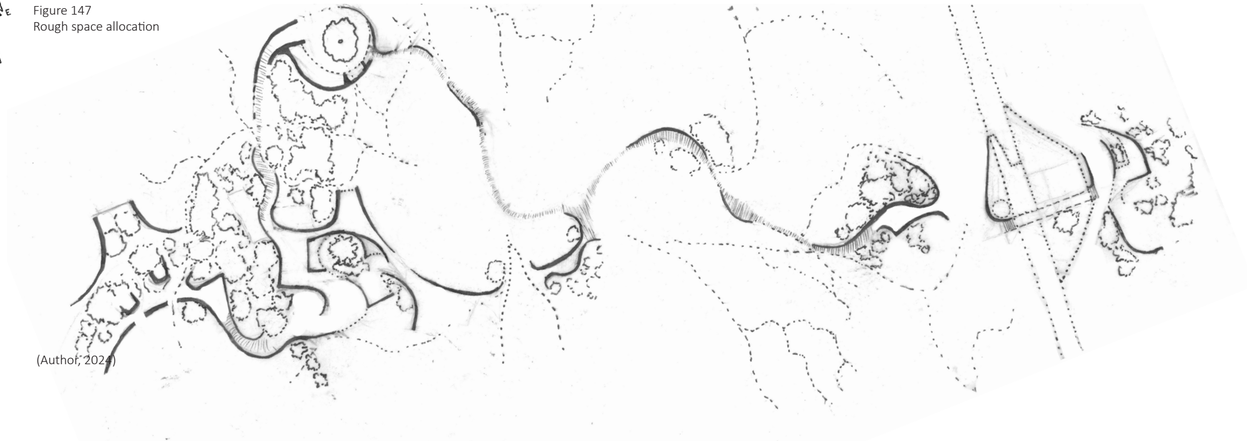


Figure 147
Rough space allocation

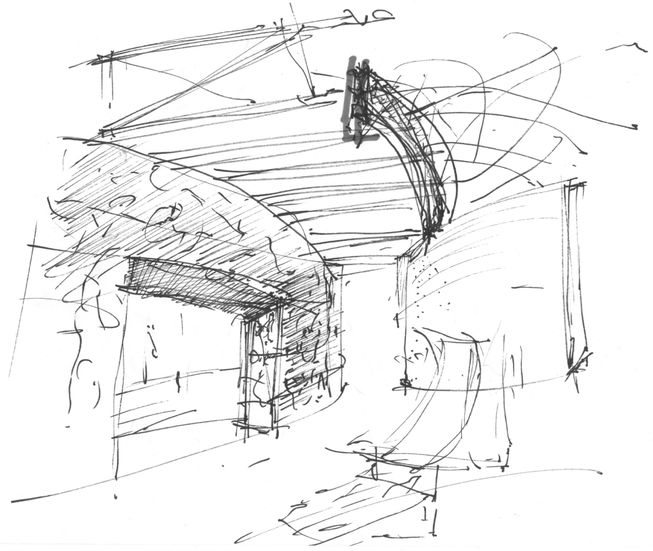
(Author, 2024)

Herded by this spatial organization rationale the next step was taken to understand how to apply this concept. The first step to achieve this was to incorporate the idea into the actual site. Making use of the previously discussed animal movement patterns, tangible, and intangible boundaries, topography, void spaces, and to some degree intuition, allowed an acquaintance to be shown. Figure 146 highlights this. Possibilities to introduce moments of knowledge exchange in certain places were highlighted in the way the painting blends and fades into the surrounding veld.

. The spatial placement was then superimposed onto this. Using walls in places of existing barriers and edges, more defined spaces started to emerge roughly according to the basic program diagram of Figure 147. The spaces were stretched across the site, allowing for the architecture to appear and disappear, just like the natural densities of the Sandveld's flora. The change in density of the architecture allowed for the existing animal movement, water flow, and other natural processes to continue.

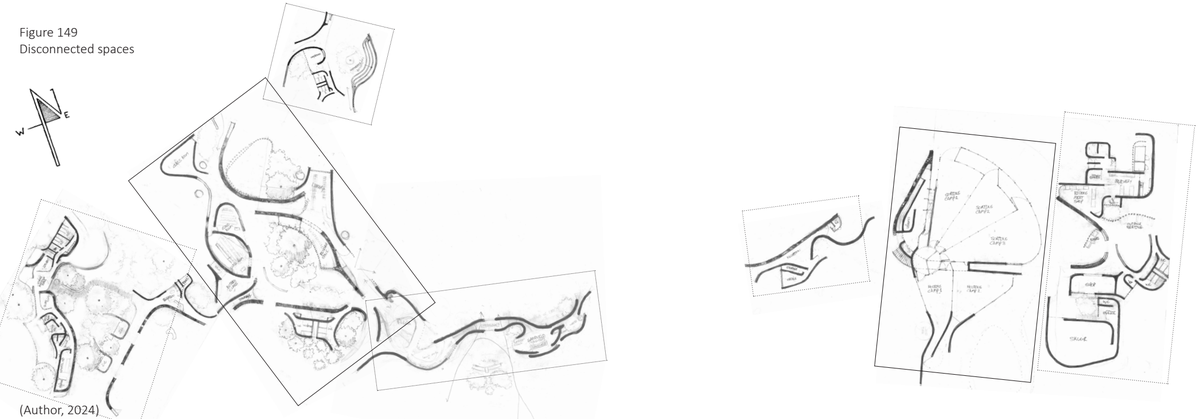
Figure 148 was then rendered as a test to see how the organic, curving walls would feel spatially, and if the meandering experience of moving through the veld would be introduced. This was the starting point of developing the spaces into moments of the place.

Figure 148
Internal organic Sketch



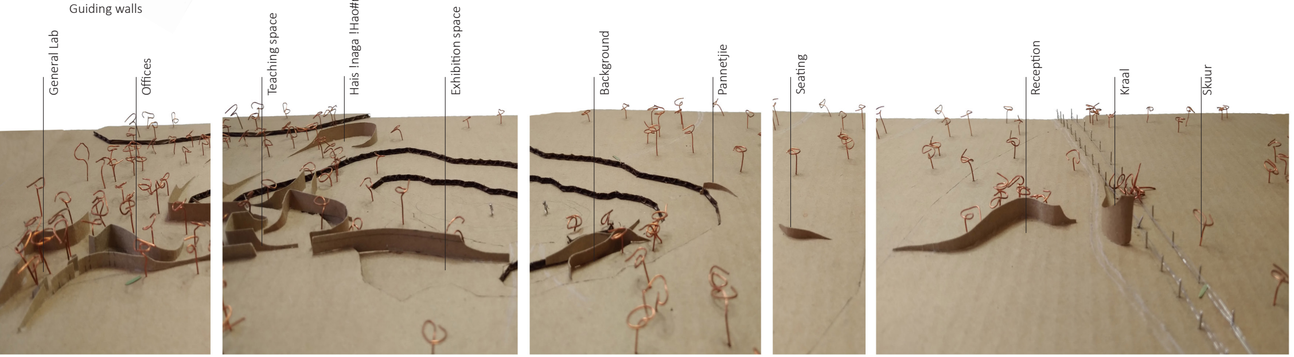
(Author, 2024)

Figure 149
Disconnected spaces



(Author, 2024)

Figure 150
Guiding walls



(Author, 2024)

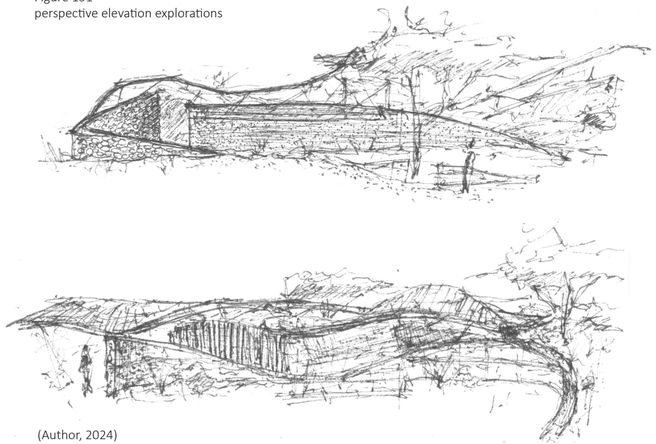
After the way of creating spatial moments was understood, a first spatial plan layout was attempted.

Although the programme made sense when looking at each space, as a scheme the different moments were disconnected from each other, and felt forced. This was understood to be because of a lack of herding from the design.

By first exploring the possibility of lone standing walls within the landscape, I introduced a possible way that the design could intuitively herd a user. Allowing these walls to not only fold around nature but also let it rise and fall like dunes. This merging and emerging from the landscape is used as a method of drawing the user towards the point of hierarchy. Following this sense of direction, the spaces were roughly allocated between the guiding element (the walls).

Having a rooting element, some evaluational perspectives were explored, to test how the walls could react to the topography, and how to possibly create an enclosure. It was only natural that a heavy element from the earth was met with a light tectonic structure for the canopy. Almost like a tree canopy covering the heavy earth on which it is rooted. This was explored further in Fig 152.

Figure 151
perspective elevation explorations

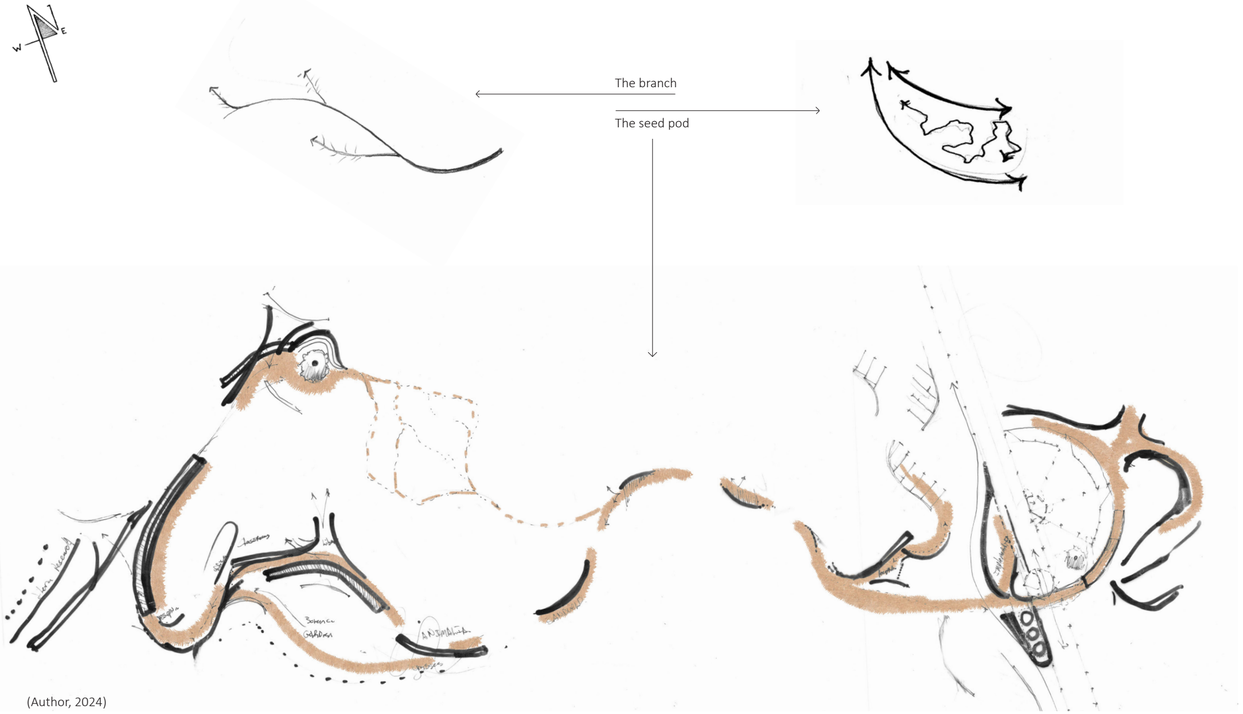


(Author, 2024)

