BEFORE THE DUST SETTLES

A Nama Arts and Culture exhibition complex
Springbok, Northern Cape

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M.Arch (Prof) Dissertation 2021

Declaration

This dissertation is submitted as partial fulfilment for the Masters of Architecture (Prof) degree. All the work contained in this document is my own except where otherwise acknowledged.

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ABSTRACT

The acts of preserving and exhibiting ephemeral African arts are important, as it safeguards cultural identities for generations. In order for museums and galleries to preserve art, the idea of the white cube was developed. The white cube, however, faces issues when attempting to capture and display ephemeral arts that are dependent on factors which include time, context, artist and the chosen creative material or medium, to exist. These art forms are usually independent on what galleries and museums offer, including the presence of an audience or viewers. Land art, however, introduces key ideas on exhibiting ephemeral art that mark a permanent cultural presence in the world.

The Nama-Khoi ethnic group of Namaqualand are well-known for their artistic capabilities and hand-down rituals, especially the “Rieldans”. These art forms embody an impermanence to its aesthetic, where it’s manifested to the world only for a brief moment at no particular time, and in the natural landscape at no particular place. Due to this, these artistic practices are starting to gather dust as it seldom experience an audience.

This research document sets out to investigate architecture as land art form to provide a cultural setting as platform for the recognition and celebration of Nama-Khoi artistic practices. The Nama-Khoi “Rieldans” is investigated as concept generator to facilitate in choreographing the design and experience of a Nama Arts and Culture exhibition complex located in the tourist hub and heart of Namaqualand, Springbok, Northern Cape. The aim of the proposal is to embody the essence of the “Rieldans” in an architectural intervention that is both a destination and interactive building.

Keywords: *ephemerality, permanency, embodiment, land art, white cube, “Rieldans”*

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DOCUMENT FRAMEWORK

The investigation of this dissertation focuses on choreographing a Nama Arts and Culture exhibition complex in Springbok, Namaqualand. It aims at providing a platform in recognition and celebration of Nama-Khoi arts through an embodied “Rieldans” architectural intervention.

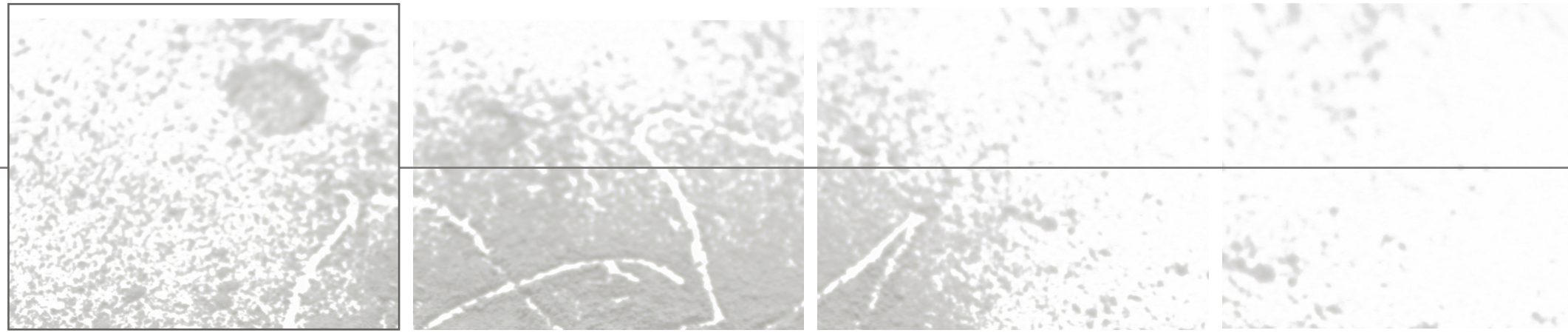
The document is structured in four parts, which include:

Part 1: An introduction to the project that orientates the reader on key issues that the proposed project addresses and investigates, and the aims it hopes to achieve.

Part 2: Gathers relevant information and creative explorations in response to the research question. The aim of Part 2 is to inform the design synthesis and technical development of the scheme (Part 3), whilst substantiating the theoretical argument.

Part 3: Moves towards the design synthesis and technical development as response to the investigated research question.

Part 4: Serves as an overall reflection on the dissertation process and final product, to recognise successes and shortcomings.



PART 1

1.1.
INTRODUCTION AND ORIENTATION

Fast. Energetic. EXPLOSIVE.

The "Rieldans"

- A series of cultural movements that narrate and project the daily lives of one of South Africa's most iconic and artistic, yet scarce ethnic groups, the Nama-Khoi. Originating from the remote and arid Namaqualand desert, best known for its seasonal flower splendor, this cultural dance is not an activity one would come across very often. The prolonged existence of Nama histories, myths, and traditions are somehow only stored in unstable artistic formations that last for only but a brief moment.

Apart from the many forms of artistry the Namas can act out, the Riel in itself probably carries the greatest sentimental value. It is used as a cultural, social and educational tool to bring Nama communities together and to pass on Nama identities to the next generation. Preserving, celebrating and promoting significant ephemeral African arts like the "Rieldans" become a necessary task to keepsake in modern days, especially when it scarcely exist within this remote area of South Africa.

The idea for a Nama arts and culture exhibition complex therefore stems from the above, as a means to provide a more stable, tangible and permanent configuration to keepsake Nama-Khoi life. Investigating architecture as a cultural setting, with the "Rieldans" as the main concept generator, the proposed project focuses on marking a more permanent Nama-Khoi presence.

1.1.
INTRODUCTION AND ORIENTATION

Golden thread: DUST

The term 'dust' in the title of the document, *Before the dust settles*, serves as the golden thread throughout the project that connects the design, construction and theoretical underpinning with the problem statement, project aim, users and brief.

Firstly, it refers to the semi-arid landscape of Springbok, Namaqualand in which the proposal is located. It considers the key issue of the project with regards to the artistic practices of the Nama-Khoi ethnic group of this region being subject to gather dust. Dust also refers to the creative material of the main concept generator of the project, which is the Nama-Khoi "Rieldans" – where they "dans lat die stof só staan". In terms of the theoretical underpinning, dust refers to concepts of time and how objects on display gather dust.

Client:

Nama-Khoi municipality requires a Nama Arts and Culture exhibition complex in the administrative capital of Namaqualand, South Africa. Springbok, being a tourist hub, requires the building to be a destination building for income generation towards the development of Nama-Khoi artistic practices. The purpose of the scheme is to give the Nama-Khoi a form of recognition to be celebrated by the local community and the by-passing tourist.

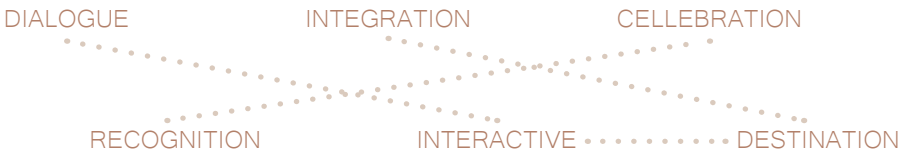
Users:

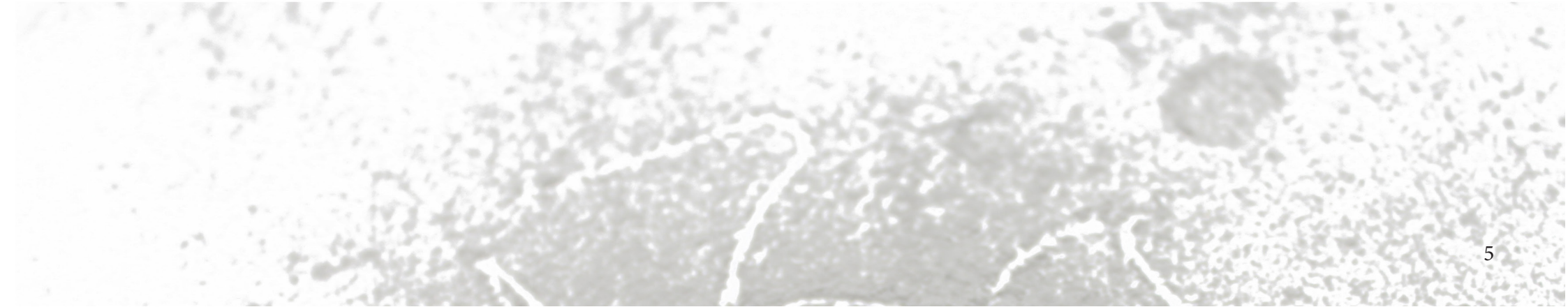
The purpose of the project is to provide facilities required to integrate two respective users. The two users can be divided into the following groups:

- Tourist and public visiting the complex
- Nama-Khoi and local community attending to facilitate educational, social and cultural functions.

Initial brief:

Requirements for the development of a Nama Arts and Culture exhibition complex includes an intervention that is both a destination and interactive building. The complex should encourage dialogue with its audience, allowing educational, cultural and social experiences. Ultimately, the complex should provide the appropriate platform for the celebration and recognition of the Nama-Khoi ethnic group. The project should serve as host for various educational, cultural and social aspects that interprets the essence of the Nama culture in both public and private spaces.
Keywords regarding the requirements include the following:





1.2. RESEARCH METHODS

Research methodology

The research methodology is constructed on investigating the research question of the proposed project. It attempts to inform a building design that is acquainted with the user, brief, place and typology, morphology and topology.

Research question: How can the ephemeral artistic practices by the contemporary Nama-Khoi be choreographed into an architectural intervention that embodies themes of time and place whilst integrating a network of performer and audience?

Site analysis

The site analysis includes an in depth analysis of the chosen site, location and context of the proposed project. The location for the project is in Sprongbok, Northern Cape.

The following aspects will be considered with regards to the site investigation:

Marco-analysis: Identifies important factors surrounding the chosen site.
Micro-analysis: Includes Information of the immediate surrounding.
Quantitative information: Focuses on information that can be measured like heights, boundaries, etc.
Qualitative information: Includes aspects of cognition, or that can be physically seen on the site.
Landscape investigation: Considers the type of landscape within which the project falls - a juxtapoition between a cosmic and vlassical landscape.

Touchstone

A touchstones represents the essential and core ideas of the project for both design and construction.

Design touchstone: Capturing a permanent temporality
Construction touchstone: Poetics of interwoven tectonics

Concepts

Three integrating concepts as a means to achieve project aims are introduced in the project.

1. Interwoven detour
2. “Rieldans” embodiment
3. Framedscape

Precedent studies

An in depth analysis of relevant precedents are done with regards to certain aspects that will substanciate the design, construction and theoretical undrpinning.
The precedents investigated in this document include:

- Heydar Aliyev Centre - Zaha Hadid
- Taliesin West - Frank Lloyd Wright
- Beaufort West Hillside Clinic - Gabriël Fagan

Literature review

The theoretical discourse, which informs the argument for the proposed project is based on mainly the following books, articles, journals, etc.

- Lailach, M. *Land Art: The earth as canvas* (2007)
- Purpura, A. *Framing the ephemeral* (2009)
- Heidegger, M. *Building dwelling thinking* (1951)
- Pallasmaa, J. *Space, place, memory & imagination: the temporal dimensions of existential space* (2007)

Creative explorations

A creative investigation tests or explains ideas in the form of drawings, sketches, concept model building, etc. that will lead to the design synthesis of the entire investigation.

1.3.
PROBLEMSTATEMENT AND AIM

Problem statement

The process of defining a problem statement and aim for the dissertation, was initiated by an understanding of the importance of ephemeral African arts, and the issues that go along with preserving and exhibiting such art forms. The Nama-Khoi ethnic group of Namaqualand, are well-known for their iconic artistic practices, which embody an impermanence to their aesthetic. Apart from this, their art forms are also starting to gather dust due to the lack of exposure and recognition.
An issue arises when realizing that these art forms are not dependent on architectural typologies that include the art gallery or museum. Attempting to display these art forms in an art gallery or museum introduces topics of disembodiment, objectification and decontextualisation. Due to this, the primary challenge of the proposed project is to provide this unique culture with an appropriate architectural platform that understands the means in which the art form manifests itself to the world with regards to dependent aspects of time, place, creative material and artist/performer.

Investigation aims:

The aim of the proposal is to compile information that ensures an in-depth understanding of the following aspects:

- Focus on understanding and capturing the essence of the Riel dance into a configuration that does not lead to objectivity and stagnation.
- Understand the requirements for the “Rieldans“, and the way in which it manifests itself.
- Understand the Nama-Khoi’s cultural presence within its particular context and/or landscape.

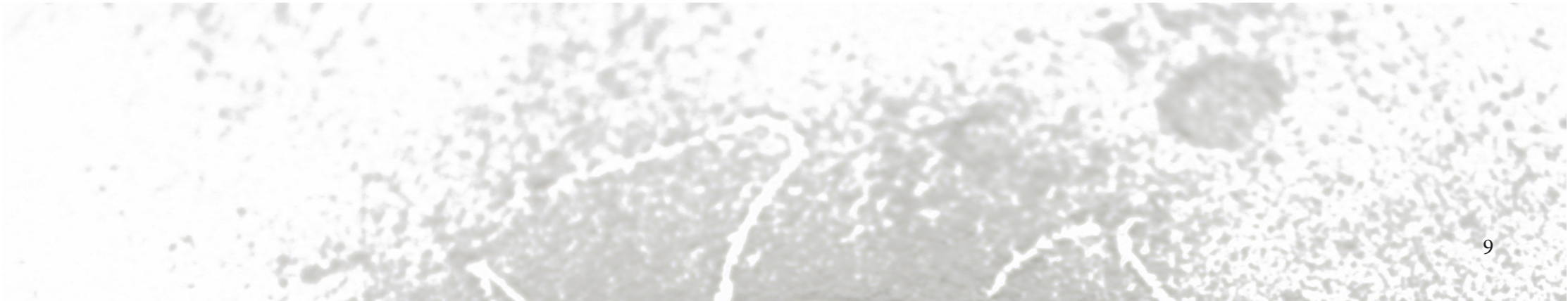
Architectural aims:

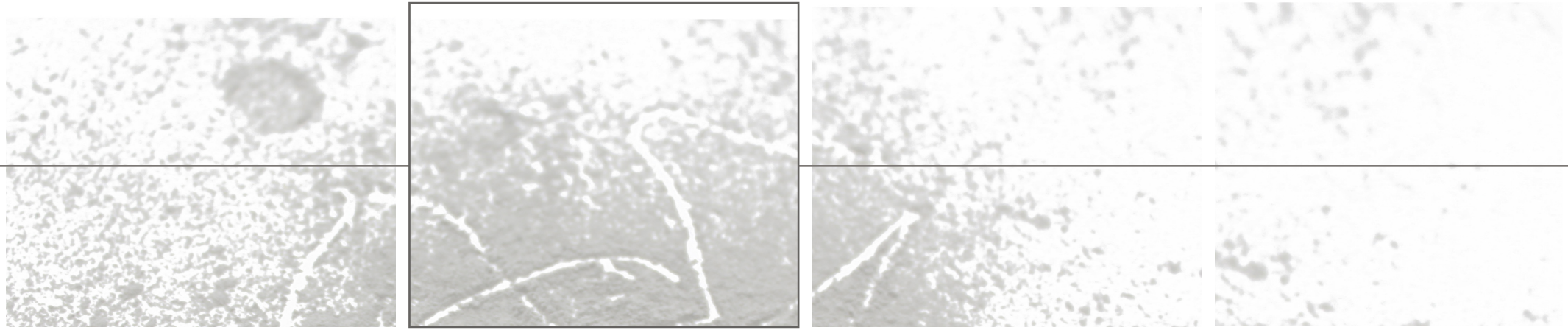
The architectural aims of the proposed intervention are as follows:

- Identify and challenge issues related to the design of the “white cube” with regards to preserving and exhibiting ephemeral African arts, like the Nama-Khoi Riel dance.
- Explore and incorporate aspect of land art which considers particularities of context and helps its audience to realise the cultural aspect of an art work. Understand the incorporation of audience accessibility as a sensitive approach, rather than imposing.
- Design a configuration that is both a destination and interactive building.
- Ensure the building is an appropriate configuration within the landscape that manifests the cultural presence of the Nama-Khoi.

Research Question:

How can the ephemeral artistic practices by the contemporary Nama-Khoi be choreographed into an architectural intervention that embodies themes of time and place whilst integrating a network of performer and audience?



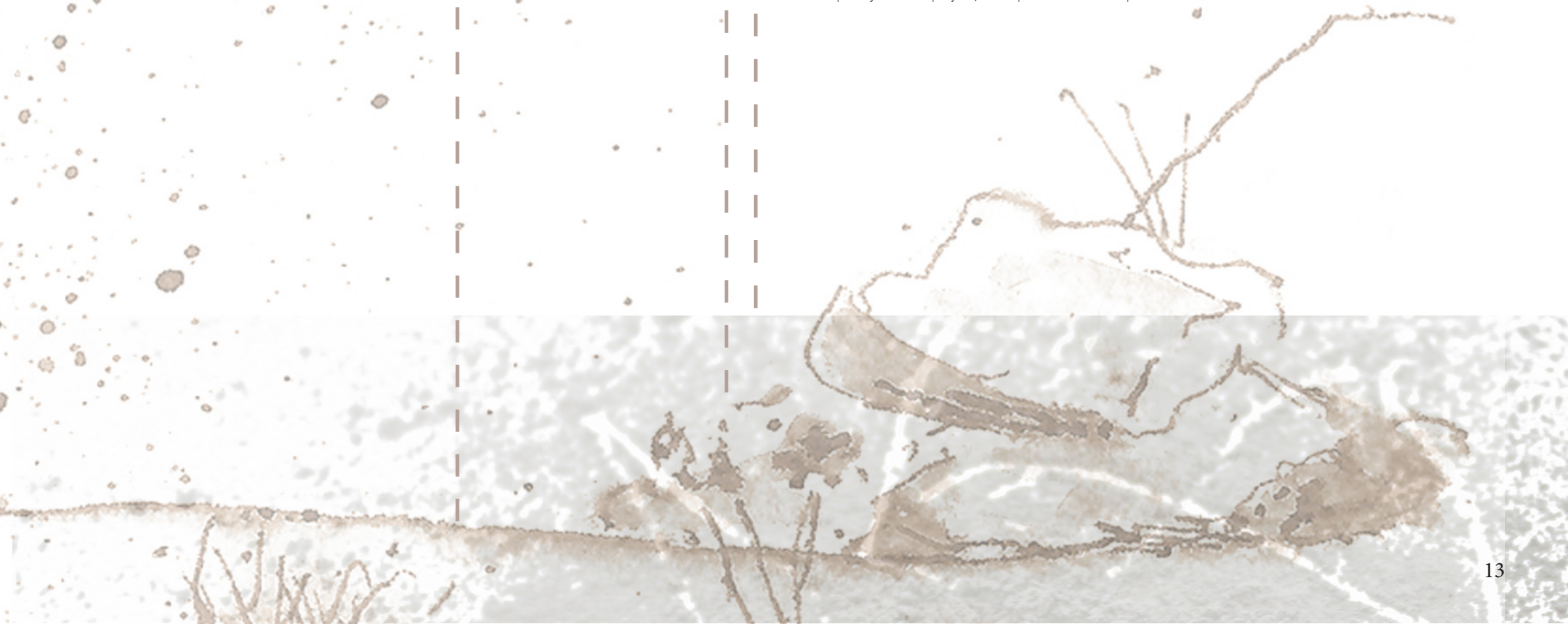


PART 2

2.1.
INTRODUCTION

In response to the problem statement, aim, and research question of the project, this section is focused on gathering and compiling relevant information, and exploring creative experiments and ideas. The purpose of this section is to inform the design synthesis and technical development of the scheme, whilst substantiating the theoretical argument.

Factors that will influence the design, construction and theoretical underpinning include a site analysis of the selected site to understand the site within the context of the Namaqualand landscape. Design and construction touchstones and concepts form part of creative explorations that keep the project direction focused to essential ideas. The theoretical discourse and precedent study provide information on the complexity of the project, and provides it with possible solutions and substance.



2.2.
SITE ANALYSIS

2.2.1. MACRO-CONTEXT

The project is located in the heart and administrative capital of Namaqualand in a town called Springbok, in the Northern Cape Province (Fig. 1.1 - 1.2). Springbok forms part of a semi-arid and hardeveld area, with rugged kloofs, dusty earth and drought resistant succulents (Crowling, et al. 1999; 3-21).

The site for the proposed project (Fig. 1.3 - 1.4) is situated on an open plane of sand next to the intersection between the Cape-Namibia Route (N7) and Voortrekker Street (N14). Voortrekker Street is the main street of the town, hosting essential functions for tourists who favour Springbok as a stopover (Fig. 1.5).

Tourist attractions include: seasonal flora, sublime landscapes, historical sites and museums.

Figure 1.1: Map of south Africa

Figure 1.2: Map of the Northern Cape Province

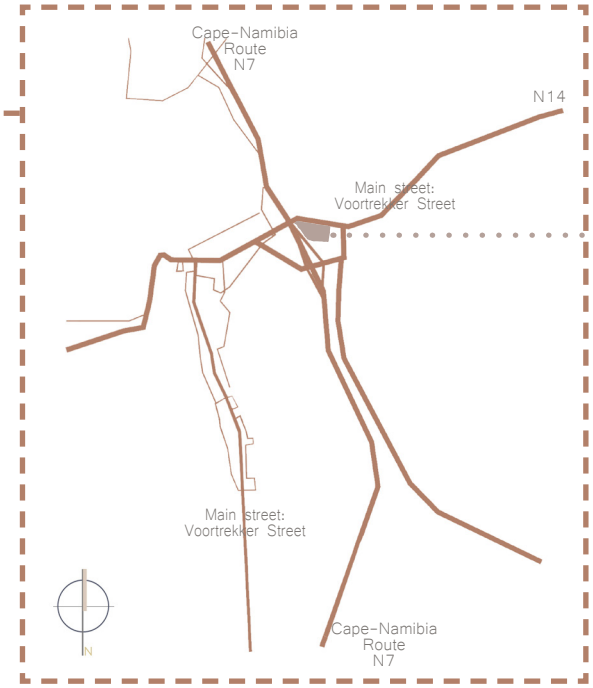
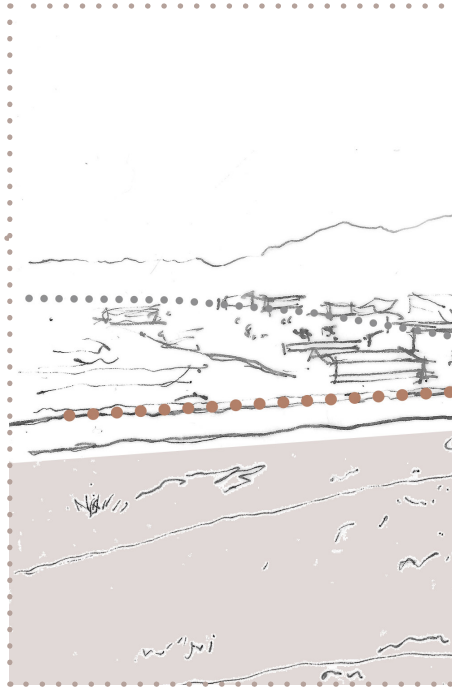


Figure 1.3: Map of Springbok with proposed site indicated



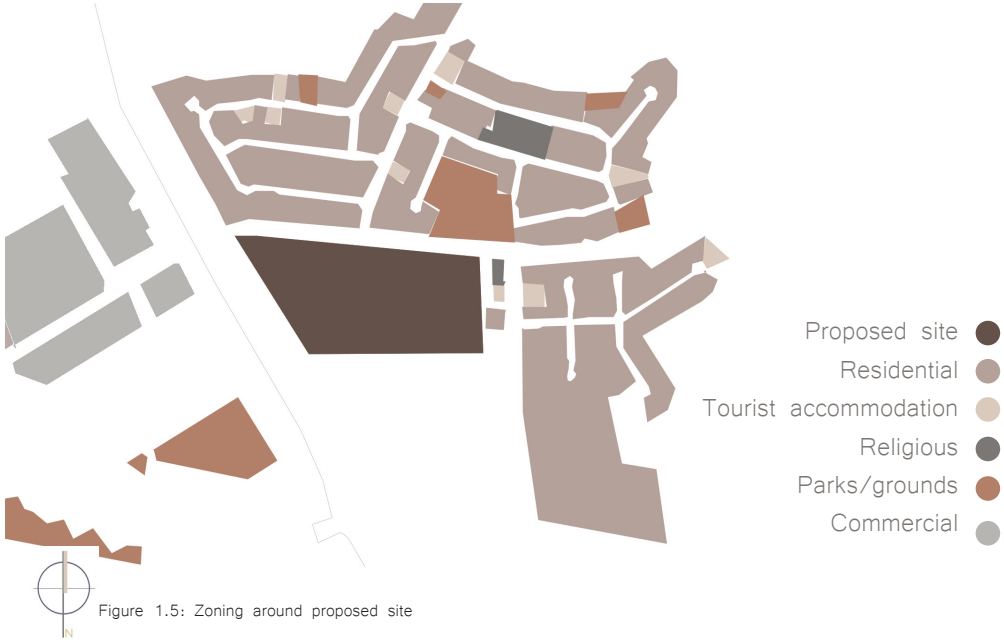


Figure 1.5: Zoning around proposed site

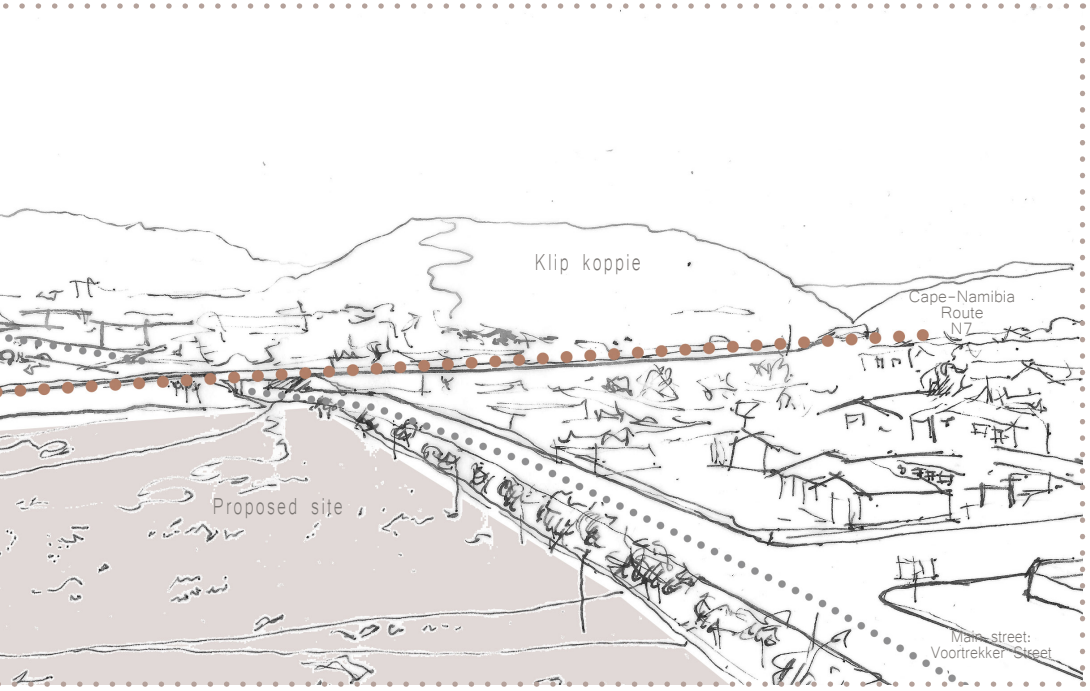


Figure 1.4: Perspective drawing of proposed site

Surrounding the site is mostly residential buildings towards the north and east, which are dedicated to tourists and residents (Fig. 1.5 - 1.6).
On the west of the site, the N7 bridge divides the residential from the commercial and educational areas where most activity occurs. Towards the south are open and undeveloped ground.

Important natural features around the site include the Kokkerboom park and the picturesque granite domes with viewpoints onto the site. The NG Boesmanland church (Fig. 1.9.a) serves as an architectural hierarchy feature when viewing the surrounding context from the proposed site.

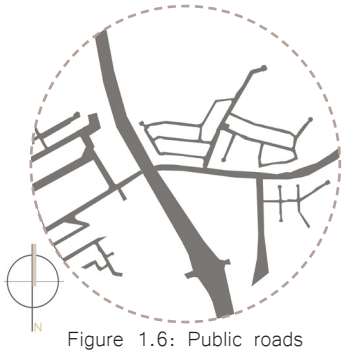


Figure 1.6: Public roads around site

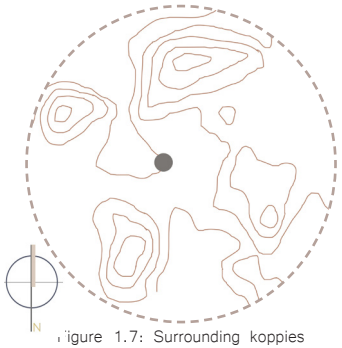


Figure 1.7: Surrounding koppies with site indicated

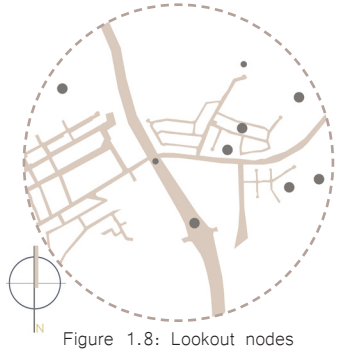


Figure 1.8: Lookout nodes onto site

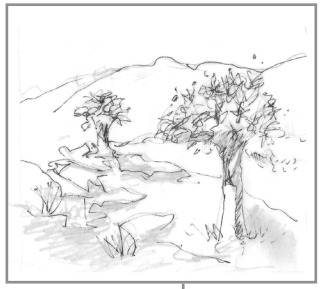


Figure 1.9.a: Drawing of the Kokkerboom park

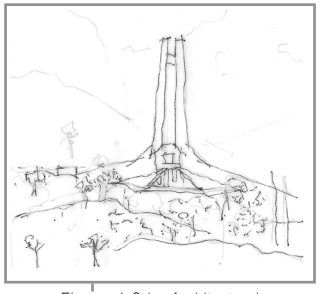


Figure 1.9.b: Architectural hierarchy: NG Boesmanland Church

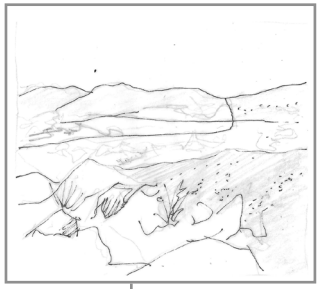


Figure 1.9.c: View towards site from surrounding koppies

Figure 1.9: Photograph of features surrounding site

2.2. SITE ANALYSIS

2.2.2. QUANTITATIVE INFORMATION

The quantitatiive information of the site include the dimensions of the site and the surroundings. These measurements along with the heights and boundries influence he design of the schem by placing limits and constrains that need to be considered.

Figure 2.1: Site plan indicating boundaries, heights and surroundings

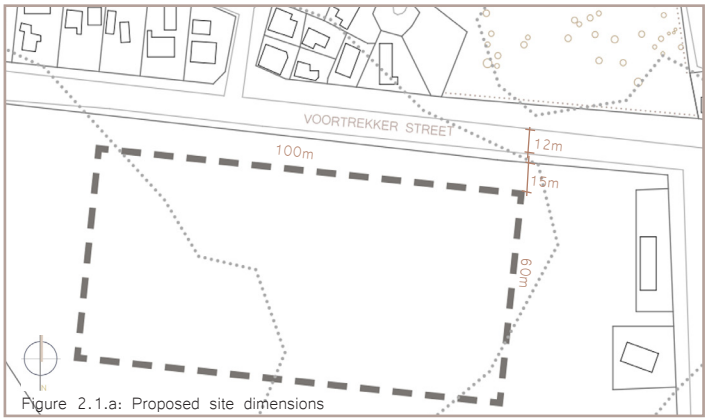


Figure 2.1.a: Proposed site dimensions

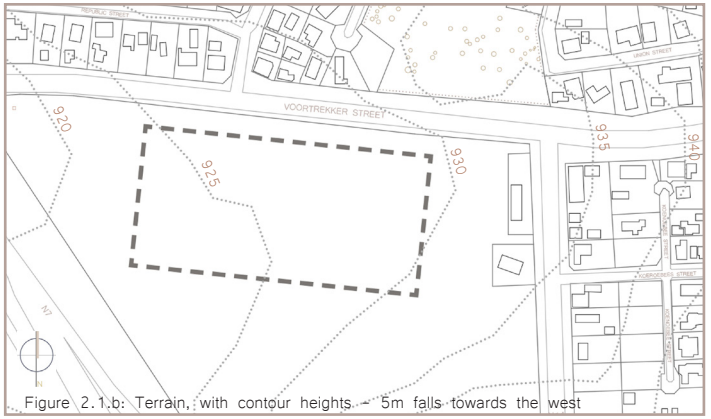


Figure 2.1.b: Terrain, with contour heights - 5m falls towards the west

Building line

Proposed site

Road boundary

Endemic vegetation

Telephonic services

Contours and heights

Fences

Existing built-form

The purpose of the height and boundary limits is to respond appropriately and sensitively to place. The height restriction (12m) for the proposed intervention is implemented to blend in with neighbouring structures. The height limit ensures that the surrounding structures of hierarchy stay that way.

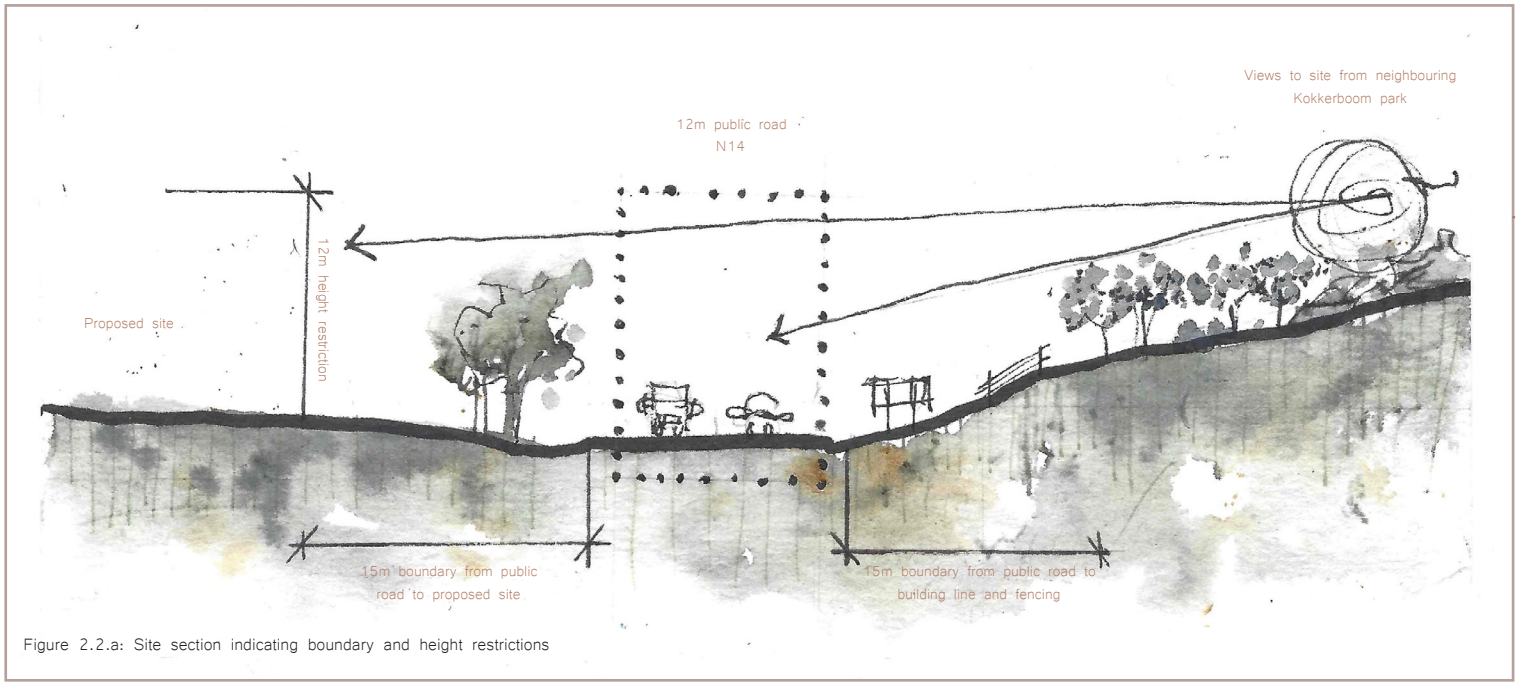


Figure 2.2.a: Site section indicating boundary and height restrictions

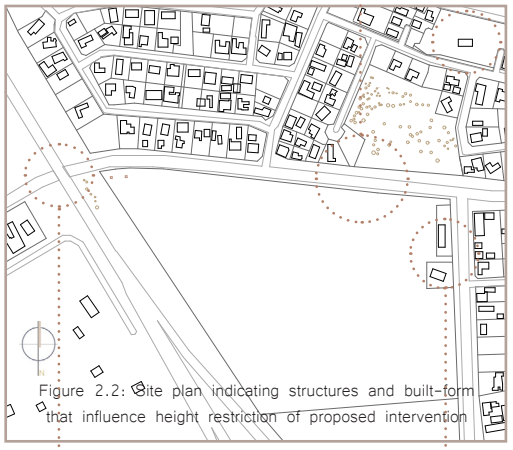


Figure 2.2: Site plan indicating structures and built-form that influence height restriction of proposed intervention

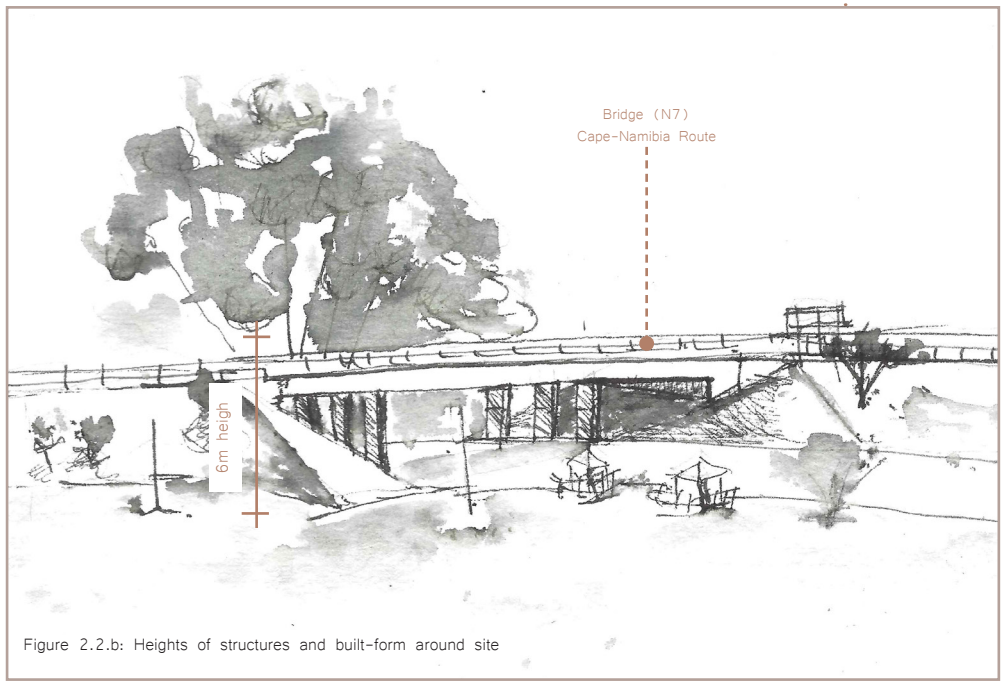


Figure 2.2.b: Heights of structures and built-form around site

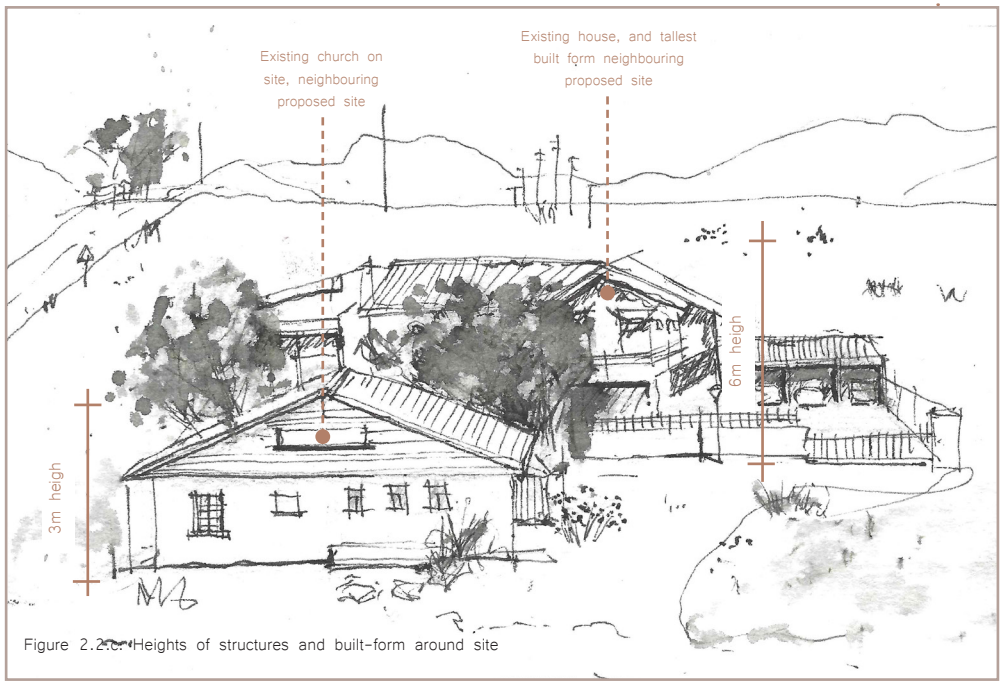


Figure 2.2.c: Heights of structures and built-form around site

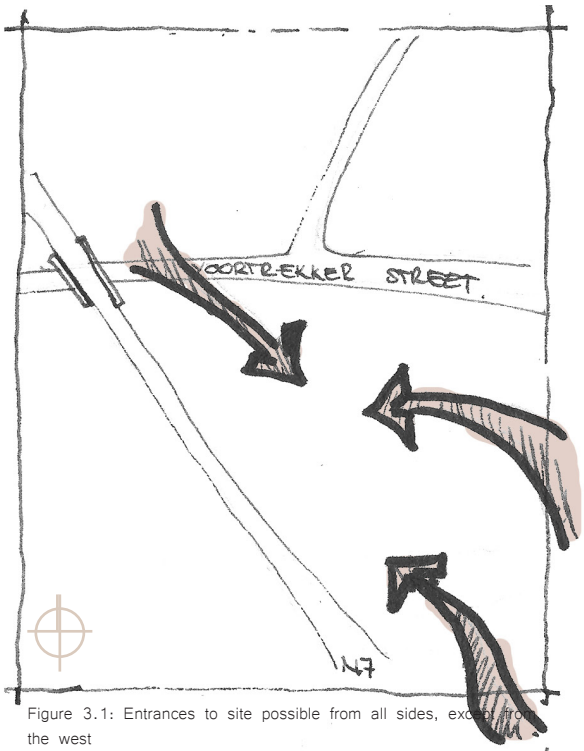


Figure 3.1: Entrances to site possible from all sides, exc[illegible] the west

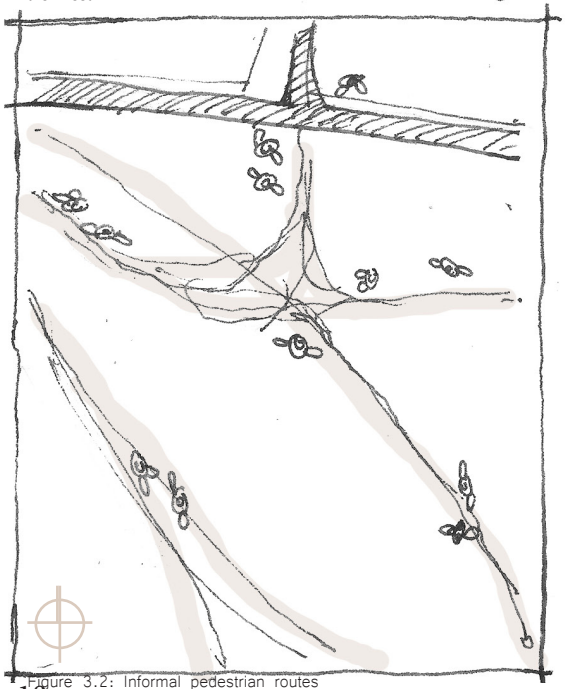


Figure 3.2: Informal pedestrian routes

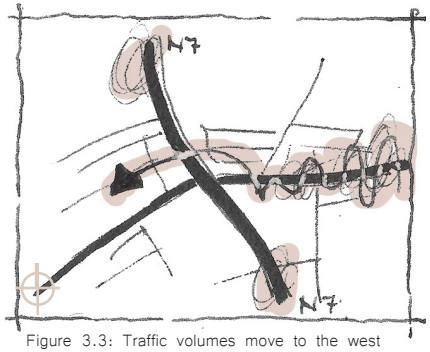


Figure 3.3: Traffic volumes move to the west

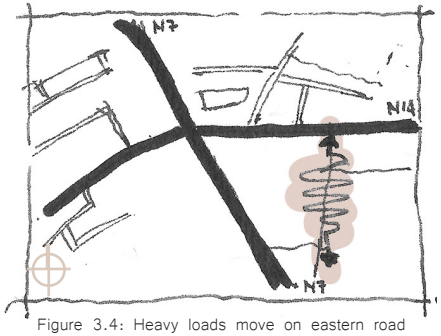


Figure 3.4: Heavy loads move on eastern road

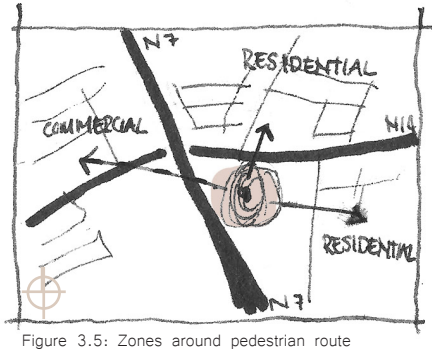


Figure 3.5: Zones around pedestrian route

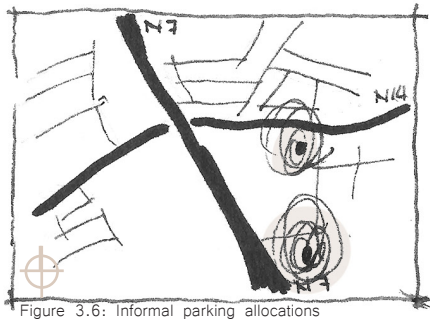


Figure 3.6: Informal parking allocations

2.2. SITE ANALYSIS

2.2.3. MICRO-SITE

Micro-analysis investigates important factors of the immediate surroundings.

Pedestrian walkways (Fig. 3.2) on the site are informal, and lead towards residential or commercial areas. Both vehicles and pedestrians can access the site on all sides, except on the west where the N7 bridge is located (Fig. 3.1). The site experiences high traffic volumes during all times of the day (Fig. 3.3 & 3.4). This is very evident with traffic coming in from the east due to Springbok being a tourist pit-stop. Large loads and vehicles move on the roads located towards the east and south of the site.

Informal parking areas (Fig. 3.6) are available on the south of the site, as well as near the church.

The site sections (Fig. 3.9 & 3.10) indicate lookout point onto and from the proposed site. This will become an important layer to incorporate in the design of the intervention.

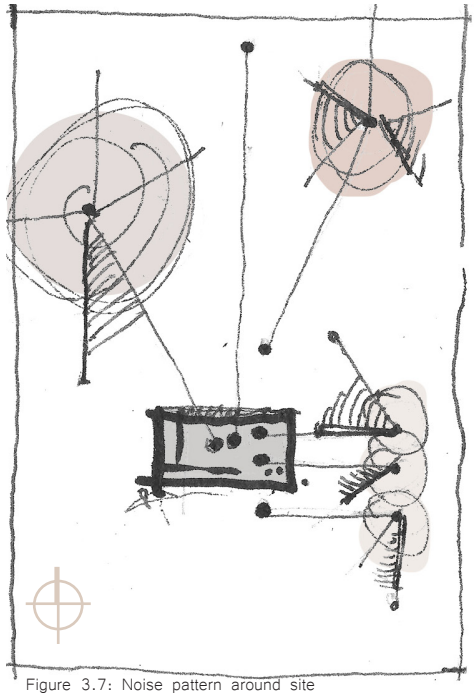


Figure 3.7: Noise pattern around site

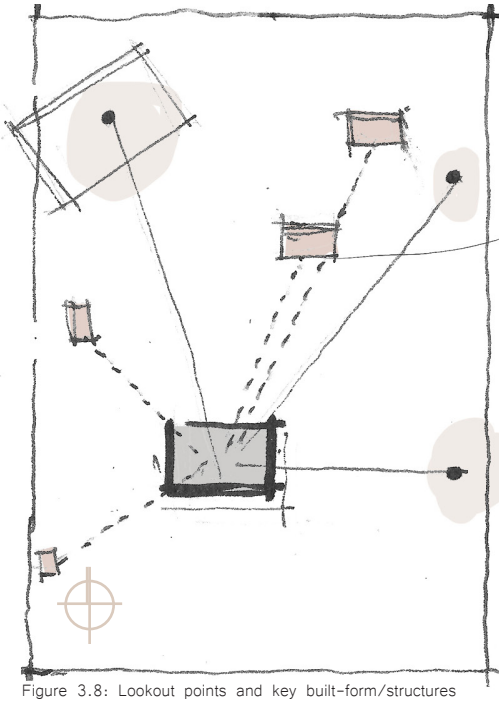


Figure 3.8: Lookout points and key built-form/structures

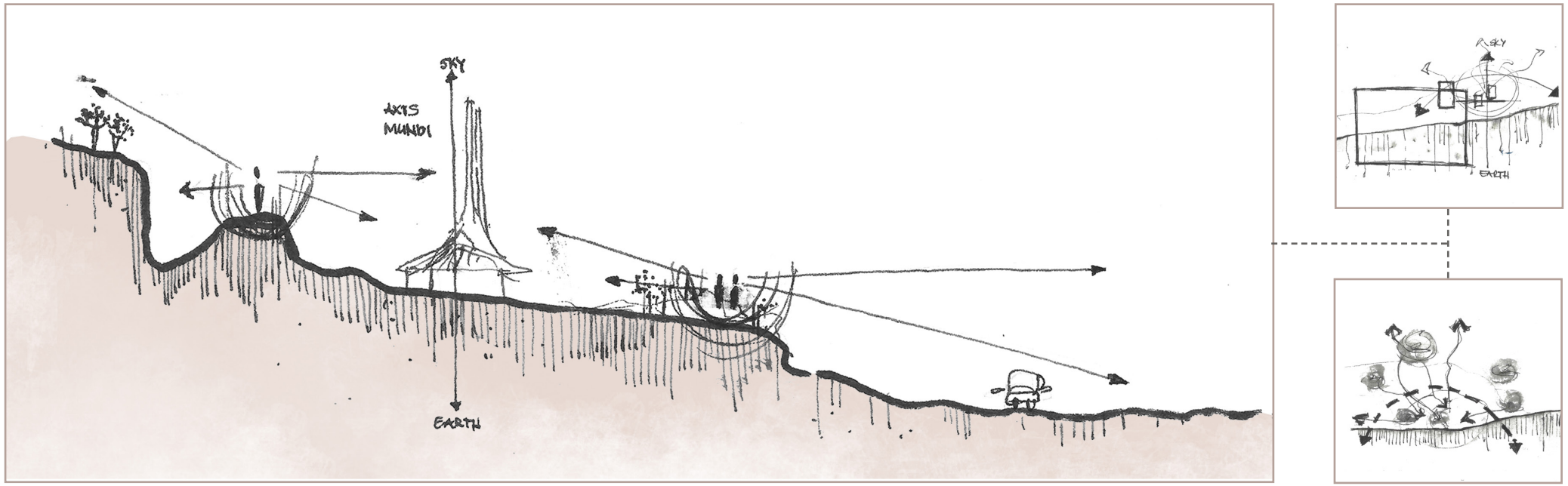


Figure 3.9: Observed site section indicating lookout points from the north of the proposed site. Not to scale.

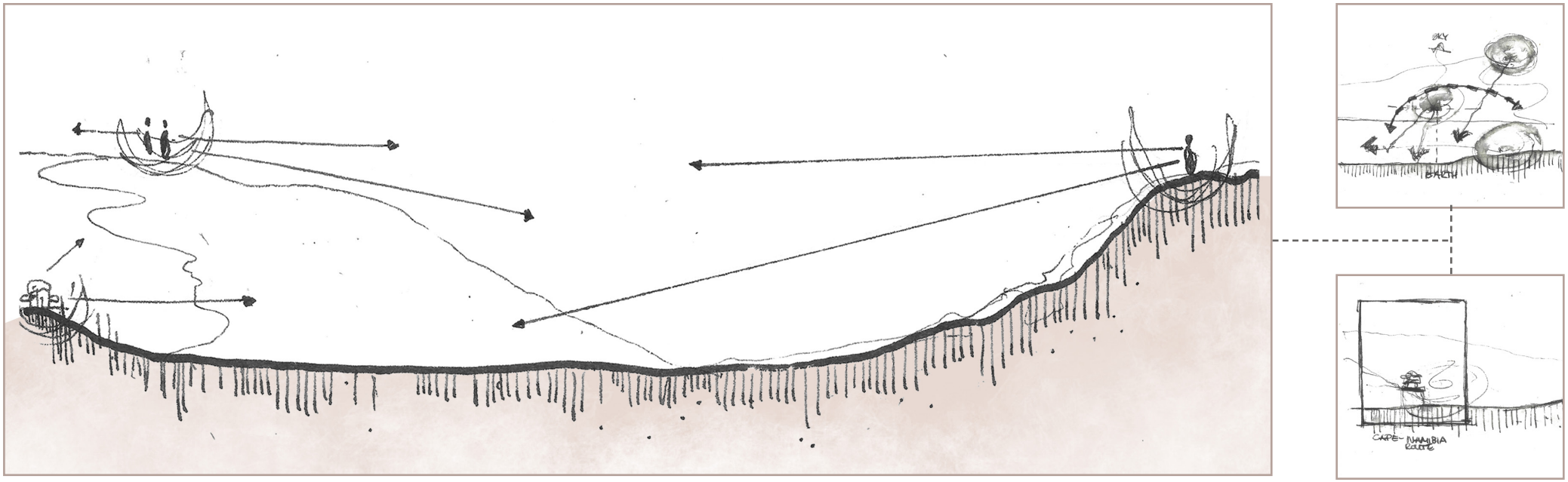


Figure 3.10: Observed site section indicating lookout points from the west and east of the proposed site. Not to scale.

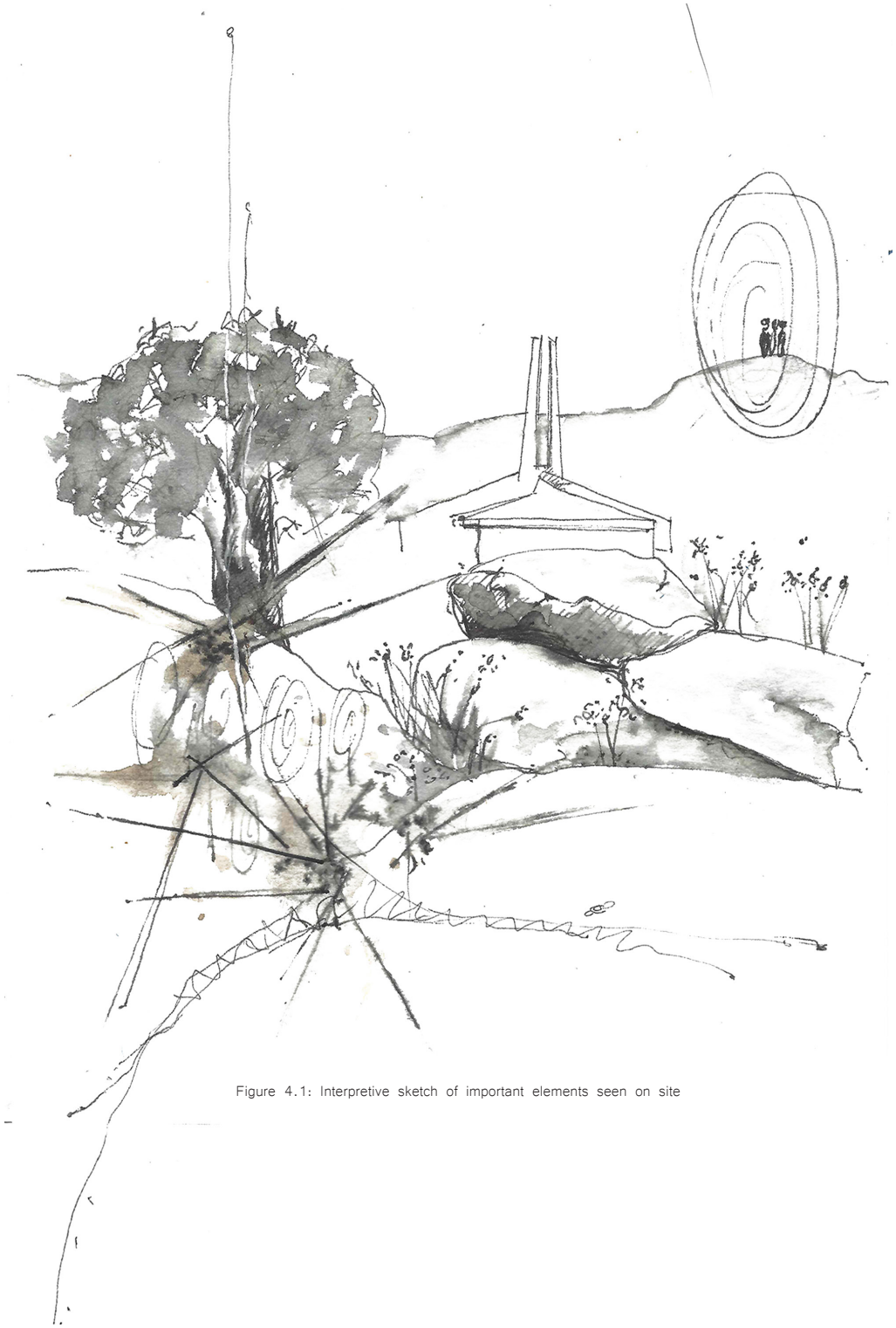


Figure 4.1: Interpretive sketch of important elements seen on site

2.2.
SITE ANALYSIS

2.2.4. QUALITATIVE INFORMATION

Qualitative information considers the cognitive experience of the site, including important elements or features found on and around the proposed site.

This investigation sets out to highlight key features about the site that makes it unique, and contributes to the essence experienced on the site. The purpose is to understand all features as a means to respond appropriately to the given context – a response that does not impose, but belongs.

Findings will play a significant role in the design and construction of the intervention, as it reveals materials, colour palettes and textures of the given site. Such findings contribute to a building that rises from its own context.

Figure 4.a: Dry, rough sand. Creative material for "Rieldans"

Figure 4.b: Rock and stone formations in all sizes

Figure 4.c: Patches of veld and flowers (not during bloom season)

Important elements found on site

Figure 4.d: Rust, copper colours seen in rock formations and veld

Figure 4.e: Horizontal lines in rock formation

Figure 4.f: Texture of dry bush

Textures and colours found on site

The proposed site can be experienced as an extended plane of sand and veld, surrounded by koppies.

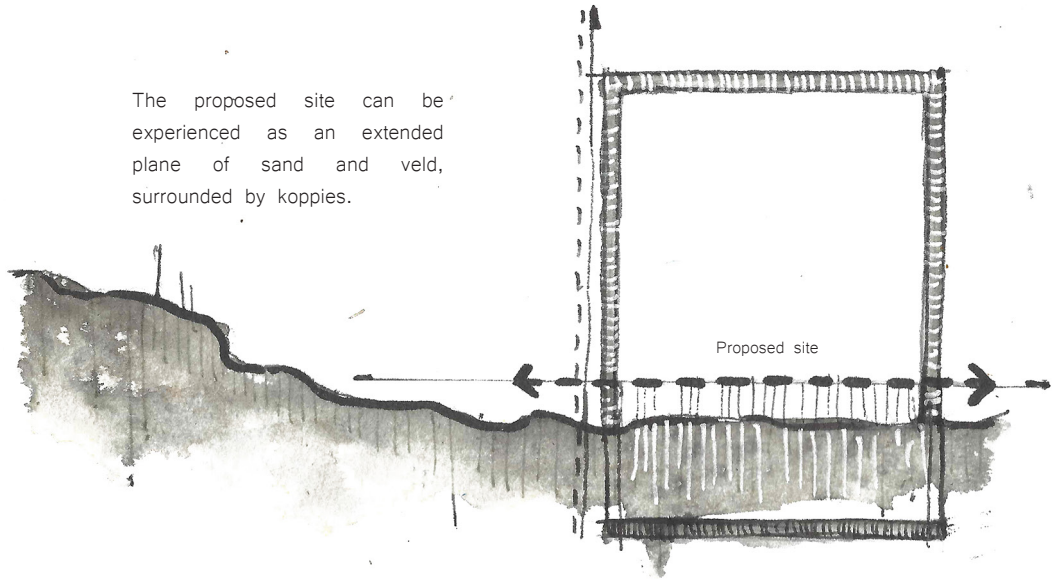
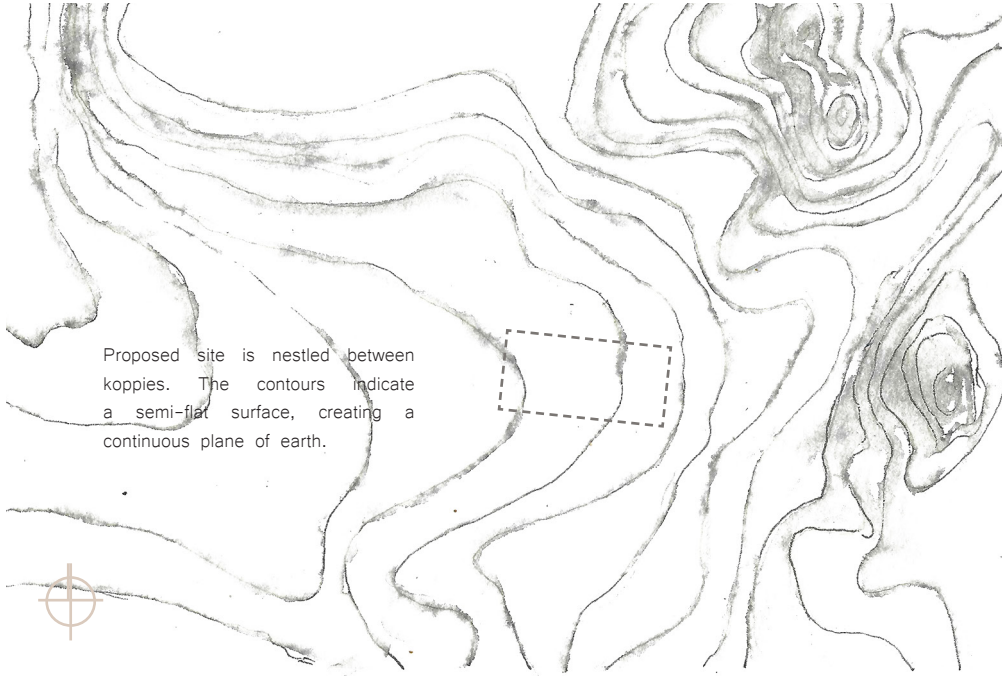


Figure 4.2: Site section diagram - site is nestled between koppies



Proposed site is nestled between koppies. The contours indicate a semi-flat surface, creating a continuous plane of earth.

Figure 4.3: Contours of Springbok Namaqualand, with propsed site indicated. (OneMap 2021; online) adapted by author

The continuous plane of sand can be seen as a courtyard of dust and rock formations, which provide the perfect environment for the manifestation of the "Rieldans".

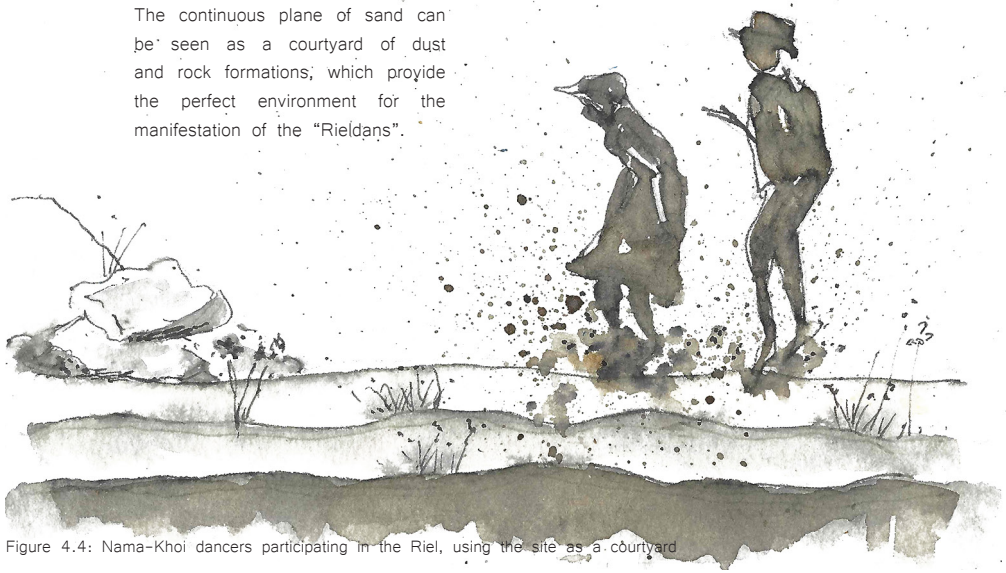


Figure 4.4: Nama-Khoi dancers participating in the Riel, using the site as a courtyard

Existing church is nestled on the ground, with intense light casting deep and strong shadows on built-form.

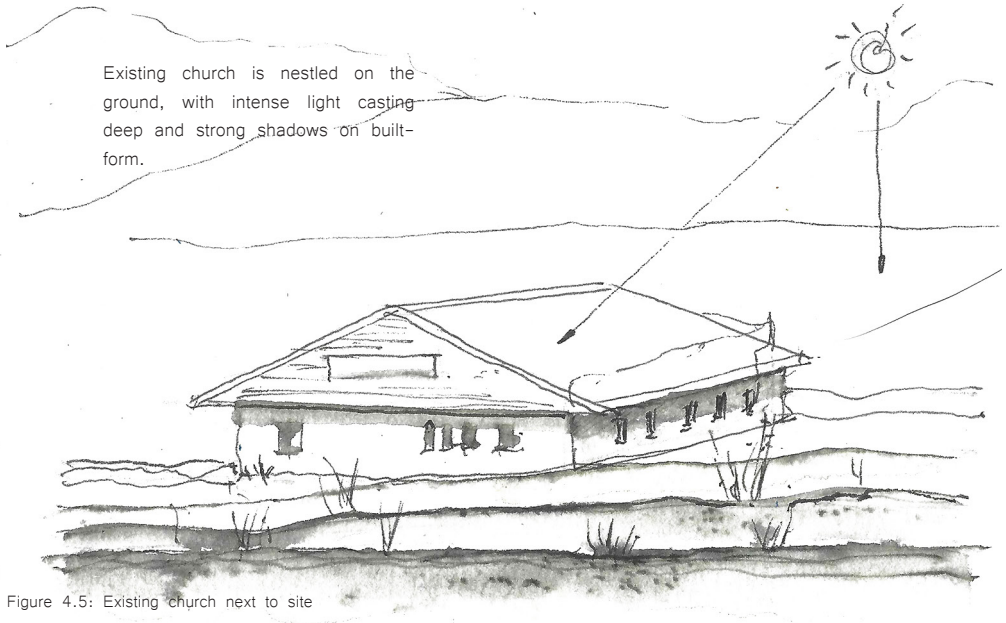


Figure 4.5: Existing church next to site

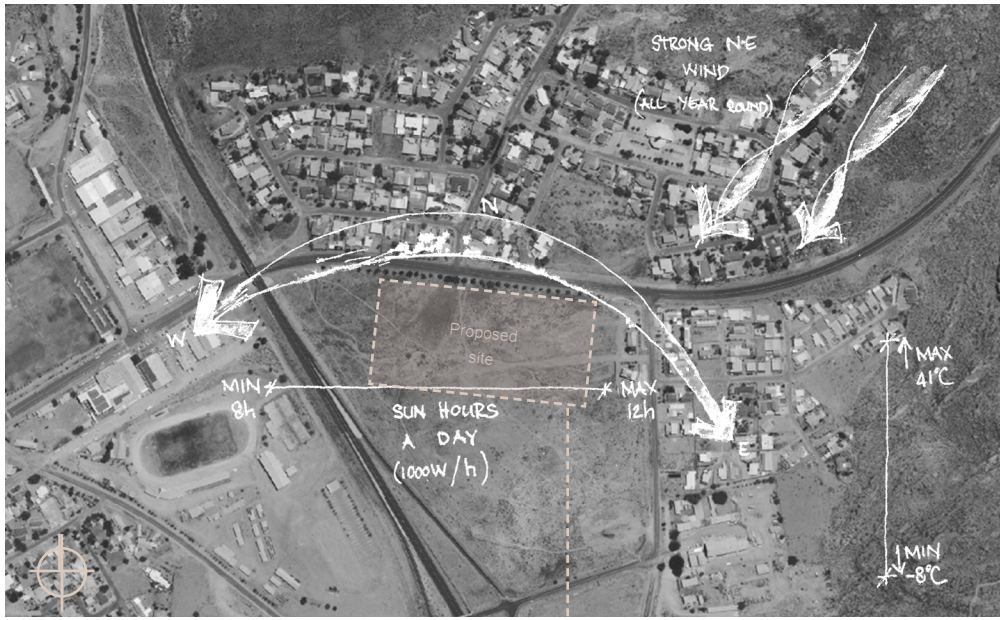


Figure 5.1: Arial view of site (OneMap 2021; online) adapted by author

2.2.
SITE ANALYSIS
2.2.5. LANDSCAPE INVESTIGATION

The landscape in which the proposed project is located can be classified as a juxtaposition between a cosmic and a classical landscape (Fig. 5.2 - 5.4). (Norberg-Schulz 1979; 45-46)

Cosmic features: Cosmic characteristics of the site are derived from direct climate influences. Springbok falls under the Namaqualand region with a semi-arid climate – this includes low rainfall and extreme temperatures from -8°C in winter, and max of 41°C in summer (Climate data 2021; online. The desert plane in which the project is located, is covered with "veld", drought resistant succulents and monotonous shades of dust (Fig. 5.1).

Classical features: Springbok's layout follows the natural topography and contours of the terrain (Fig. 5.4). Buildings are nestled between the Klipkoppie, Monument koppie, and other small copper mountains. Severe sunlight gives the existing built-form and 'koppies' a sculptural quality, allowing strong shadows and deep contrasts (Fig. 5.4.a - 5.4.c).


Figure 5.2: Photograph of site with cosmic and classical landscape characteristics

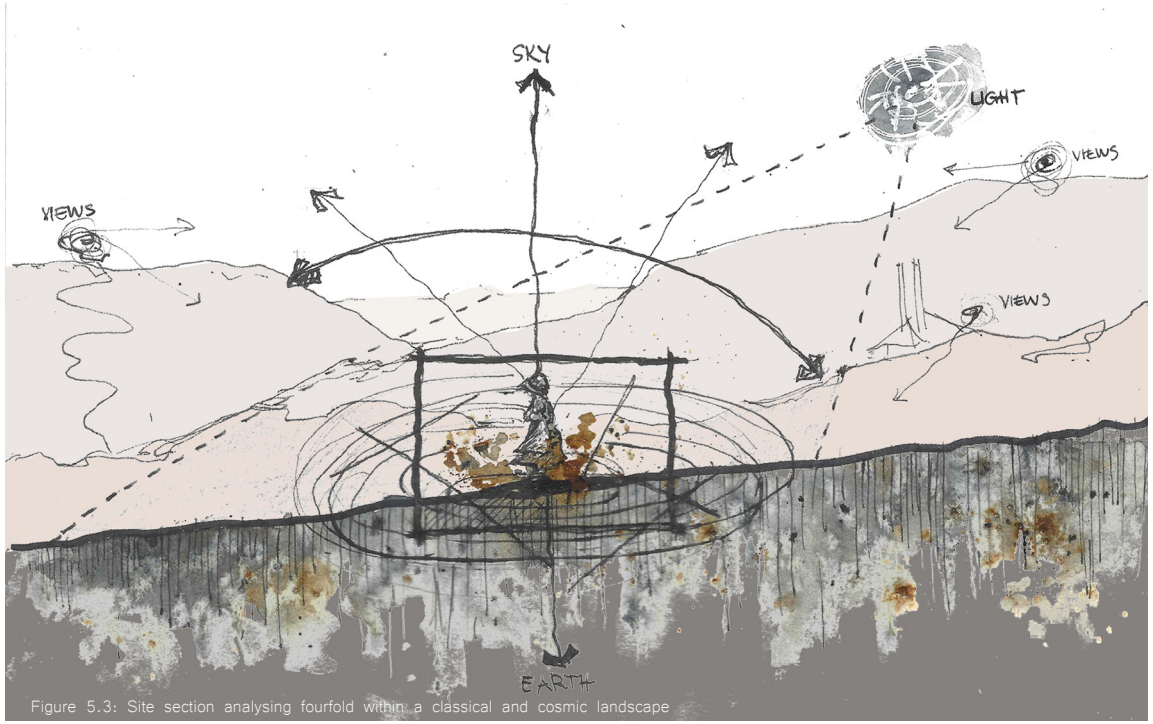


Figure 5.3: Site section analysing fourfold within a classical and cosmic landscape

Conclusion:

The site analysis provided significant information of the proposed site that will aquaint the design process with an appropriate responses that resonate with place. An appropriate Nama cultural setting is provided by the proposed project as backdrop for an architectural intervention that attempts to embody the essence of the Rieldans. This picturesque landscape provides the perfect stage with 'klipkoppies' framing the wildness present in the dirt and dust.

"To dwell means to belong to a given place" - Christian Norberg-Schulz (1985; 22)

There are various points of on-looking present on site can be used as an advantange to incorporate an audience not only through the physical site, but also through visual accesses from these points. This will become a vary important layer to consider for the design, as what the on-looker sees when viewing the building from these points forms part of the narrative.

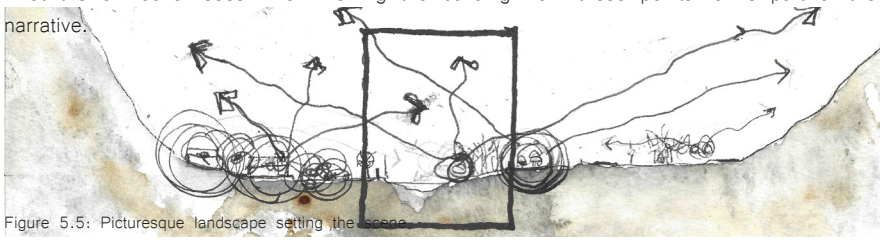


Figure 5.5: Picturesque landscape setting the scene

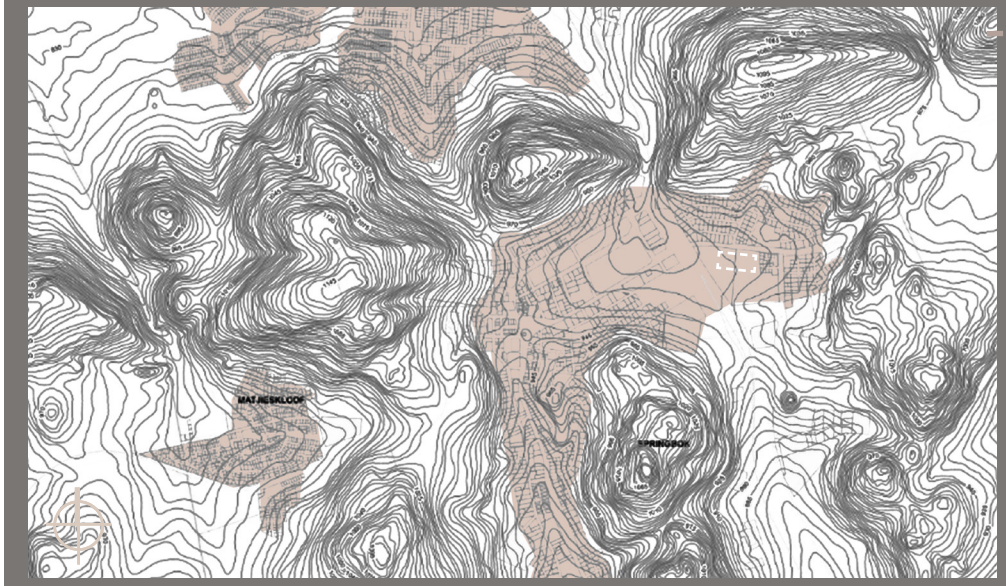


Figure 5.4: Springbok town-layout nestled between mountains (OneMap 2021; online) adapted by author

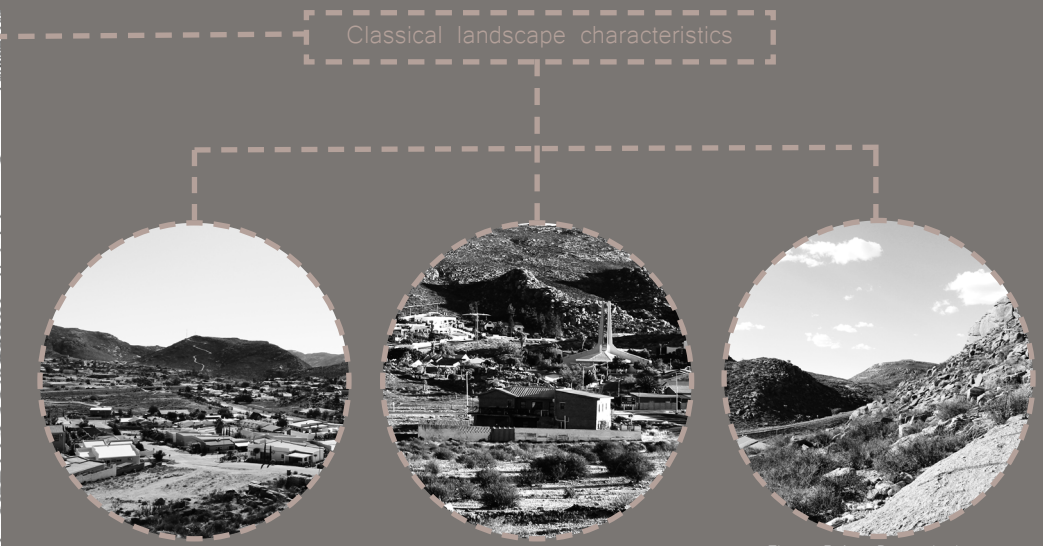


Figure 5.4.a: Surrounding rock formations have no shadow-impact on site

Figure 5.4.b: Strong and deep shadows casted on built-form

Figure 5.4.c: Deep shadows casted on rock formations

Figure 2.3.1: Conceptual sketch - artistic manifestation of maker and place in collaboration

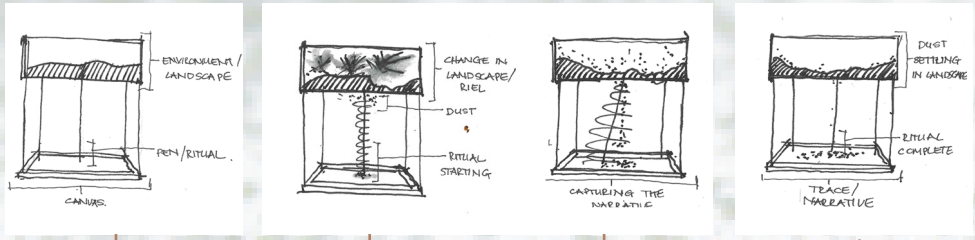
2.3.
TOUCHSTONE

CAPTURING A PERMANENT TEMPORALITY

A touchstone is a physical object or installation by which to test an essential and intuitive idea for a project by portraying it in an abstract form. In principle, the touchstone attempts to capture the desired essence and/or outcome of the project by challenging a particular idea.

Finding an appropriate means to provide a platform and audience for the creative practices of the contemporary Nama-Khoi ethnic group forms the main purpose of the project. To permanently capture and display these artistic practices through an architectural intervention poses a key issue due to various factors. Firstly, the Nama-Khoi arts, like the “Rieldans”, can be considered as ephemeral African arts, which lasts for only but a brief moment. Such art forms are not only event-based but are only embodied within the performer or maker. To capture this temporality, and putting it on display within a permanent environment will not only decontextualize and objectify the art form, but will also cause a degrading effect on the essence and meaning of this cultural piece of art.

What is challenged and tested by this touchstone is the idea of capturing a permanent temporality by providing a platform or canvas onto which a cultural artistic manifestation can be documented. The canvas attempts to extract the essence of the performance and to display the findings in a new form. As a result, a narrated trace will serve as a permanent version of the performance - giving the audience only a part of the whole.



Chosen temporal setting for the manifestation of an event.

Dust & pen activation. Event takes place & setting changes.

Pen stops writing. Dust start to settle. permanent narrative is captured.

Figure 2.3.2: Touchstone phases

TOUCHSTONE PARTS:

Part 1: Temporal world

The transparent box is a container of dust that contextualizes and forms the arid Namaqualand landscape. This is a continuous changing setting, referring to the mobility of the Rieldans within place. The hole beneath the container lets dust particles fall through as soon as a ritual takes place.

Part 2: Embodied ritual

The wooden pen represents the act of a ritual taking place by referring to the traditional way of making a fire. For the ritual to take place, the pen needs to be activated by quickly rubbing one's hands against the pen.

Part 3: Permanent canvas

The canvas represents a platform that attempts to extract the essence of the ritual in a new and permanent form

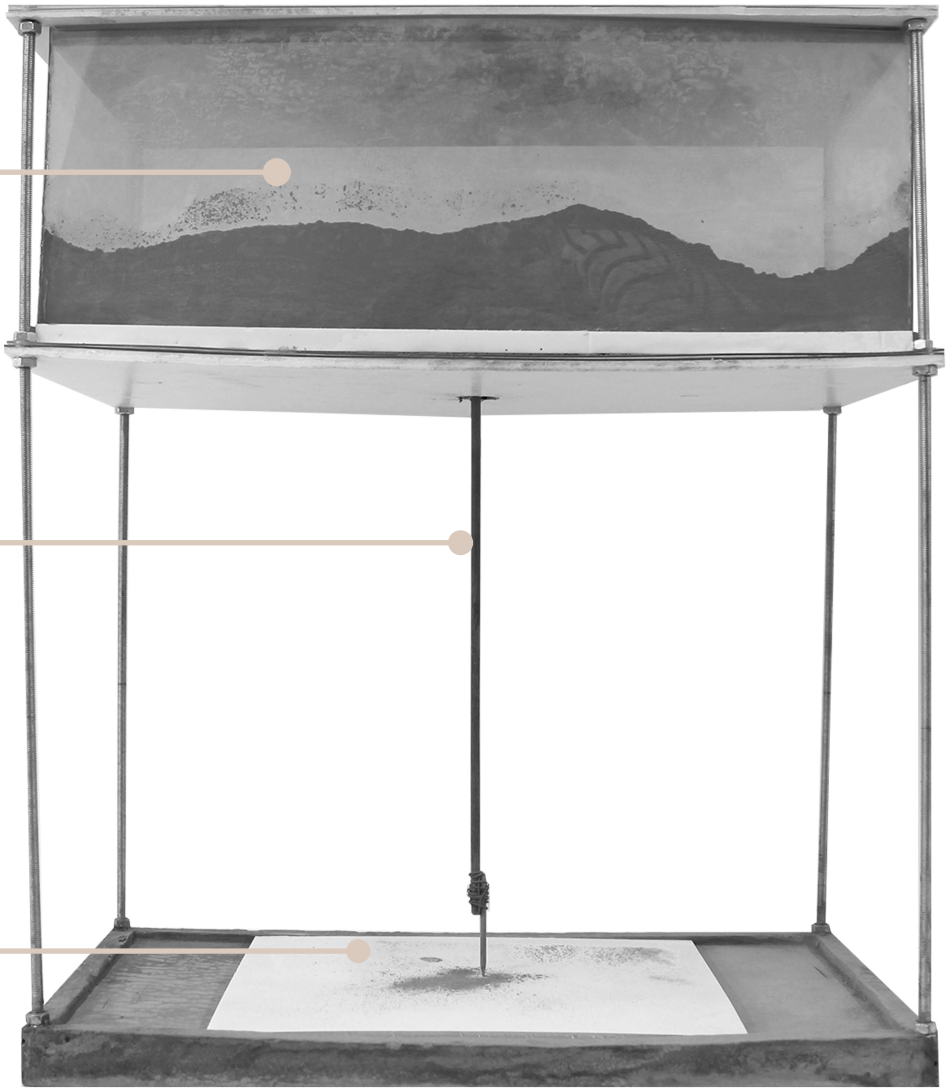


Figure 2.3.3: Touchstone

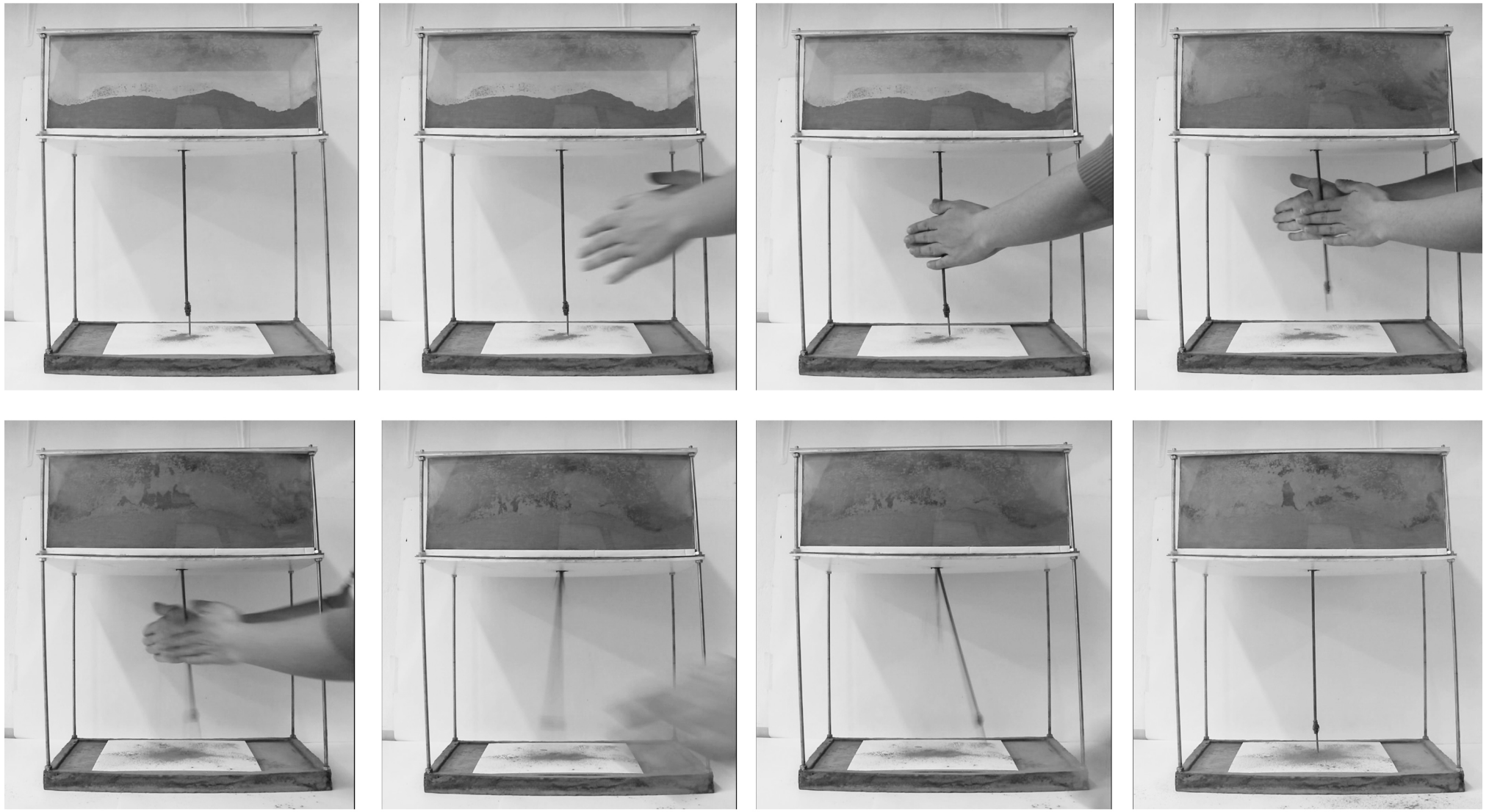


Figure 2.3.4: Video-stills

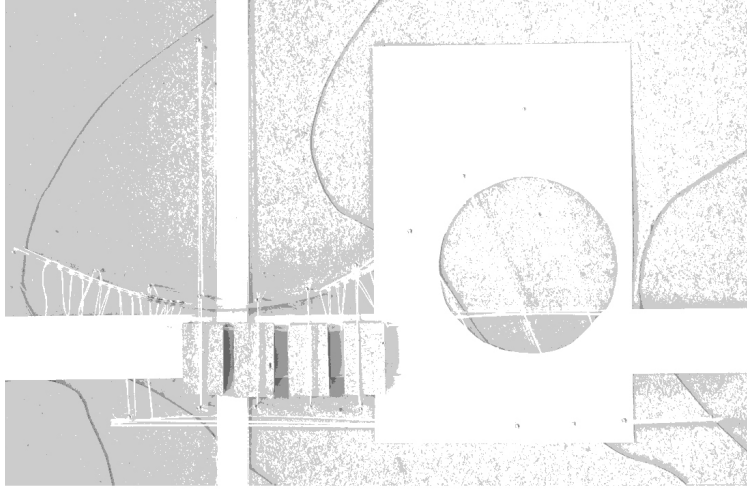
Findings and considerations:

For the manifestation of the artistic practice to happen, context and performer need to be in collaboration with each other.