Figure 152
Title

(Author, 2024)

Figure 153
Sketch of the path

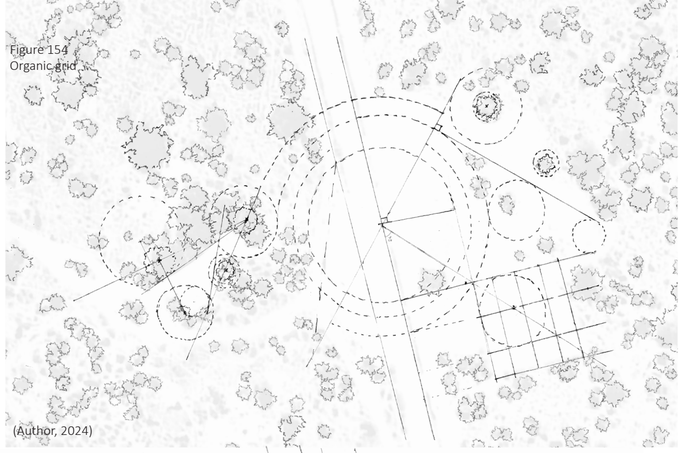


(Author, 2024)

Having an understanding of what the elements of the building would be, and the functions of it, a clear path through the veld was then designed. Using the camelthorn seed pod and branch as inspiration, the path was laid out along a spine with the functions branching out from it. In other cases, the scheme forms a seed pod where the functions are more enclosed with the movement on the periphery and centre. This method of making allows a user to move through the scheme as if they were moving through the veld. The blending of interior and exterior space along with the change in density of the built fabric enhances this experience of moving not within a building, but through a part of nature.

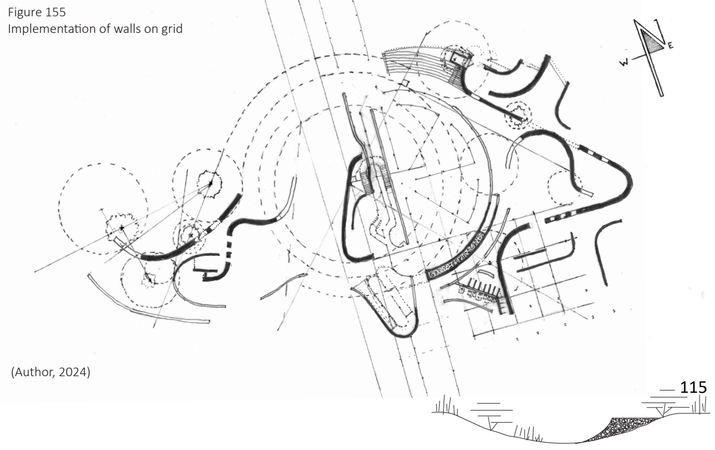
Although this movement seems solely intuitive, an organisation, and setting out method lies beneath the organic structure. Once again turning to the natural site, using the existing gang structure, and prominent trees to create set-out points. Allowing for a more natural approach these set-out points allowed for a circular grid, along with straight edges, to be utilised (fig 154). This mathematical approach allows for the intricacies of the Sandveld, to be understood and therefore be more effectively followed.

Figure 154
Organic grid



(Author, 2024)

Figure 155
Implementation of walls on grid



(Author, 2024)

MATERIALITY

A ‘Boer’ is both practical and resourceful, not waisting material and use as much as possible recycled material as possible. Therefore the materiality should mimic this mindset. Through the analysis of both context and site , various materials where brought to light that is linked to the *Genius* of the Sandveld. And therefore utelising it will root the intervention in the aesthetic of the site.

Although the natural found materials adhere the to the Genius Loci, but can it effectively share the embedded knowledge of the Sandveld ? For this reason a selection of alienated materials where implemented into the scheme, to enhance the sharing of embedded wisdom , through promoting the Genius Loci.

Earth / sand

Can be utelised for both earthen walls and floors. allowing the red hue of the sandveld be pulled into the building. Other techniques inspired from nature and cultural practices, like using cow dung mixed within the earth as smeared on plaster would benefit the construction on a detail level, lincking it to the way of being in the Sandverld.

Figure 156
Dung beetle ball in sand

(Author, 2024)

Stone

Utelising unused materials like the dolomite stones found in heaps on a dump site near Wit vlei (10 km from site) could be a cost effective to utilise in flooring and walls. These natural stone can form an exceptional material to introduce thermal mass to combat the heat. This material could also balance well with earthen walls in a contrasting yet natural texture.

Figure 157
Dolomite rocks on scrap heap

(Author, 2024)

Timber

By mimicking the ‘Boer’s way of making and materiality could connect the genius loci of farming to the detailing. Utelising gumpole, dropper and wire, would be able to create semi permeable deviders and shading devises that introduce d appled light into the scheme.

Figure 158
Dropper and gumpole fence

(Author, 2024)

Steel

Steel is widely used within the sandveld to construct wind pumps, gates, and sturdy camps among others. Using steel could therefor be a good structural material, that is readily available, and in some cases be salvaged from unused wind pumps.

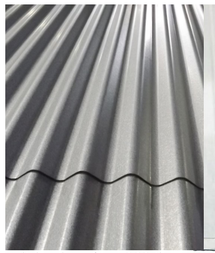
Figure 159
Benefits of recycling scrap metal

(OKON recycling, 2019)

Roofing

Shade from the sun is a vital element to have within this arid place. Therefore the traditional building material for the most roves and dams in the context is chosen (Corrugated zinc sheeting). Pollycarbonate sheeting is also used as a roofing material, which could be utelised to keep out water, while letting in dappled light to create a shading effect similar to that of being under a tree.

Figure 160
Corrugated zinc sheeting



(Island roofing, 2024)

Figure 161
Pollycarbonate sheeting

(Plastics direct, 2024)

Concrete

Concrete would be used as a more water resistant material to that of earthen construction. It will also be used as a structural material, allowing spaces to be submerged into the ground. By using this material as is it could become a feature element, or red pigment could be used to blend it better within the red sandy soil of the Sandveld.

Figure 162
Concrete

(Macadam construction, 2024)

IN- FORM

Taking into account all the previously mentioned design rationale, the design process finally stepped into form making. Aiming to fully understand, firstly how the scheme could herd a user, secondly, how the interior and exterior relationships could allow for space to blend within the context. And lastly how the walls and roofs could interact with each other to create a form and silhouette that relates and engage with the surrounding natural fabric, while maintaining the previous mentioned qualities. Using model building these 3 concepts where refined in each consecutive form.

Figure 163

Within this model the beginning of forming the walls spatially around flora where tested. A larger more dominant wall became the primary guiding element, with secondary walls creating the spaces.

Figure 164

Following this, the idea of allowing light along this wall was incorporated to strengthen the herding. The internal external dynamic was also explored by allowing spaces to appear and disappear along this guiding element, creating the feeling of moving through one space of both internal and external space.

Figure 165

Improving on this , the movement direction an flow was simplified into a more linear organic flow. Now that the first two principles was accounted for, the

Figure 163
Model A

(Author, 2024)

Figure 164
Model B

(Author, 2024)

Figure 165
Model C

(Author, 2024)

Utelising this form of construction the materials discussed earlier was then applied to the scheme. Fig 166 was used as a perspective view the materials could then be applied to based on the purpose of the element and aesthetic.

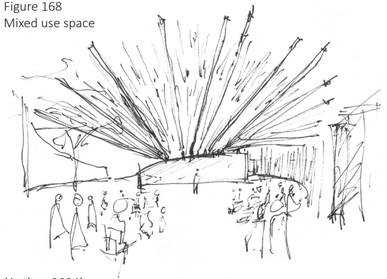
Figure 166
Perspective on materiality and form

(Author, 2024)

Utelising this material allocation to draw sections through parts of the intervention, materiality, detail and space was explored. Aiming to gain a sense of how the proposed combination of elements could be used to create moments.

Allowing the design to herd the user through shaded structures letting in dappled light. This could occur along the gabion walls that act as a guiding element through the scheme.

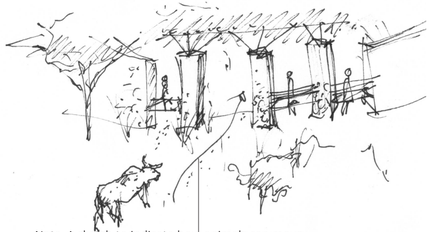
Figure 168
Mixed use space



(Author, 2024)

Fig 168 shows how breaks in the walls could lead to more expansive moments of knowledge exchange, or the wall could thicken to house serving spaces like storage.

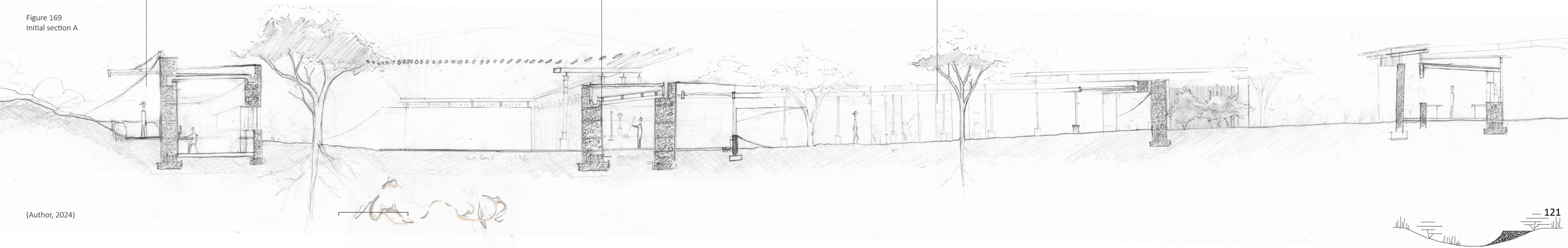
Figure 170
Animal moving between scheme



Note. A sketch to indicate how animals can move between the intervention (Author, 2024)

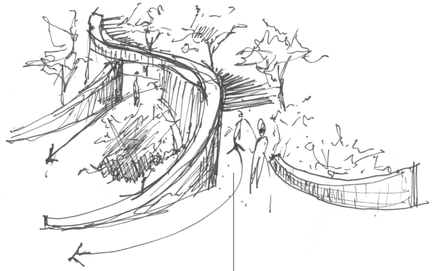
By viewing this section an understanding is gained of the way the architecture flows around nature, shown through the densities of the build intervention. In figure 170 it can also be seen how this flowing through nature is also extended to animals. Introducing openings through the scheme could allow animals to move on the same footpaths they used before the intervention would have been constructed.