There is a dependent relationship between time, place, artist and creative material, with an independent relationship between the manifestation and an audience or viewer. This means that the white cube is being challenged, due to it being placeless and timeless.

The canvas becomes the new holder of the art form, embodying the narrated essence of the manifested event. The canvas is a permanent holder, which can be viewed and/or experienced at all times. This could possibly indicate towards an architectural intervention that embodies the essence of the “Rieldans“ – becoming a permanent cultural entity within place.

Figure 2.3.5: Close-up photograph of touchstone



2.4.
CONCEPTS

INTRODUCTION

Three ideas inspired by the touchstone in the previous section will be investigated as concepts towards achieving the project aims.

Aims of the three concepts together, is to create a Nama culture setting as platform for the Nama-Khoi to practice and share their art forms. The concepts will also respond to the accessibility of an audience within this Nama cultural setting.

The three design concepts include:

1. An interwoven detour
2. A “Rieldans” embodiment
3. A Framedscape

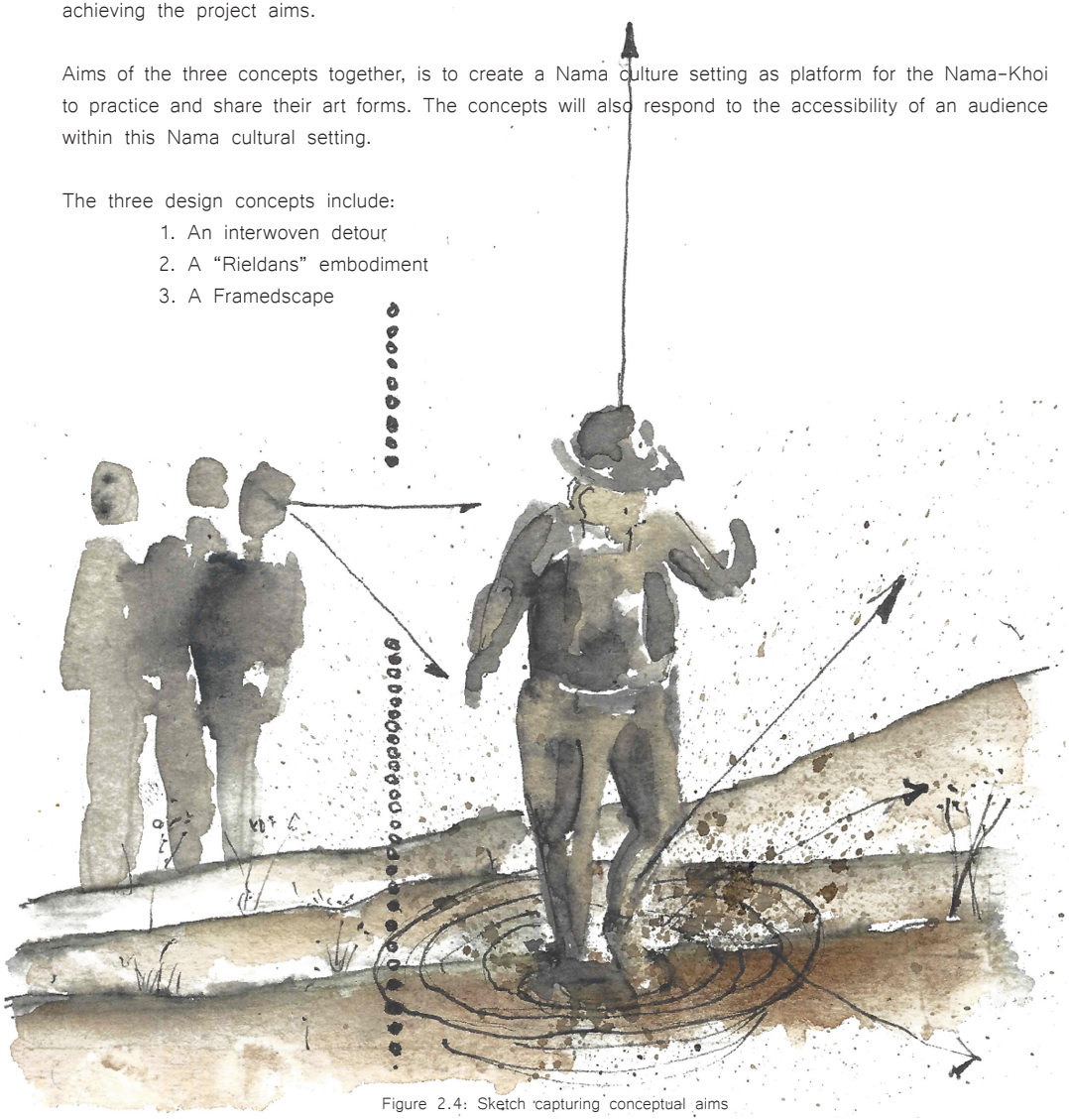


Figure 2.4: Sketch capturing conceptual aims

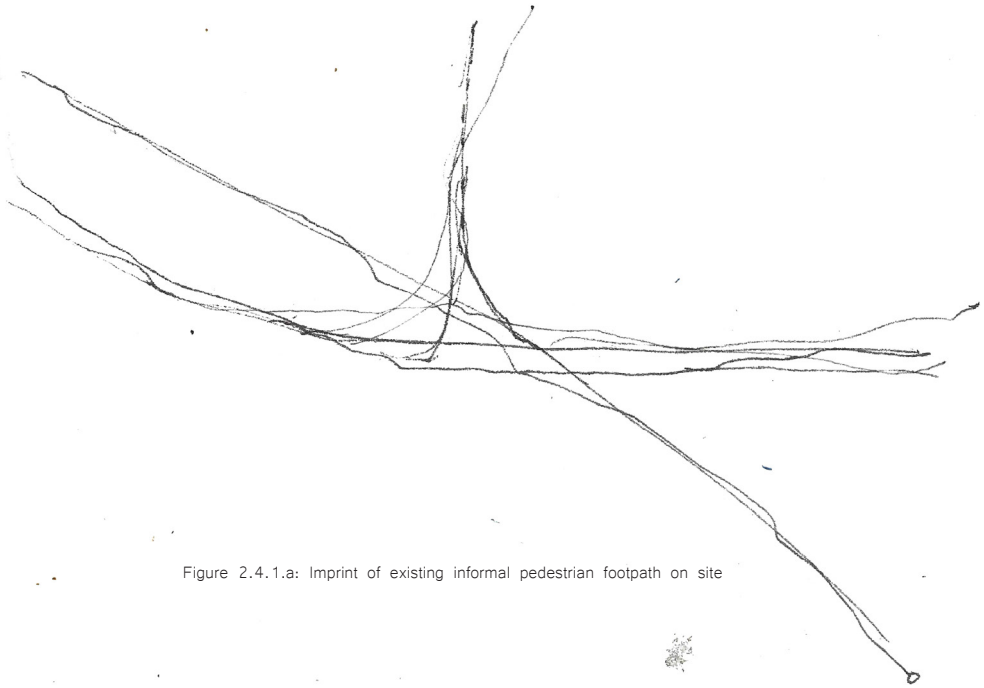


Figure 2.4.1.a: Imprint of existing informal pedestrian footpath on site

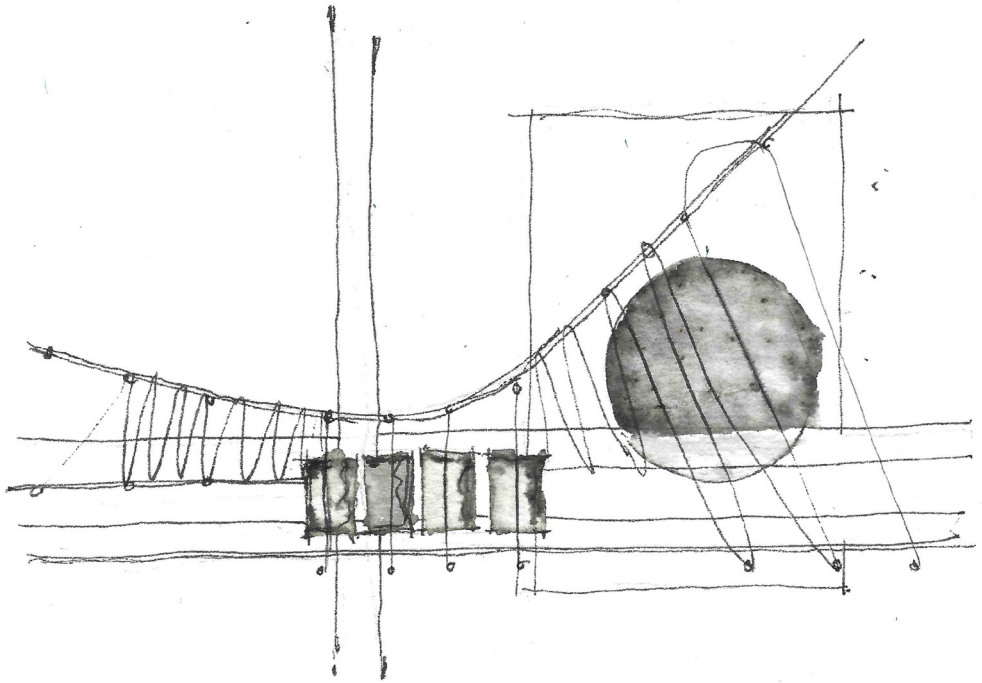


Figure 2.4.1.b: Interwoven detour: Concept diagram

2.4. CONCEPTS

2.4.1. INTERWOVEN DETOUR

An INTERWOVEN DETOUR considers the location of the site of the proposed project, which lies on the eastern entrance of Springbok. Due to the N7 and N14 intersection, the site experiences high levels of by-passing tourists. The concept uses this factor as an opportunity to introduce an audience via an interwoven detour through the site.

By formalizing the existing footpaths, the concept model attempts to sensitively facilitate this interwoven network or audience through configurations on the site by making use of a loom or frame. The detour becomes the journey the dweller takes towards the hearth or social space of the scheme, enabling a coming together of performer and viewer.

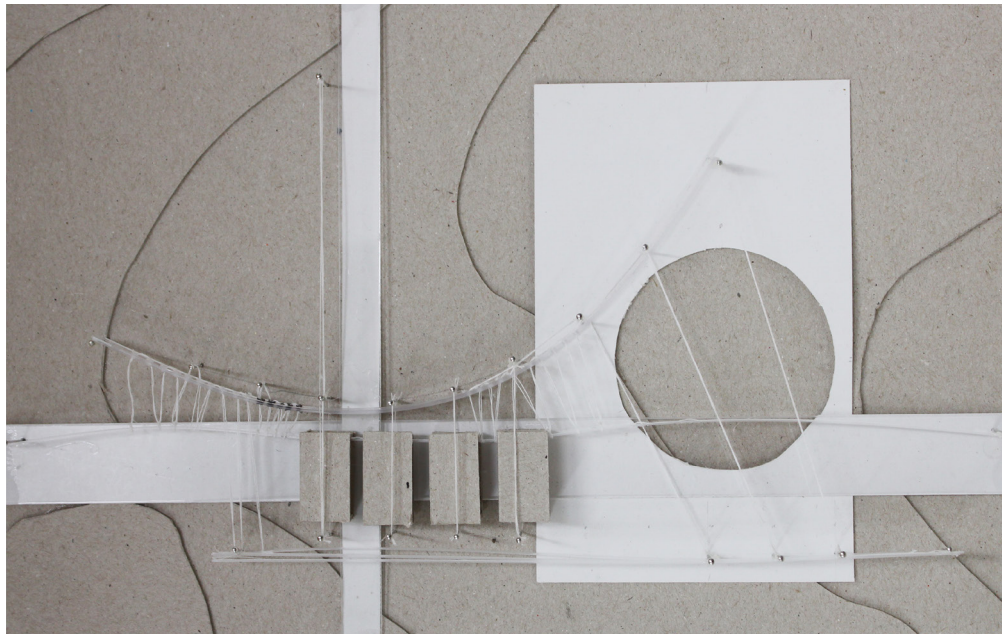


Figure 2.4.1.c: Interwoven detour: Concept model

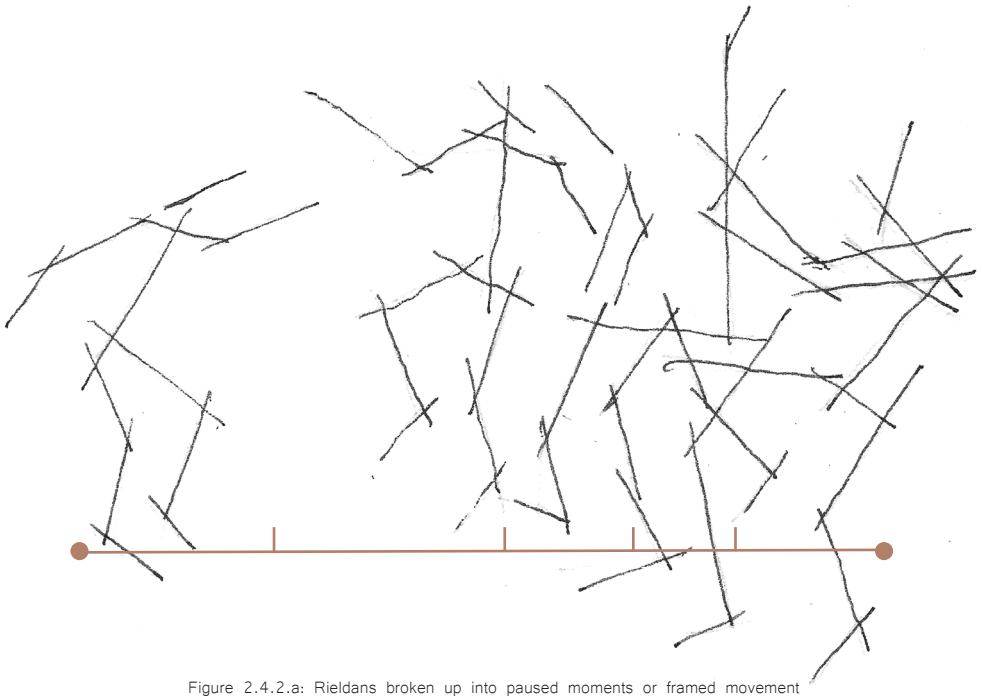


Figure 2.4.2.a: Rieldans broken up into paused moments or framed movement

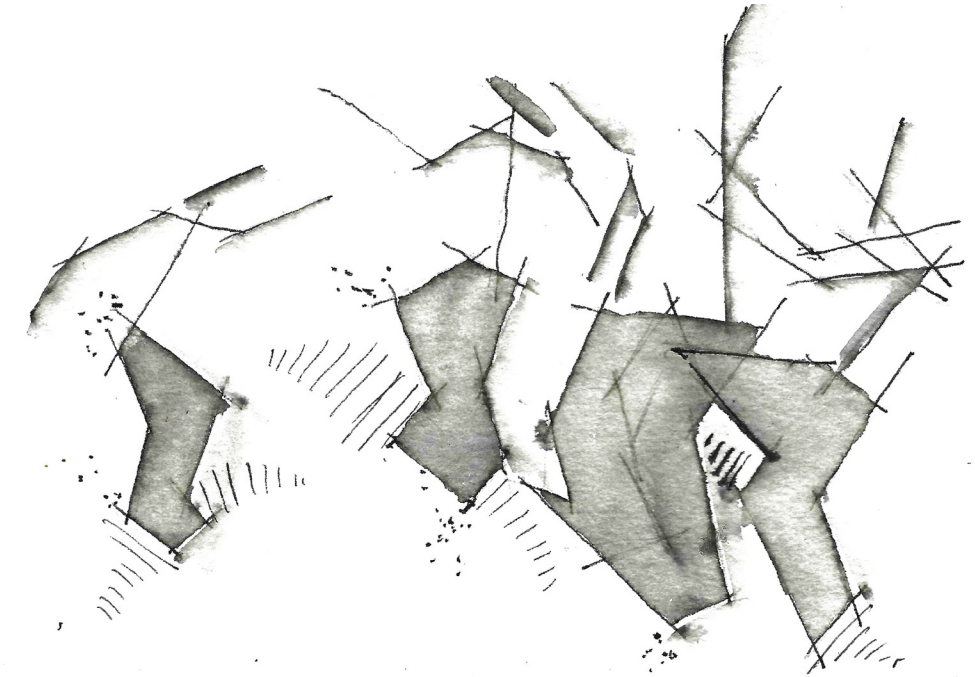


Figure 2.4.2.b: Rieldans embodiment: Concept diagram

2.4. CONCEPTS

2.4.2. "RIELDANS" EMBODIMENT

"RIELDANS" EMBODIMENT deals with the issue of finding an appropriate configuration that will embody the essence of the "Rieldans", by using the features found on and around site as creative material to manifest itself. It does this by breaking the "Rieldans" into 'moments of pause' or 'framed movements' (Fig. 2.4.2.a), and then capturing this into a single event (Fig. 2.4.2.b).

The concept model (Fig. 2.4.2.c) choreographs the site into the "Rieldans" by sculpting earth, giving reference to dust being activated by the energetic footwork of the dance. The earth structures are also tilted in a way that gives the idea of 'intended impact' or 'the moment before impact' on the ground occurs. Organic lines above follow the contours and represent the more natural flow of the upper body movements, being in contrast to the lower part of the Riel.

Figure 2.4.2.c: Rieldans embodiment: Concept model

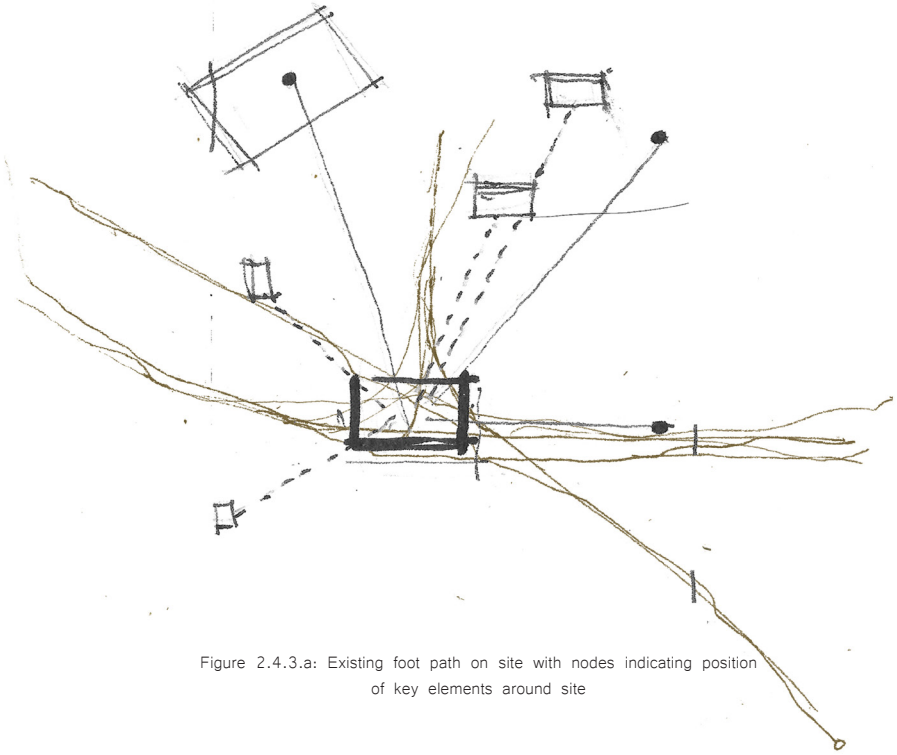


Figure 2.4.3.a: Existing foot path on site with nodes indicating position of key elements around site

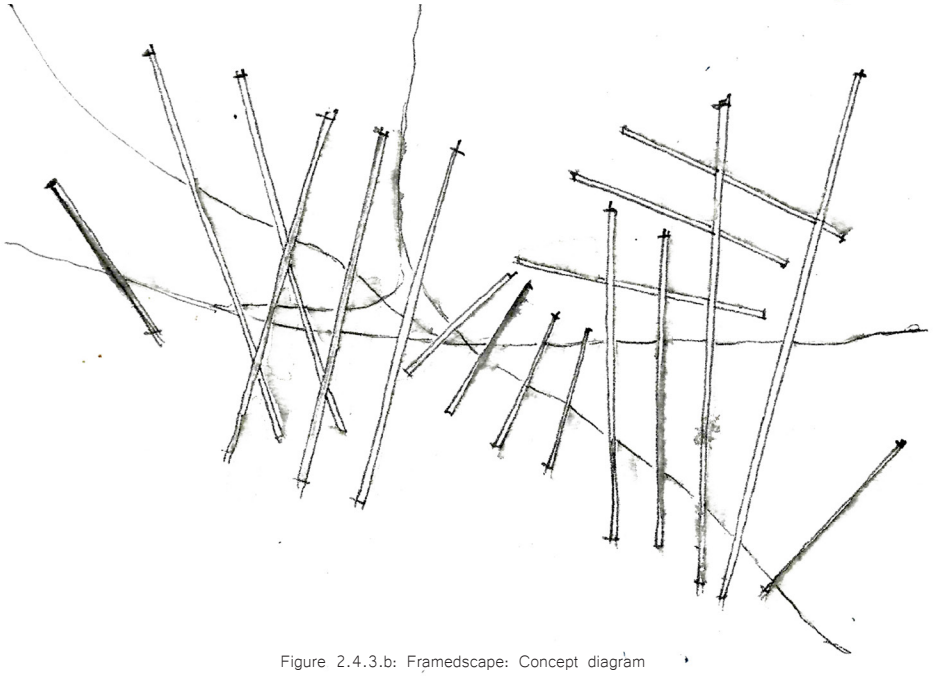


Figure 2.4.3.b: Framedscape: Concept diagram

2.4. CONCEPTS

2.4.3. FRAMEDSCAPE

The third concept considers the landscape in which the project is located, and attempts to create a rhythmic journey via specific placements of frames on the site. These frames not only dance on the site, but also highlight key features of the surrounding context. As a result, the frames invite and showcase the importance of time and context to the aesthetics of the “Rieldans”.

Dwellers can either move through the frames and be part of the narrative, or they can be by-passers looking onto the narrative. This enables a configuration that will not only be a destination building, but also an interactive one. The dancing frames thus animates the experience – challenging the design of the white cube.

Figure 2.4.3.c: Framedscape: Concept model

2.5.
THEORETICAL DISCOURSE

A CHOREOGRAPHED NAMA-KHOI PRESENCE IN PLACE

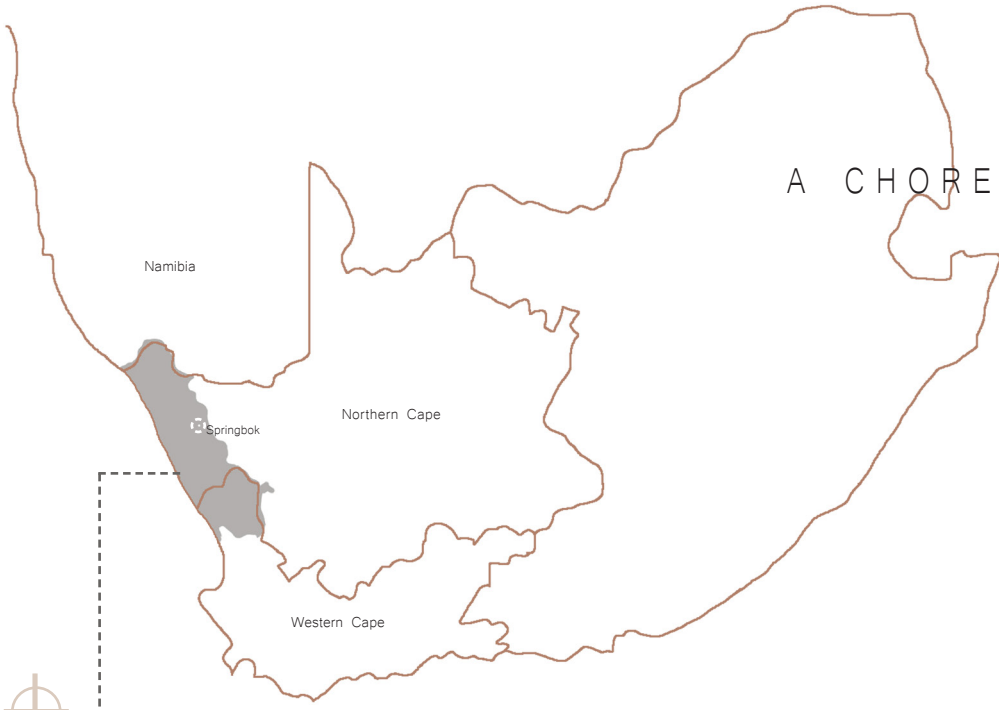


Figure 2.5.1: Namaqualand location in South Africa, with proposed site indicated

Figure 2.5.2: Nama male and female dancing the Rieldans

2.5.1. INTRODUCTION

Preserving and exhibiting ephemeral African art is important because it secures cultural identities for generations. In order for museums and galleries to preserve art, the idea of the White Cube was developed. However, the White Cube is challenged when trying to capture and exhibit ephemeral cultural art that are dependent on factors such as time, context, artist and the creative material or medium chosen. These art forms are usually independent of what galleries and museums offer. Land Art, however, presents key ideas for exhibiting ephemeral art that mark an honest, permanent cultural presence in the world.

The argument for the theoretical approach is therefore initiated by the safeguarding of the Nama "Rieldans" as embodied experience within an architectural intervention. This Nama-Khoi art performance embody an impermanence to its aesthetic, where it manifest itself to the world only for a brief moment at no particular time, and in the natural landscape at no particular place. This theoretical discourse sets out to investigate Land Art as a means to borrow its framework to an architectural intervention that marks a Nama-Khoi presence in the world.

2.5.2. EPHEMERALITY OF NAMA-KHOI ART

The Nama-khoi (Fig. 2.5.2) are an African ethnic group settled in the Namaqualand region of South Africa, streching over the Northern Cape and Western Cape provinces (Fig. 2.5.1). The Namas embody a very rich culture that is uniquely expressed in the form of artistic practices and traditions. Their musical, literary and performing skills demonstrate an impermanence to their aesthetic that goes hand in hand with their nomadic way of life. The "Rieldans", which serves as the main concept generator of the proposed intervention, is an ephemeral artistic practice that manifests itself to the world only for a brief moment at no particular time, and within the natural landscape at no particular place. Due to these factors, the artistic practices of the Nama-Khoi rarely experience an audience – resulting in a lack of recognition and celebration of cultural expertise – not only from the outside world, but also from the contemporary Nama-Khoi generation. As a result, Nama-khoi practices are not only ephemeral in nature, but are also gathering dust.

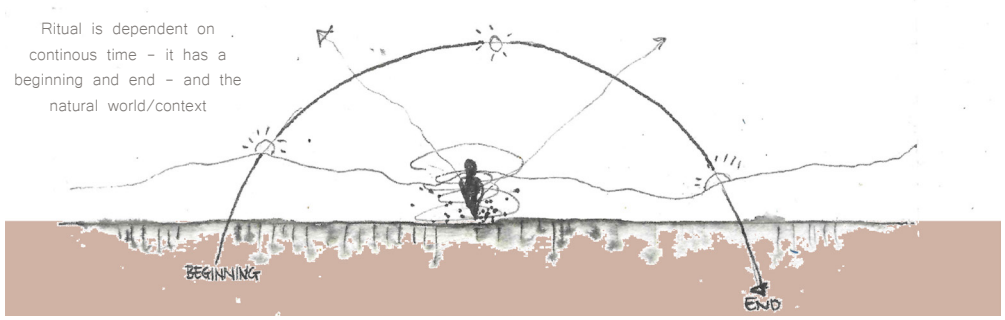


Figure 2.5.3: "Rieldans" in the natural world

Figure 2.5.4: Willem Boshof, *Writing in the sand* (2000) (Online; 2021)

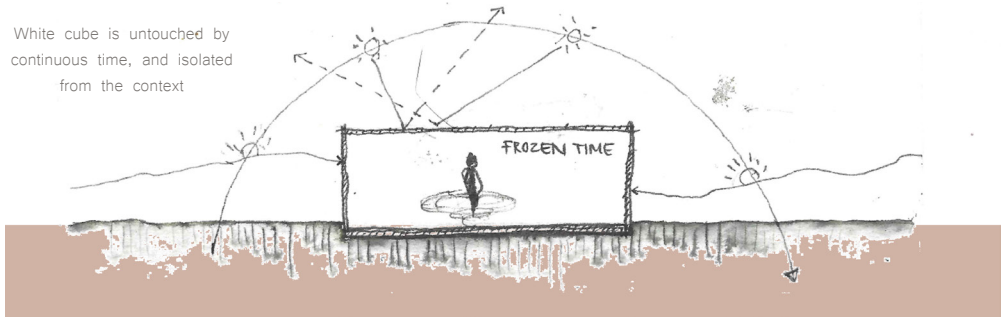


Figure 2.5.5: White cube is a world within a world.

2.5.3. EPHEMERAL ARTS IN THE WHITE CUBE

Ephemeral arts are events of ritual, having a beginning and an end (Fig. 2.5.3). Allyson Purpura, curator at Krunnert Art Museum, notes in her article *Framing the ephemeral* (2009) the importance of ephemeral African art practises and the problems associated with preserving and exhibiting such art forms. Purpura (2009; 11) explains ephemeral works as inherent only in the maker, and the manifestation of the work as a finite, unstable formation, that cannot be collected as an object. Capturing or framing ephemeral African art is an impossible task, as the product or artwork can either change, cease or degrade while it is on view or being viewed. This idea is especially evident through an expression known to the Nama-Khoi group "die Riel is in ons siel" – which means that the Namas are the containers embodying the art form.

The art work, *Writing in the Sand* (Fig. 2.5.4) by South African artist, Willem Boshof, is an example of an artwork that attempts to capture unscripted African languages by writing words from sand on the ground. Sand being an inherent unpredictable creative material comments not only on the vulnerability and exclusion of language, but also the difficulty of providing a means of permanent preservation that acknowledges the true essence in which the art of language manifests itself. This ephemeral quality of embodied African art, challenges conventional methods of preserving and exhibiting art. It challenges not only the framing mechanisms by which museums and galleries attempt to preserve and display works for eternity, but also the design of the white cube as an appropriate container for temporal cultural arts.

The idea of the white cube was developed for museums and galleries to preserve art for eternity. Irish art critic and artist, Brian O'Dohery, in his book *Inside the White Cube: The ideology of the gallery space* (1986), critically examines the design of the White Cube as gallery/museum space and its effect on art being exhibited. O'Dohery (1986; 33-52) explains that the main objective for the design of the white cube is that "the outside world must not come in", and to meet this expectation, "windows are sealed off, walls are painted white, and ceilings become the source of light." The purpose is to eliminate context and provide an environment that is placeless and timeless (Fig. 2.5.5).

Anthropologist, Gosewijn van Beek (1990; 31-33) however, notices the importance of cultural artefacts, art and ceremonies, and says that by keeping and displaying these art forms in the White Cube, time is objectified. The art form is disembodied from its life source and ultimately from its true essence. These ephemeral art forms are in fact only rendered with life and meaning when it collaborates with time, place and artist or performer in the event of materialising or coming into being.

Lailach (2007; 25) also realises the above mentioned issues, and highlights how cultural art works lose their meaning and connection with life/reality by being placed within the white cube. She continues by indicating land art as the most honest exhibition of a cultural artefact, as it "turns into an object of reality." This means land art is a continuous event, a ritual being directly influenced by time, context and the daily lives of humans – and this ultimately is a cultural object or ephemeral art.

Figure 2.5.6: Conceptual sketch depicting Nama dancers as embodied containers of the Rieldans

The proposed project does not disregard the importance of the white cube as permanent holder, but rather identifies attributes which challenges its appropriateness as display mechanism for the Nama-Khoi arts and Rieldans. Art practices by the Nama-Khoi, just like the art work by Willem Boshof, cannot simply be framed and placed within a White Cube as a means to provide a platform which is on permanent display for the integration of an audience. To simply document or frame the process of the Rieldans via other direct art forms like photography, film, paintings, etc. and by placing it on permanent display, brings into being a new art form and artist which does not embody the essence of the Nama-Khoi culture and Rieldans. The poetics of the "Rieldans" in fact lies within its ephemeral nature and its essence within the dust as its creative material. It lies within the energetic interplay of context, performer and time. Its manifestation is independent from an audience, the art world, and a decontextualized, permanent and time-arrested space to continue its existence. The contributions of the white cube will only lead to objectivity and distanciation between artist (Nama-Khoi), art work (Riel dance), and context (Namaqualand).

2.5.4. EXHIBITION OF CULTURE:

Land Art || "Rieldans"

In the 1960's and 70's, Land Art developed as an art movement that set out to explore and exhibit art in the natural landscape. The purpose of its emergence focused on the rejection and questioning of the boundaries and limits the White Cube imposed on art forms. It was focused on transforming nature or place into culture to produce something – a cultural presence or mark – that is in dialogue with reality and belongs to the world (Lehenbauer 2012; 3). A land art work, just like ephemeral African art, cannot exist in museums or galleries because it remains event-based and relies on the natural context and a temporal timeframe. The Heideggerian Fourfold comes into play with Land Art and the Rieldans as both describe a unifying relationship between "earth, sky, mortal and divine" (Heidegger 1951; 176). Elements of "mortal" and "divine" refer to the concept of ephemeral time, and "earth" and "sky" become spatial aspects within the natural world. Heidegger (1951, 176-178) continues by explaining that a meaningful world is revealed when the two concepts of time and space are in collaboration. Due to this, a parallel can be observed between the framework of Land Art and the manifestation of the Rieldans.

Land art is not fixed to one definite definition, but its framework consists of one or more of the following aspects (Andrews 1999; 205): It is a sculptural intervention located directly on a specific, pre-determined site. The intervention is dependent on and influenced by direct human and natural factors. This indicates a human-nature relationship and impact, showcasing the aspect of the passage of time or rituals/events happening and ending. Land art works have a beginning and end, which is evident in either its physical form or its abstract purpose. It can be either completely ephemeral or semi-ephemeral, leaving a permanent mark on place. The process of sculpting happens on site, using materials collected from or around the site. Other materials can also be used to accentuate natural elements. The final product showcases the human influence on the site as a rearrangement of site-specific materials. Consequently, Land Art is a process in which human and nature/land/earth/place are in conversation.

Figure 2.5.7: Sketch of a fragment of Stonehenge

Figure 2.5.8: Stonehenge central layout - specific placement of stones indicate human presence within the world

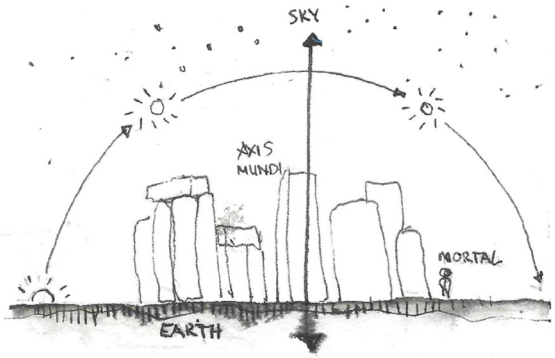


Figure 2.5.9: Stonehenge as cultural setting reflecting dialogue between place and man

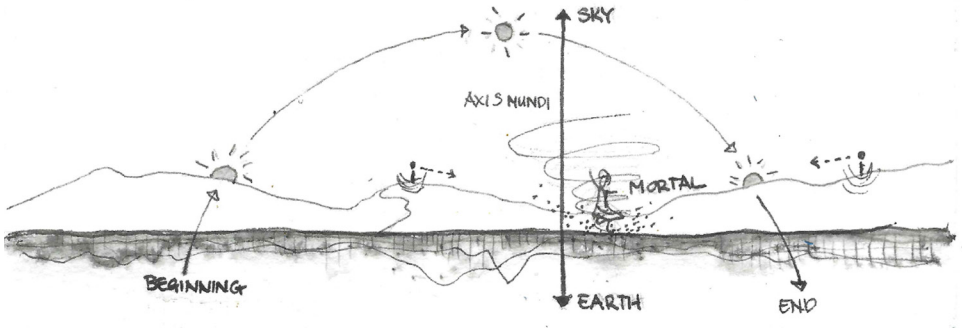


Figure 2.5.10: Rieldans as ritual with a beginning and end in a cultural setting

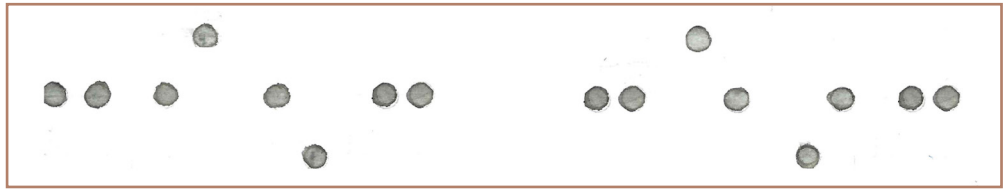


Figure 2.5.11: Observed generic interpretation of the basic Riel footwork having a beginning and end

The earth is the canvas, its materials the creative medium, and human is the artist. The ritual or continuity of time establishes the dialogue between man and place. The art work is a result of a cultural expression and how we live and understand our lives (Lehenbauer 2012; 8).

Stonehenge (Fig. 2.5.7) is an example of an architectural land art piece which existed long before the Land Art movement. It is an example of a cultural artefact that, like the "Rieldans", can only exist within the natural world.

Stonehenge (Fig. 2.5.7) is a monumental landmark located in Salisbury Plain, erected by an unscripted culture that lived between 3000 and 2000BC (Pearson, et al. 2013; 159). The stones used for the arrangement were brought to site from hills more than 200km away (Pearson, et al. 2013; 170-171). Arrangement and placement of vertical stones (Fig. 2.5.8) is done in a specific manner to appropriate and correspond to certain rituals that comment on how people of the time lived, and also how they made sense of, or developed an understanding of the world. This Land Art piece is completely dependent of the environment (Fig. 2.5.9) to pursue its purpose, which is mainly to be an astronomical observatory and calendar (Pearson, et al. 2013; 170). Stonehenge brings with it an atmosphere in which a cultural practice attempts to make sense of human presence in space and place. It reflects a search for understanding, and it is the creative process which binds culture, time and nature together, rather than separating them and being distant.

> "But when I close my eyes and try to forget both physical traces and my own associations, what remains is a different impression, a deeper feeling – a consciousness of time passing and an awareness of the human lives that have been acted out in these places and rooms and charged them with a special aura." – (Zumthor, 1998: 24)

Commonalities that the Rieldans share with the Land Art framework include the concept of ephemeral time, a ritual or event-based manifestation (with a beginning and an end), the chosen creative material derived from the natural environment (dust), and the act of interpreting the daily life/activities of the people within the specific region. The Rieldans consists of specifically choreographed footwork based on an essential pattern within a singular set (Fig. 2.5.11). This set can either be repeated multiple times or altered into other movements to perform a narrative. Energetic footwork penetrates the earth and activates clouds of dust, while drawing a narrative on earth as its canvas. This drawing is the only mark or trace left by this temporal activity. Due to the instability of sand and natural influences, this trace disappears as soon as the dust settles.

The question remains: How can the Rieldans become an architectural intervention that exhibits culture in a similar way as Land Art?

Solutions can be found in the literature of the Finnish architect and theorist Juhani Palasmaa, who deals with concepts of time and embodiment. For Palasmaa (2007; 190-193), architecture should reveal the influence that the world has on us, and vice versa, by capturing the essence or character of the intangible in a configuration inspired by a creative activity.

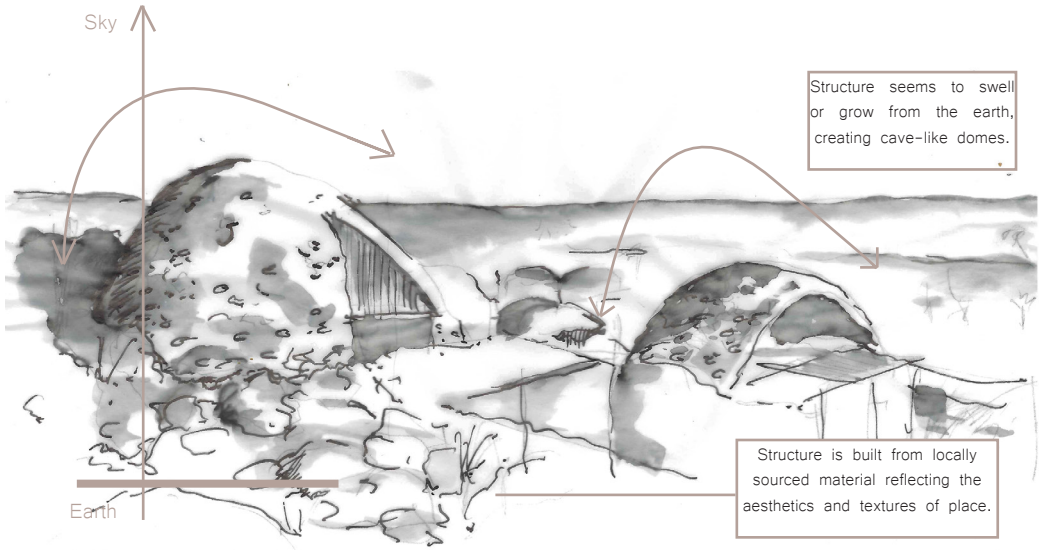


Figure 2.5.7: Mapungubwe Interpretation Centre growing from place

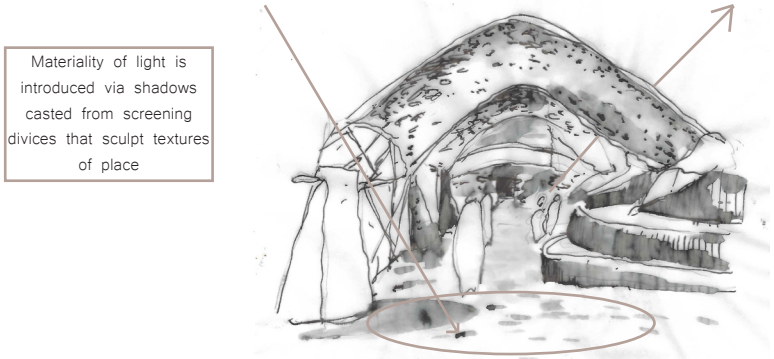


Figure 2.5.8: Context being introduced in space

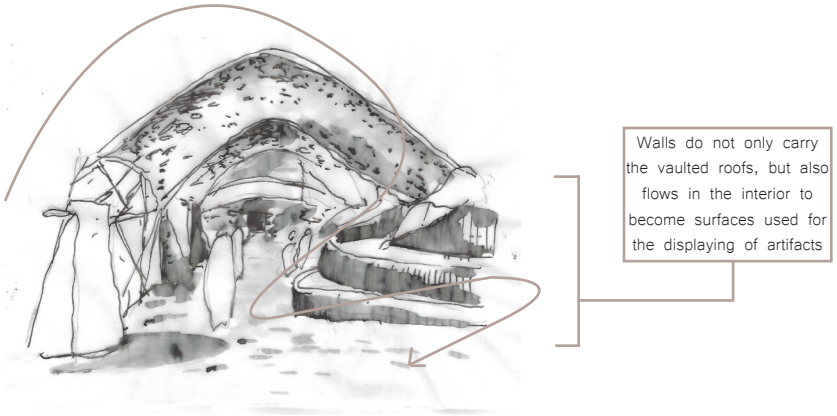


Figure 2.5.9: Earth become walls, become roof, becomes surface

2.5.5. EMBODIED ARCHITETURE: Precedent studies

In order for architecture to embody something that is intangible, the essence or character of that something needs to be captured and moulded into a configuration that through imagination, creates an identifiable and meaningful experience. (Palasmaa 2007; 190-193)

"What was any art but an effort to make a sheath, a mould in which to imprison for a moment the shining elusive, element which is life itself – life hurrying past us and running away, too strong to stop, too sweet to lose" - (Cather 1915; 378)

Two types of precedents are studied: One embodying the character of place as interpreted by its dwellers, Secondly, embodiment of culture through place via concepts of time by celebrating the experience of movement and embodiment through moments of pause or framed movement. The purpose of this investigation is to gather principles, so that the proposed intervention can be a combination of both.

Mapungubwe Interpretation Centre

2009

Location: Limpopo, South Africa

Architect: Peter Rich

Mapungubwe Interpretation Centre (Fig. 2.5.7 - 2.5.9) designed by South African architect, Peter Rich can be investigated as example of an architectural intervention that reflects the principles of Land Art as a means of exhibiting a cultural artefact that is site specific. The building not only houses spaces for the exhibiting of historical artefacts of the Mapungubwe Kingdom, but the building itself becomes a work of art as exhibited by dweller and place. The building appropriates the character of place and cultural skill of crafting – establishing a connection between dweller and place in a number of ways. The building is largely crafted from materials collected directly from the site (Peter Rich Architects 2009; online). It rearranges the materials in a way that does not conform to the form-giving of the landscape or, other cultural signifiers, but rather extracts the core essence of place and reinterprets it in the resulting typology. The building seems to grow and swell from place (Fig. 2.5.7), inviting context into its interior and disregarding the notion of being placeless (Fig. 2.5.8).

What make this building a land art work is that it was invented for this specific region, constructed in and on this specific site to ultimately become an integral part of place. It does not mimic the landscape and the environment, but alters it. It is narrated and sculpted by factors within place as interpreted by man – creating a cultural presence within the setting. It does not seem to stand as an object by itself, but rather becomes an extention from earth to the sky, to as a result sculpt place for man to dwell.

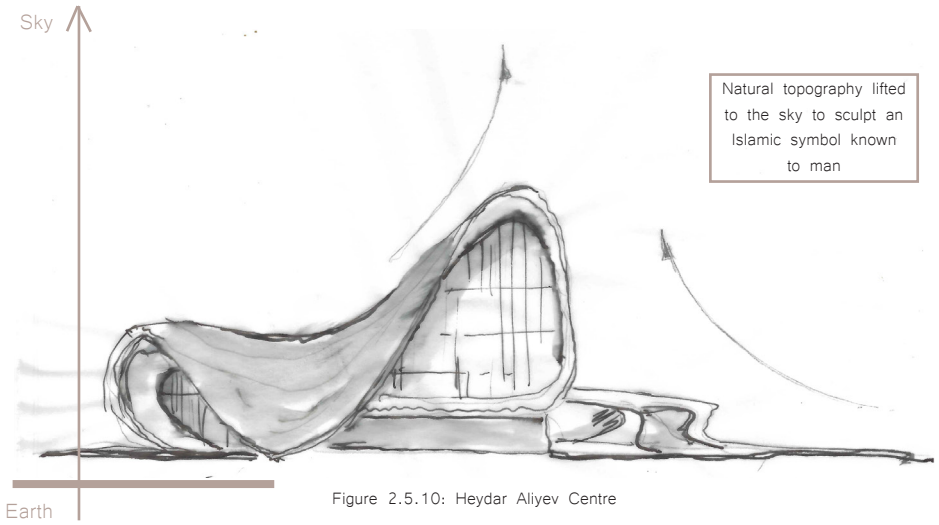


Figure 2.5.10: Heydar Aliyev Centre

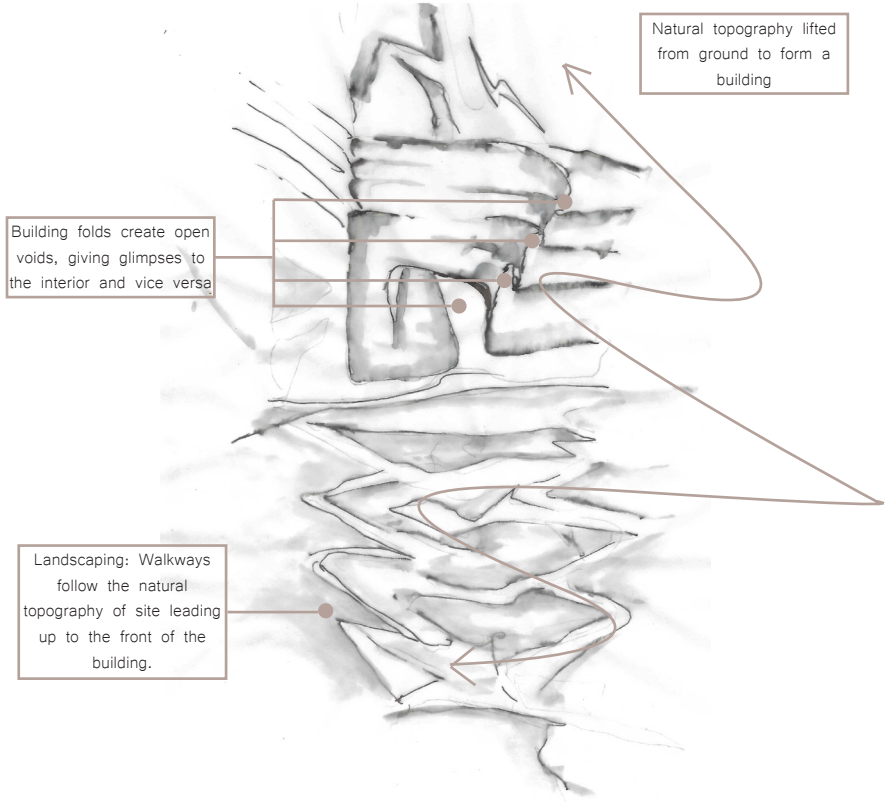


Figure 2.5.11: Topographic view: Earth writing an Islamic message.

Heydar Aliyev Centre

2013

Location: Baku Azerbaijan

Architect: Zaha Hadid Architects

The main concept generator for the Hayday Aliyev Centre, designed by Zaha Hadid Architects, is a language symbol found within the Islamic calligraphy. Islamic symbols, when put in writing, embody a fluidity that is particularly evident in the overall design and placement of the building (Fig. 2.5.10 – 2.5.12). The building flows out of the natural topography to sculpt an architectural formation that belongs to the site and the Azeri Culture. Continuity is further emphasised by a flowing rhythm that allows a relationship between interior and exterior. The natural topography flows into the walls, flows into the roof, and flows back down into earth, creating a continuous and unifying pattern (Zaha Hadid Architects 2013; online).

The building's layout celebrates the movement of the body through a sequence of interior and exterior spaces created in the folds of the building's skin. The intervals between them create framed movements, specifically choreographed to establish moments in time where dweller, place and time collaborates in unification. Landscaping and the layout of the building creates a journey through an art work. The art work being an understanding of how the Islamic culture fits in place. The building is the art work being exhibited, embodying and moulding the essence of Islamic calligraphy within place, rather than being an architectural object isolated from its context (Zaha Hadid Architects 2013; online).

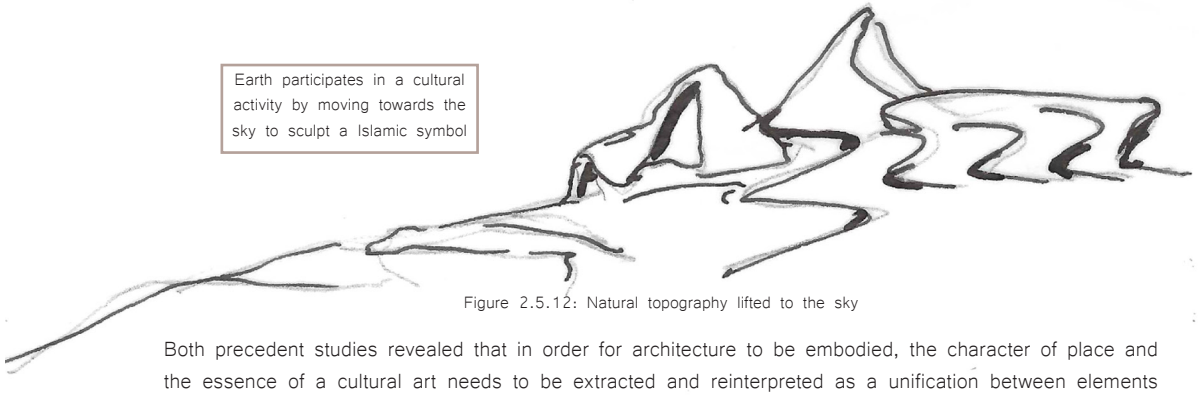
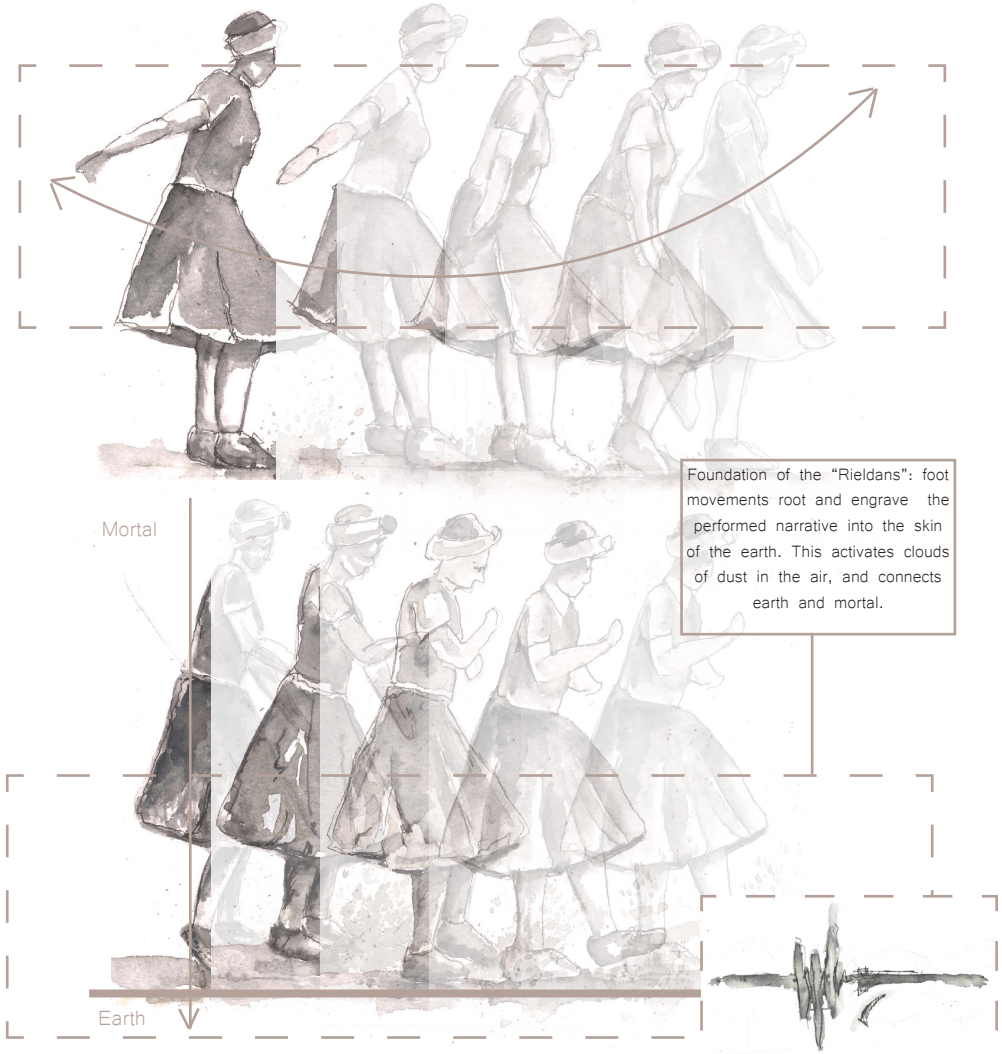


Figure 2.5.12: Natural topography lifted to the sky

Both precedent studies revealed that in order for architecture to be embodied, the character of place and the essence of a cultural art needs to be extracted and reinterpreted as a unification between elements of the fourfold. Embodied architecture establishes a meaningful and identifiable cultural artefact, marking the human presence as touched by temporal time and spatial aspects. The concept of place surfaces as the land or context becomes the artist that performs in a cultural activity.

As a result, the proposed project will aim towards using locally sourced material as creative medium to craft the Rieldans.

Acrhitecture in both cases resulted via earth/place performing in a cultural activity, whilst being only an extention of the site. The cultural activity flows from the skin of the earth and, with moments where a reunion between members of the fourfold are possible.



Foundation of the "Rieldans": foot movements root and engrave the performed narrative into the skin of the earth. This activates clouds of dust in the air, and connects earth and mortal.

Figure 2.5.13: Paused moments during the "Rieldans"

Figure 2.5.13.a: Example of a topographic trace of what Riel footwork looks like

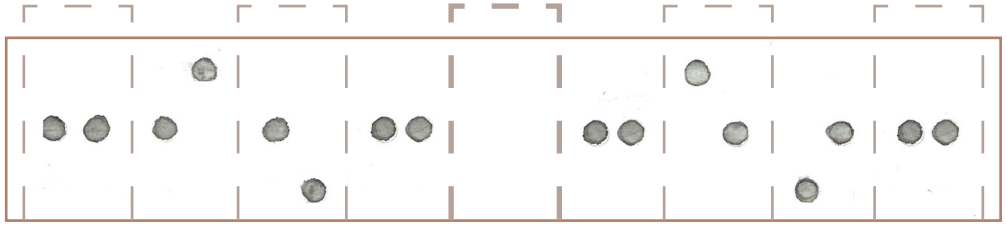


Figure 2.5.14: Generic interpretation of the basic Riel footwork sequence

2.5.6. EXTRACTION: ESSENCE OF THE "RIELDANS"

This section analyses the "Rieldans", as a means to the gain a basic understanding of what the "Rieldans" consists of to be an expression of a cultural manifestation. Terms including, narrative and topics, place, movements and creative material will be discussed. These terms include both the dependent and independent elements required for the manifestation of the "Rieldans". The "Rieldans" winners of the ATKV 2018 "Rieldans" Competition will be examined to extract the Riel's essence. Information gathered will be reinterpreted towards an architectural intervention, where place participates in a cultural activity as a means to embody the Rieldans.

Narrative and topics

The narratives performed through the "Rieldans" can be divided into three topics. These three topics are either one or an integration of social, cultural and educational aspects unique to the daily lives of the Nama-Khoi. Narratives are usually told through the upper body or arm movements of the dance, which mimic gestures on how something is done. The passing on of these narratives through generations demonstrate a change in the Nama rituals, habits and cultural activities as years pass. (van Wyk 2014; 184 - 186)

Place

The setting in which the "Rieldans" manifests itself is within the natural arid world of isolated areas in Namaqualand, which provides the creative material of dust in the dry plains (van Wyk 2014; 186). The dance enables a dweller and place connection. While the upper body movements narrates, the energetic and penetrating foot movements root and engrave the story into the surface of earth.

Movements and creative material

The bodily movements of the "Rieldans" can be divided into the upper body and lower body movements. (Fig. 2.5.12 - 2.5.13). The basic upper body movement consists of swinging one's arms to the front and back. When it is not doing this, the upper body narrates an event through mimicking animals or basic every day gestures for doing things like making a fire, washing the floor, etc. (Van Wyk 2014; 183)

The lower body movements form the foundation of the dance. It consists of fast, energetic and explosive footwork that kicks dust in the air, to enliven the arid setting. The basic Riel footwork starts off by kicking one foot to the front, swinging it to the back to penetrate the ground one last time before changing feet. In-between changing feet, there is a moment where both feet are lifted from the ground (Fig. 2.5.14). The purpose of the footwork is to render the dance with as much clouds of dust as possible. Dusty clouds are the aspect of the Riel which makes it so iconic, unique and recognizable, The dust contribute to the character and atmosphere of the dance.

Figure 2.5.15: Abstract sketch capturing core theoretical idea

2.5.7. CHOREOGRAPHING THE RIELDANS INTO AN ARCHITECTURAL INTERVENTION

This section aims at exploring the idea of choreographing a "Rieldans" as performed by earth to establish a cultural connection between place and mortal that is permanently on display. Focusing particularly on the foot work and atmosphere of the Riel, an explorative parti diagram (Fig. 2.5.16) and concept model (Fig. 2.5.17) was developed. It considers the idea of penetrating the earth to create an explosion of earth particles (Fig. 2.5.15). Earth particles are left scattered around a pit, and swell on the surface of the site to form configurations. Lines of movement resemble the energy and celebration of movement in the dance.

Figure 2.5.16: Parti diagram - Choreographing the "Rieldans"

Figure 2.5.17: Theory concept model - Earth participating the "Rieldans"

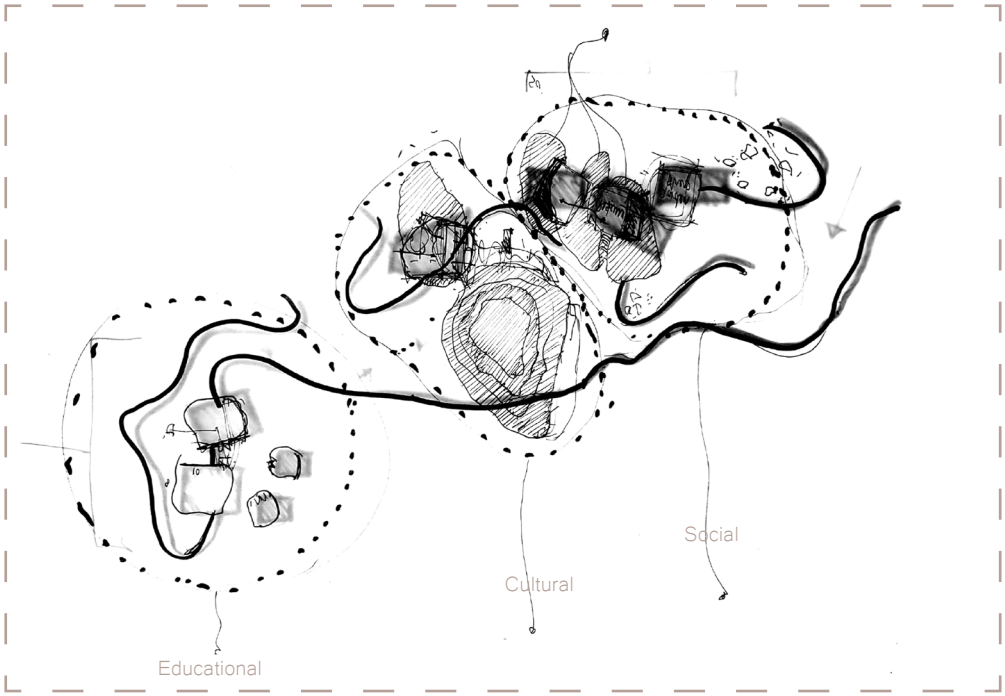


Figure 2.5.18: Parti organised according to the 3 Riel narrative topics

Atmosphere: Dust

Dust, and clouds thereof, produce the atmospheric quality of the "Rieldans". This unstable and delicate formation is what produces the iconic aesthetic and atmosphere to the "Rieldans". Due to the characteristics of dust, it can be a difficult task to poduce this quality.

Visual artist Jorge Otero-Pailos however introduced a unique way in capturing dust and/or polution from surfaces in the series *Ethics of dust* (2021). He applies a layer of liquid latex or masking fluid on surfaces of buildings, where after the removal extracts dust and reveals an imprint of the building's skin (Fig. 2.5.20) (Otero-Pailos 2009; online). The significance of this technique is that it allows a form of preserving something that is delicate and always in the process of degrading or ending. It can be viewed as revealing a 'moment of pause', where time was stopped to capture not only a 'moment in time', but also the literal and figurative atmospheric quality of a 'thing' touched by the fourfold.

The proposed project could possibly introduce something similar to a Nama arts and culture exhibition, where latex curtains of a "Rieldans"-trace is hung and activated by a natural and/or mechanical ventilation system to dance and narrate the story as told by the natural climate. This means that the winds and sun (natural elements) participate in a cultural activity, connecting earth, mortal, sky and divine in a site-specific place.

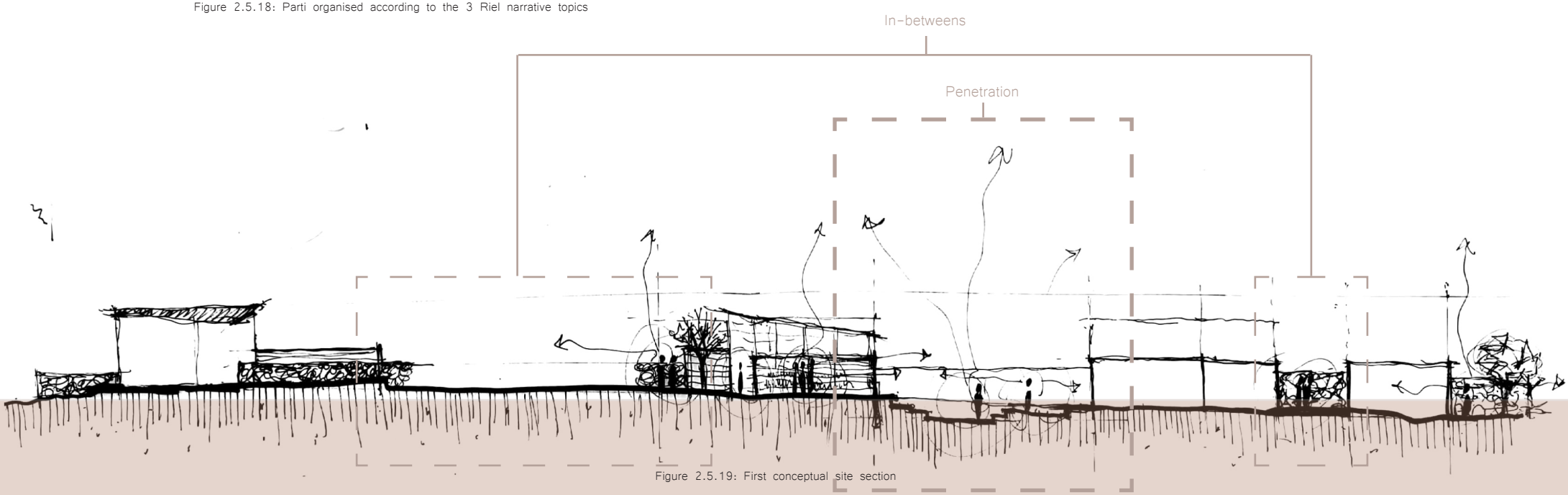


Figure 2.5.19: First conceptual site section

Figure 2.5.20: Jorge Otero-Pailos. *The ethics of dust: Doge's Palace.* 2009. Latex and dust transferred from Doge's Palace. 12m x 7m. (Online; 2009)

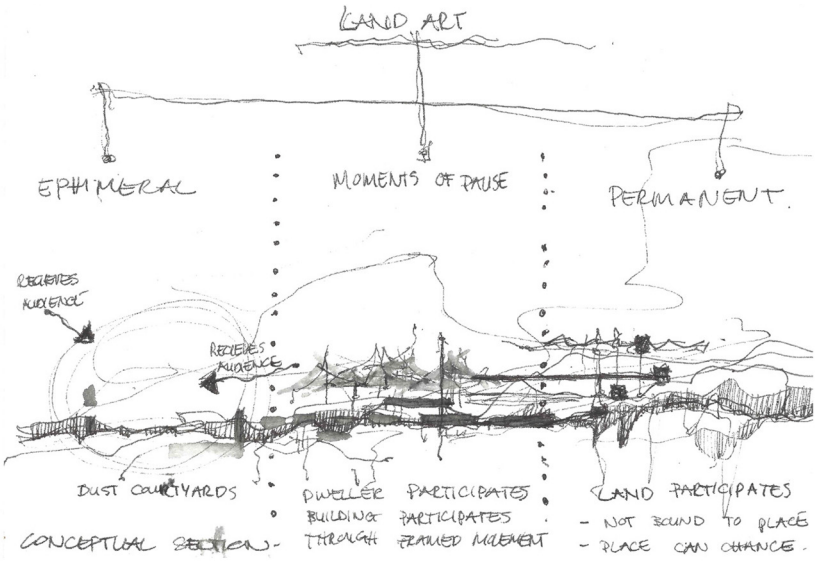


Figure 2.5.21: Conceptual section exploring the idea of atmosphere

2.5.8. CONCLUSION

The theoretical argument highlights the issues of exhibiting the Rieldans as ephemeral art within the White Cube. The main concern is that it does not provide an appropriate container for this specific art form, because the Rieldans ceases to exist in a decontextualized environment. Such a building will stand empty not only because of the art form's independence of it, but also because it provides no form of cultural identification that grows from its specific context.

As response to the investigated issues, the proposed project attempts to appropriately configure a typology of a Nama Arts and Culture Exhibition Complex, rather than a centre, museum or gallery. This means that the building becomes the Nama Rieldans exhibition itself. This can be achieved by displaying basic essentials of the Rieldans to its audience. Earth will participate as Riel performer to finally sculpt a building that performs in a Nama-Khoi cultural activity. A cultural mark, will as a result be either engraved or growing from the site, and be on permanent display for any audience who passes it.

Light enters through the dust and latex curtains, casting textures of the Rieldans on surfaces.

Climate and context participating in the Riel:

- Natural ventalation moving through in-between spaces make latex dust curtains move
- Walls raise from the round upward, sculpted in the desert aesthetic of the chosen site.

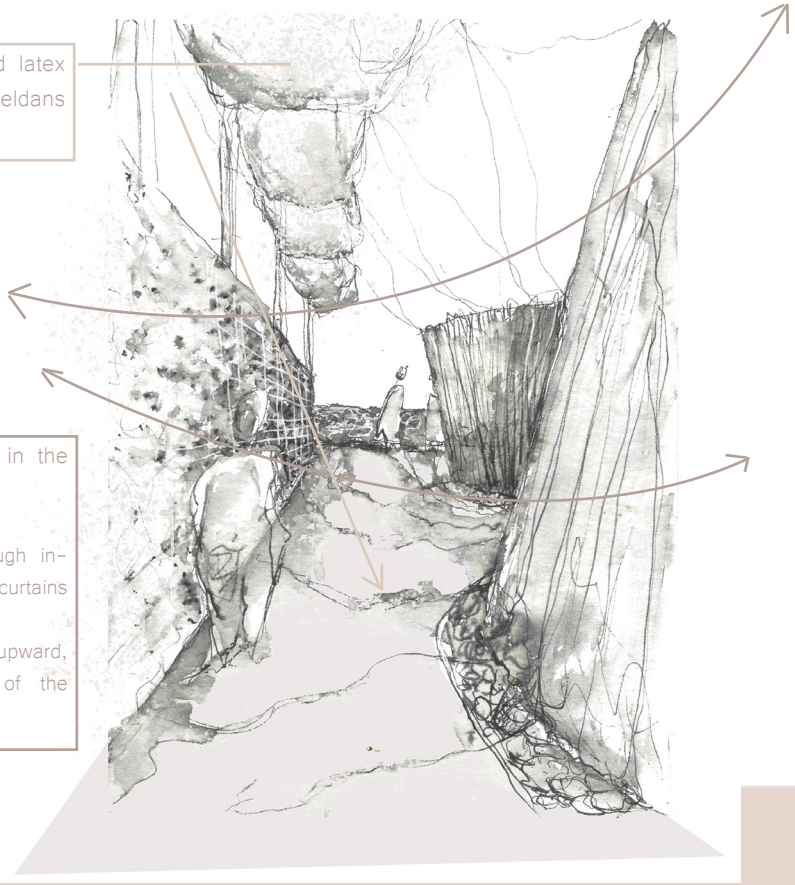


Figure 2.5.22: First conceptual perspective: Riel Atmosphere

2.6.
STRUCTURAL TOUCHSTONE

POETICS OF INTERWOVEN TECTONICS

The structural touchstone attempts to express the POETICS OF INTERWOVEN TECTONICS. It is a hypothetical structural system, influenced by important information gathered in previous sections of this document.

Two touchstones were developed as a means to respond to the proposed project's site/context and conceptual ideas, for the purpose of assessing an appropriate design response. The title of the structural touchstone, is inspired by the three concepts, where the diagram of paused "Rieldans" frames (Fig. 2.6.1–2.6.2) is woven into the context, and responding to and collaborating with the natural environment and climate.

The first touchstone investigated the diagram as a framework that interprets the Riel dance as a form of land art, using the context as creative material. The frame carries a slab of sculpted earth, casting strong and deep shadows as is hovers above surface. By turning the device, the poles start to dance, lifting the weights which draws in the sand and make energetic explosions of dust.

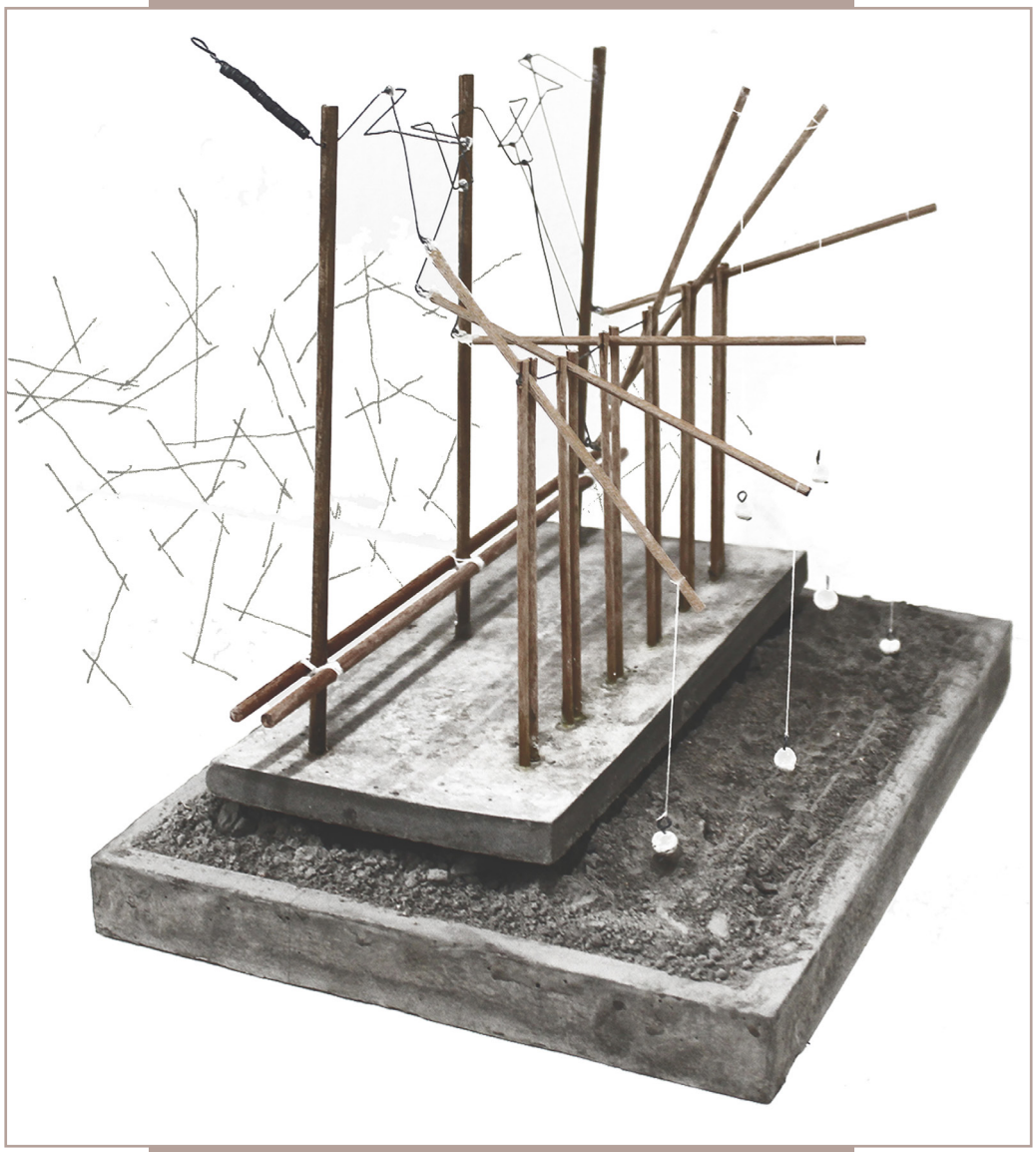


Figure 2.6.1: Structural touchstone 1 – dancing frame

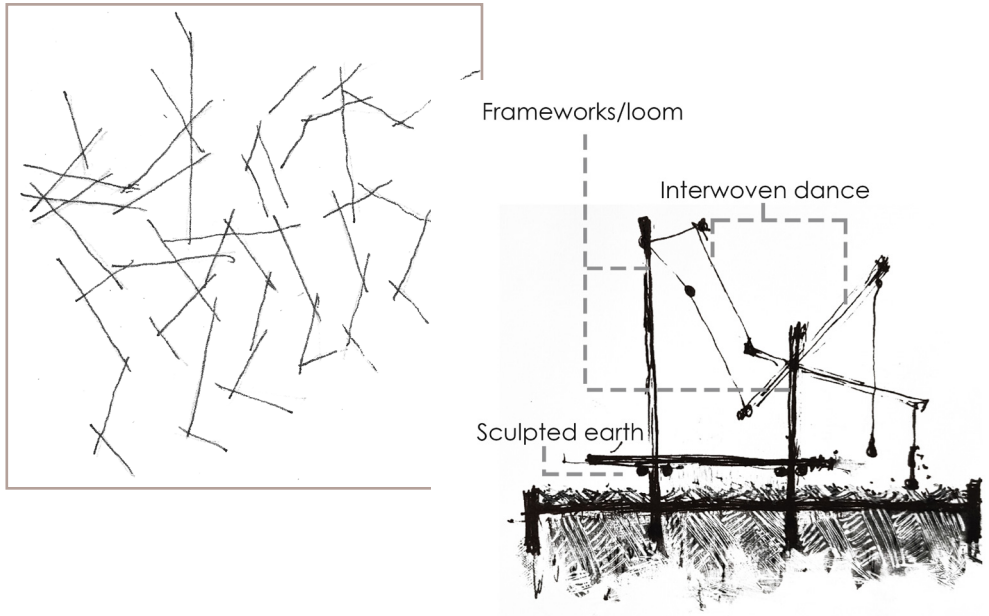


Figure 2.6.2: Concept 2 diagram – Riel dance framed in moments of pause

The second touchstone (Fig. 2.6.3 & 2.6.4) further investigates the frame by responding to the climate conditions of Springbok. The structure and material choices are derived from the proposed project's immediate context, which includes the colours, textures and character of rough dirt planes and granite domes.

Roof and wall frameworks:

The steel framework for the roof and walls can be described as a series of similar elements that are rooted within the ground – referring to the earth penetrating Riel dance footwork and Matjieshuis framework.

Roof:

The pattern of the steel roof alters the flat roofs below, which cover service areas. Large roof overhangs shade the walls below.

Floor:

The elevated floor slab sculpts earth in a similar means as the footwork of the Riel dance activates clouds of dust from earth. The elongated shape of the floor mimic the desert planes and flatness of the site.

The slab of sculpted earth is covered with exposed aggregate as a means to represent surrounding 'klip koppies' or rugged features and textures found in the given setting. Sand-blasted flooring finishes can also be an appropriate response.

The function of the elevated floor is to prevent flooding, and the cantilevering slabs promote ventilation.

Walls:

West to east elongated shapes represent the desert planes and blend in with the character of the existing context.

Thick walls on the east and west facades with cavities trap air and insulate the building.

The south façade consists of transparent panels, allowing the natural scape to enter the building.

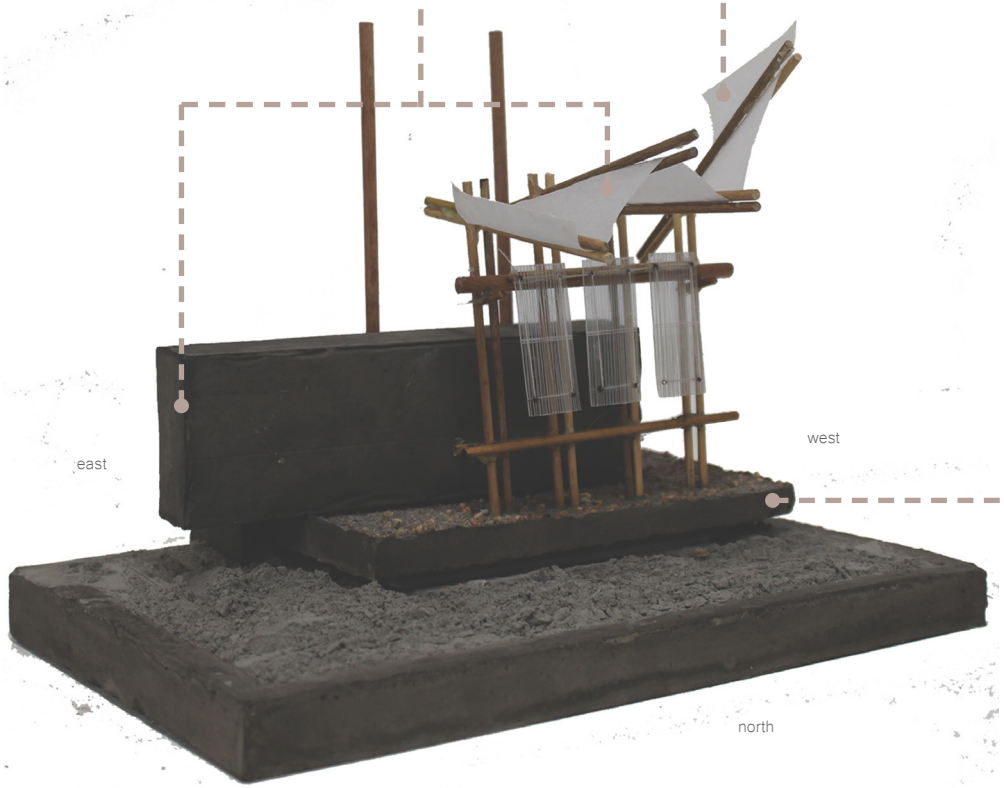


Figure 2.6.3: Structural touchstone 2 - Front view

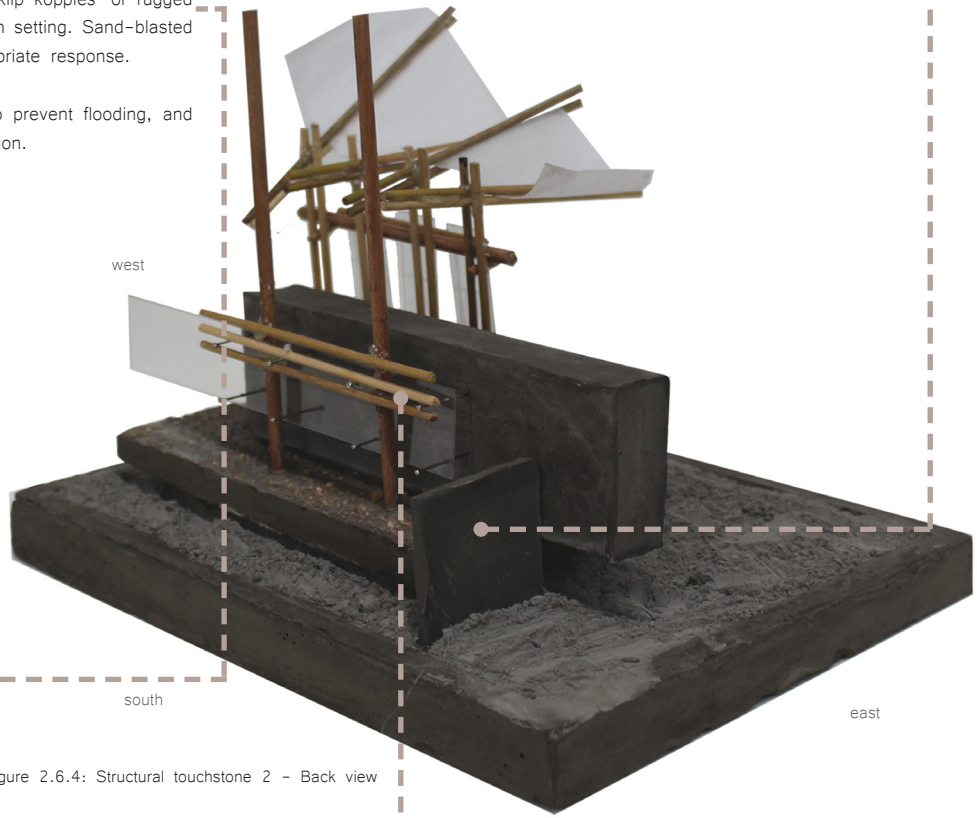


Figure 2.6.4: Structural touchstone 2 - Back view

Other shading systems:

Nama-Khoi crafted features that represent the 'mats' used for the 'matjieshuis' and assist in ventilation and controlling direct sunlight.