Figure 169
Initial section A



(Author, 2024)

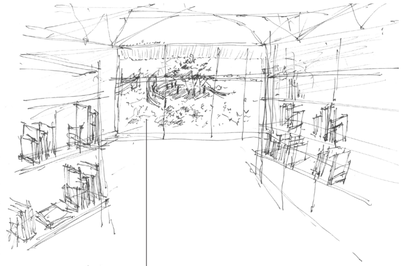
Figure 171
Curving walls Perspective



Note. A sketch depeicting how the walls move around barriers, and shading devises relating to tree canopies (Author, 2024)

By combining the materiality with the way of creating space the path started falling away and appearing, similar to a footpath in the veld.

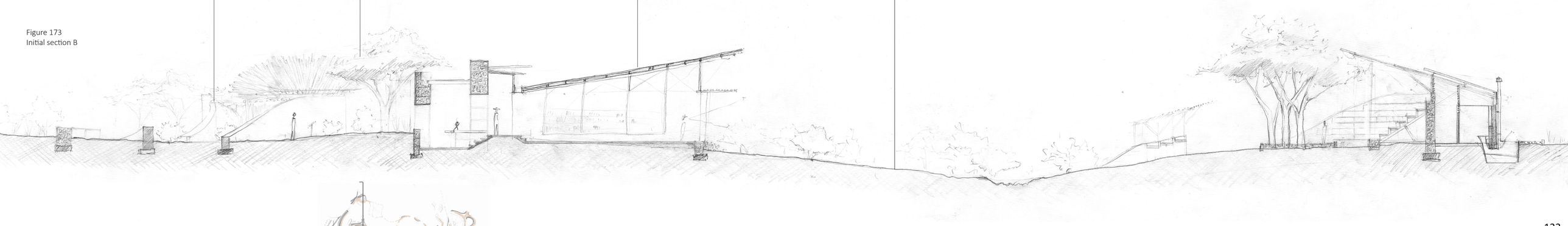
Figure 172
Internal perspective of library



Note. Sketch depicting the framing of Hais !naga !nhao#nu (Author, 2024)

Lastly, the moments of knowledge exchange, through views were explored, opening the building up, in some cases completely removing the build form showcasing the special moments along the path. This creates the final form of knowledge, allowing the user to experience the Sandveld for themselves.

Figure 173
Initial section B



(Author, 2024)

Figure 174
Sunrise on a dune

Note. A photo of a sunset on a dune on the farm, El Mot (Author, 2024)

CONCLUSION

This section conveys the process taken to translate the Genius of the Sandveld into a design. The design proses revolved around how the Sandveld as an entity is experienced, and moved through. By creating a pathway through the site the spaces where placed along this linear organic path, creating moments as one move through the scheme. Adding to the experience of these moments, internal and external relationships where made of use, as a way of relating back to the surrounding natural environment. Using this process the next chapter will aim to procyletise Eco-agriculture by giving allowing the reader to experience the Omaheke's Knowledge exchange center.

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INTRODUCTION

By rooting the design in the sandveld through abiding to the design rationale and design development mentioned previously, this chapter showcases the application thereof. By first layout the narrative of experience through the site, the experience will already linger in the mind as one moves through the design. This chapter outlines the way the scheme is placed within the landscape, allowing the build form to flow around the elements on site. Next the way spaces relates to each other, and the way the scheme allows the user to experience the sandveld is outlined. Following this, the aesthetic quality of the facades is explored, and lastly , how the sandveld is showcased through detail is showcased.

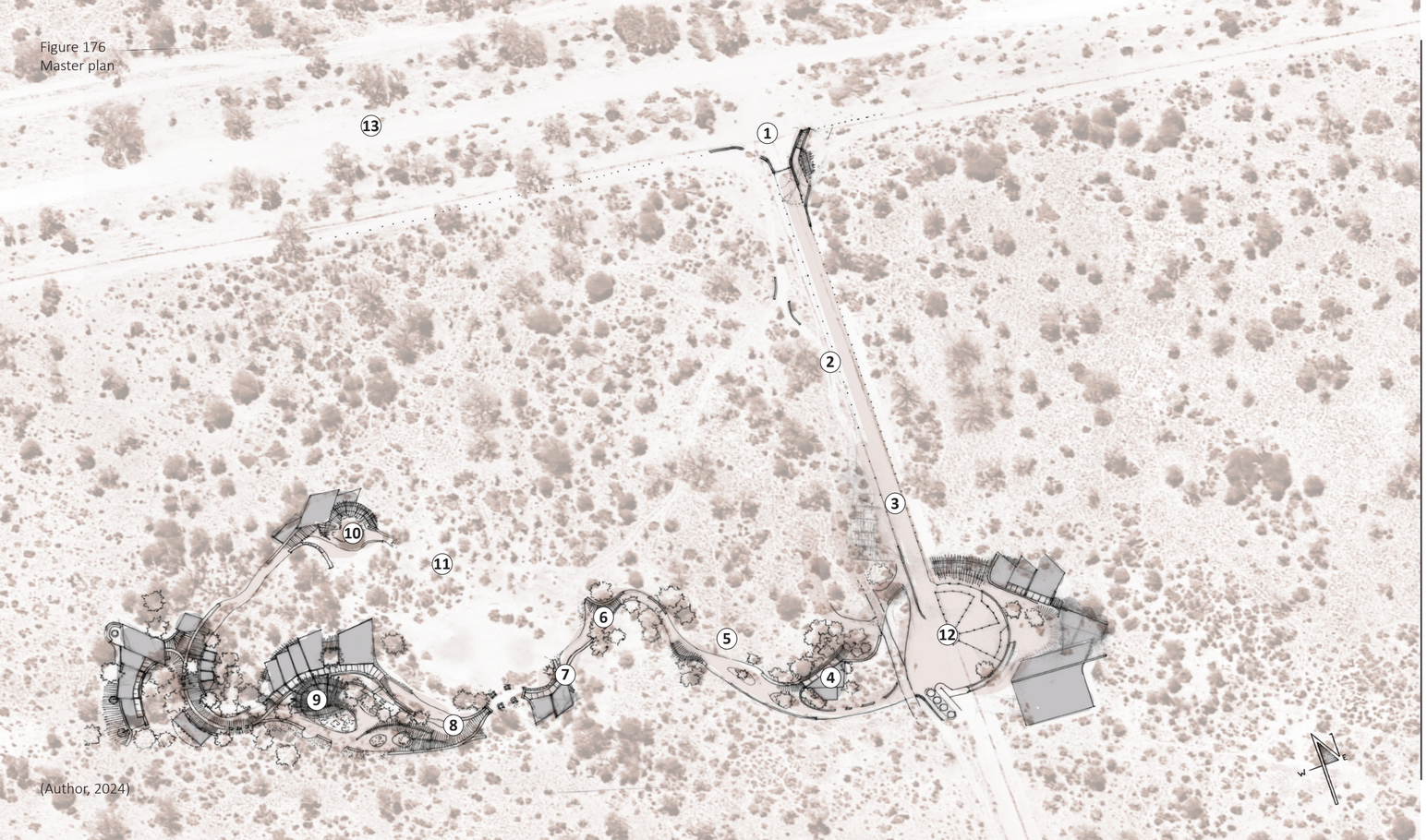
Figure 175
Seedpod and branch

(Author, 2024)

EXPERIENCING DESIGN

- Herding the user
- Design outcome
- Sandveld on a detail scale

Figure 176
Master plan

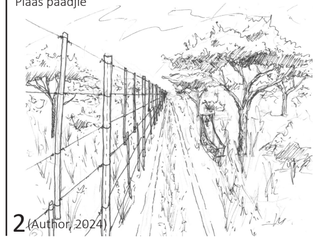


(Author, 2024)

HERDING THE USER

'PLAAS PAADJIE'

Figure 177
'Plaas paadjie'



2 (Author, 2024)

THE APPROACH

Figure 178
The approach

3 (Author, 2024)

VIEW OF 'PANNETJIE'

Figure 179
View of 'Pannetjie

6 (Author, 2024)

1- As one nears the initial threshold the user will confront the Genius loci shown through existing materiality, form, flora, fauna, and natural features of the site as a precursor of the design language that awaits them.

2- The "plaas padjie" acts as a transition zone, from the main road to the more natural, where the veld is observed on a more personal level from the vehicle.

3- As the user approaches the parking, views will hint the user toward the sustainable farming part of the scheme, as the only visible man-made structures, and the conclusion of the scheme.

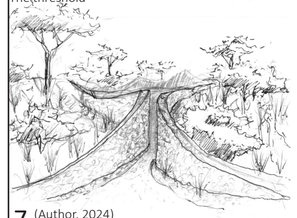
4- The reception will direct the user in the opposite direction, away from the logical heading, into the veld.

5- Wandering through a path created by hints of direction through appearing and disappearing walls, textures, and canopies, directing the user to the next moment. A repetition of what was experienced in the car on the "plaas Pad-

6- Received by a viewpoint of the "pannetjie" (watering hole/ small pan) and possibly some animals, as an introduction to the site.

THE THRESHOLD

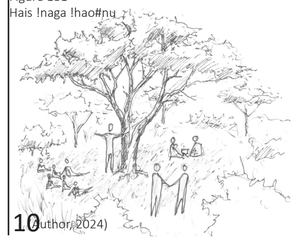
Figure 180
The threshold



7 (Author, 2024)

HAIS !NAGA !HAO#NU

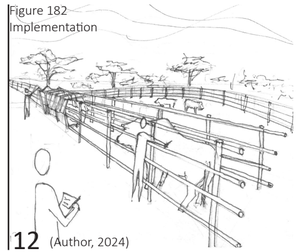
Figure 181
Hais !naga !hao#nu



10 (Author, 2024)

IMPLEMENTATION

Figure 182
Implementation



12 (Author, 2024)

7- The user will then discover the first threshold of the intervention, while the rest of the intervention remains hidden, blending in with the “veld”. The idea of compression and expansion is used, as a way of focusing one’s attention on the next, arguably most important part of the scheme.