Figure 2.7.1: Photograph of Taliesin West (Atlas of places 2019; online)

2.7.
PRECEDENT STUDIES

2.7.1.

Taliesin West
1937
Location: Scottsdale, Arizona U.S
Architect: Frank Lloyd Wright

Introduction

Taliesin West (Fig. 2.7.1) is a complex that reveals a strong connection between design and construction, and its relationship with a desert landscape. Due to the climate and landscape similarities the proposed project has with the Taliesin West, the complex will be analysed as a precedent study with regards to its design and construction response and collaboration with the environment and climate.

The proposed project aspires to conform to a morphology that grows from its surroundings to ultimately belong to a site-specific place. Form-giving and choice of material of the precedent will also be investigated as a means to accumulate ways of achieving this.

Environment and climate:

The Taliesin West is located in the Desert of Scottsdale, Arizona – also known as the Valley of the sun (Losco 2019; 18). This also gives reference to the climate which can be described as an arid to semi-arid area with warm winters and extremely hot summers. The landscape can therefore be considered as a cosmic landscape which is surrounded by rugged mountains, vast desert planes and the famous Saguaro cacti plant.

The climate and environment hugely influenced the design approach which guided the construction systems and material use instilled in Taliesin West. Typical principles from the Prairie style architecture and other considerations guided the response to the harsh sunlight, which include the orientation, horizontal lines, type of massing, wall thickness and height of the building.

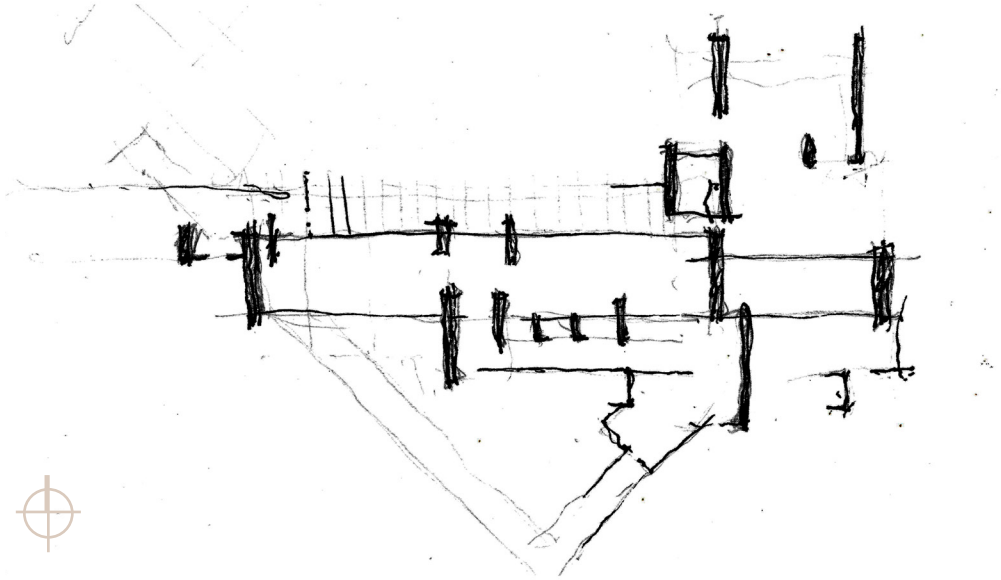


Figure 2.7.2: Parti diagram of Taliesin West plan

Morphology:

The complex seem to be nestled as a single storey building in its surrounding (Losco 2019; 18), and raise from the ground upon which it was built. The overall morphology of Taliesin West gives reference to the physical characteristics and phenomenological experience of the Scottsdale desert. Low, horizontal lines and a continuation of surfaces not only simulate vast desert planes but also cast deep shadows to provide protection from the harsh sun (Fig. 2.7.3. - 2.7.4).

The complex consists of various functions which is hosted in strict geometries. The orientation plays an important role, with long facades towards the north and south, and short facades to the west and east (Fig. 2.7.2). The geometries open to the north with slightly inclined flat roofs. Large roof overhangs limit the amount of direct sunlight that enter the long strip windows on long facades. Ultimately this limits solar radiation into the interior. (Losco 2019; 20).

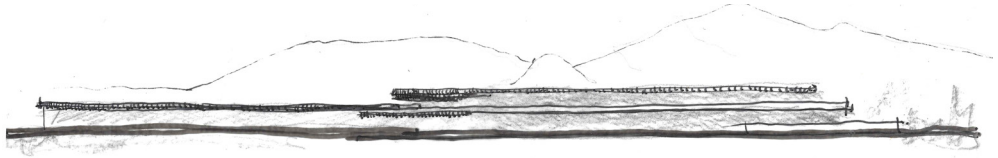


Figure 2.7.3: Horizontal lines, uplifted from site

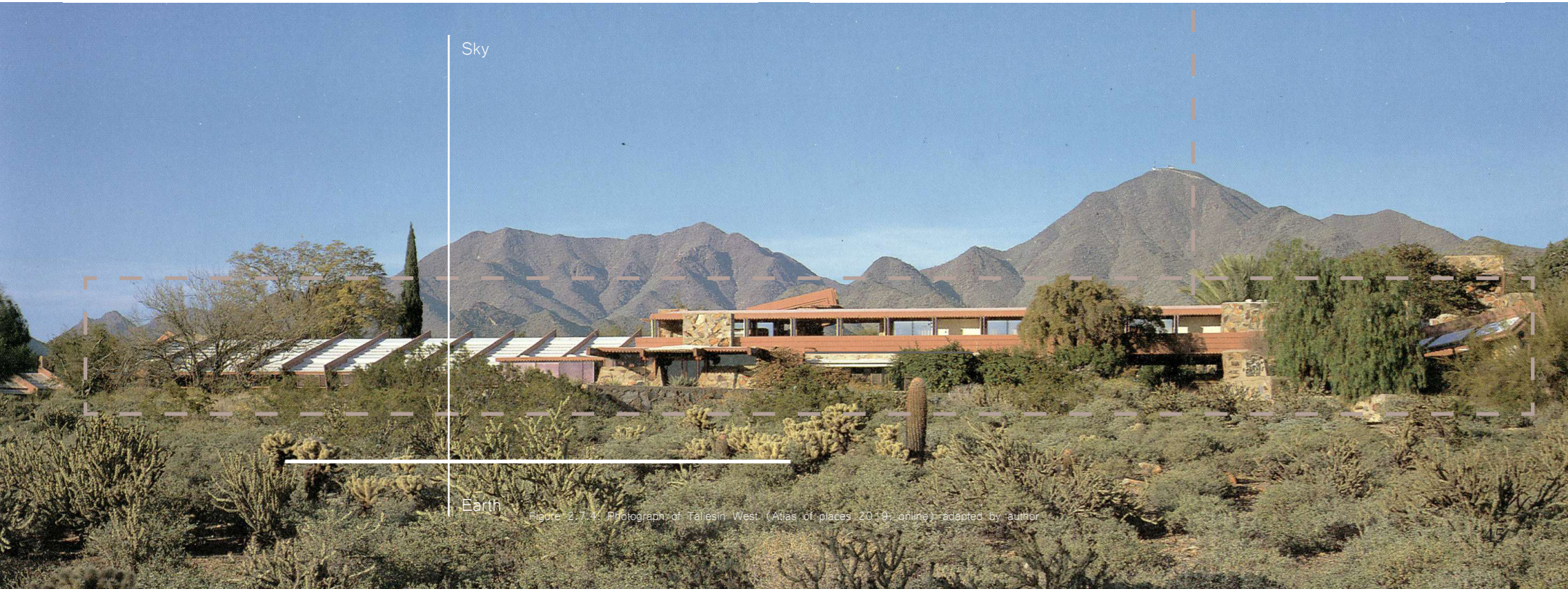


Figure 2.7.4: Photograph of Taliesin West (Atlas of places 2019; online) adapted by author

Figure 2.7.5: Cave-like entrance to Taliesin West (Atlas of places 2019; online) adapted by author

Geometric massing which is created by the thick desert masonry is revealed as a hollowed mass when entering the interior spaces, which seem almost cave-like (FIG. 2.7.5). The walls are also used as support systems for the roof, which consists from equally spaced beams. Beams span over the shorter width of the rigid geometry (Losco 2019; 20).

Apart from deep eaves and thick walls, more passive design elements are incorporated into the design and spatial layout of the building to maintain natural ventilation and cooling. Local winds enter into space via unglazed openings or hopper style windows. The landscaping also contribute to the cooling of spaces via vegetation and water pond placements in front of strip windows. In-between open spaces also contribute to airflow in-between and throughout the complex.

Material:

Elements of place, like light and stone, along with glass and red wood become the material palette that resonates throughout the design and decoration of the complex. The use of material also portrays the colour scheme of the Scottsdale desert.

Thick load-bearing walls insulate the building and are constructed from desert masonry. This type of masonry includes a mixture of cement, desert sand and stone found in and around the site. Exposed stone gives the walls a rugged texture which is characteristic of the surroundings. Stone paved passages also contribute to the desert aesthetic of Scottsdale. (Losco 2019; 18).

Natural light is also used as a material throughout the complex in various ways. Entering either through sky lights, transparent canvas panels used as roof sheeting or horizontal light entering through clerestories just below roof eaves (Losco 2019; 34).

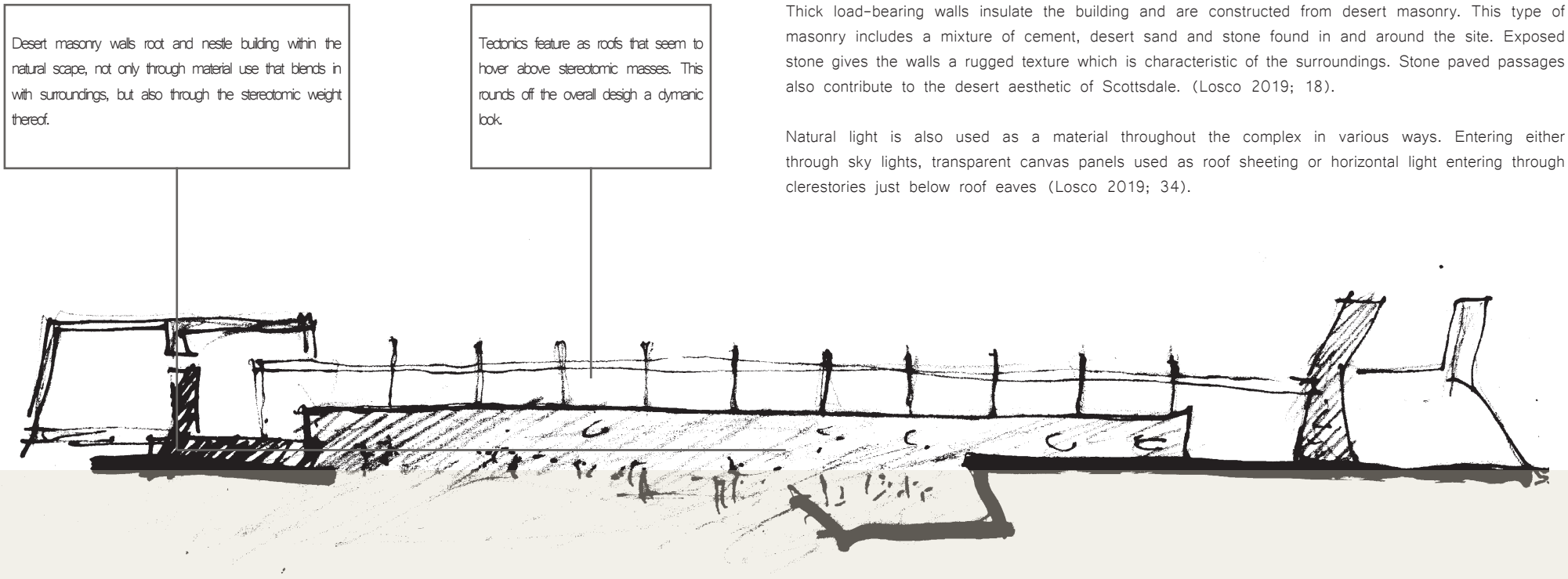


Figure 2.7.6: Rough elevation sketch

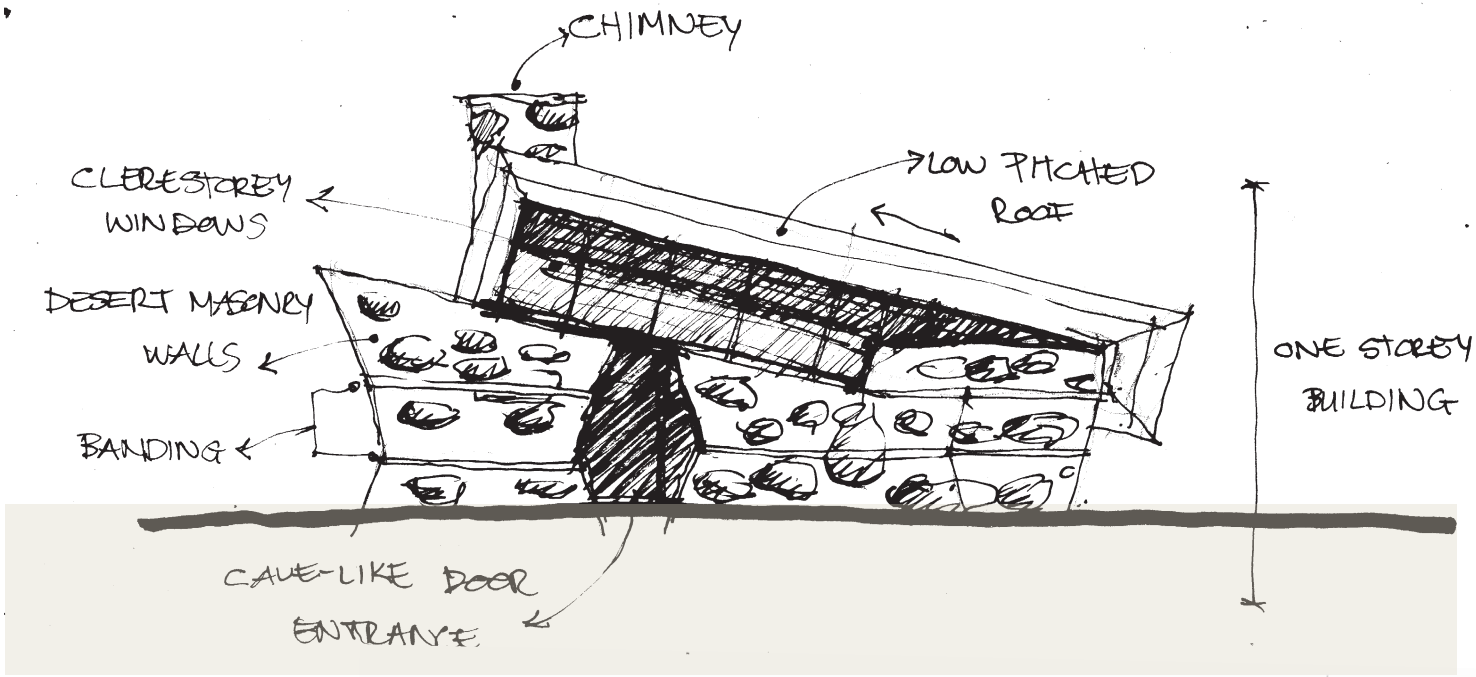


Figure 2.7.7: Short elevation analysis

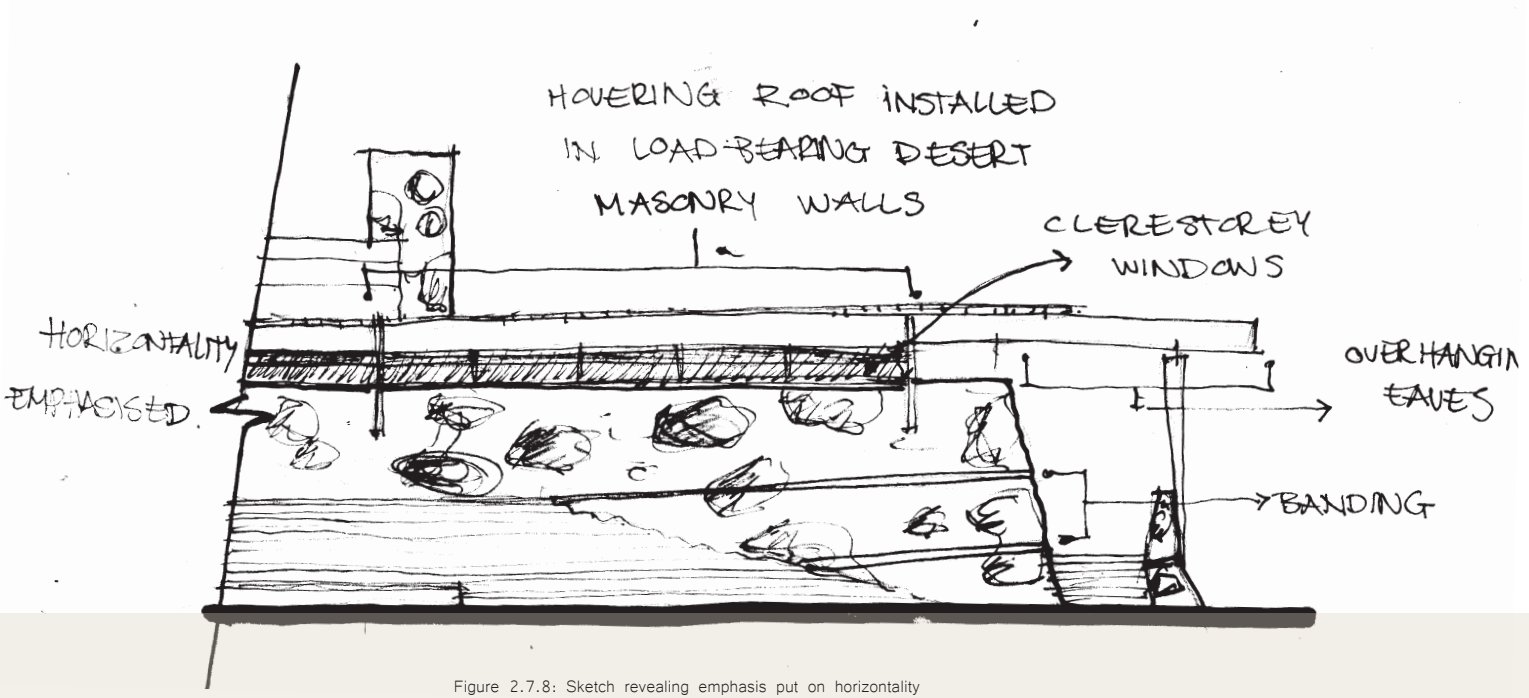


Figure 2.7.8: Sketch revealing emphasis put on horizontality

Conclusion:

Reconciliation of nature and architecture is achieved as the morphology of the Taliesin West reveals the temporal rhythms of place and time.
The form-giving of the building is created as a response to and with the given environment.

Tools gathered from the precedent study revealed how design and construction together can create a building that is not only rooted in place, but that also works with and reveals elements of place.

Characteristics of place is invited into the design, and this becomes a form of materiality which resulted in Taliesin West.

Figure 2.7.9: Photograph of Jean Marie Tjibaou Cultural Centre (Langdon 2015: online)

2.7.
PRECEDENT STUDIES

2.7.2.

Jean Marie Tjibaou Cultural Centre
1998
Location: New Caledonia
Architect: Renzo Piano

Introduction

The Jean Marie Tjibaou Cultural Centre will be analysed as a precedent study in order to establish and inform a functional programme for the proposed project. The form of the building, which is a reinterpretation of vernacular, will be investigated in terms of how it incorporates function and system details as a response to climate.

Architect, Renzo Piano, designed the building in order to celebrate the Kanak Culture - a culture which is indigenous to New Caledonia. As a means to celebrate the culture, he not only attempted to design a scheme which represented the Kanak huts, but he also incorporated functions which are associated with the everyday lives of the Kanak.

The programme of the building can be categorised in three parts: Educational, cultural and social (Diagram 2.7.a). These categories overlap with the three categories or subject material of the "Rieldans". The precedent organises these three categories in topographic clusters, with in-between circulation spaces in the form of terraces or patios (Fig. 2.7.10 - 2.7.12).

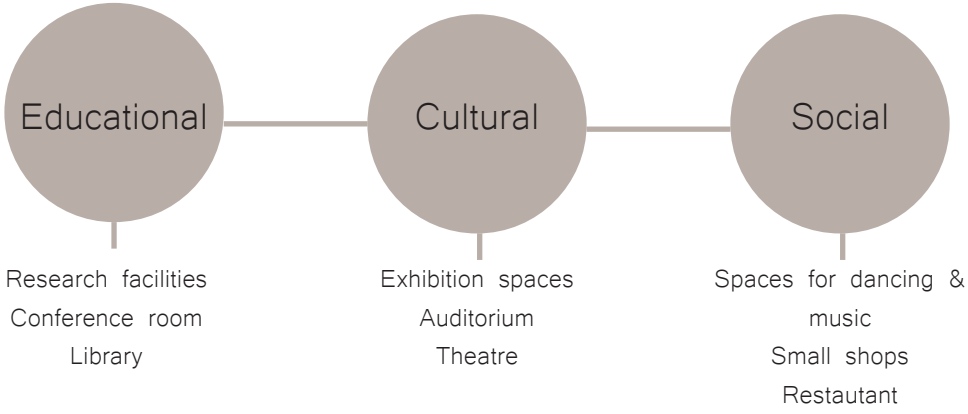


Diagram 2.7.a: Categorised programme

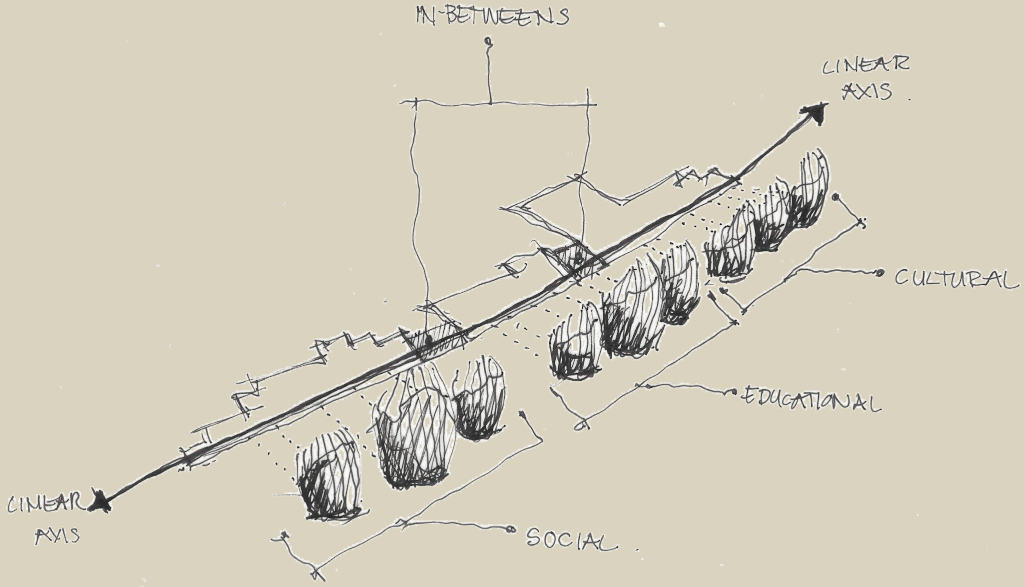


Figure 2.7.10: Main axis of scheme

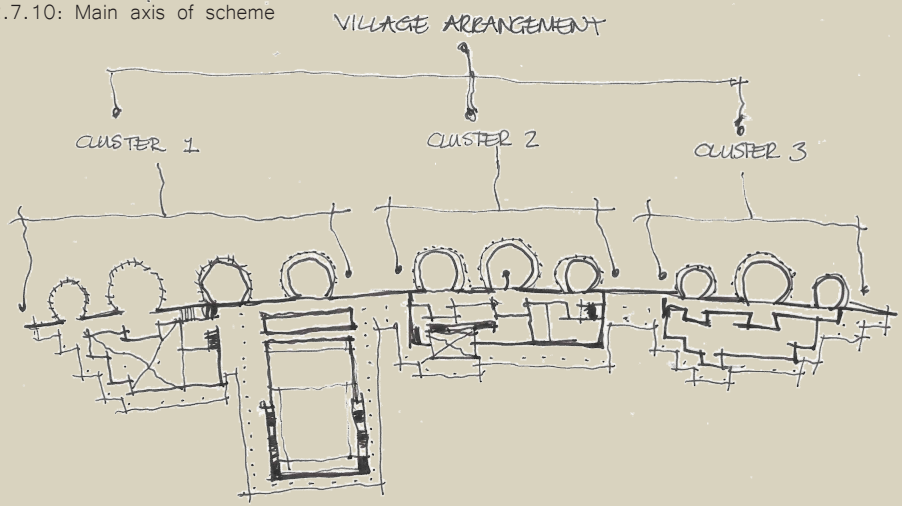


Figure 2.7.11: Spatial organisation

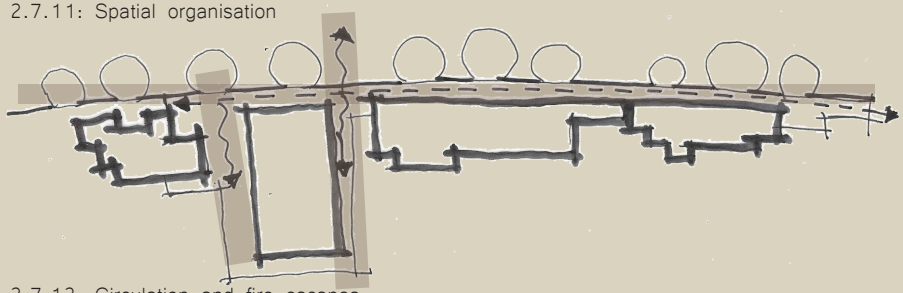


Figure 2.7.12: Circulation and fire escapes

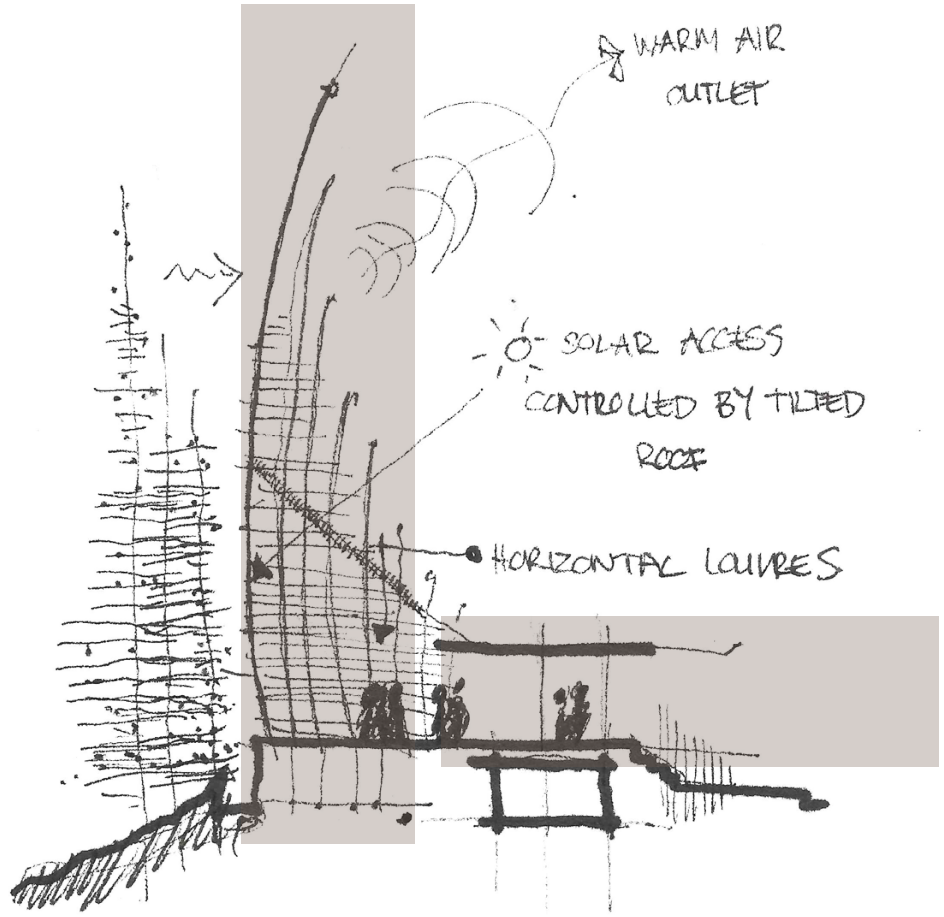


Figure 2.7.13: Diagram analysing verticle vernacular as celebration space and passive strategy

The educational category includes spaces for research work, a conference room, and library. The cultural category hosts spaces for exhibitions, an auditorium and a theatre. Social activities involve spaces for dance, music, food and retail. (Langdon 2015; online)

The 10 huts function as the gathering/social spaces of each cluster – opening up to the functions. The scheme as a hybrid structure becomes evident when the investigating the topography or floor plan of the scheme. The huts represent the verticle vernacular (Fig. 2.7.13), while the functions form part of the horizontal grid (column and beam structure).

Figure 2.7.14: Architectural huts of Jean Marie Tjibaou Cultural Centre (Langdon 2015; online)

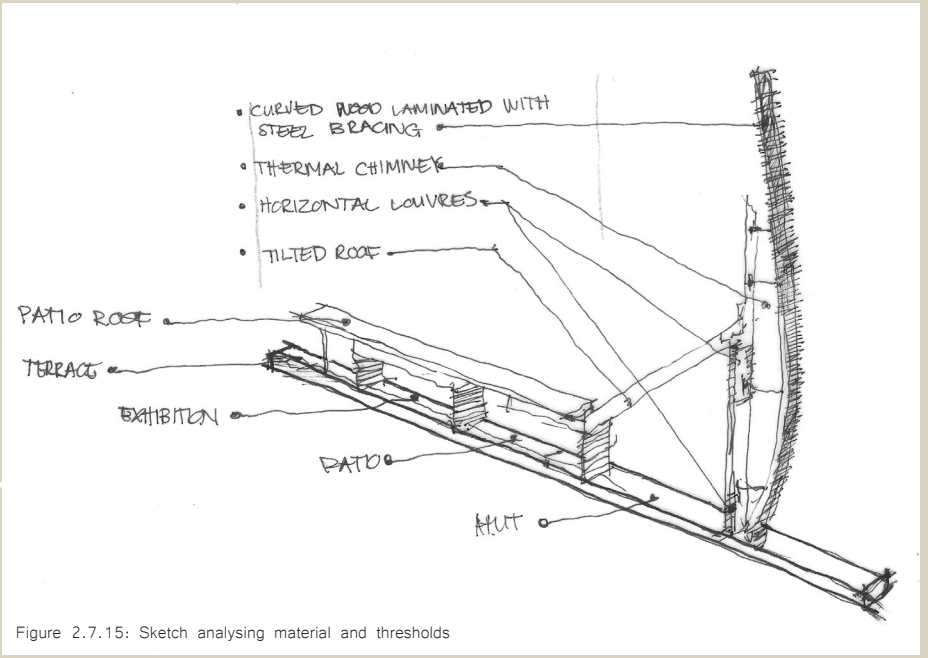


Figure 2.7.15: Sketch analysing material and thresholds

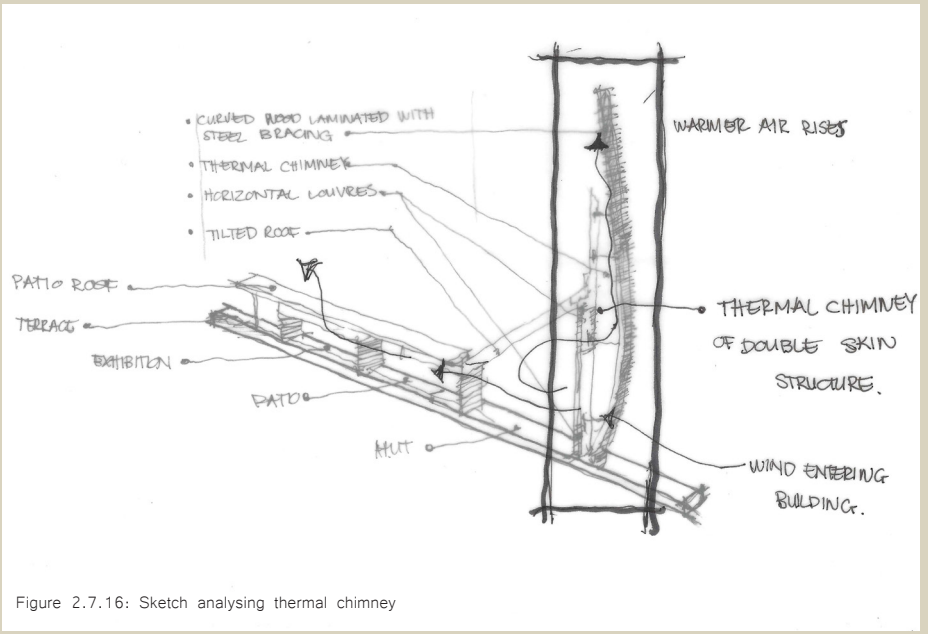


Figure 2.7.16: Sketch analysing thermal chimney

The hut parts of the building function as a thermal chimeny (Fig.2.7.14), consisting of a double-skin structure which is open at the top. The outer skin consists of curved wood laminated steel bracing - functioning as a louvre system to controle solar and ventilation access (Langdon 2015; online). The second skin can be described as a digital prefabricated louvre system.

The roof of the huts are all tilted and also comprises of a double skin system of corrugated aluminium sheets and glass - also for the controlling of ventilation and solar access (Fig. 2.7.15 - 1.7.16). (Langdon 2015; online)

The huts are enclosed with horizontal louvres fixed on columns at the base and below the roof. (Langdon 2015; online)

The analytical section sketch below (Fig. 2.7.17) depicts the transformation of different spaces, which also has an influence on how the entire structure breathes and regulates itself. In-between spaces for circulation are inserted between different functions as a means to passively controle and regulate air flow.

The hut structures, can be described as hybrid structures which verticaly stretches towards the sky like the Kanak huts. The structure of the tall huts thus comprise of slender ribs. The wall of the structure consists of two concentric rings which has horizonal louvres fixes to it (Langdon 2015; online). Apart from the structures resembling the vernacular, the entire scheme of the project becomes like a village, where the dweller moves through spaces that are either entirely outside, enclosed or semi-enclosed. These semi-enclosed spaces, as mentioned are for the circulation of both the dweller and hot and cool air flow throughout the scheme.

Figure 2.7.9: Jean Marie Tjibaou Cultural Centre in dialogue with surrounding (Langdon 2015; online)

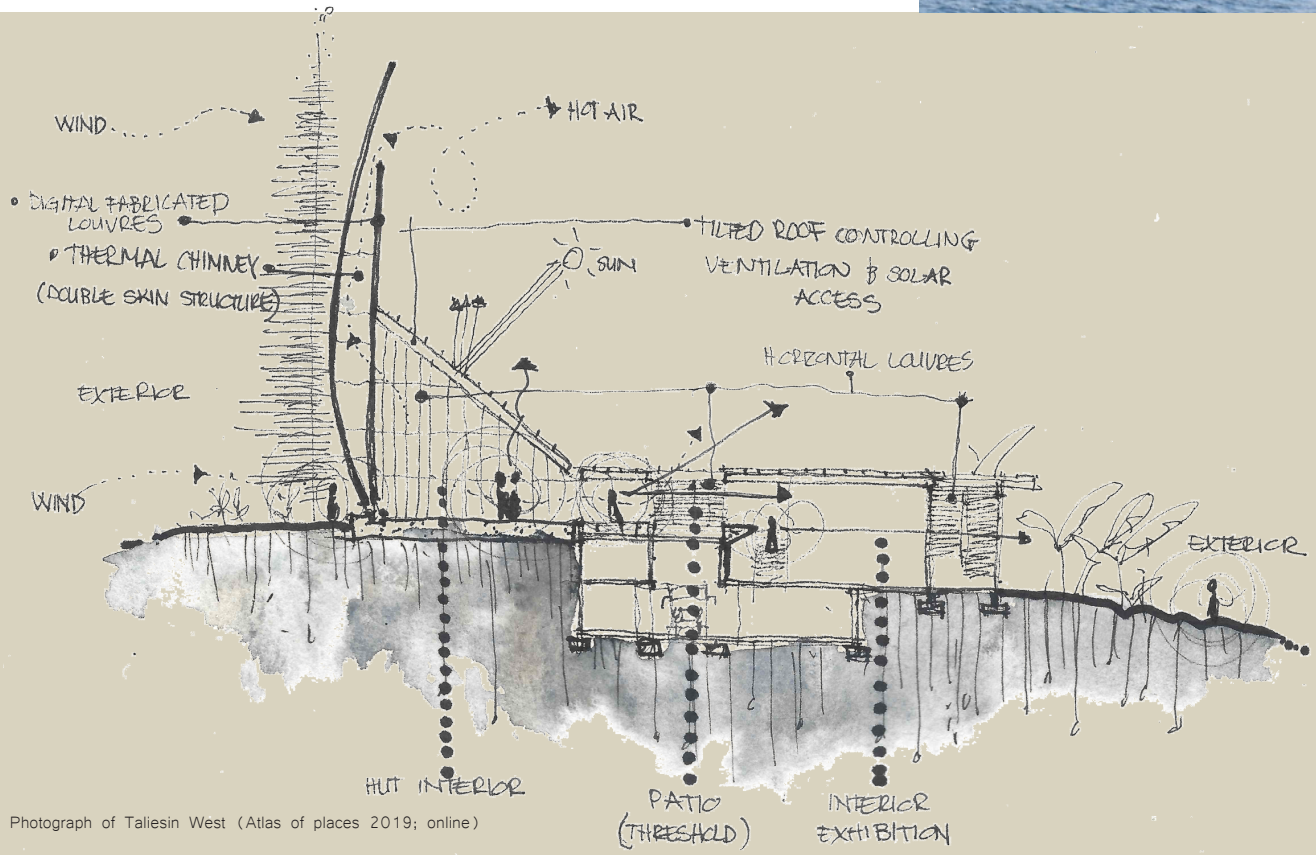


Figure 2.7.17: Photograph of Taliesin West (Atlas of places 2019; online)

Conclusion

Investigating this precedent mainly informed the spatial requirements needed for a cultural centre that celebrates the native and indigenous artistic expertise as reinterpreted through critical regionalism.

The investigation not only informed the spatial layout and clustered topography of the proposed project, but also the thresholds and circulation through, to and from the allocated functions.

This precedent also reveals how the spatial layout can play a big part in how it can become a dependent building with regards to passively regulating the air flow.

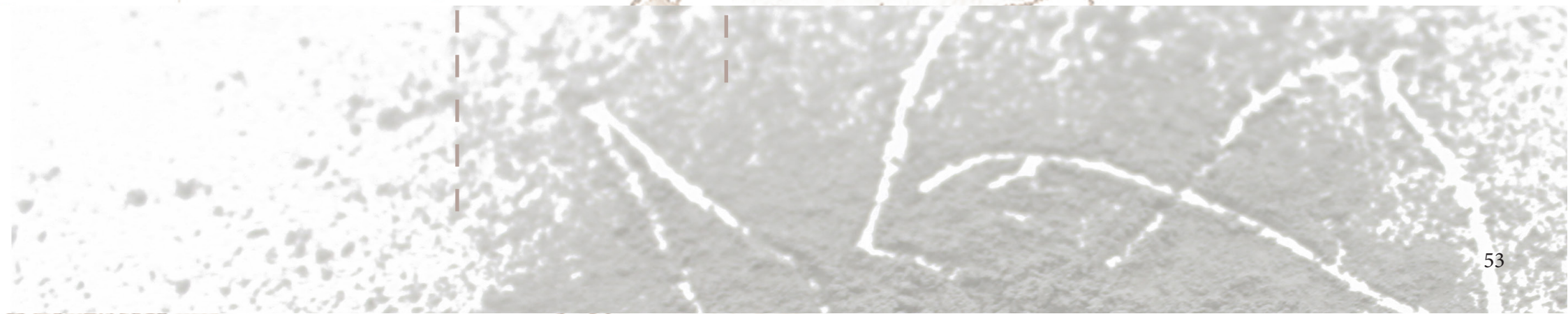
2.8.
CONCLUSION

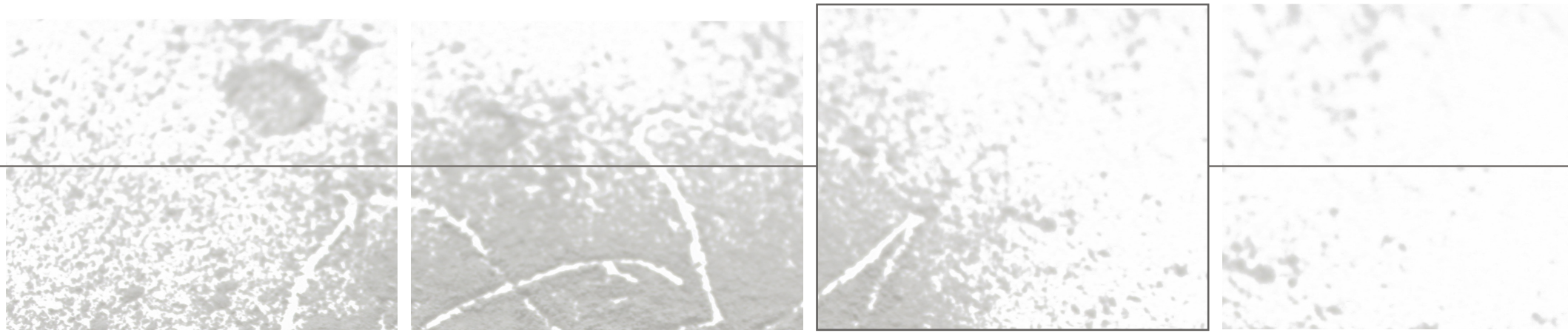
TOWARDS A DESIGN METHODOLOGY

The research part of the dissertation serves as the foundation upon which the design development and methodology is built. It introduced important methods on how project aims can be achieved. The most important aim is for the scheme to embody the essence of the “Rieldans”, and the foregoing research revealed various ways in doing this.

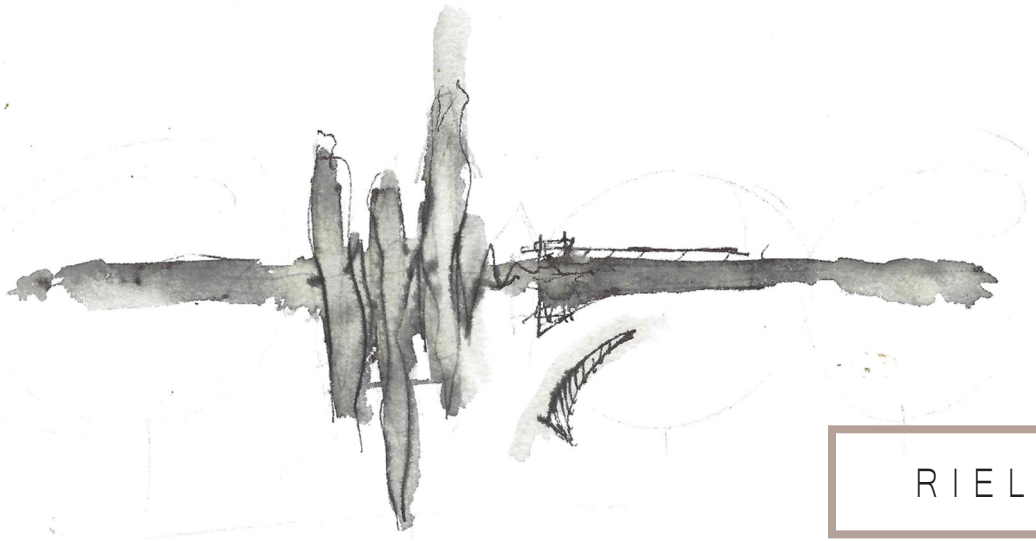
Topology of the design will explore ways in which to represent the fast, energetic, and explosive aesthetic of the “Rieldans”, and grow from the surface of the earth to morph into a cultural mark that displays a Nama-Khoi presence to its audience.

Climate response serves to validate theory, construction and design integration, where in the end all members of the fourfold become participants in the Riel.





PART 3



3.1.
DESIGN DEVELOPMENT
ACCOMMODATION LIST

The Accommodation list for the proposed project is inspired by the subject matter of the "Rieldans", which include topics dealing with culture, education and/or social events.

RIELDANS

CULTURAL

Public entrance
Visitor entrance
Reception
Foyer
Public restroom

Garden shop
Craft shop
Other shops

Restaurant kitchen
Restaurant seating (indoor & outdoor)
Storage
Service courtyard

EDUCATIONAL

Multi-functional studio
Storage
Offices
Lounge
Kitchenette

Exhibition space 1 (Namaqualand)
Exhibition space 2 (Nama art)

Exterior:
In-between courtyards
Exhibition 3 (land art, sculptures)

3.1.
DESIGN DEVELOPMENT
FIRST CONCEPTUAL DIAGRAMS

Layering of the design concepts (Fig. 3.a – 3.b) on the existing footpaths found on site was done to develop the first conceptual parti diagram (Fig. 3.c – 3.d) and model (Fig. 3. e). This parti diagram was further developed into the first plan as an attempt to achieve desired project outcomes.

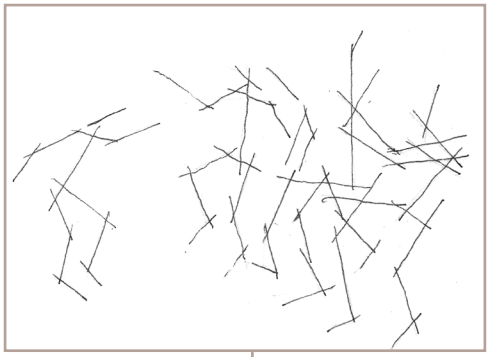


Figure 3.a: Concept diagram: Embodied Riel

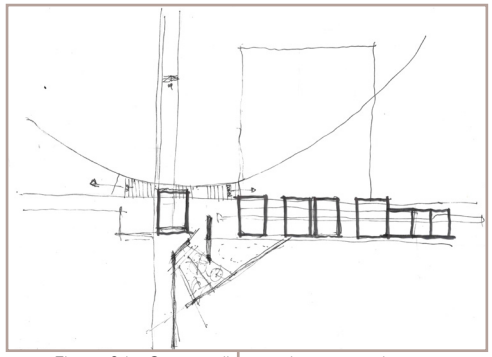


Figure 3.b: Concept diagram: Interwoven detour

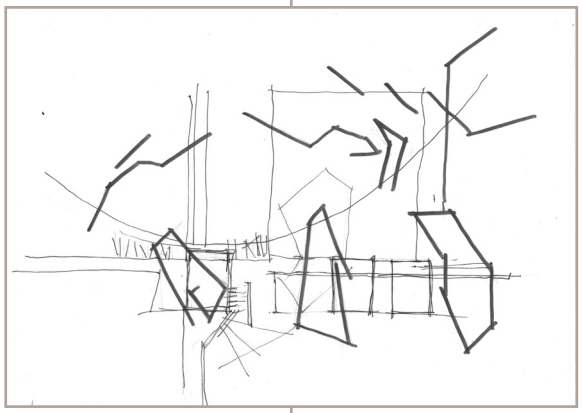


Figure 3.c: Layering of the above diagrams

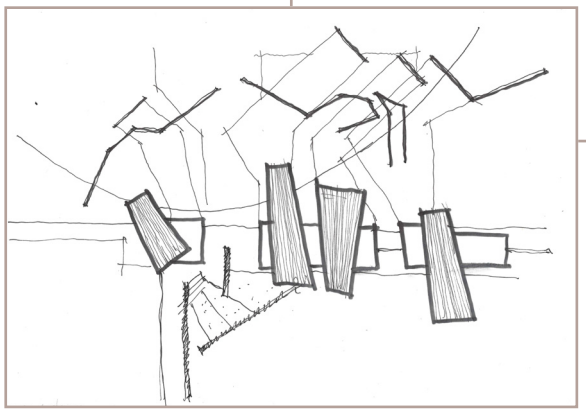


Figure 3.d: Developing the layered diagram into a parti

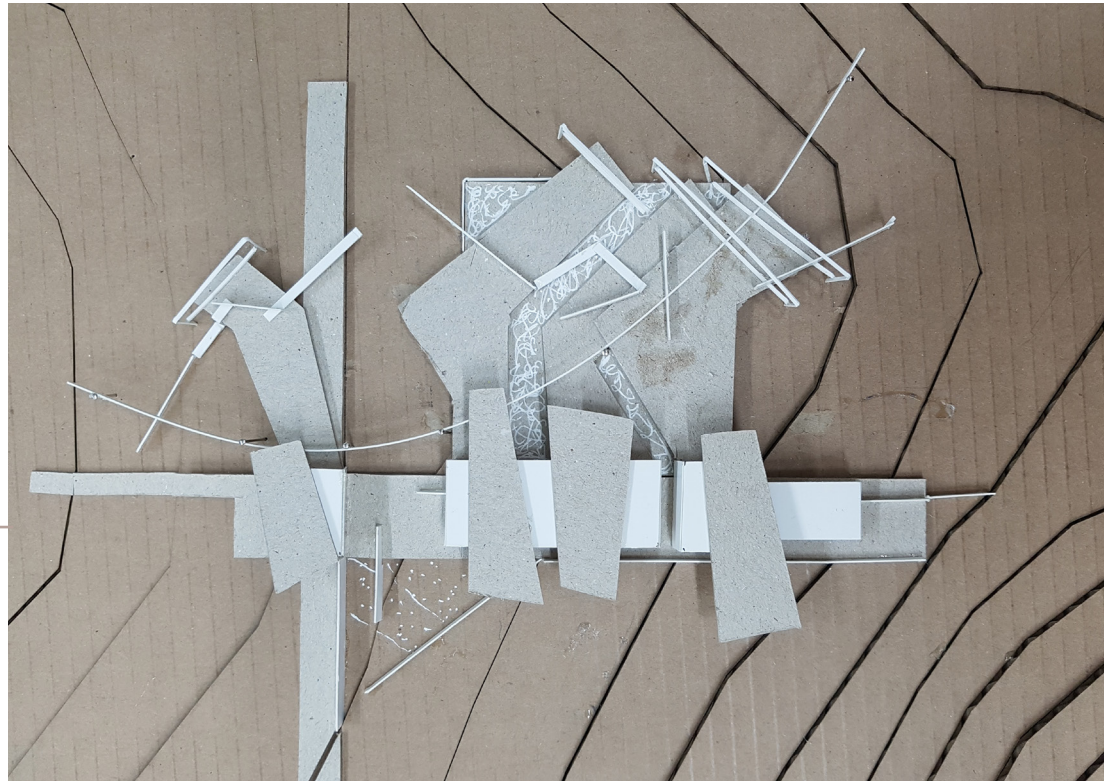


Figure 3.e: First conceptual model

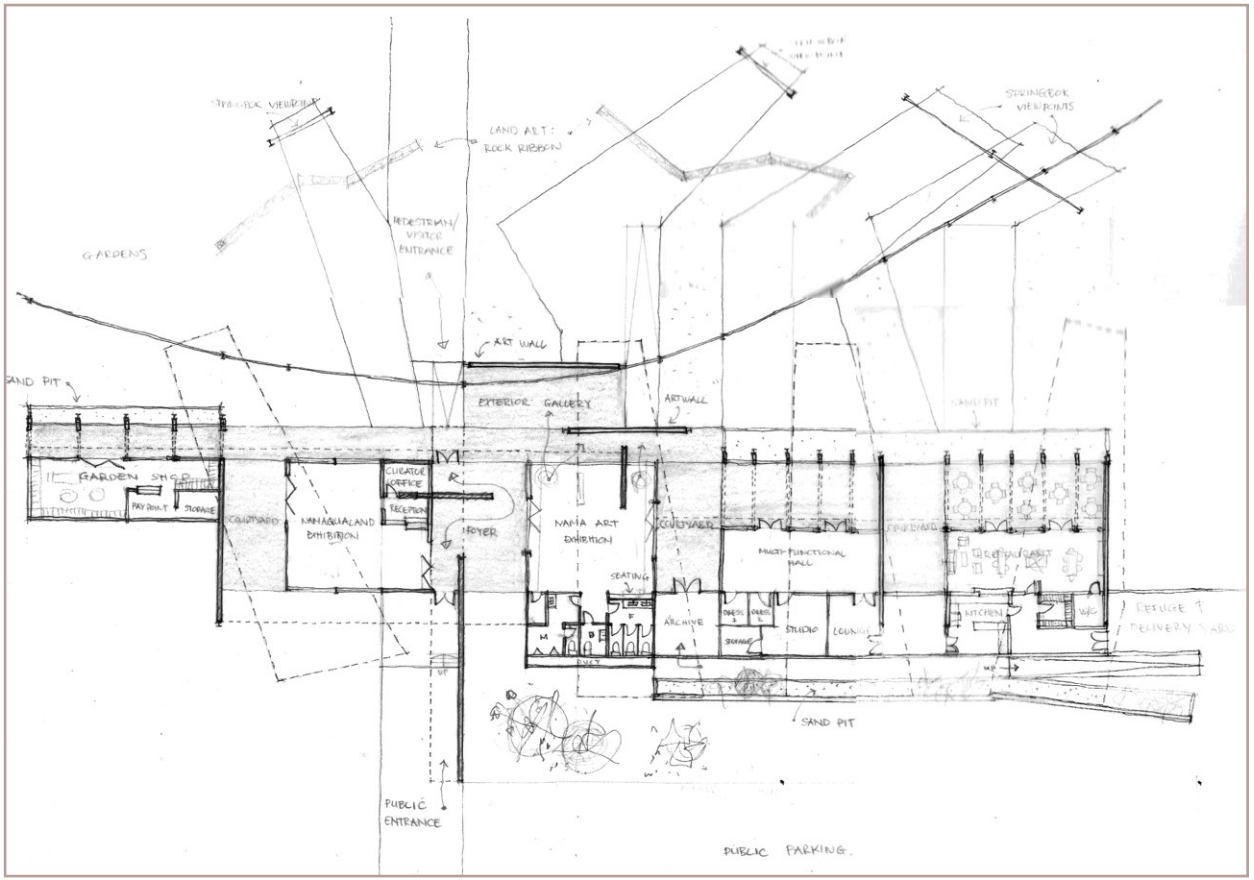


Figure 3.2: First initial floor plan

From the previous explorations, the first plan was developed (Fig. 3.2). Service are located as a strip on the southern side to serve main functions which opens up towards the north (Fig. 3.3). Scattered walls (Fig. 3.5) refer to a 'moment of pause' when earth start to scatter from the Riel. These walls form exhibition spaces and in-between areas, which allow for natural ventilation throughout the scheme and opportunities to integrate interior and exterior. The energetic rhythm of the dance is interwoven in the 'paused moment'.

Shortcomings with the planning:

- The rhythm portrayed in the planning does not speak the same language as the rhythm of the "Rieldans".
- The land art or sculpted pathways are not integrated well within the planning and does not have a significant function that corresponds with the building.
- Needs to be more natural and organic.
- Atmosphere of the 'dust' is lacking and plan is not dancing yet.

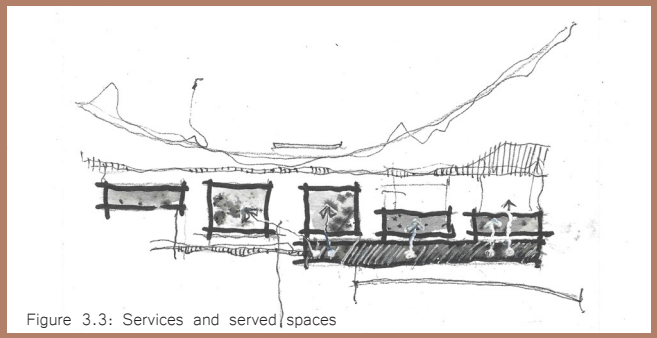


Figure 3.3: Services and served spaces

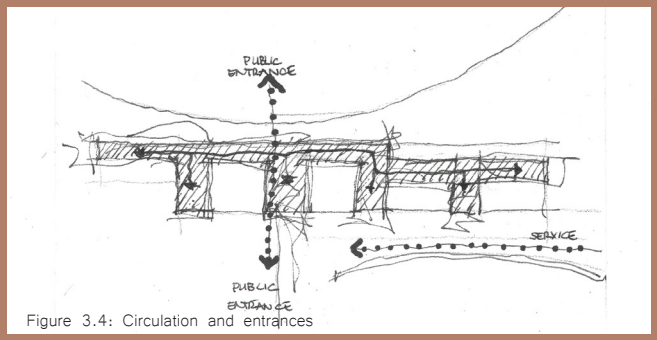


Figure 3.4: Circulation and entrances

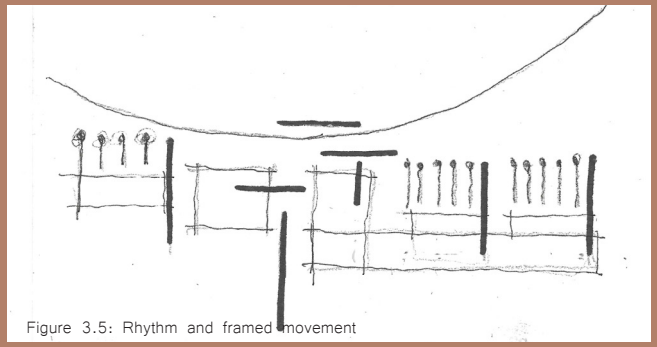


Figure 3.5: Rhythm and framed movement

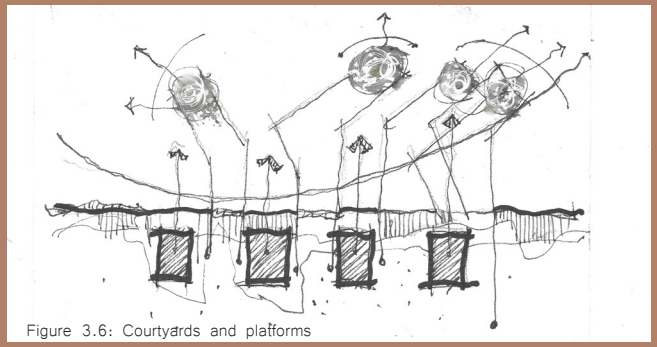


Figure 3.6: Courtyards and platforms

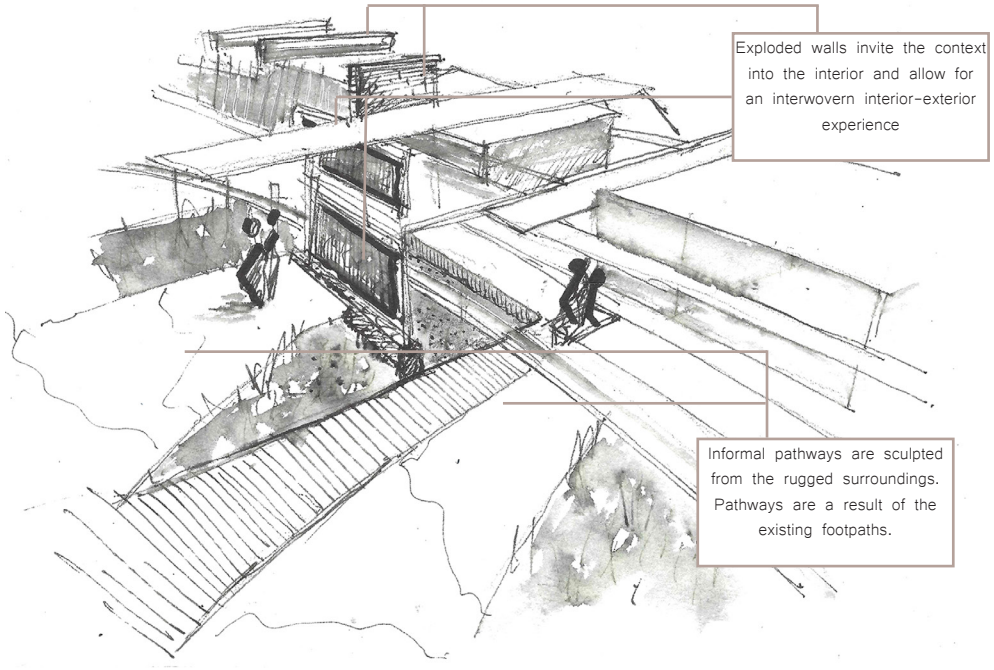


Figure 3.7: Perspective showing scattered walls that create in-beteween spces

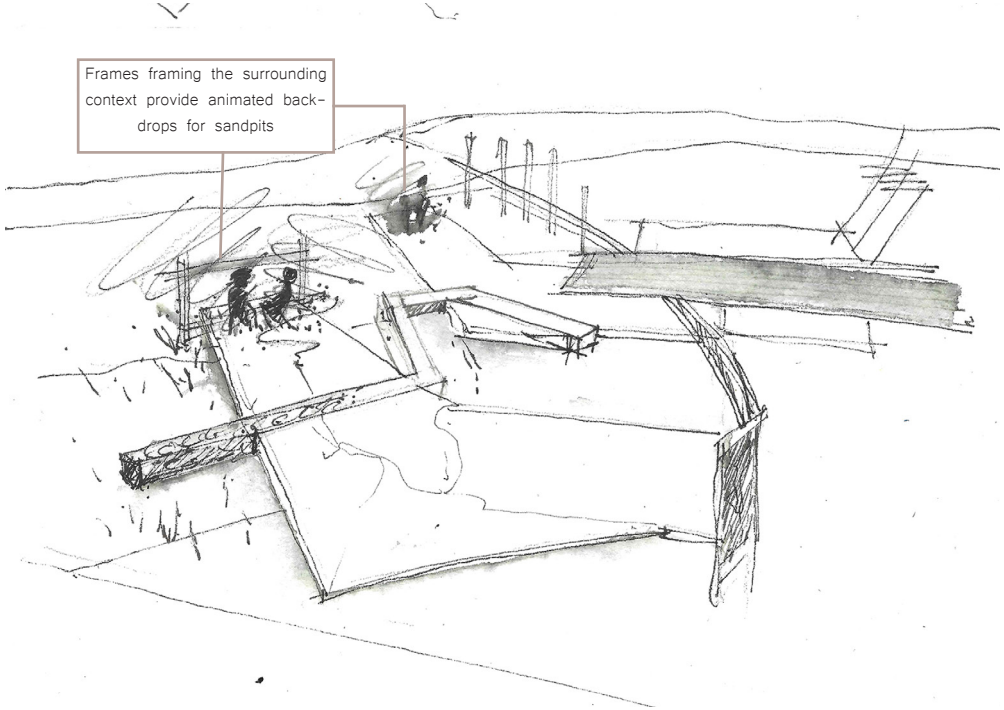


Figure 3.8: Perspective - earth is sculpted to form walkways and courtyards

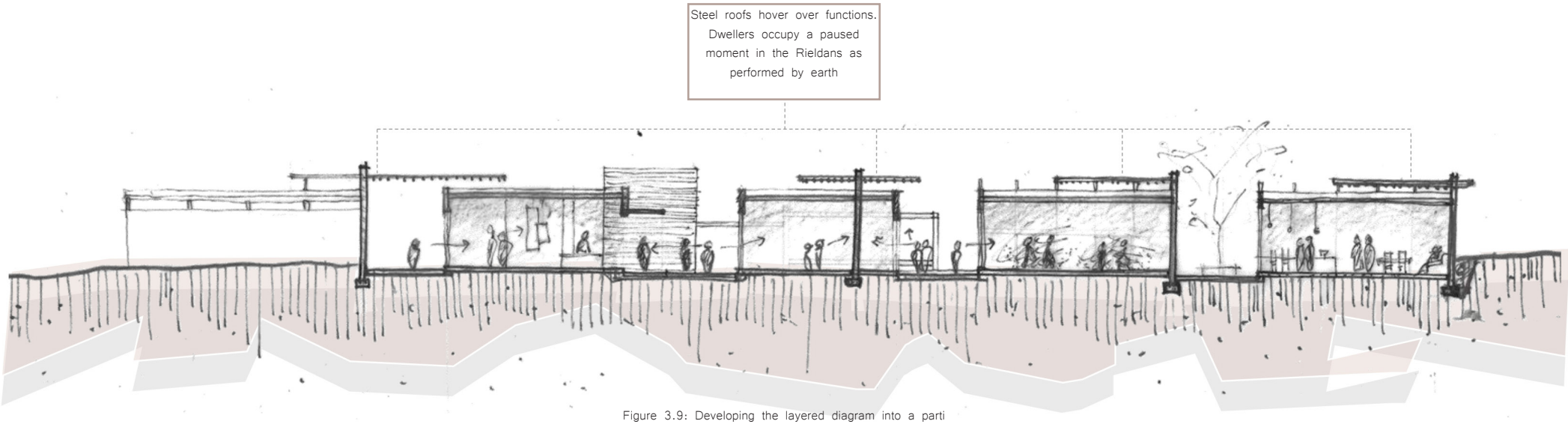


Figure 3.9: Developing the layered diagram into a parti

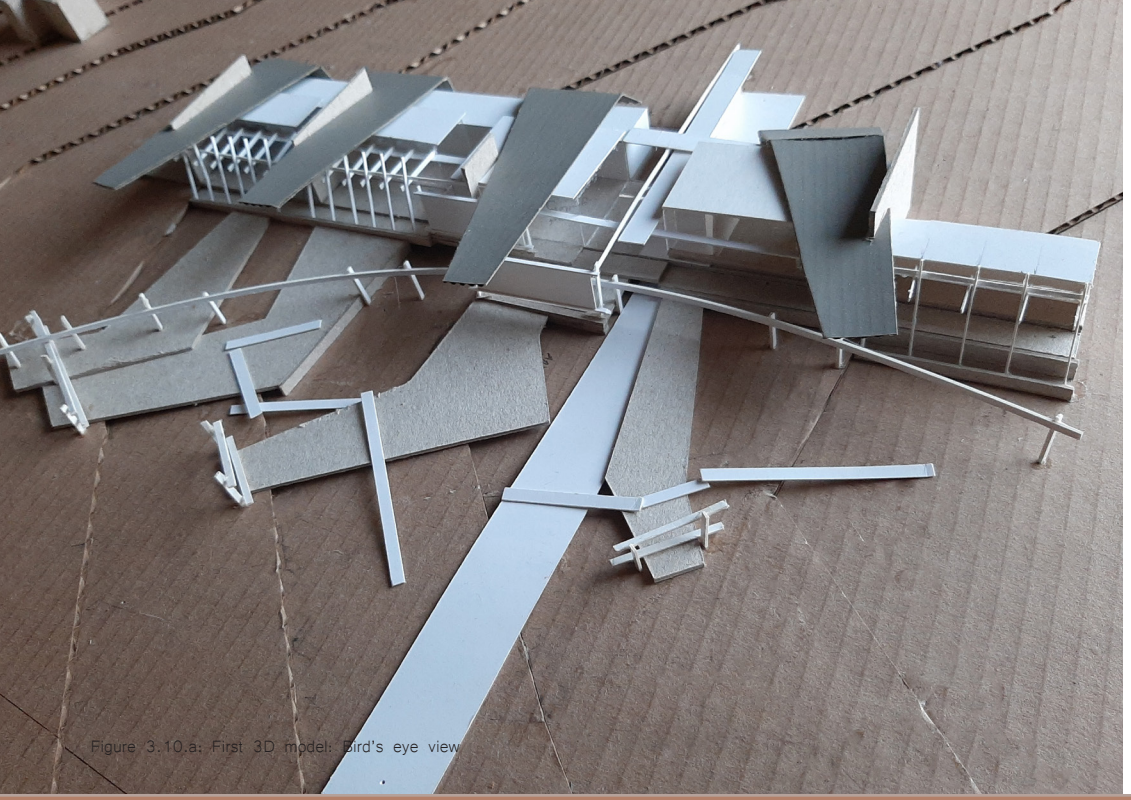


Figure 3.10.a: First 3D model: Bird's eye view

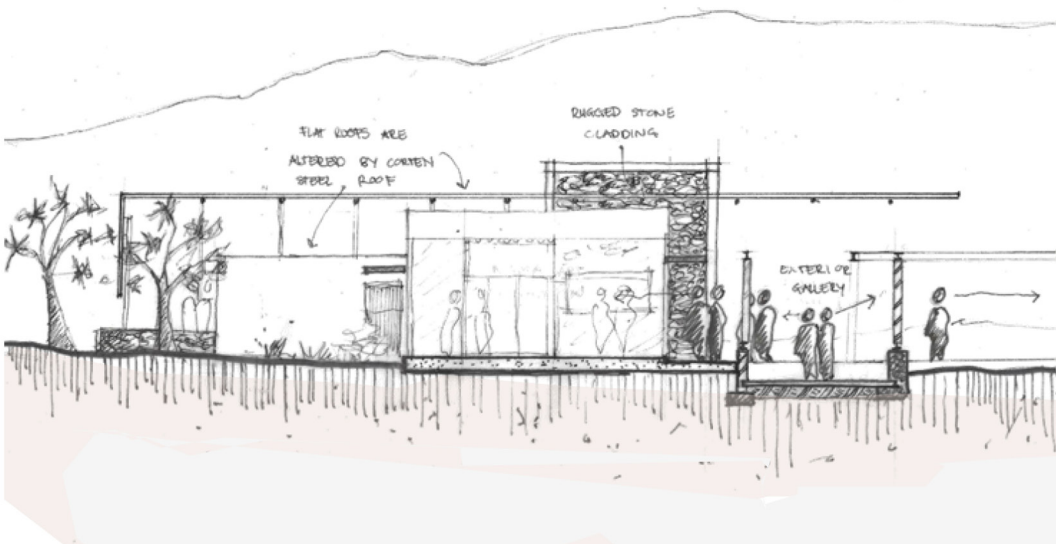


Figure 3.11: Developing the

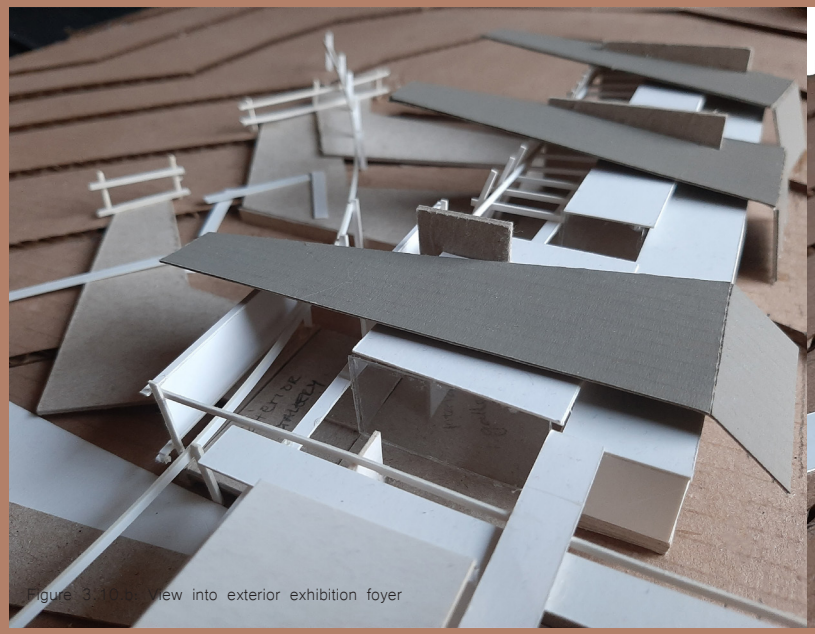


Figure 3.10.b: View into exterior exhibition foyer

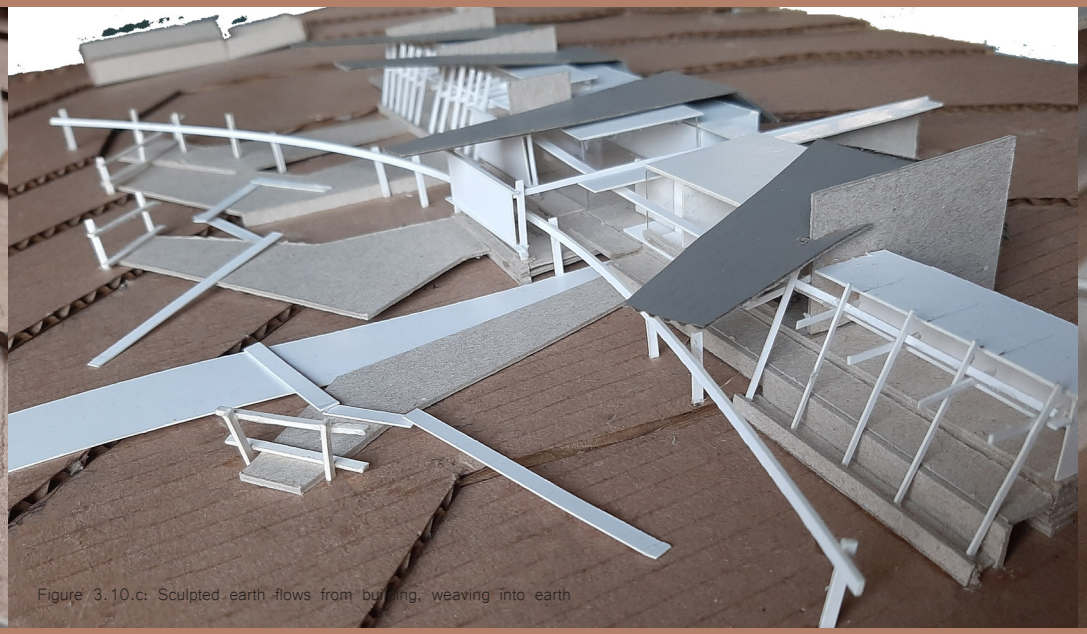
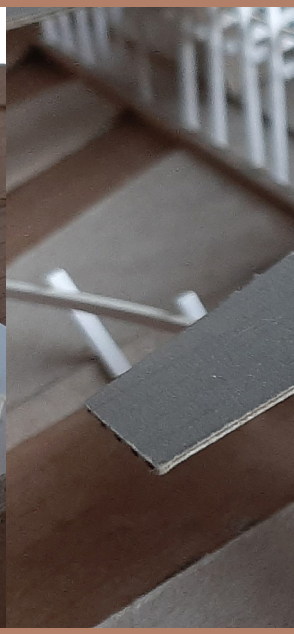
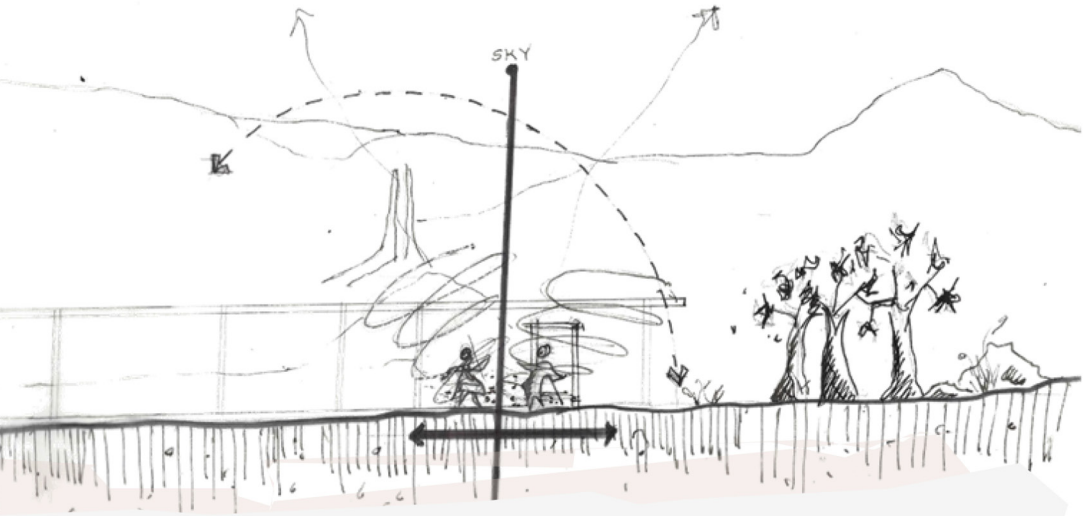


Figure 3.10.c: Sculpted earth flows from building, weaving into earth





layered diagram into a parti

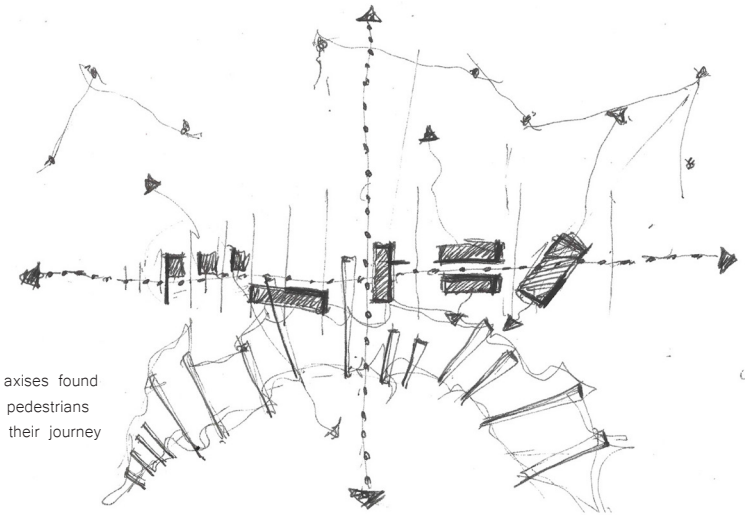
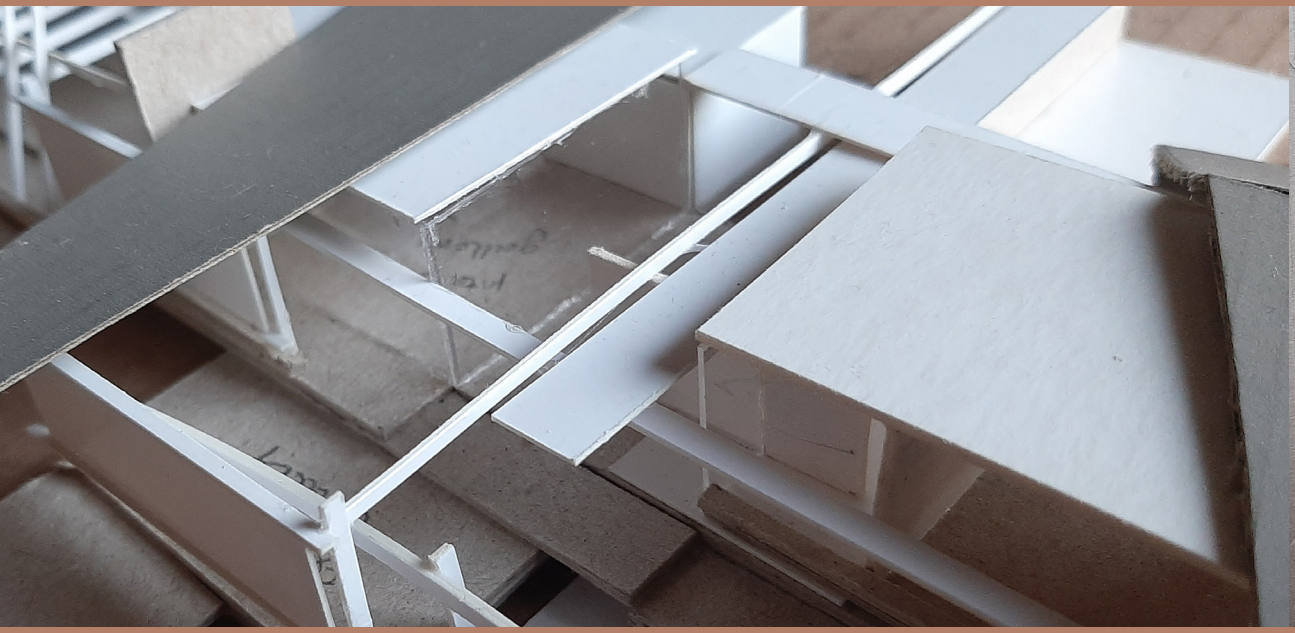
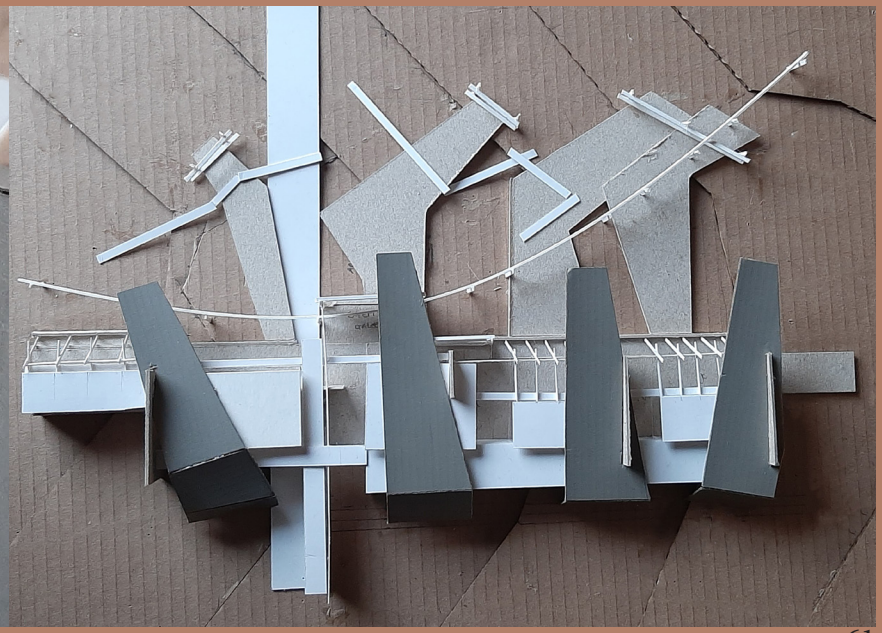


Figure 3.12: 2 main axises found in existing footpaths. pedestrians experience scheme on their journey

The photographs shows the first physical 3D-model. Corten steel roofs cut through penetrating desert masonry walls, and alter the flat roofs below. The reason for the choice of material, is to use similar textures, colors and materials available and found within the surrounding context and site. Rhythmic steel pergolas penetrate into the earth, referring back to the foot work of the “Rieldans”.