8- Here the Sandveld is placed on exhibition, where one can engage on a multi-sensory level, aiming to perceive the genius loci by moving seamlessly between inside and outside, while the outcome that was glimpsed upon at the start, lingers at the back of their mind.

9- Now the user would be able to better understand and gain from the academic knowledge, as a prior foundational interaction has personally been made.

10- **“hais !naga !hao#nu”** or ‘gathering under the tree’ one might gain more than book knowledge, through interacting with local people, the traditional knowledge and ways of doing can be shared, anchored by the local way of sharing knowledge and narrative, under a tree.

11- “hais ! naga !hao#nu” or ‘gathering under the tree’ one might gain more than book knowledge, through interacting with local people, the traditional knowledge and ways of doing can be shared, anchored by the local way of sharing knowledge and narrative, under a tree.

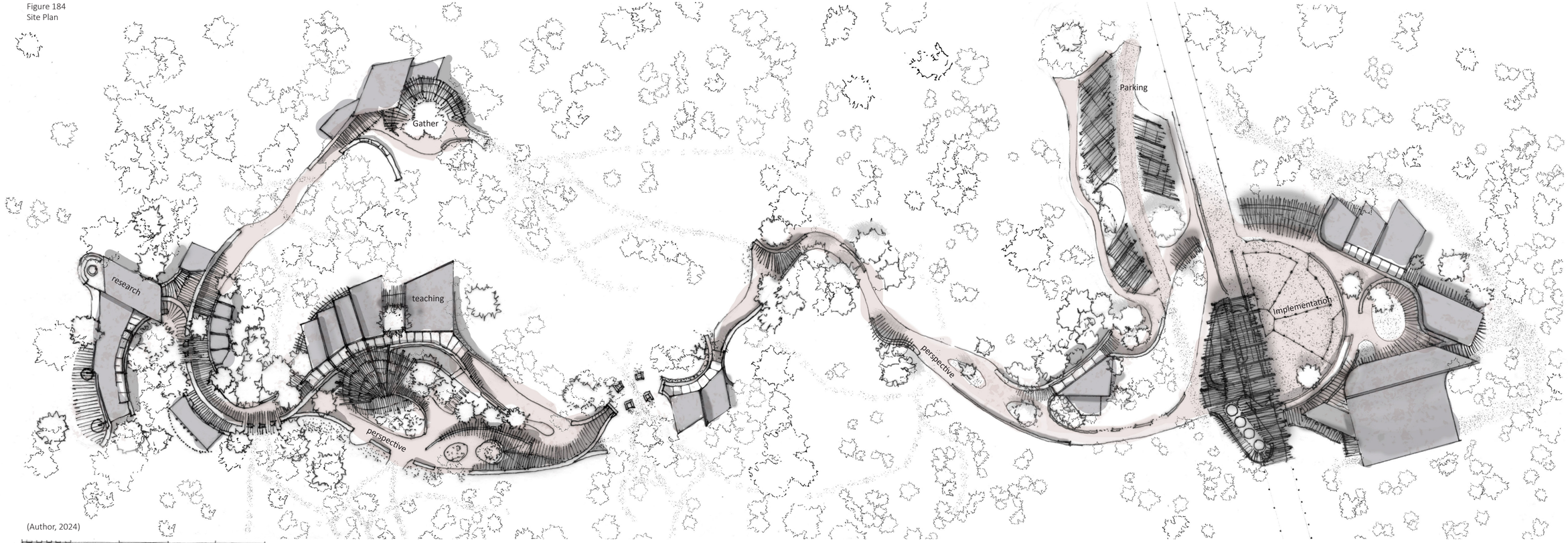
12- The scheme is concluded with the implementation of knowledge, where, what was learned could be applied to the way of doing so that nature and sense of place could be sustained.

Figure 183
Departing

13 (Author, 2024)

13- Departing with a newfound appreciation for the Sandveld and its Genius loci, the user embarks on their journey outward, with a deeper understanding of the place, inspired to create a sustainable way of being that safeguards the very essence of this unique environment.

Figure 184
Site Plan

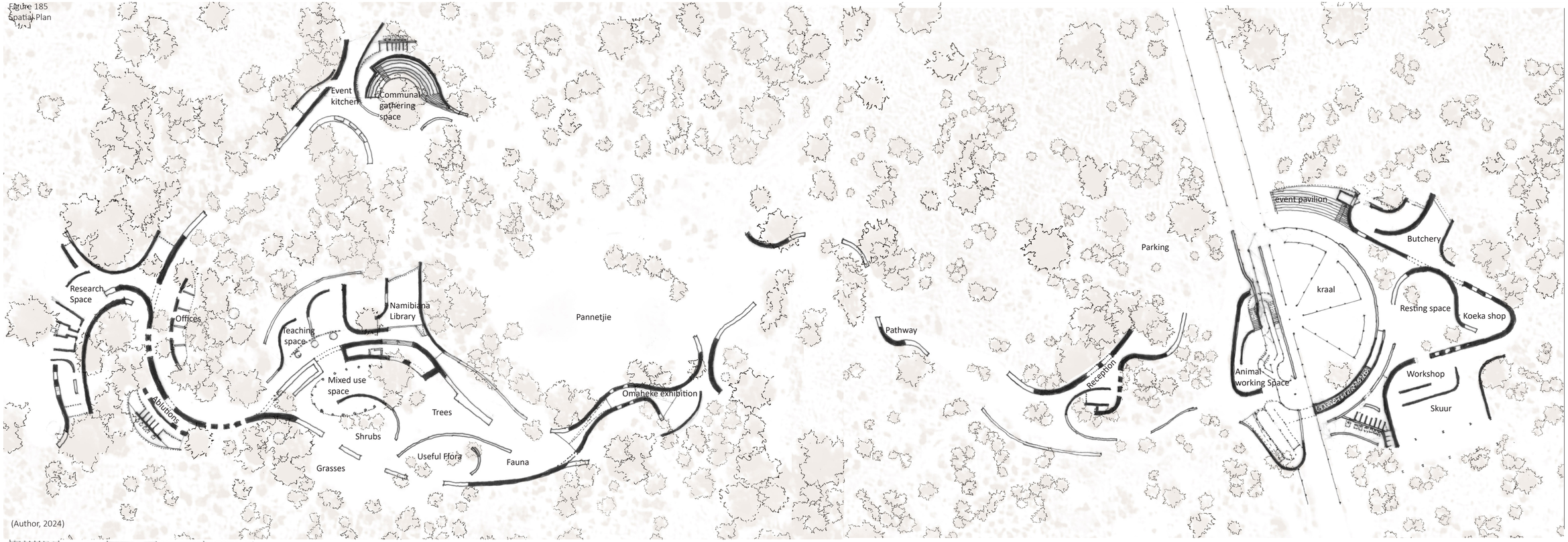


(Author, 2024)

0m 10m 20m 30m 40m 50m

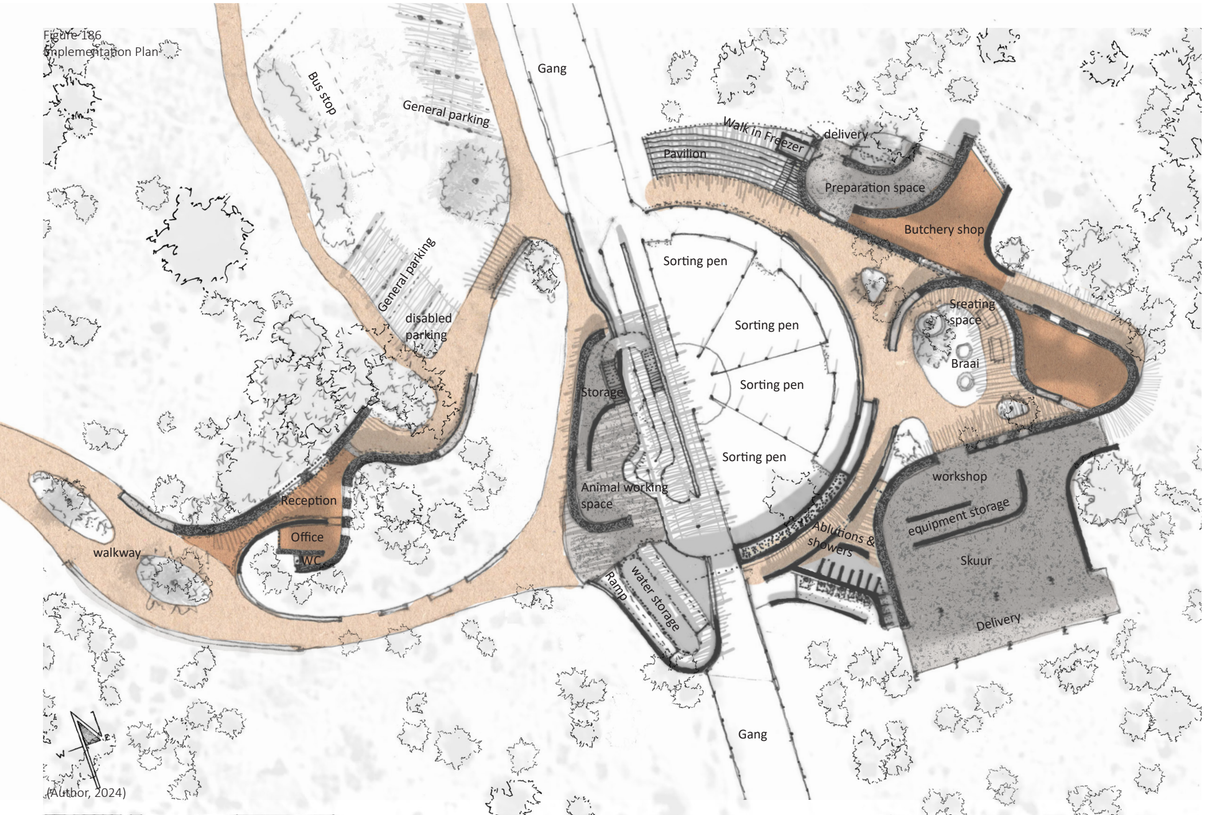
SITE PLAN

Figure 185
Spatial Plan



(Author, 2024)

Figure 186
Implementation Plan



(Author, 2024)

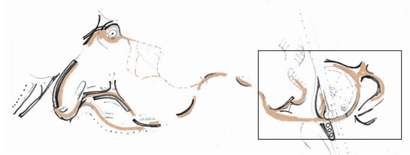
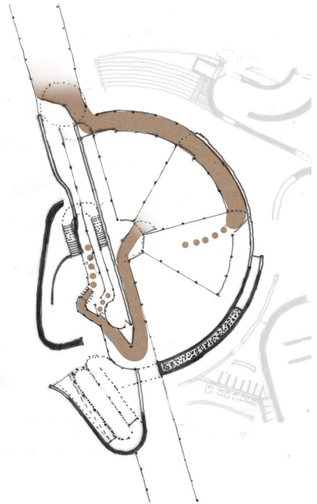