3.1.
DESIGN DEVELOPMENT
IMPROVEMENT ON FIRST DEVELOPMENT

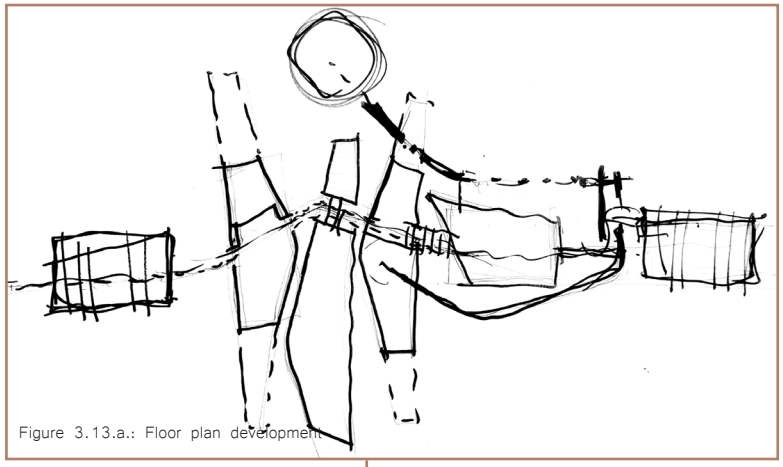


Figure 3.13.a.: Floor plan development

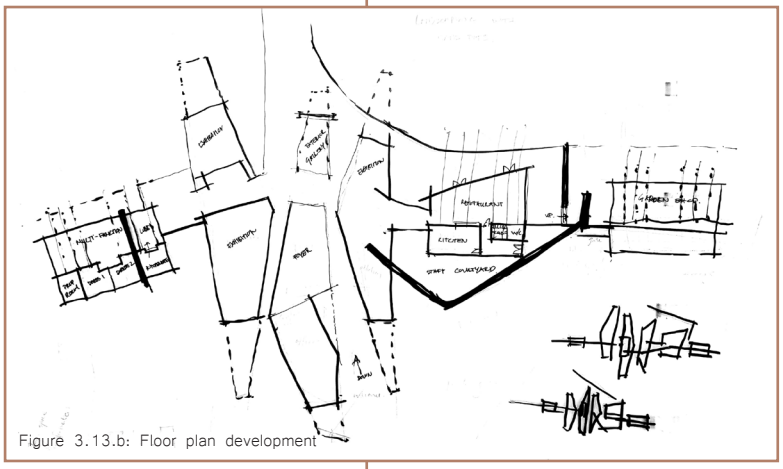


Figure 3.13.b: Floor plan development

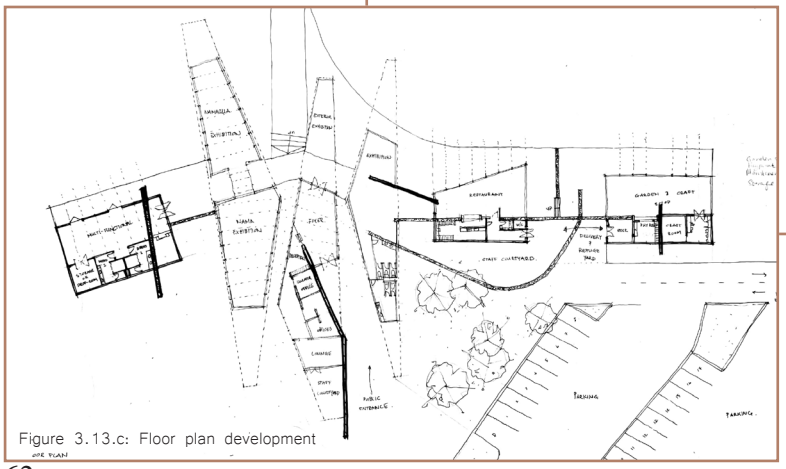
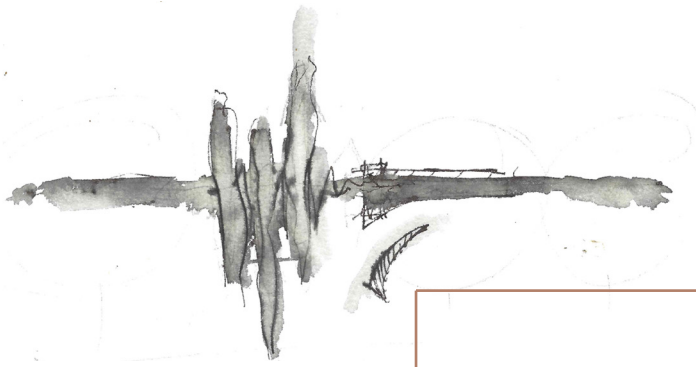


Figure 3.13.c: Floor plan development



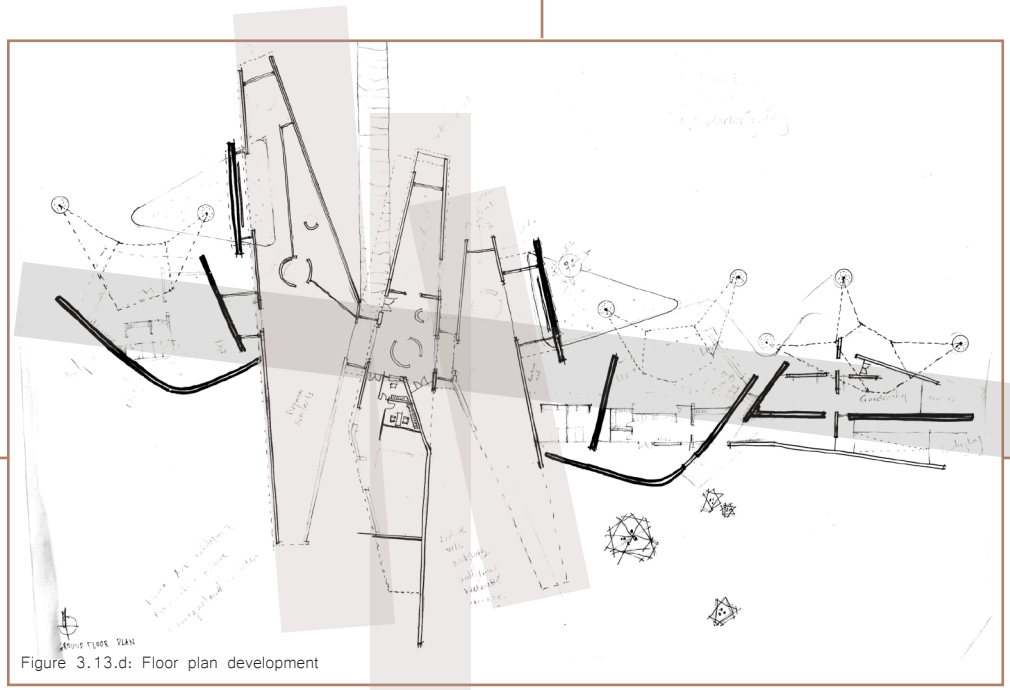


Figure 3.13.d: Floor plan development

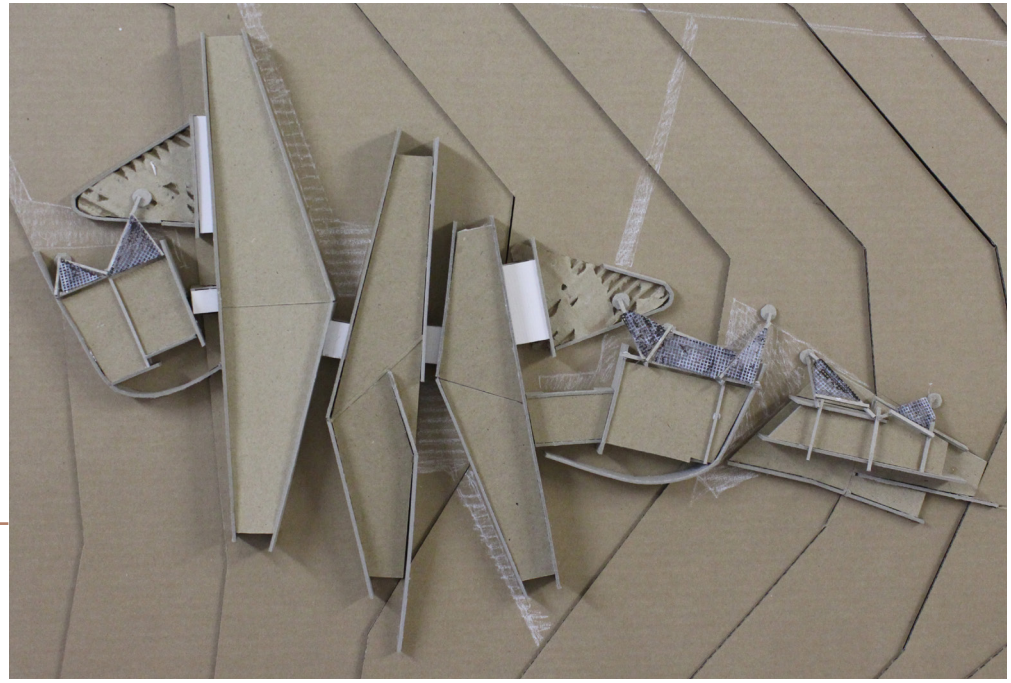


Figure 3.14: 3D model development

Figure 3.13.e: latest floor plan development

The new development approach, revisits the Rieldans, and alters the previous exploration to resemble the topography of the Riel footprint. The plan is divided into three sections: The point of hierarchy functions as exhibition spaces through which an axis runs to separate private and public functions. Services are still located on the south, with main functions living out toward the north. These main functions rest between thick desert masonry walls.

The thick desert masonry walls grow from the earth and host services. The most important service occupied in the walls are the rock store's shafts and chimneys, which is used for both ventilation and to cause movement of the Latex dust curtain exhibitions. The rock store is located beneath a suspended floor slab supported by dwarf walls.

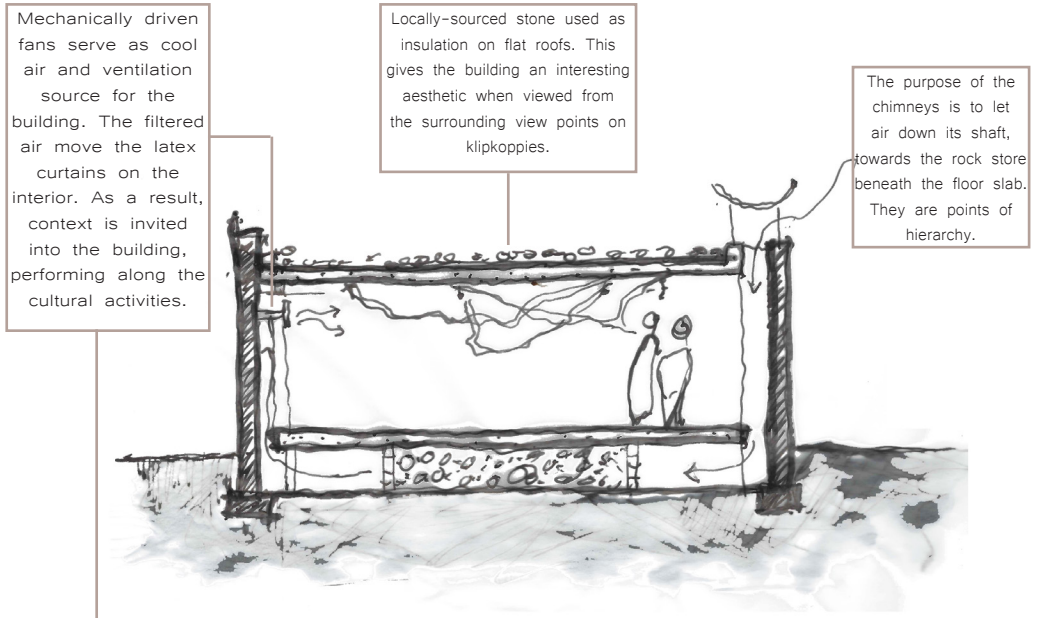


Figure 3.15: Short section exploring design, construction and theory intigration

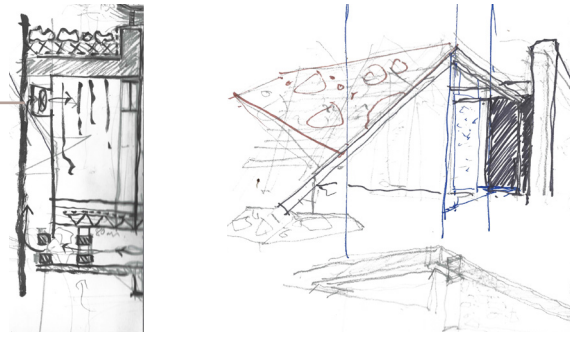


Figure 3.16: Construction detailing and explorations

3.1.
DESIGN DEVELOPMENT

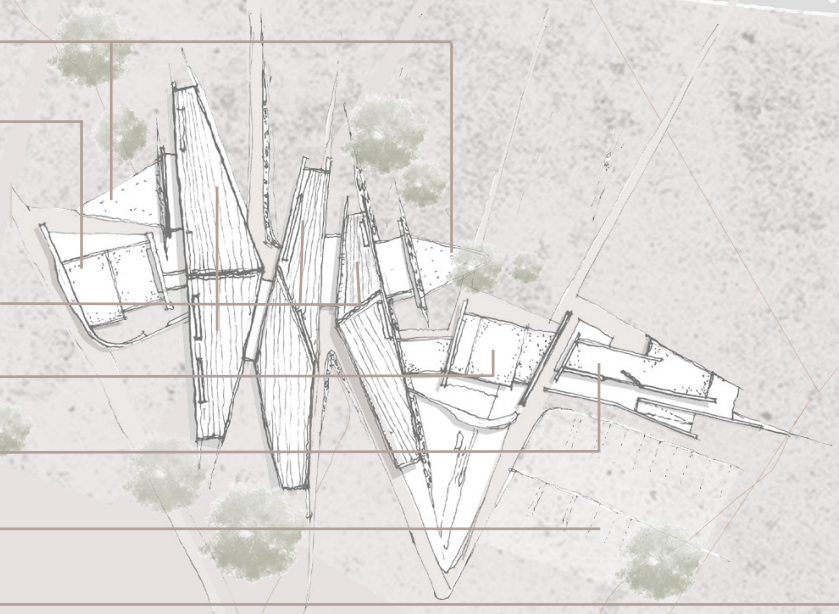
RESIDENTIAL

KOKKERBOOM PARK

EAST ENTRANCE TO SPRINGBOK

SAND PITS

MULTI-FUNCTIONAL



GALLERY

RESTAURANT

GARDENSHOP

INFORMAL PARKING

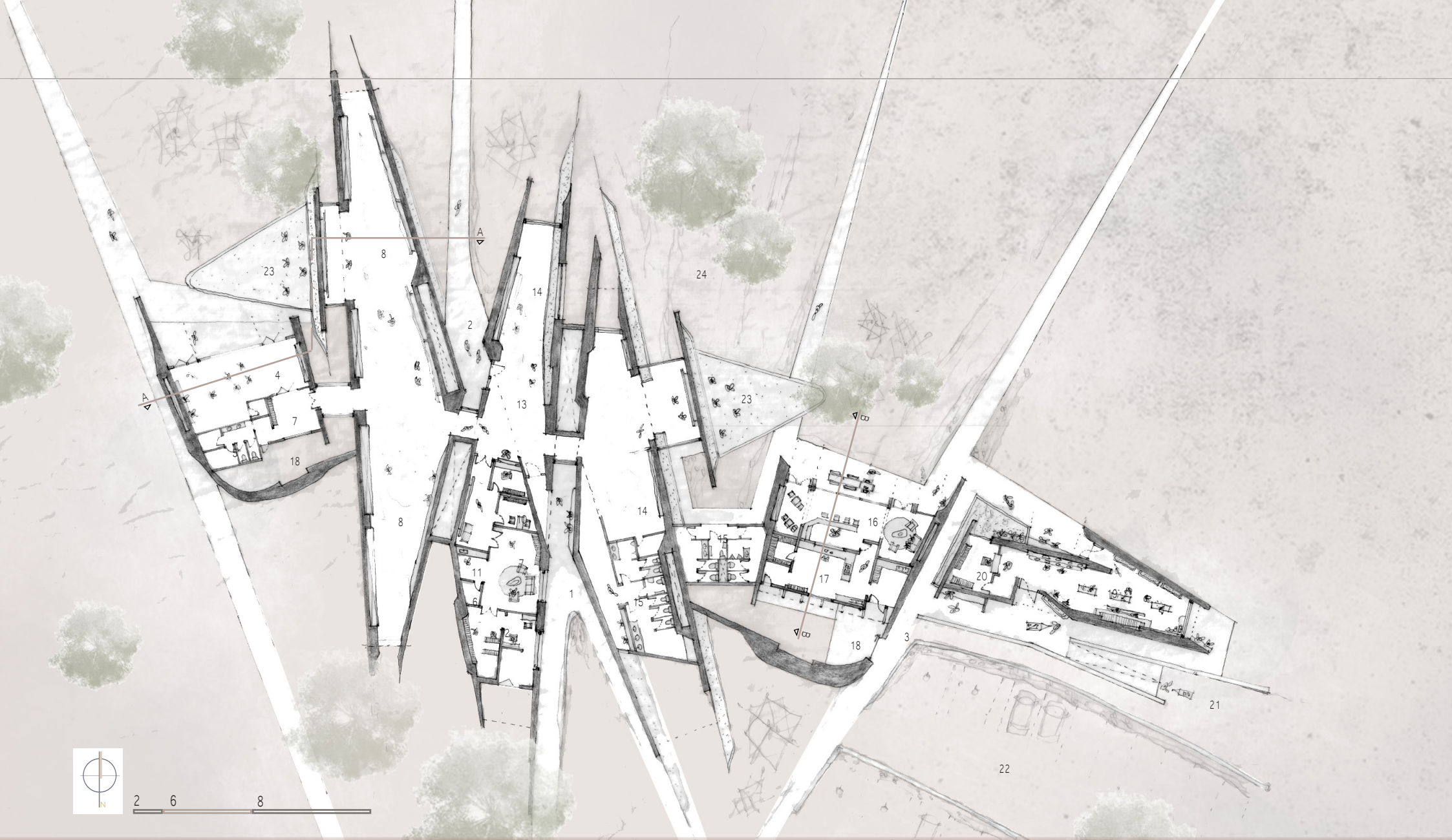
ENTRANCE TO SITE

7 12 15

LOCALITY PLAN

Nama-Khoi Art and Culture exhibition complex

1. Main entrance
2. Pedestrian entrance
3. Secondary entrance
4. Multi-functional
5. Dressing rooms
6. Storage
7. Lounge
8. Nama curtain exhibition
9. Reception
10. Curator's office
11. Kitchenette
12. Semi-public archive



GROUND FLOOR PLAN

Nama-Khoi Art and Culture exhibition complex

13. Foyer
14. Exhibition
15. Rest room
16. Restaurant
17. kitchen
18. Service yard
19. Garden shop
20. Pay point
21. Loading bay
22. Informal parking
23. Sand pits
24. Land art exhibition
25. Hallway

PERSPECTIVE: RESTAURANT EXTERIOR AND INTERIOR

SECTION B-B

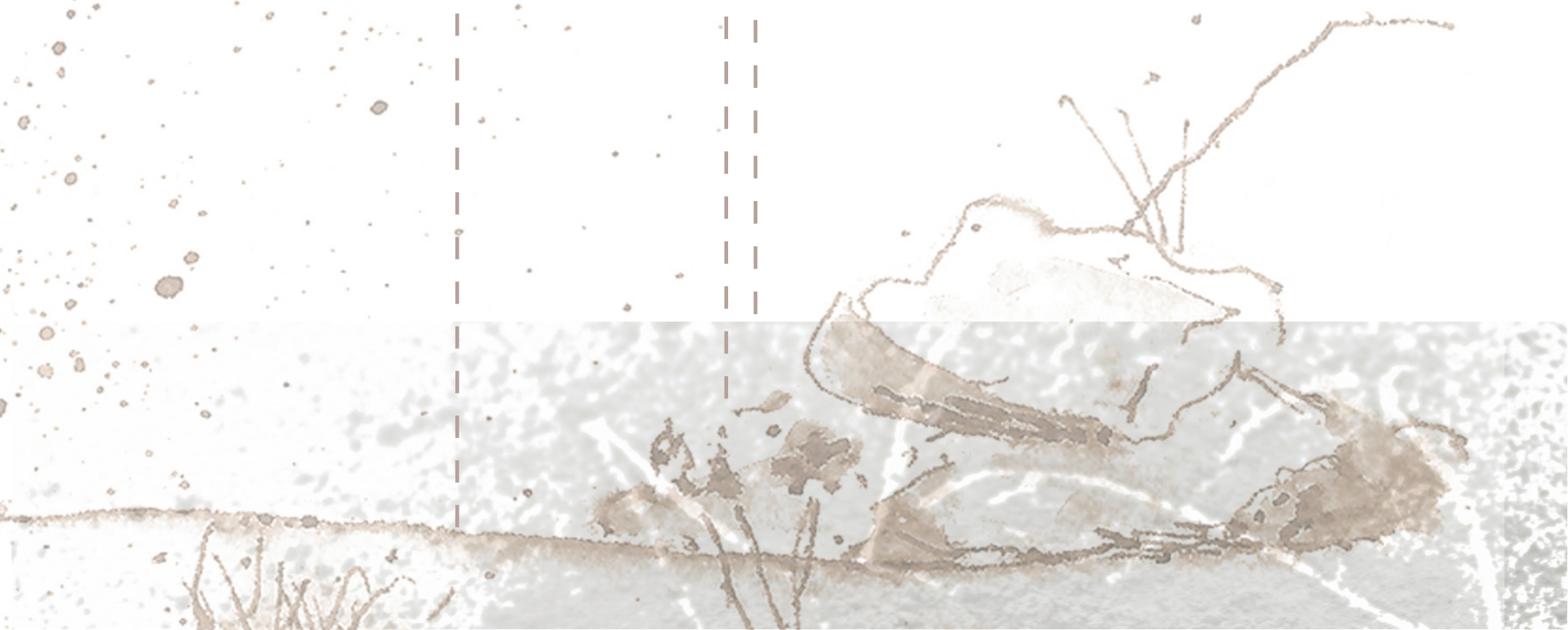
Social space: Restaurant

1. Restaurant interior
2. Kitchen
3. Service yard

3.1.
DESIGN DEVELOPMENT

Nama-Khoi Art and Culture exhibition complex

Final renders



3.1.
DESIGN DEVELOPMENT

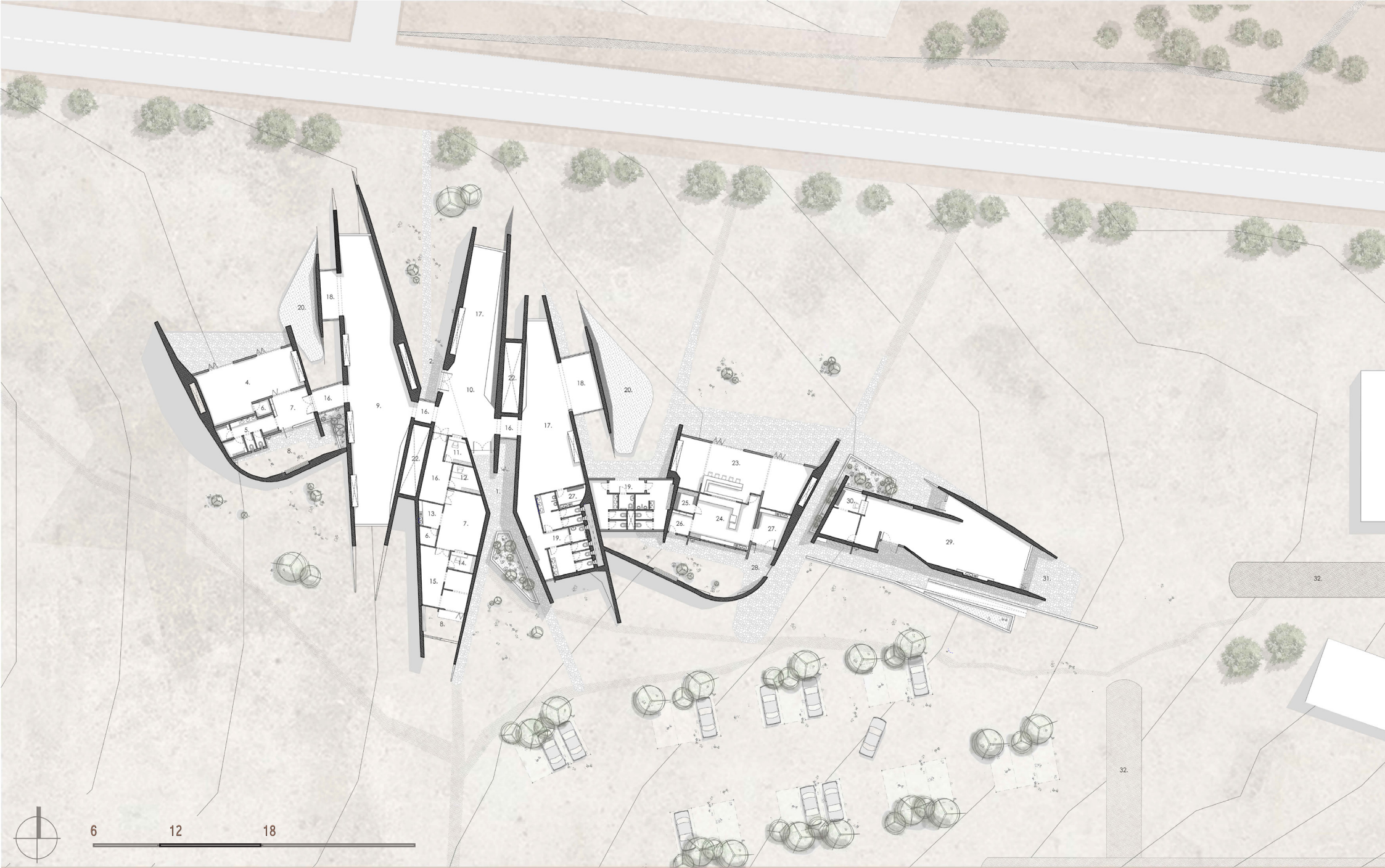
Nama-Khoi Art and Culture exhibition complex

Final renders

Locality plan

Scale 1:500

1. Dutch Reformed Churuch
2. Kokkerboom Park
3. Cape-Namibia Route (N7)
4. Voortrekker Street (N14)
5. Sport grounds
6. Existing footpaths
7. Existing gravel road
8. Informal parking
9. Nama Arts and Culture Exhibition
10. Sand pits
11. Multi-functional hall
12. Public restrooms
13. Restaurant
14. Garden shop
15. New gravel road ans entrance to site

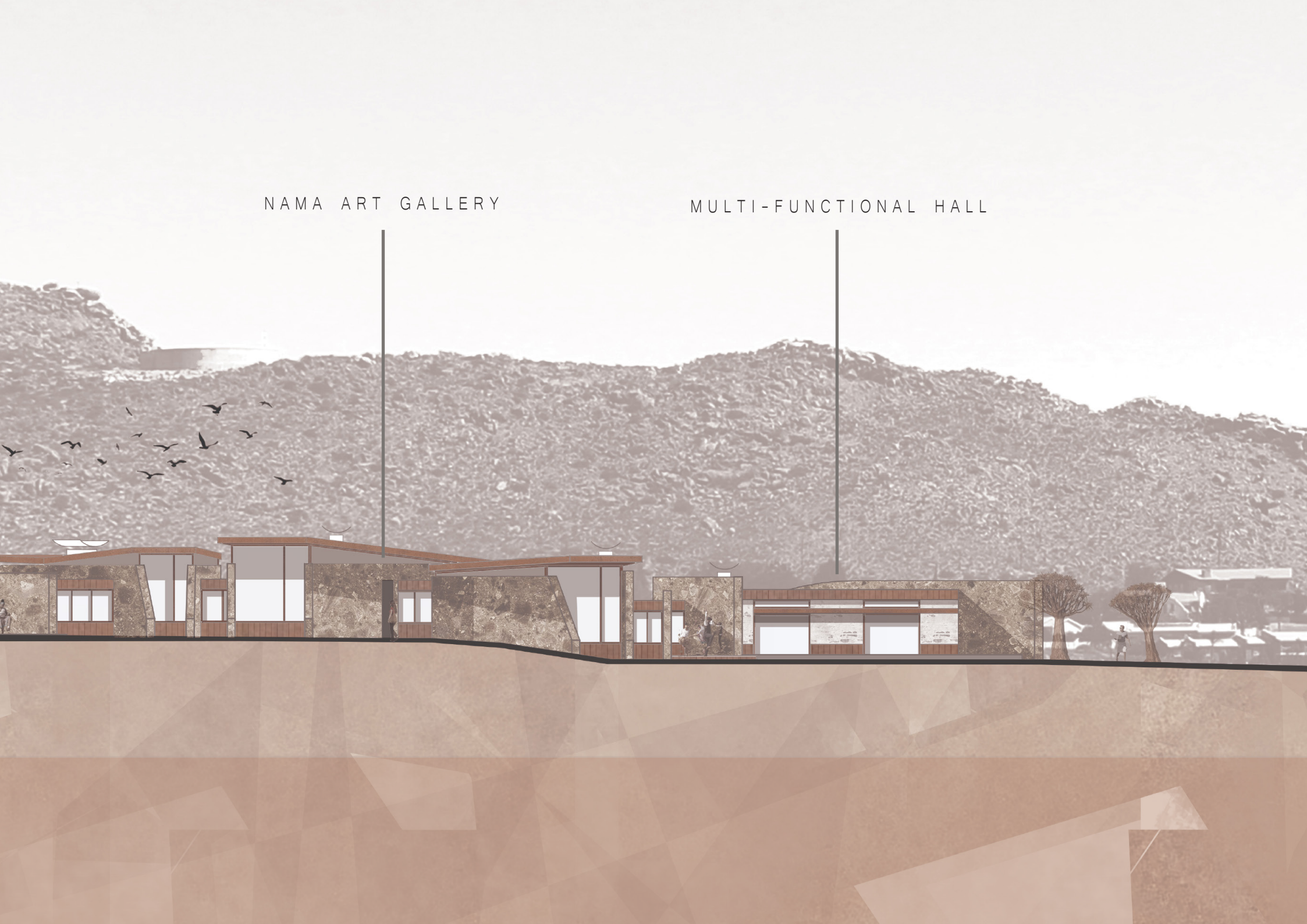


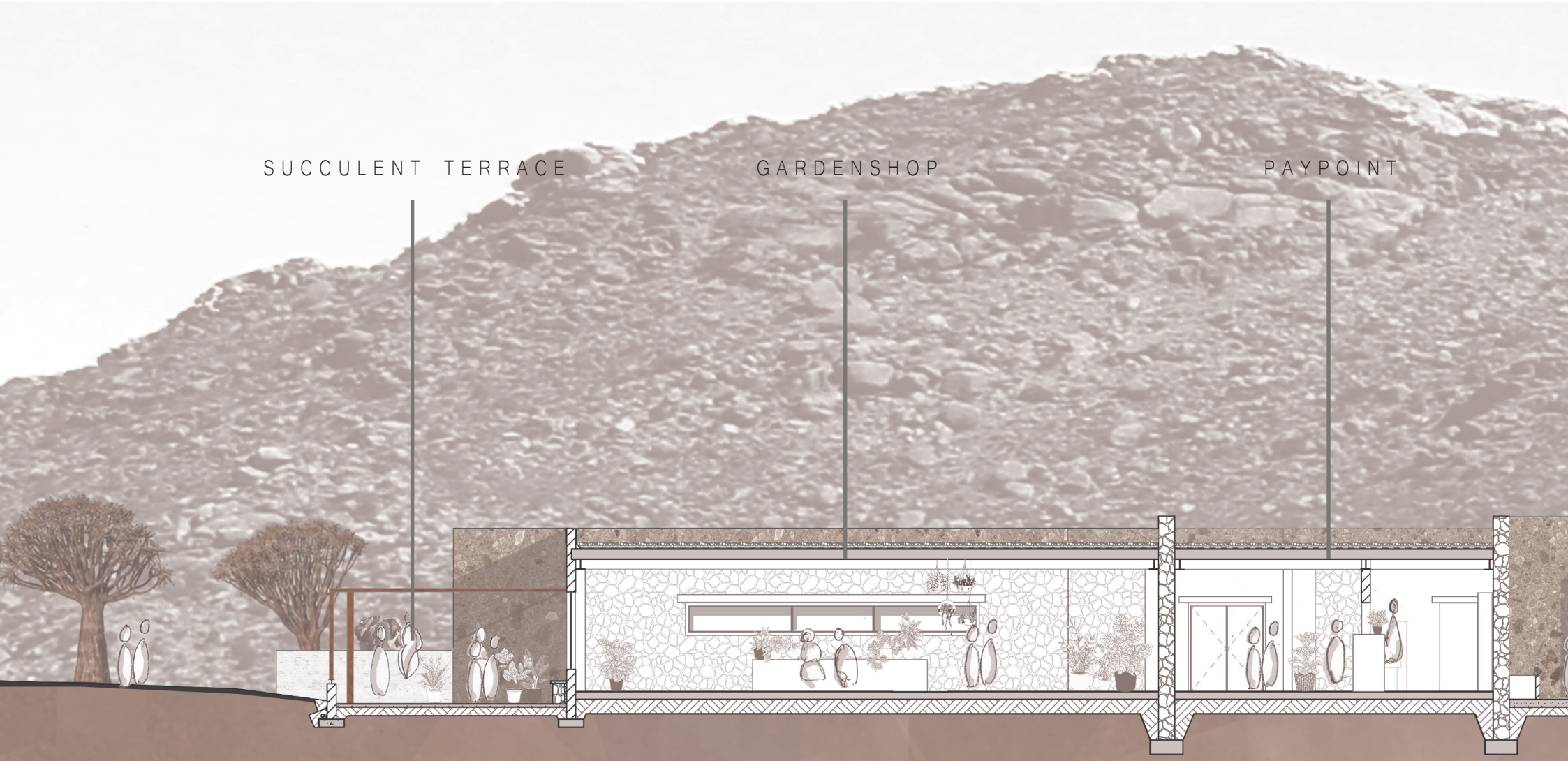
Ground floor plan

Scale 1:200

1. Main entrance
2. Pedestrian entrance
3. Secondary entrance
4. Multi-functional hall
5. Dressing rooms
6. Storage
7. Lounge
8. Courtyard
9. Nama curtain exhibition
10. Foyer
11. Reception
12. Curator's office
13. Kitchenette
14. Archivist office
15. Semi-public archive
16. Hallway
17. Exhibition space
18. Viewing area
19. Restrooms
20. Sandpit
21. Informal parking
22. Ventilation shaft
23. Restaurant seating
24. Kitchen
25. Cold storage
26. Locker room
27. Cleaner's storage
28. Delivery and refuge yard
29. Garden shop
30. Pay-point
31. Succulant terrace
32. Gravel road