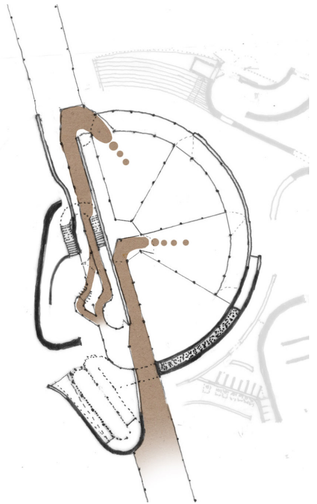
Figure 187
Working of animals



(Author, 2024)

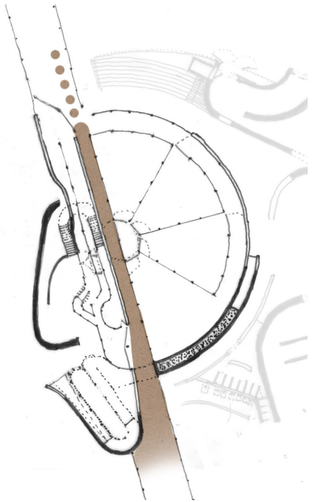
Through utilising principles introduce by Dr Temple Grandin the scheme allows of a safer and more efficient working of animals of both the farmer and the local community. Through utilising circular pushing pents with two gates the direction of animals can be effectively be herded by changing the angles of these gates. This allows a singular scheme to be used for multiple facites of working large numbers of animals, being efficient in working the animals(cutting horns, applying medication, recording statistics, to name a few), sorting herds, as well as allowing the 'gang' to function as usual.

Figure 189
Sorting of animals



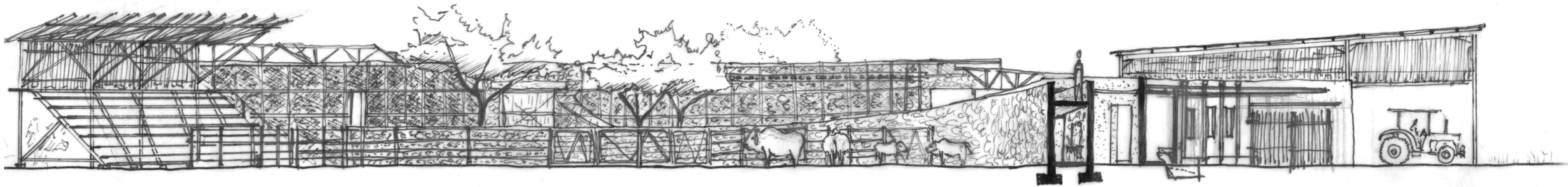
(Author, 2024)

Figure 190
Continual use of the Gang



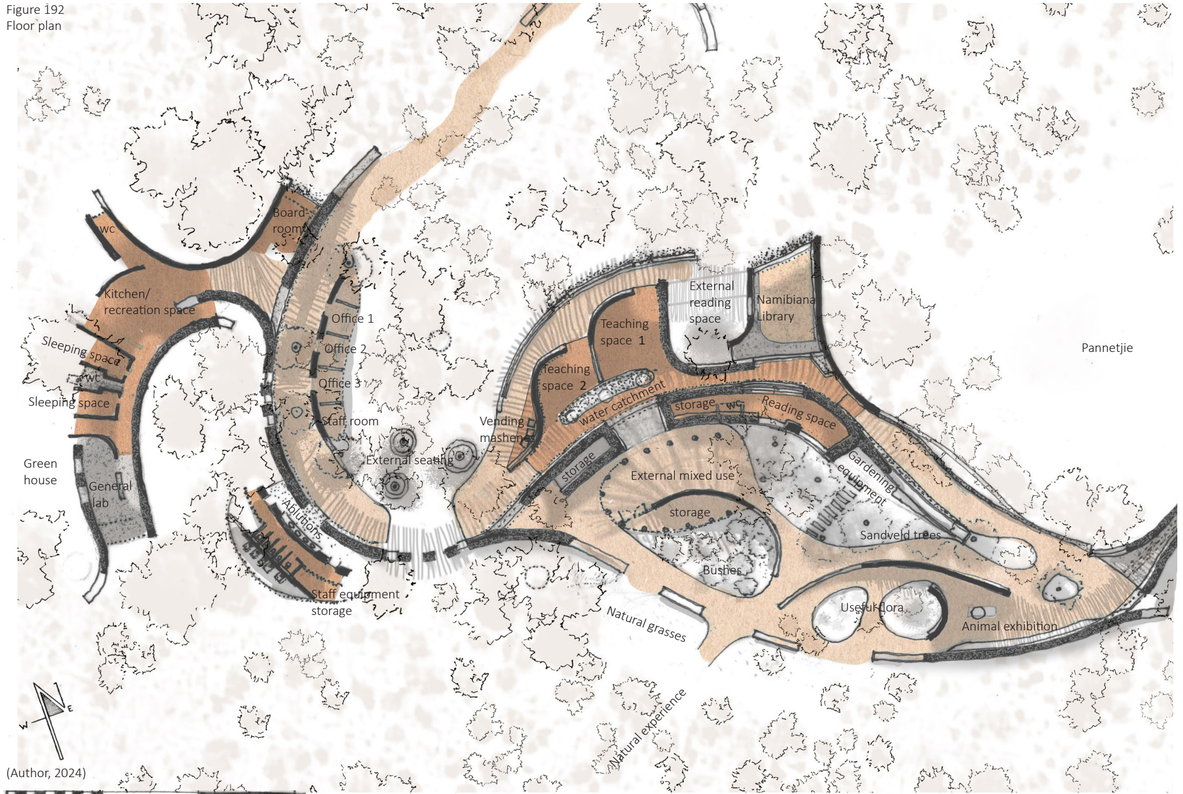
(Author, 2024)

Figure 191
Sectional elevation A



(Author, 2024)
NOT TO SCALE

Figure 192
Floor plan



(Author, 2024)

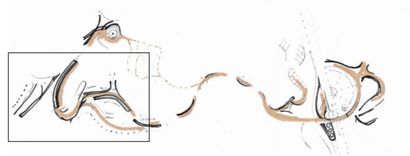
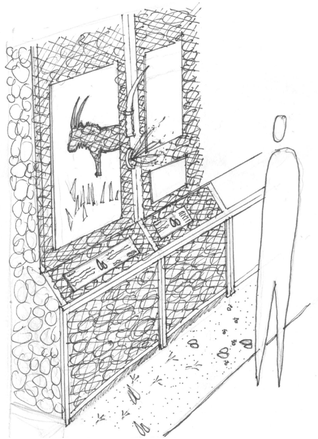


Figure 193
Animal exhibition



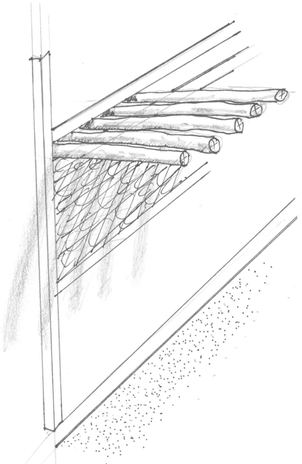
(Author, 2024)

Within this side of the scheme. Knowledge exchange becomes more prominent through the design. Allowing for multiple ways that the Sandveld's embedded wisdom could be exchanged, allows the user to experience the Sandveld through the architecture. Making use of Exhibition, and physical learning as experiential moments, for example using footprints and silhouettes to exhibit animal speeches becomes the most obvious method of knowledge exchange. Furthermore by allowing the user to explore Nature as is, by walking on a animal footpath caters for a more natural approach of knowledge exchange through raw experience and discovery. Lastly through shade, materiality and form the Architecture itself allows for a more subtle form of knowledge exchange of both place and way of being.

Figure 194
Natural experience

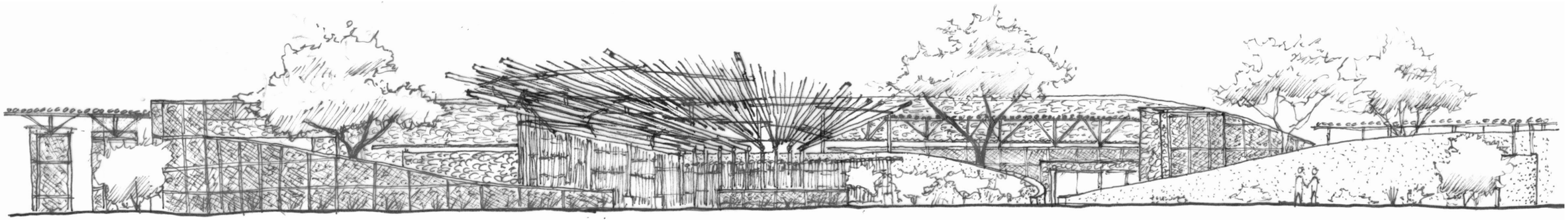
(Author, 2024)

Figure 195
Architecture



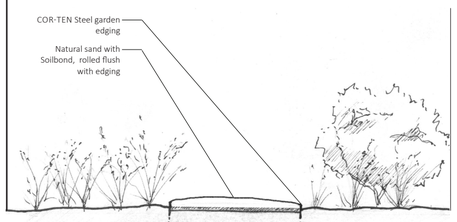
(Author, 2024)

Figure 196
Eleation B



(Author, 2024)
NOT TO SCALE

Figure 197
Section A



(Author, 2024)

Scale 1:50

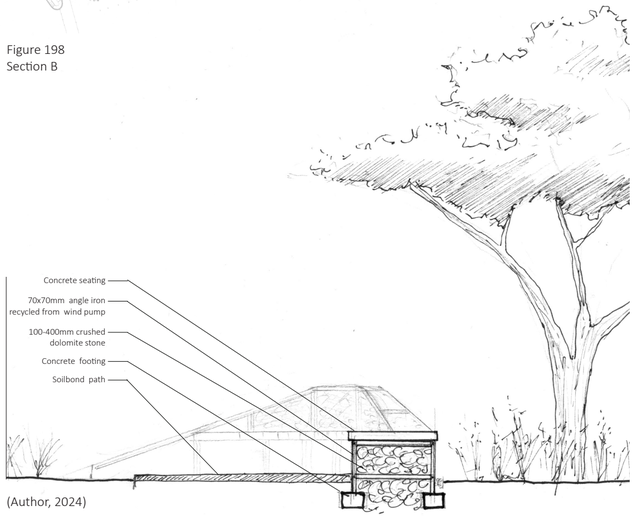
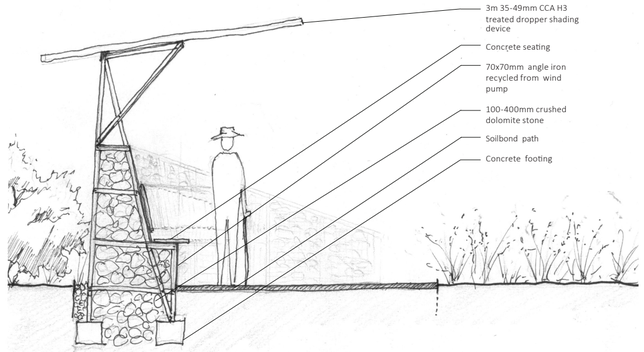


Figure 198
Section B

(Author, 2024)

Figure 199
Section C



(Author, 2024)

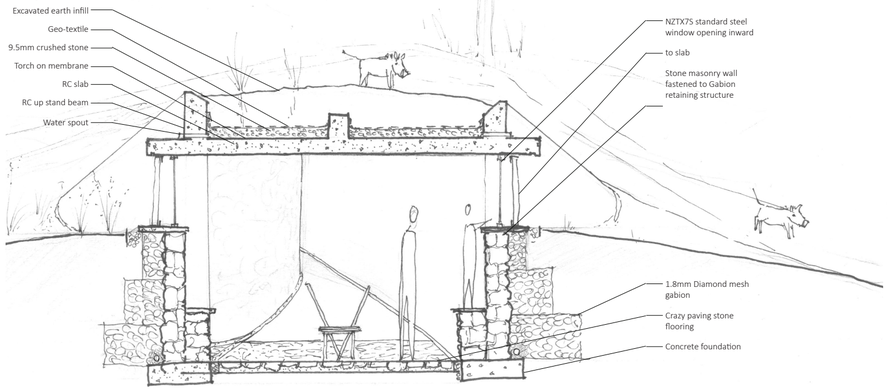
Scale 1:50

Within this section the design is showcased through section, as a way of showcasing the different types of spaces through the scheme. The knowledge of materiality and detail will specifically be evident in attempt to convey both the way of construction relating to the place, as well as a sense of scale and general feel of this place.

Viewing the sections in figure 197 - 199 The dune becomes prominent , where the architecture creates pathways with guiding walls that rise and fall. This also becomes the point where the user becomes accustomed to the herding elements, being the gabion walls and the dropper shading devises. These would be utelised throughout the scheme, acting as elements indicating direction and movement.

Figure 200
Section D

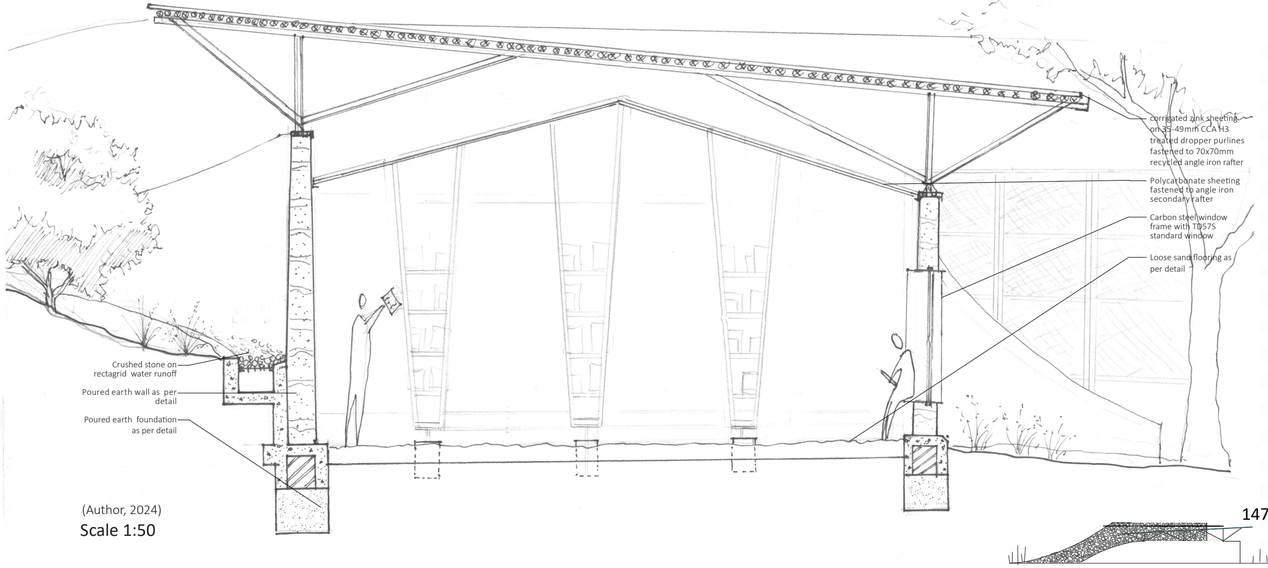
Figure 200 shows how the point of view of the user is changed by bringing them close to the earth. Doing so creates a experience from a different point of view, allowing the place to be experienced to its full potential. The opposite will be then experienced on the walkway over the kraal, where a user will then be able to view the scheme and veld from a higher vantage point. Being placed at eye level with the Camelthorn could showcase a new perspective and thus create a different experience of it.



(Author, 2024)

Scale 1:50

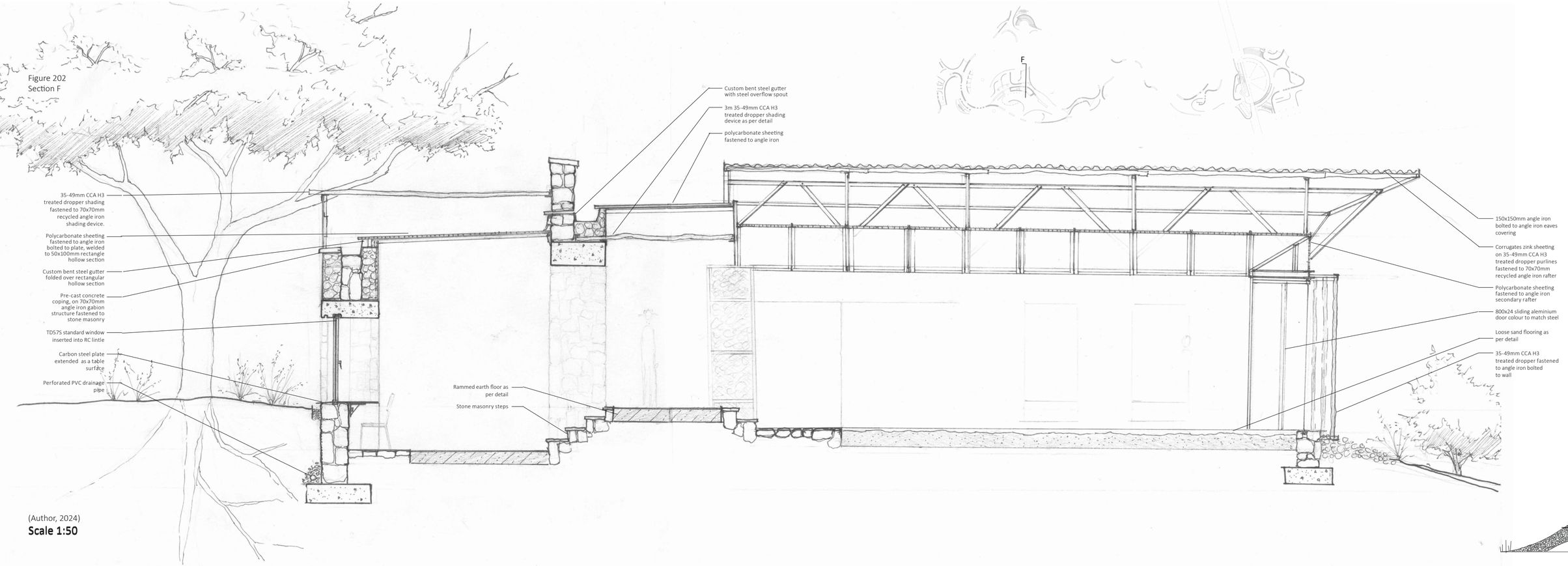
Figure 201
Section E



(Author, 2024)

Scale 1:50

Figure 202
Section F

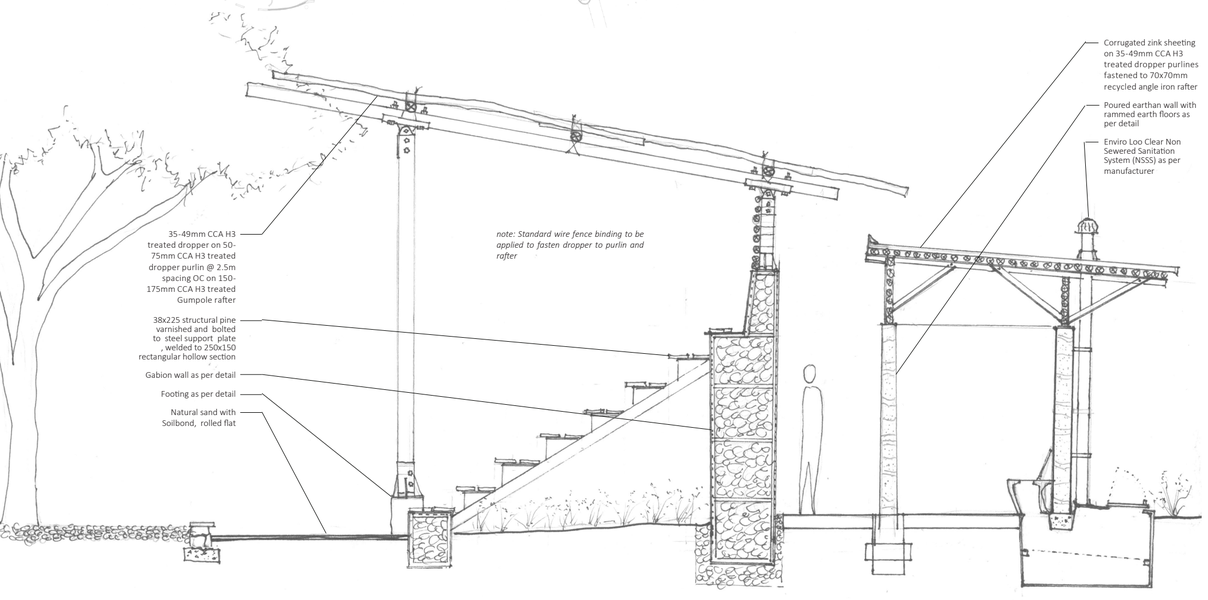


(Author, 2024)

Scale 1:50

G

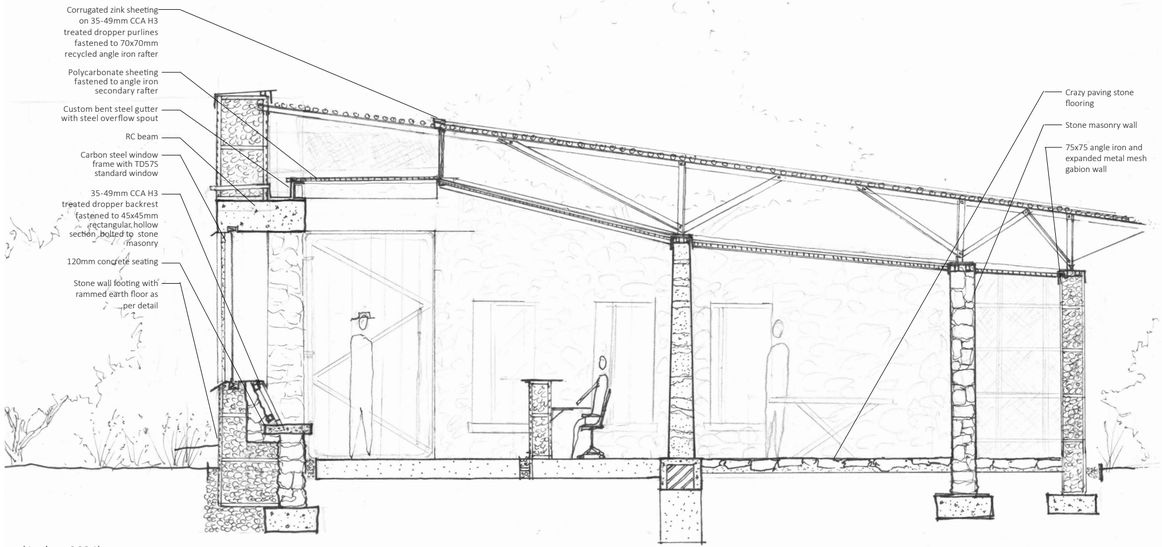
Figure 203
Section G



(Author, 2024)
Scale 1:50

Figure 203
Section H

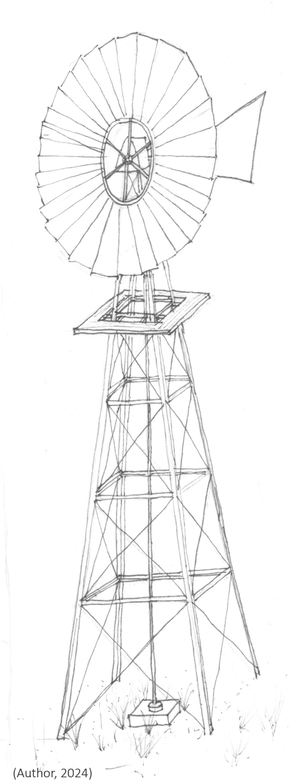
H



(Author, 2024)
Scale 1:50

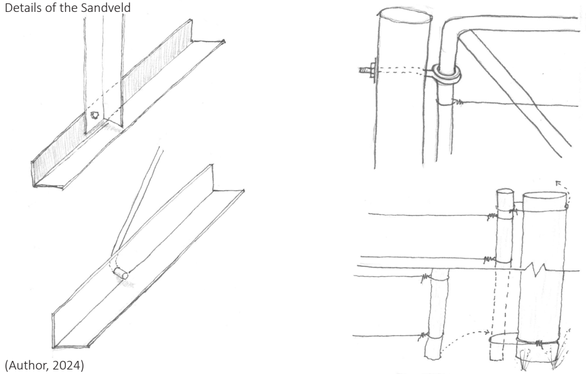
Now that a understanding of how knowledge is exchanged through moments as space, materiality, and movement the Sandveld's way of making would now be showcased through detail. Drawing on the traditional methods of making , for instance farm fences, gates, and wind-pumps the next section will explore how this is implemented into the architecture (Figure205). Viewing each detail not as a singular moment , but as a typology that could be applied at all similar junctions, eg a gabion wall meeting an earthen floor would be experienced the same way through out the scheme. Where the arrangement of space being the only variable, almost like the Sanveld being made up of the same elements but arranged in different way creates the varying experiences of veld, pans, and dunes.

Figure 204
Wind pump structure



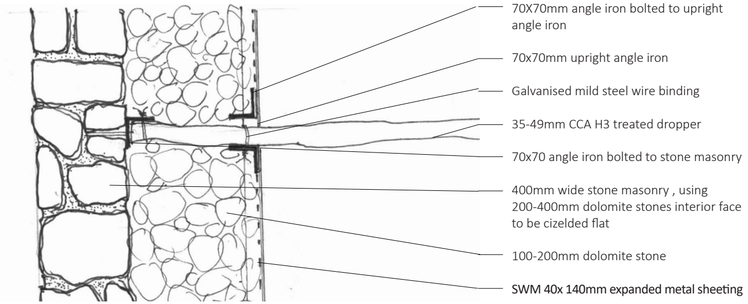
(Author, 2024)

Figure 205
Details of the Sandveld



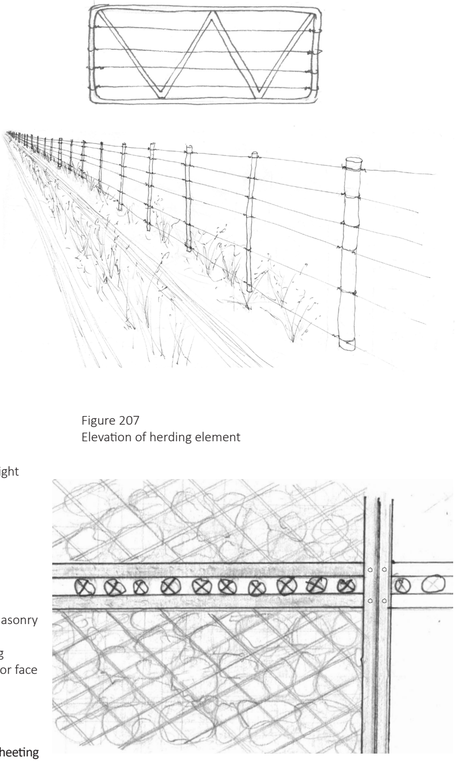
(Author, 2024)

Figure 206
Herding element



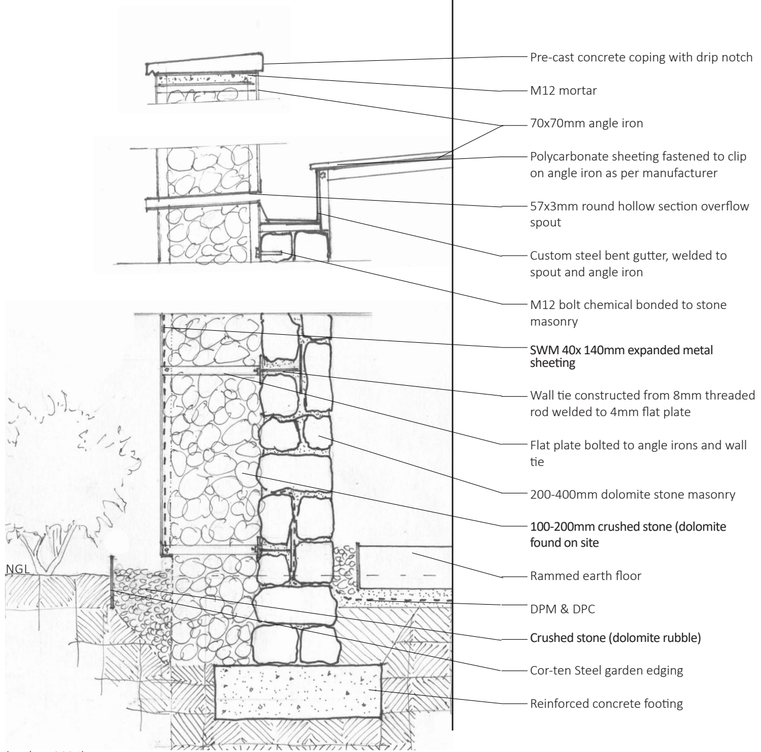
(Author, 2024)

Figure 207
Elevation of herding element



(Author, 2024)

Figure 208
Standard stone masonry gabion wall



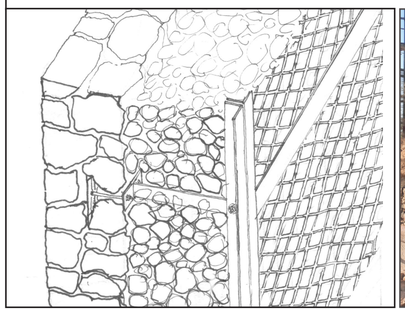
(Author, 2024)
Scale 1:25

THE WALLS

The primary wall will be made of a double layer, one of stone masonry and the other a gabion wall system. This system (primarily to the West) creates a Excellent thermal mass, increasing the comfortability of the interior spaces.

Following the resource efficient mindset of a 'Boer' the stones will be used to its full potential, with virtually no wastage. Larger stones would be used for the stone masonry , by splitting the visible side create smaller pieces. These will either be used in the gabion or the footing depending on the size. This ensures that all of the material is utelised.

Figure 209
wall perspective



(Author, 2024)

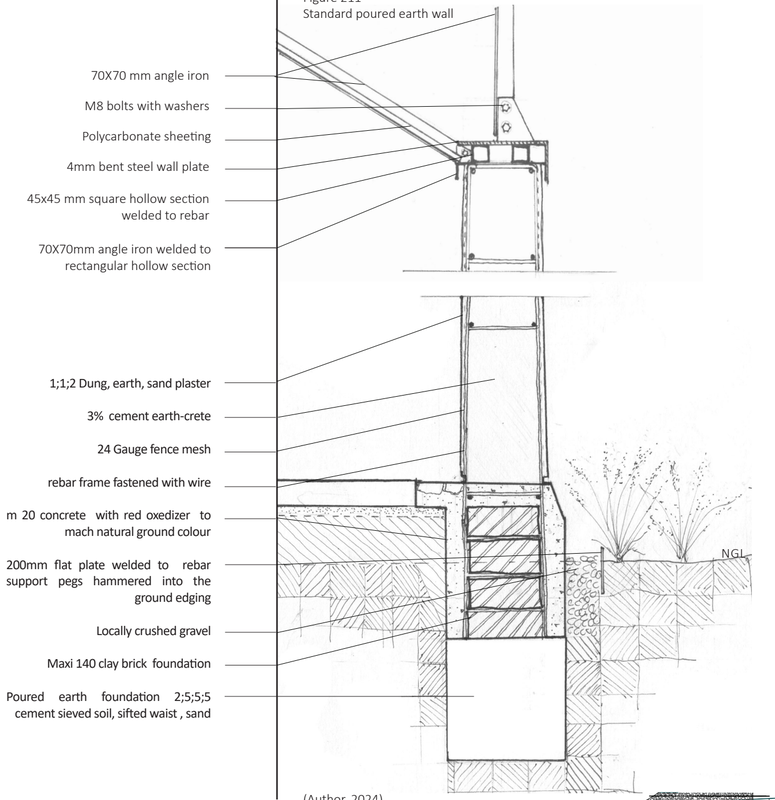
The secondary walls would be constructed from poured earth. a technique that requires minimal material and is less labor intensive than rammed earth construction.

Pairing this construction with a traditional plaster method that makes use of cow dung and earth. In contrast with the rough grey stone walls this, creates a smoother texture and reddish colour, relating to that of the Sandveld's sand. The mixture of dung, earth, and sand is hand applied, smeared onto the structure, allowing for a more rooted, handmade aesthetic as the finger marks left allows for knowledge of culture to be conveyed.

Figure 210
poured earthern wall

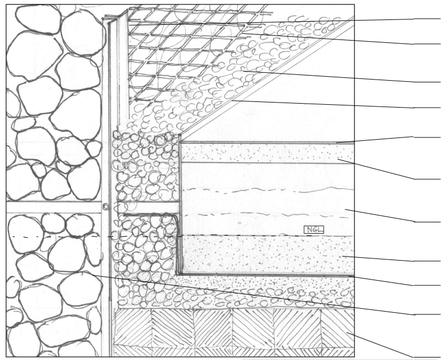
(Paliath, 2024)

Figure 211
Standard poured earth wall



(Author, 2024)
Scale 1:25

Figure 212
Gabion and rammed earth floor

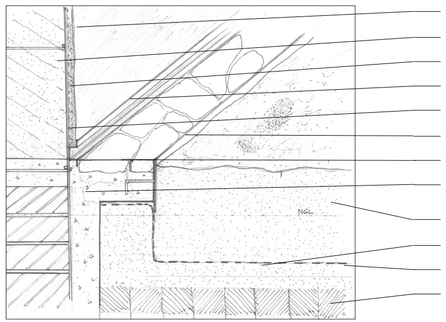


40X40mm angle iron
SWM 40x 140mm expanded metal sheeting
Crushed stone (dolomite rubble)
200mm carbon steel flat bar
Top coat sieved to 3mm troweled & burnished
1x38mm layer compacted to +-25mm sieved to 9mm
3x50mm layers each compacted to +-25mm
50mm sand blinding layer
DPM
100-200mm crushed stone (dolomite found on site
Undisturbed earth

(Author, 2024)

INTERNAL FLOOR

Figure 213
Poured earthern wall and loose sand floor



1;1;2 Dung, earth, sand plaster
3% cement earth-crete
24 Gauge fence mesh
30x50mm top hat section
rebar frame fastened with wire
200mm steel flat bar
Crazy paving
m 20 concrete with red oxedizer to mach natural ground colour
30mm layer of sifted sand coated in linseed oil
50mm sand layer
DPM
Undisturbed earth

(Author, 2024)

INTERNAL FLOOR

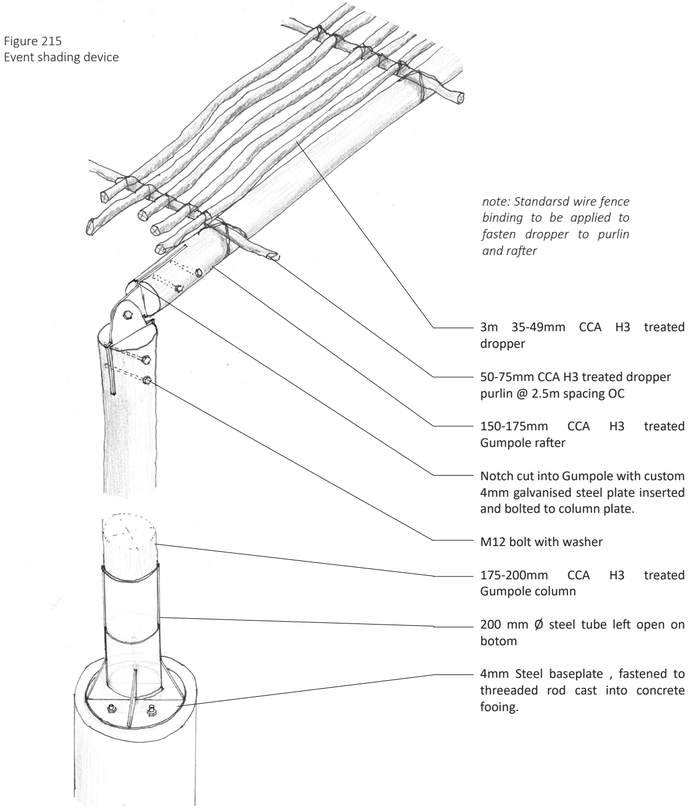
The Natural redness and earthy feel of the Sandvel'd red sand was aimed to be showcased within the floors. For this reason rammed earthen floors, amongst crazy paving and stabilised sand where used within the majority of the scheme. This creates a rootedness within the Sandveld, linking with the colour, texture, and overall experience of the Sandveld.

Amongst these floors the library's floor is designed to become moment of its own. The internal floor is designed to feel as if it is untouched. By using sand as is for the flooring material, the user could experience the marks left in the sand as the written knowledge leave marks on them.

Figure 214
Sand Floor

(Gondwana, 2024)

Figure 215
Event shading device



note: Standarsd wire fence binding to be applied to fasten dropper to purlin and rafter

3m 35-49mm CCA H3 treated dropper
50-75mm CCA H3 treated dropper purlin @ 2.5m spacing OC
150-175mm CCA H3 treated Gumpole rafter
Notch cut into Gumpole with custom 4mm galvanised steel plate inserted and bolted to column plate.
M12 bolt with washer
175-200mm CCA H3 treated Gumpole column
200 mm Ø steel tube left open on botom
4mm Steel baseplate , fastened to threeaded rod cast into concrete fooing.

(Author, 2024)

Figure 216
Wind- pump and Camelthorn

Note. A photo of a wind-pump connection and solar panel at the Eastern most frontier. 2021

CONCLUSION

The Sandveld's Genius Loci is a wondrous thing to behold. Not only in its natural beauty and intricacy , but within the way people dwell within this place. It is clear that the current way of being within the Camelthorn Savannah is not sustainable as a result of a lack in knowledge of the natural place. This scheme therefore was designed to become a place of knowledge exchange that connects the users of the land. It allows for the experience of the sandveld on multiple levels to be showcased and experienced and through this a deeper appreciation of the place could be formed. When this appreciation of place is achieved one could consider that, as the start of procyletising eco- agriculture. Because then one would have a relationship of growth and mutual understanding with the place, some might even say more than imply becoming acquainted, but rather becoming a friend to the Sandveld. in this herding this arid place into a more sustainable future.

[print on brown paper]
and cut off this part off

[print on brown paper]
and cut off this part off

"ARCHITECTURE MEANS TO VISUALIZE THE 'GENIUS LOCI', AND THE TASK OF THE ARCHITECT IS TO CREATE MEANINGFUL PLACES, WHEREBY HE HELPS MAN TO DWELL."

– Christian Norberg-Schulz

Figure 217
Place of the Camelthorn

(Author, 2024)

INTO THE VELD

CONCLUSION
REFERENCES
LIST OF FIGURES

Figure 218
Drawing of library

(Author, 2024)

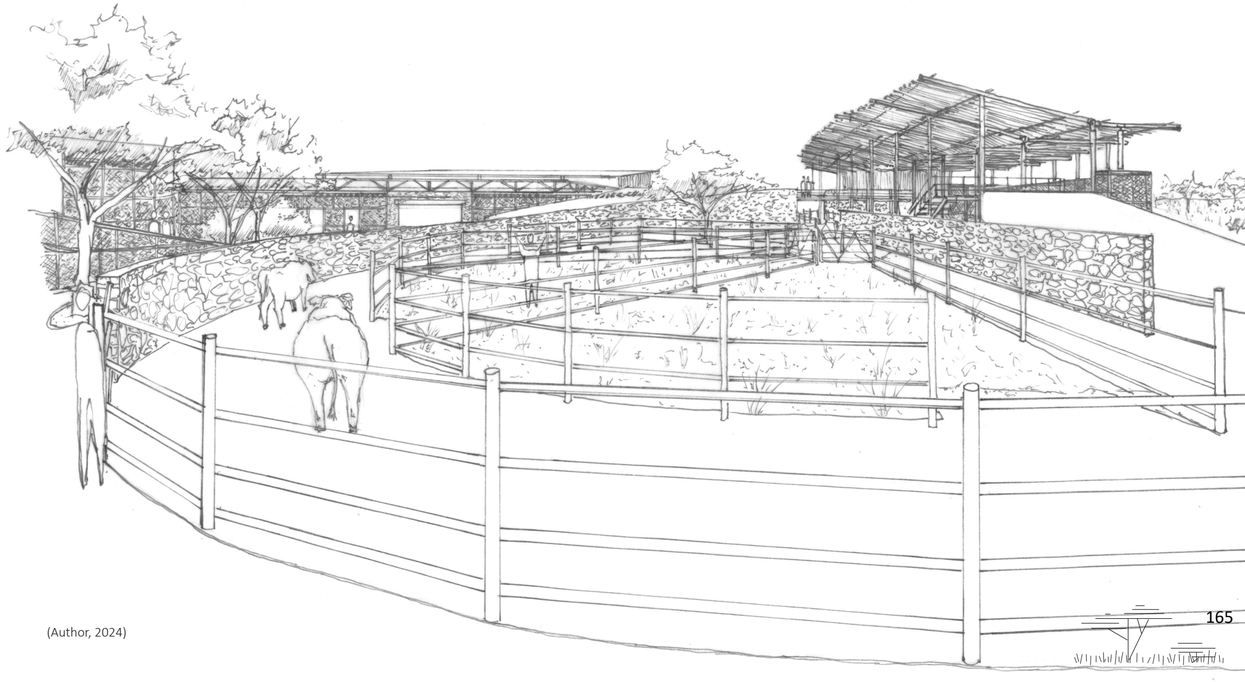
CONCLUSION

Throughout this document the Genius of the Sandveld carried priority with hope to convey a piece of this place through words, diagrams and finally an intervention. This in a sense became my personal form of knowledge exchange. Allowing the reader to experience a piece of the sandveld through my perspective. By experiencing this arid place through the eyes of another does not do it justice, acquaintance cannot take place without being in the presence of the place. And knowledge cannot be gained without first engaging, experiencing and understanding the embedded elemental wisdom of the Sandveld. Proselytising eco-agriculture is therefore not jut solely conveying knowledge on how to farm in a more sustainable way, rather its about gaining the appreciation of place. That is what this scheme strives to do, not solely to facilitate physical and scientific knowledge, but to facilitate a moment to encounter the deeper wisdom of the Sandveld.

Then the LORD God took the man and put him in the garden of Eden to tend and keep it.

Genesis 2:15

Figure 219
Drawing of implementation



(Author, 2024)

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