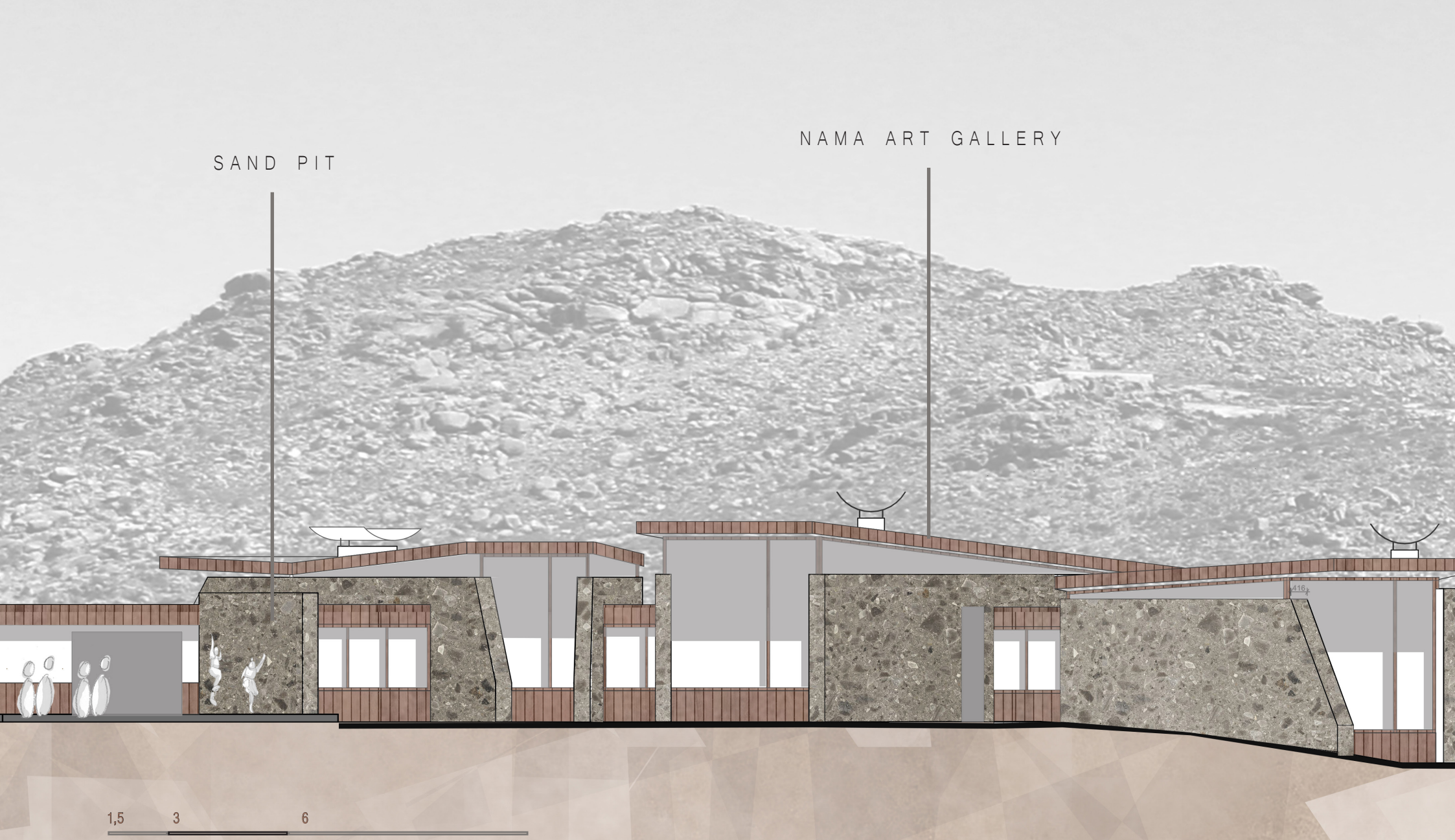
NORTH ELEVATION


NAMA ART GALLERY
MULTI-FUNCTIONAL HALL



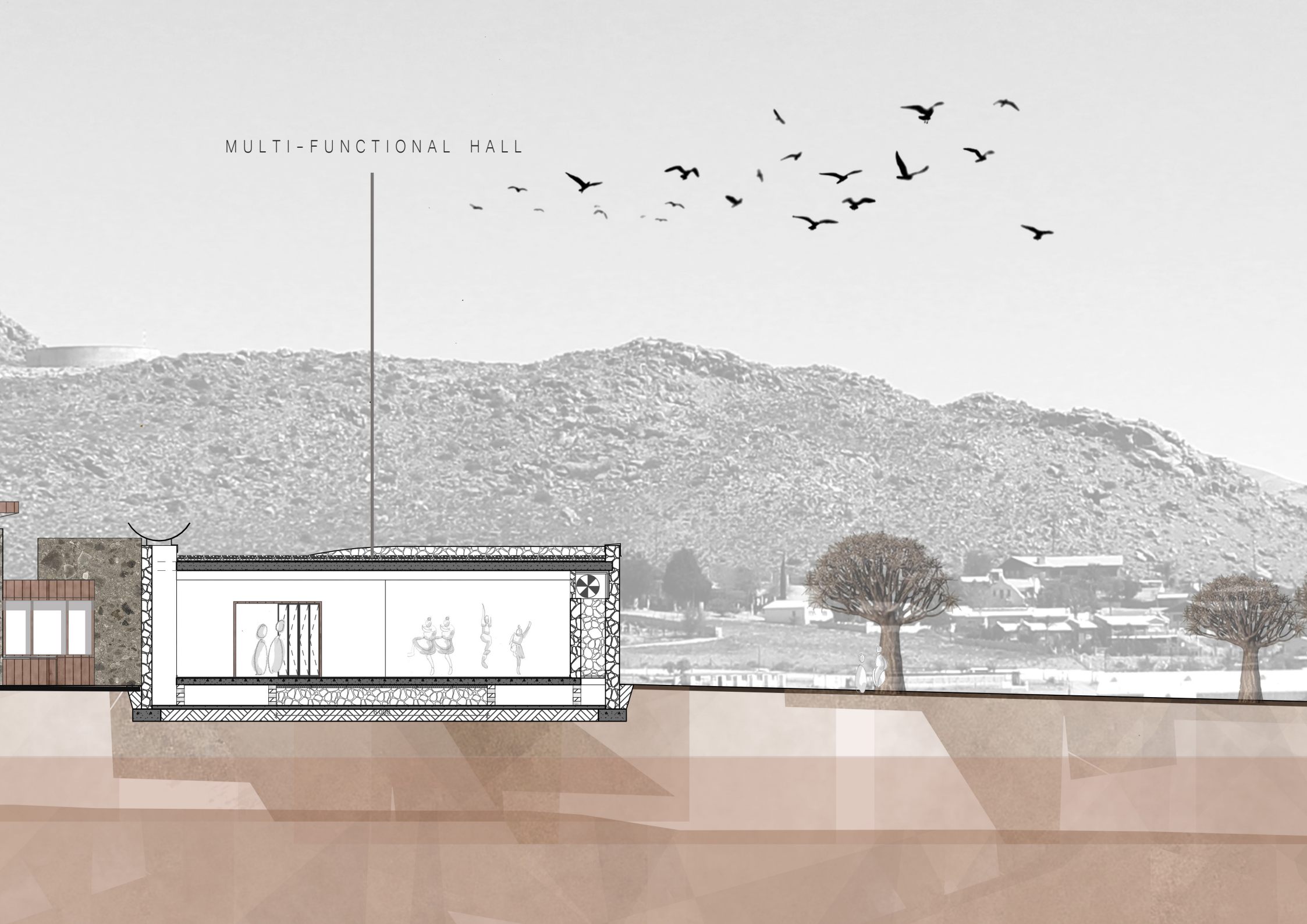
SECTION THROUGH GARDEN SHOP AND RESTAURANT

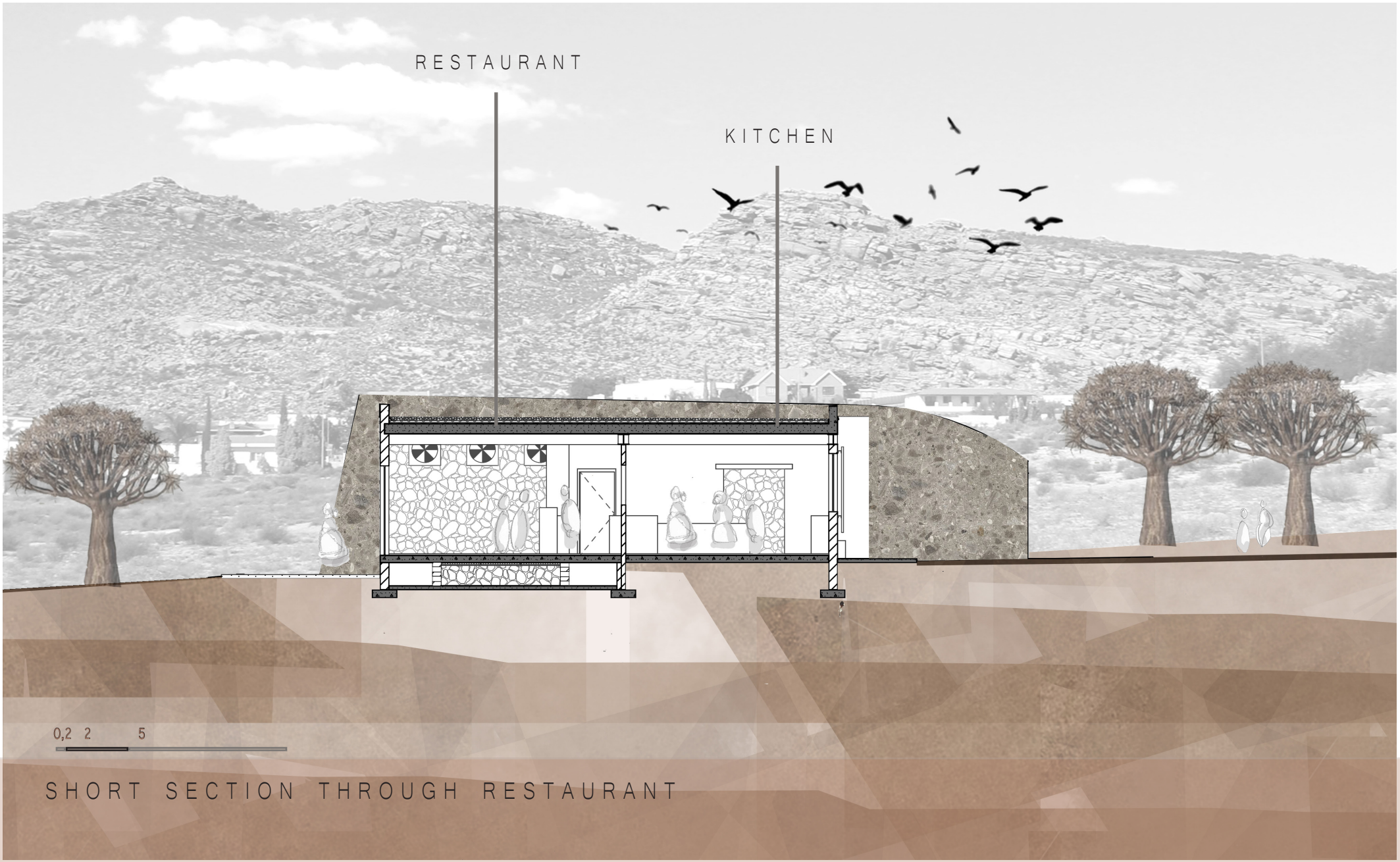

RESTAURANT
PUBLIC RESTROOMS



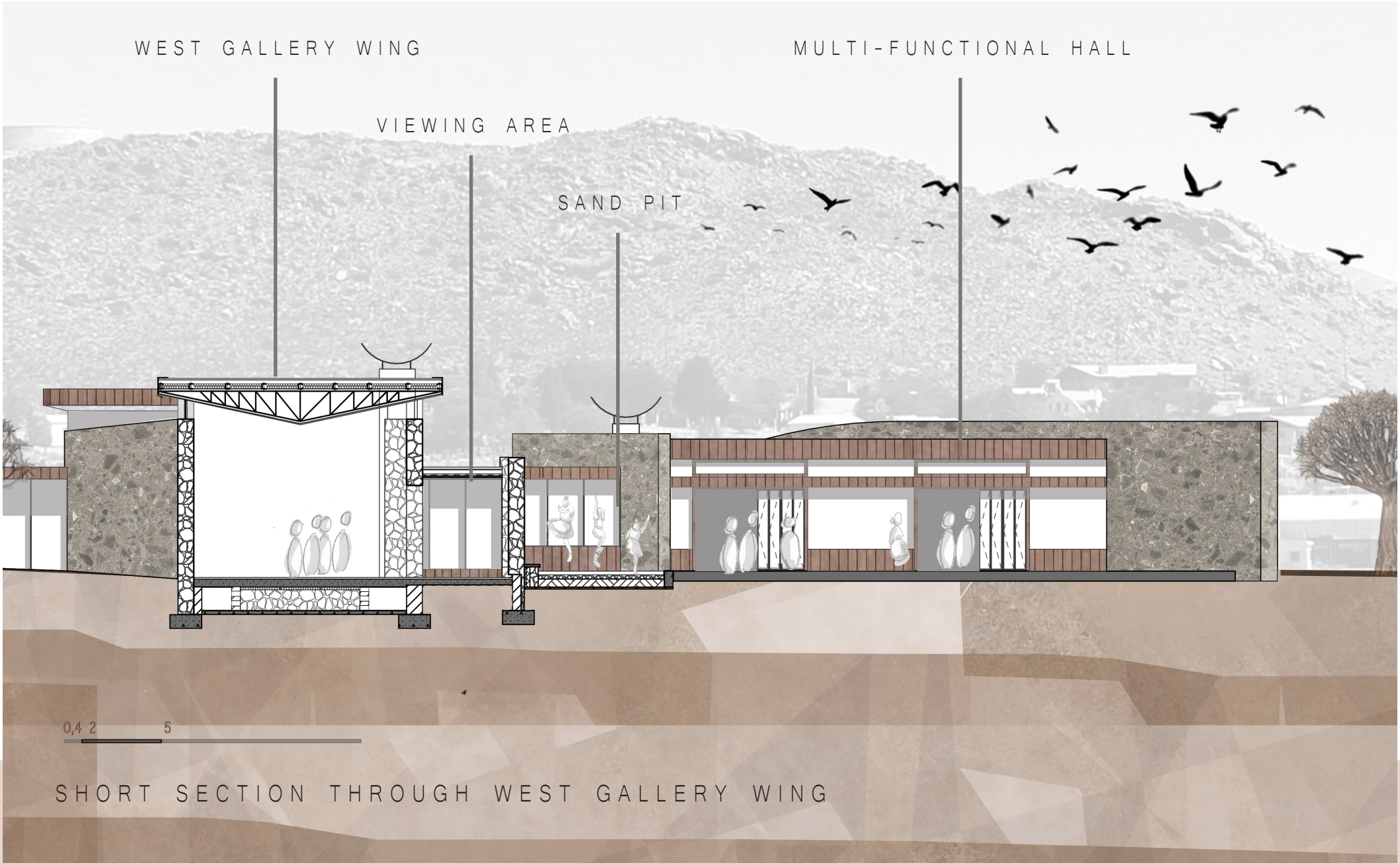
SECTION THROUGH MULTI-FUNCTIONAL

MULTI-FUNCTIONAL HALL



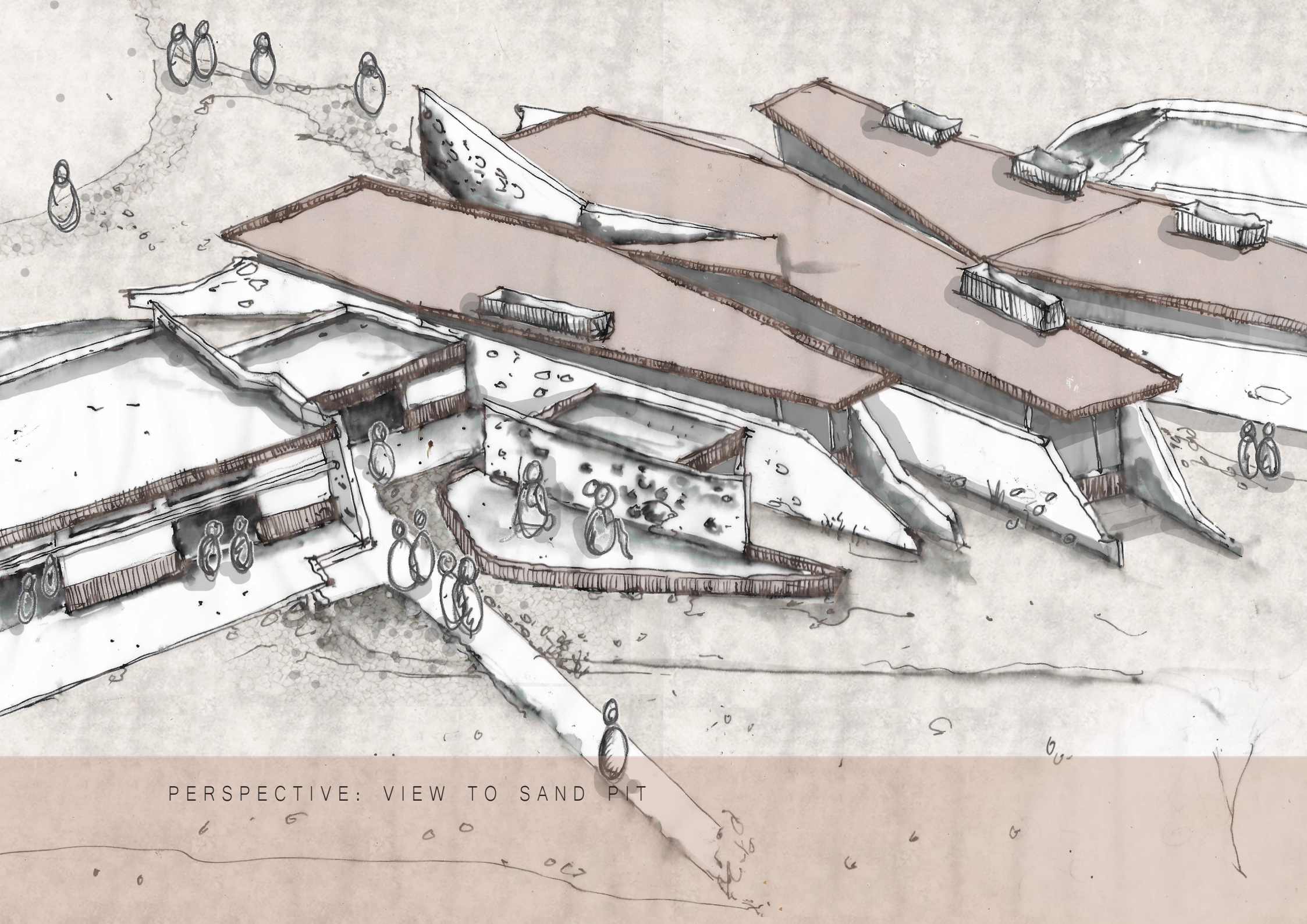


SHORT SECTION THROUGH RESTAURANT



SHORT SECTION THROUGH WEST GALLERY WING

EXTERIOR PERSPECTIVE: SAND PIT



PERSPECTIVE: VIEW TO SAND PIT

EXTERIOR PERSPECTIVE: PEDESTRIAN ARRIVAL

INTERIOR PERSPECTIVE: GARDEN SHOP

Figure 3.2.1: Map of south Africa

Figure 3.2.2: Map of the Northern Cape Province

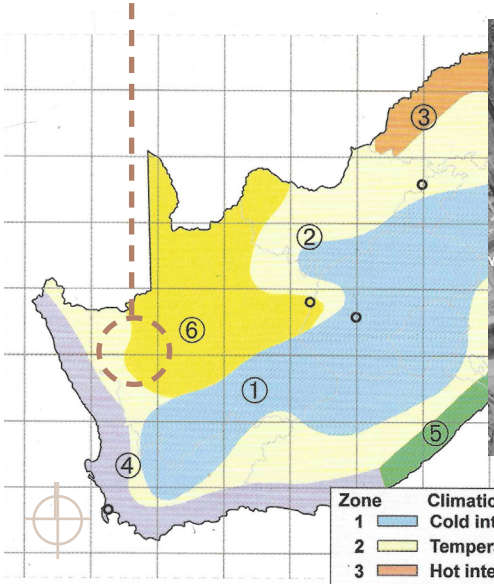


Figure 3.2.3: Climatic zone map (SANS10 400-XA; 2011)

Zone	Climatic conditions
1	Cold interior
2	Temperate interior
3	Hot interior
4	Temperate coastal
5	Sub-tropical coastal
6	Arid interior

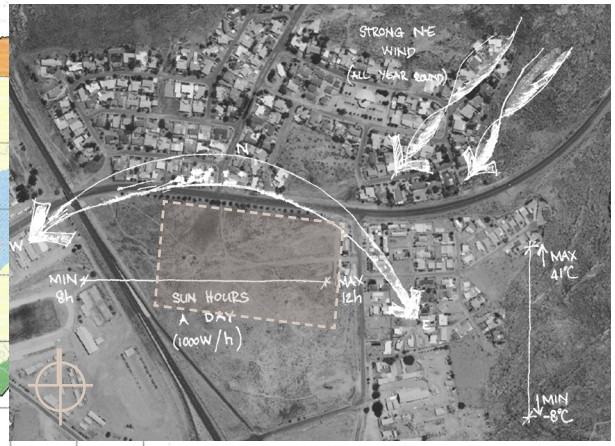


Figure 3.2.4: Arial view of site (OneMap 2021; online) adapted by author

3.2. TECHNICAL DEVELOPMENT

TECHNICAL REPORT

INTRODUCTION

The technical development explores the assembly of the Nama Arts and Culture Exhibition Complex as a result of contextual considerations, and design and theory principles. The proposed project's structural intention, materiality and systematic responses (to for example ventilation) is explained. It addresses technical and practical issues through an investigation towards structural resolutions.

ENVIRONMENT AND MICRO-CLIMATE

Climate:

Springbok is part of the semi-arid to arid climate zone of South Africa, with a generally warm and hot climate (Fig. 3.2.1-3.2.4). It also experiences low rainfall and humidity. An appropriate design response would be to incorporate passive solar principles, high thermal mass solutions, high insulation levels, including bulk insulation in ceilings and walls, and to maximise cross-ventilation. Openings and glazing located on the east and west should be shaded. (Architective 2015; 107)

Topography and soil classification

Springbok forms part of the hardeveld, meaning rocky hills and flat planes in-between can be found.

The selected site for the project is located on an open and flat topographic plane surrounded by copper mountains and public roads. The natural slope of the site falls from the east to the west with 5m within 100m.

Soil found on site can be classified as non-cohesive soils formed from weathered rocks (Fig. 3.2.6 & 3.2.7). Such soils include gravels and sand that consists of coarse

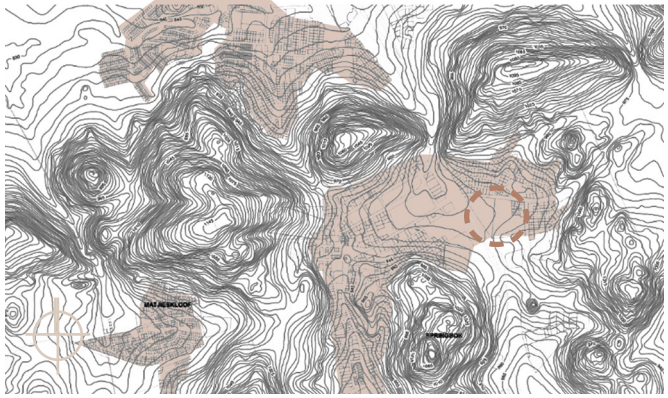


Figure 3.2.5: Springbok topography with site indicated (OneMap 2021; online) adapted by author

Figure 3.2.6: Layer non-cohesive soil found on site

Figure 3.2.7: Weathered rock on site

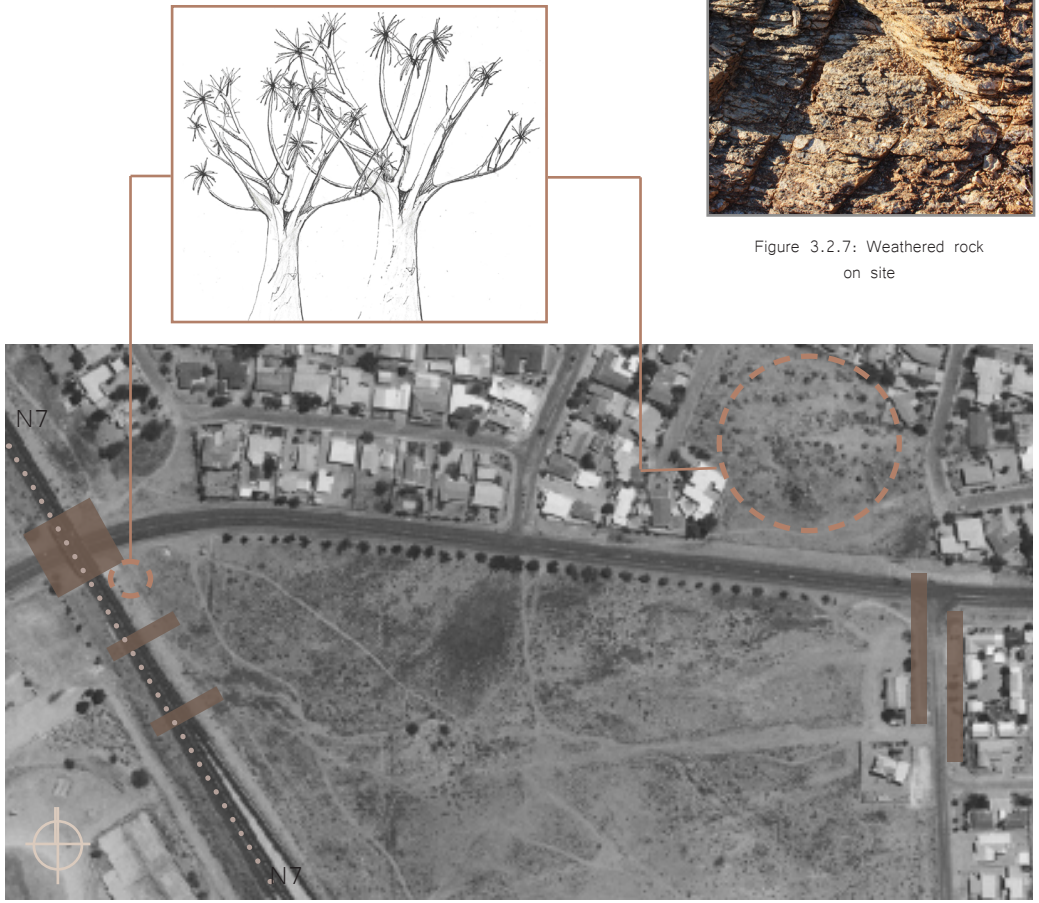


Figure 3.2.8: Arial view of site indicating location of stormwater channels (OneMap 2021; online) adapted by author

grained, largely siliceous unaltered products of weathered rock (Architective 2015; 155). The top soil layer (Fig. 3.2.6) found on the site originates from the surrounding koppies during rain rundowns, where this non-cohesive soil accumulates. According to the structural engineer this layer of soil, although loose and finely rugged does not influence the type and sizing of foundation for the project, as it is only the top soil layer. Normal strip foundation can be used for the sub-structure of the project, and the sizing thereof depends on the height and thickness of walls, and the load the super-structure carries.

Vegetation:

The site and the region of Namaqualand consists of plants that are naturally restricted, and considered to be endemic. A part from being threatened with limited distribution, these plans play important roles in attracting tourists and in Nama cultural traditions. Vegetation found on site include Kokkerbome/Quiver trees, other succulents, veldgras, and a variety of wild flowers that start to bloom during spring months. The proposed project is developed around any endemic plant, and where newly planted Quiver trees and other succulents form part of the courtyard spaces and landscaping.

Physical barriers:

The proposed site experiences no physical barriers, apart from the public road forming the N7 bridge on the western edge of the site (Fig. 3.2.8).

Storm-water runoff:

Springbok experiences extremely low rainfall. When rail occurs however, water accumulation can be experienced on areas located at the foot of koppies, like the chosen site. Storm-water runoff from the surrounding topography and hard surfaces is redirected to either existing storm-water channels (Fig. 3.2.8) or to courtyard gardens, which retains most of the water in its vegetation. Excess storm-water are channelled through weepholes and gutters away from the building to surrounding channels. On the eastern and western edges of the proposed site, storm-water disposal channels are located to navigate water away from the site.

Due to the extreme low rainfall, the storage of storm-water would be insignificant and insufficient.

Figure 3.2.10: Nama gallery with circles indicating viewing areas as breathing pockets to introduce surrounding context into interior

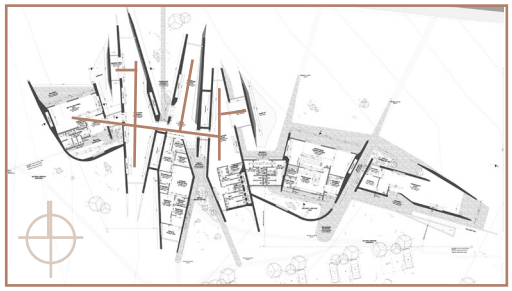


Figure 3.2.11: Gallery circulation

Figure 3.2.12: location of secondary functions with orientation of long facades opening up to south and north

USER BEHAVIOUR AND BUILDING REQUIREMENTS

The functions required for a Nama arts and culture exhibition complex, originates from the three “Rieldans” topics (Fig. 3.2.9) (culture, education and social) to shape spaces of exhibition, information and gathering. The primary spaces of the project is the gallery and exhibition spaces (Fig. 3.2.10), which require large spaces for the viewing of performances, paintings, sculpture and surrounding contextual view-points.

Dust accumulation in the region can be problematic, thus well-ventilated spaces are incorporated to reduce the gathering of dust. Interior exhibition spaces should also be protected against water leakage, fire and direct sunlight. Orientation of the gallery plays an important role in the amount of direct sunlight allowed in exhibition spaces (Fig. 3.2.11). Exhibition spaces should be wide enough to allow comfortable viewing of art works and easy circulation (Fig. 3.2.11).

Landscaping and exterior dust courtyards provide a platform for the “Rieldans” performance whilst incorporating context. These open spaces should allow for easy circulation and areas of viewing that are shaded from the harsh sunlight.
Other facilities required by a gallery, include an archive, storage and administrative spaces.

The Profile of users- user requirements (SANS; online):

A1 – Entertainment and public assembly Occupancy where persons gather to eat, drink, dance or participate in other recreation.
C1 – Exhibition hall Occupancy where goods are displayed primarily for viewing by the public.
C2 – Museum Occupancy comprising a museum, art gallery or library.

Secondary functions (Fig. 3.2.12) that serves as additions to the gallery include a multi-functional hall, restaurant and a garden shop. The multi-functional hall provides a space for workshops and the practicing of the “Rieldans”. This space requires dressing rooms and storage for equipment. The restaurant can function independently or serve the gallery when required. The garden shop functions independently and requires large indoor and outdoor spaces.

Figure 3.2.9: "Rieldans" topics

Exhibition	380sqm
Reception	8sqm
Curator's office	9sqm
Archive	32sqm
Archivist office	6sgm
Garden shop	118sqm
Craft shop	20sqm
Restaurant kitchen	37sqm
Restaurant seating (indoor & outdoor)	84sqm
Storage	6sqm
Staff room	6sqm
Multi-functional studio	64sqm
Storage	4sqm
Lounge	17sqm
Dressing room	22sqm
Restrooms: -female -male -disabled -universal	73sqm
Sand pits	N/A
TOTAL:	886sqm

Figure 3.2.13: Photograph of Beauford West Clinic (Atlas of places 2019; online) adapted by author

Figure 3.2.14: Close-up of chimney (Atlas of places 2019; online)

Ventilation

The Beauford West Clinic (Fig. 3.2.13) by Fagan was used as a precedent in the project to incorporate an appropriate passive design strategy that responds to the given climate and structural aim of the project as set by the structural touchstone: *Poetics of interwoven tectonics*. The precedent makes use of a stone store system (Fig. 3.2.15) to regulate internal temperatures of the building.

As applied to the proposed project, the eastern winds enter into the building via a tall chimney that moves air to a stone store beneath the floor slab to filter and cool off. From here cool air flows through the ventilation shaft to mechanical fans.
These fans can be turned on during the night to keep building interior cool throughout the day. The fans are also used in the Nama dust-curtain gallery to activate movement in the curtains.

The ventilation system is located in the Nama gallery, multi-functional, restaurant and admin parts of the gallery (Diagrams 3.2.17a - c).

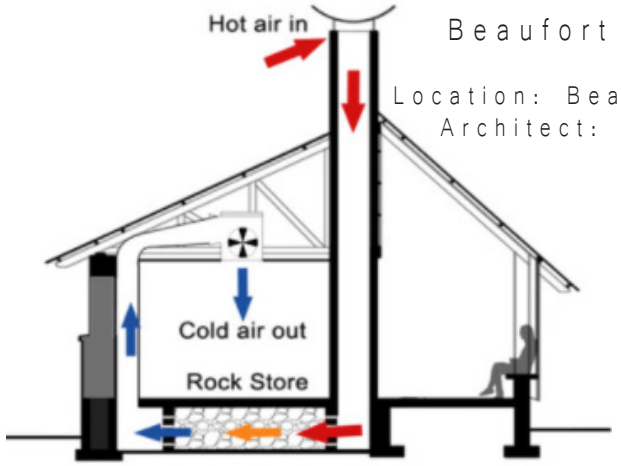


Figure 3.2.15: Section through stone store (Atlas of places 2019; online)

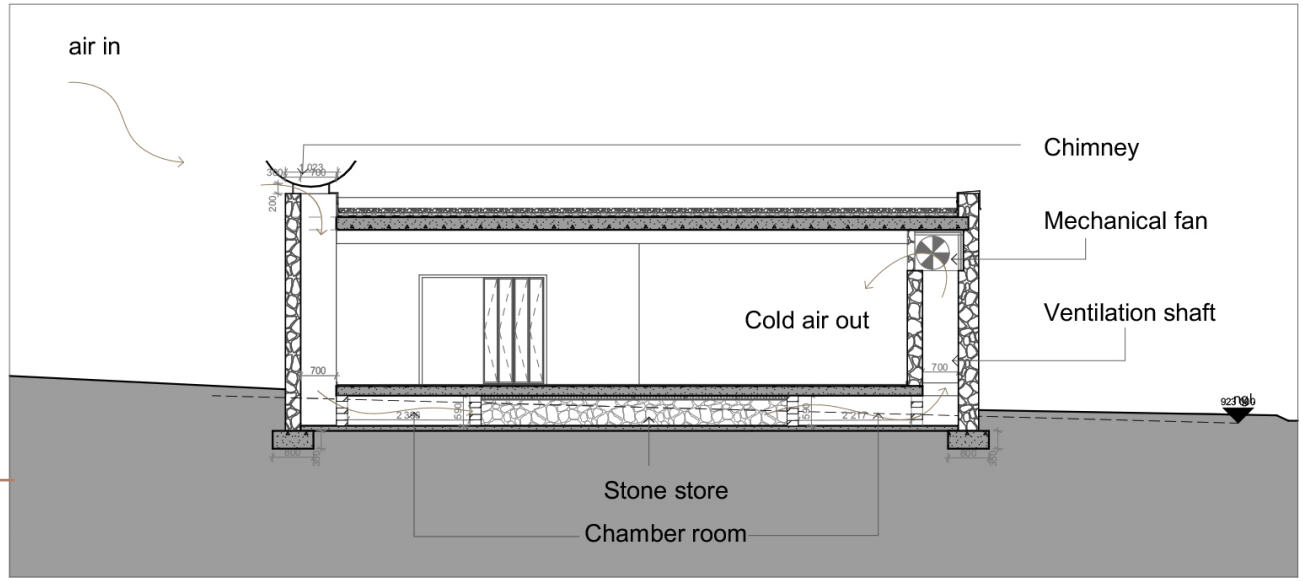


Figure 3.2.16: Stone store applied to project

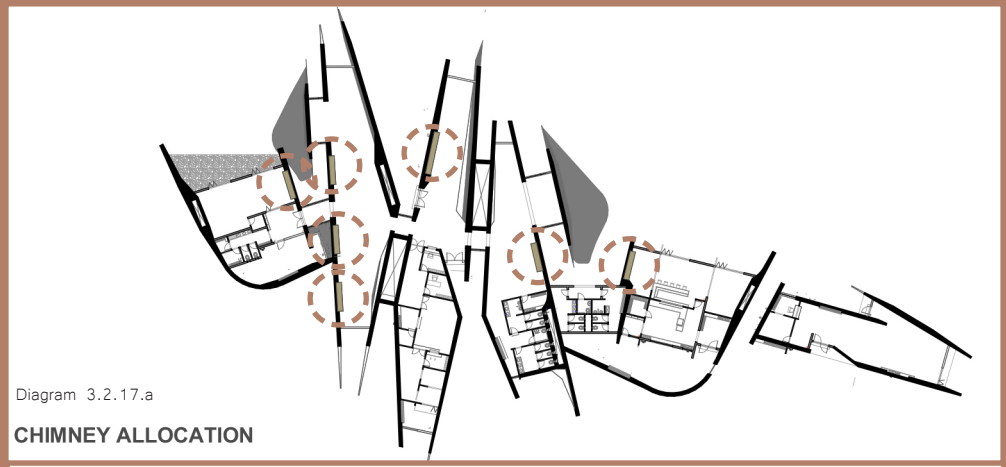


Diagram 3.2.17.a

CHIMNEY ALLOCATION

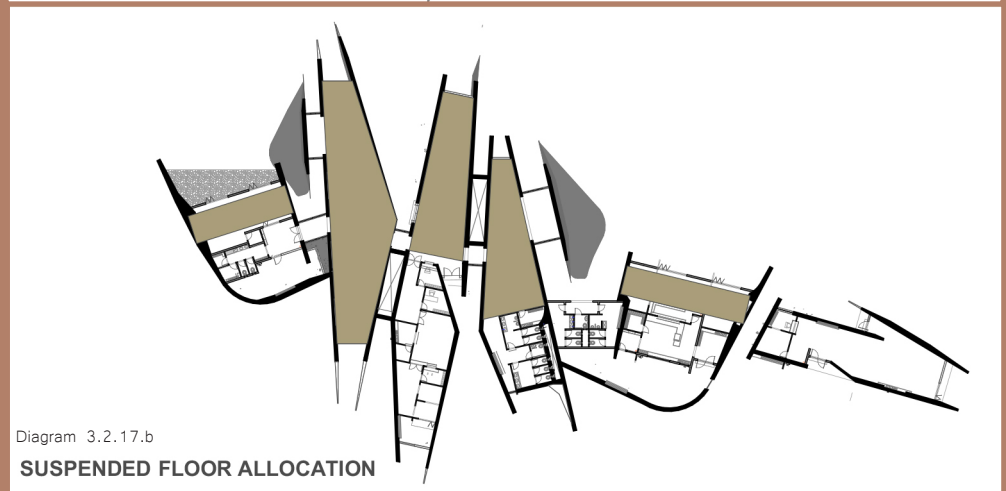


Diagram 3.2.17.b

SUSPENDED FLOOR ALLOCATION

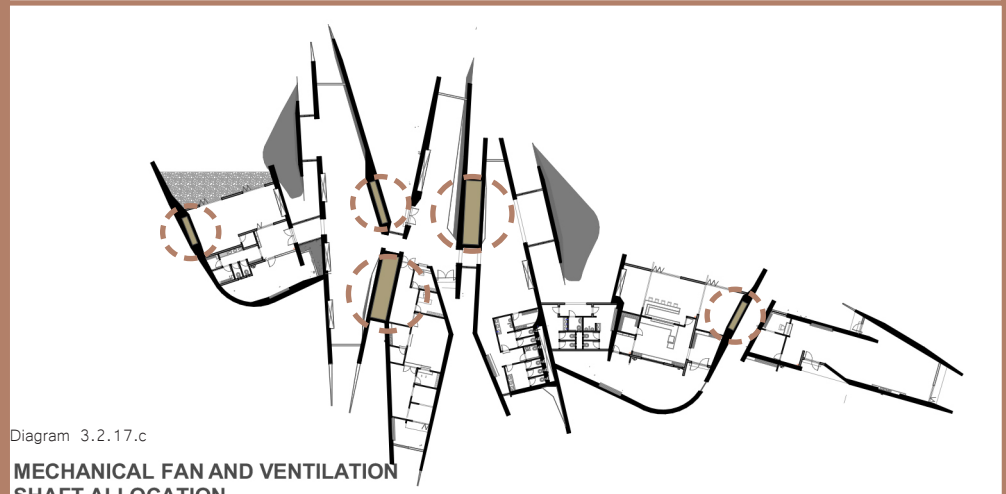


Diagram 3.2.17.c

MECHANICAL FAN AND VENTILATION SHAFT ALLOCATION

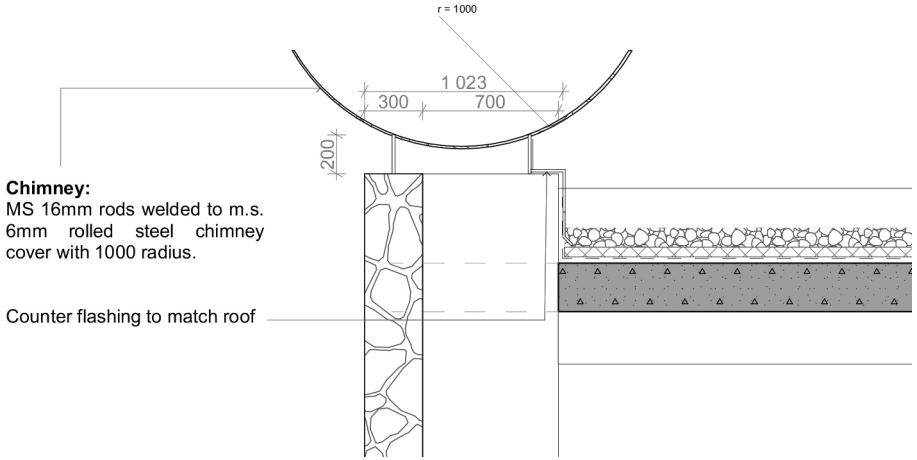


Figure 3.2.18: Detail of chimney

Rock store:

Rests on top of concrete slab

Chamber seperated by perforated concrete block walls lined with wire mesh.

Filled with locally sourced stone.

Rockstore capped with 70mm polystyrene insulation before surface bed is to be casted over.

Floorslab supported by dwarf walls

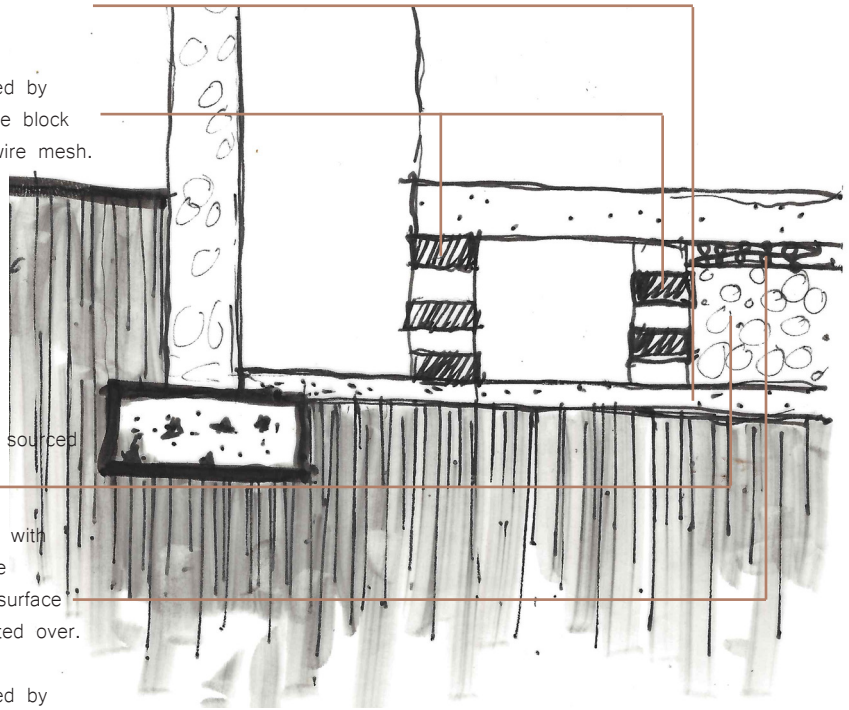


Figure 3.2.19: Detail development of stone store

Figure 3.2.20: Pedestrian and vehicle access on and around site

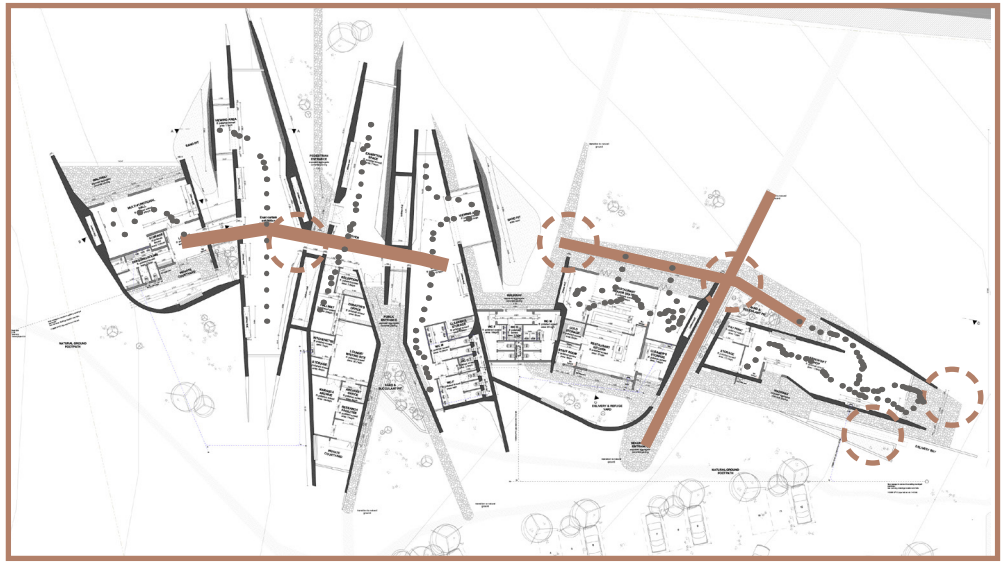


Figure 3.2.21: Horizontal circulation with level changes indicated

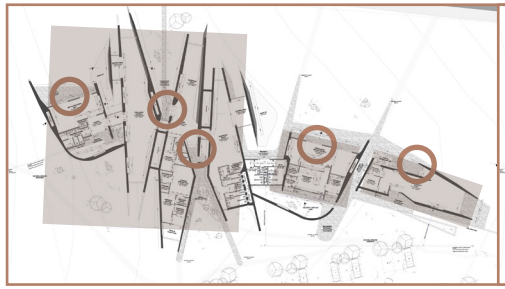


Figure 3.2.22: Entrances indicated to each independent function

Figure 3.2.23: Exterior paving

Access

Two types of accesses to the site is important. These include pedestrian and vehicle accesses (Fig. 3.2.20).
Pedestrian access is possible from various points around the site as the initial gravel footpath on the site is kept and incorporated into the design of the building.

Vehicle access is possible via a new gravel road introduced on the eastern edge of the site.

These accesses lead to the entrances of the independent functions of the scheme.

Circulation

- Vertical and horizontal

The scheme only makes use of horizontal circulation with limited ramps and steps to accommodate the slope of the site (Fig. 3.2.21).
Due to the scheme only being a single storey building, vertical circulation is not applicable.
The scheme consists of three independent functions, each with its own entrance (Fig.).

The Nama gallery has a main spine that connects exhibition spaces alongside its spine via lines of flight.
A main longitudinal walkway from one side of the building to the other side of the building with moments of flight in-between independent functions is located at the north of the building.
On the south of the building, newly incorporated walkways fade into the existing gravel footpaths (Fig. 3.2.23).

- Fire

The building has breathing pockets that ensures fire escapes

Fire hose reels are also installed at certain areas, with fire hydrants installed in each independent function near exits and entrances. (Figure 3.2.24)

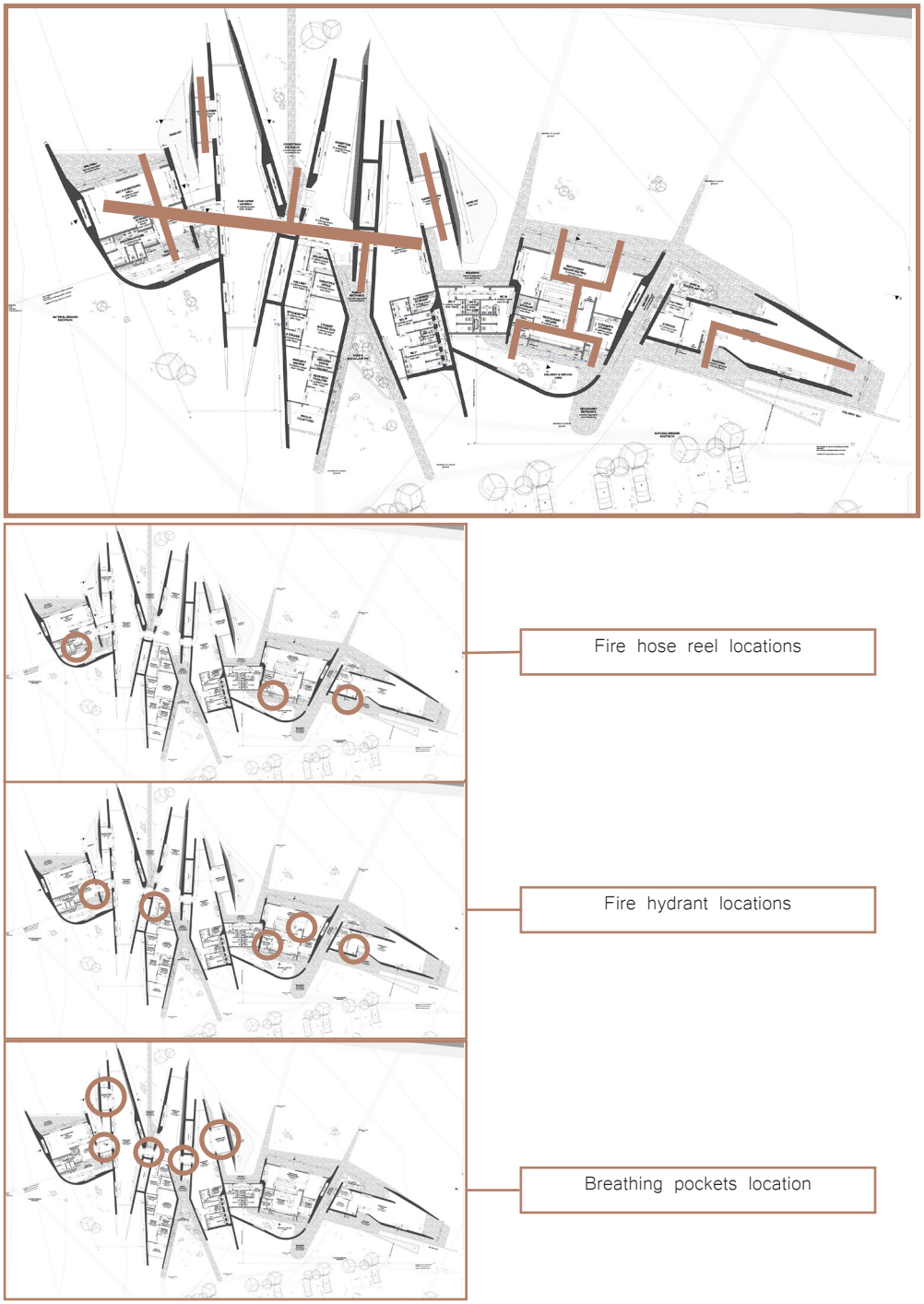


Figure 3.2.23: Fire route and exits with locations of fire equipment

Restrooms

Public restrooms are located between the gallery and restaurant, which can be used by secondary function users located on the eastern wing of the scheme. These include the garden shop and the restaurant.

The gallery's restrooms along with the public restrooms, share the same service yard. Universal dressing rooms are incorporated in the multi-functional hall.

Total toilets and urinals installed throughout scheme:

Male:	Toilets	x4
	Urinals	x4
Female:	Toilets	x5
Disabled:	Toilets	x2
Universal:	Toilets	x2

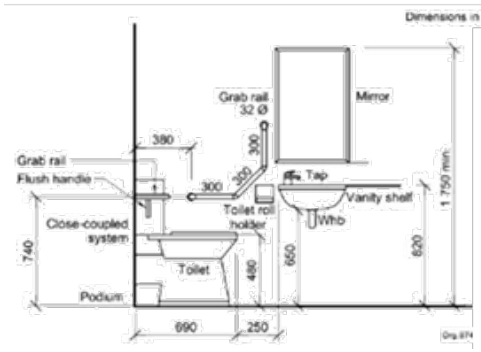


Figure 3.2.24: Section through disabled facilities (SANS 2006; Part S)

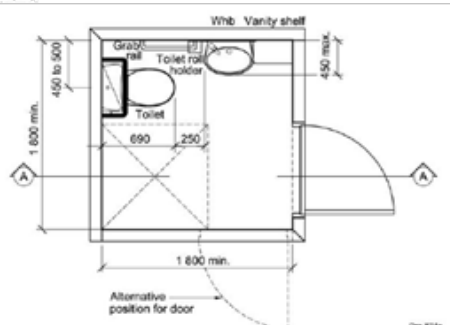


Figure 3.2.25: Disabled facilities - plan (SANS 2006: Part S)

Figure 3.2.26: Desert masonry wall (Atlas of places 2019; online)

Figure 3.2.27: Exposed aggregate concrete to be used for exterior paveways

Figure 3.2.28: Corten/weatered steel

Figure 3.2.29: Non-cohesive soil on site to be used as dancing medium for sand pits

CONSERVATION

Conservation is achieved in various ways:
Firstly the project makes use of open land, where no buildings or endemic vegetation were demolished during the construction process. The complex enhances economic income by enhancing surrounding key features for tourists and visitors. It also becomes and provides a central place for the meeting of Nama Riel dancers that walk from surrounding areas to town.
The Nama arts and culture exhibition complex does not impose on the existing context and grows from the existing topography and architectural language.
Locally sourced rock and stone from mines and surrounding areas form part of the building's material palette. This is incorporated within the rock store, the thick desert masonry walls, and the top layer of bulk insulation on all flat roofs.

ENERYGY AND ENVIRONMENT SUSTAINABILITY

Through the use of passive design solutions, artificial heating is reduced to ensure cool and comfortable interior spaces.

Passive solar principles are achieved through the use of high insulation levels in the roof and walls. Thick desert masonry walls give the building solidity and protection against natural elements. The most important function of the walls is to host service shafts and cavities and to prevent interior spaces from getting too hot.

Large windows and openings are limited to the south and north elevations. Fenestration on the northern façade uses screens and louvers as shading systems to limit direct sunlight. Glazing on the western and eastern façade of the gallery space is incorporated as clerestory windows and covered by large roof over-hangs to limit direct light. Landscaping like trees in front of fenestration also contributes to the cooling of the building's interior.

FORM-GIVING AND MATERIALS

The purpose of the chosen materials for the project, is to reveal the character and aesthetics of the Namaqualand desert, whilst the form-giving gives reference to the shape and choreography of the Nama "Rieldans".

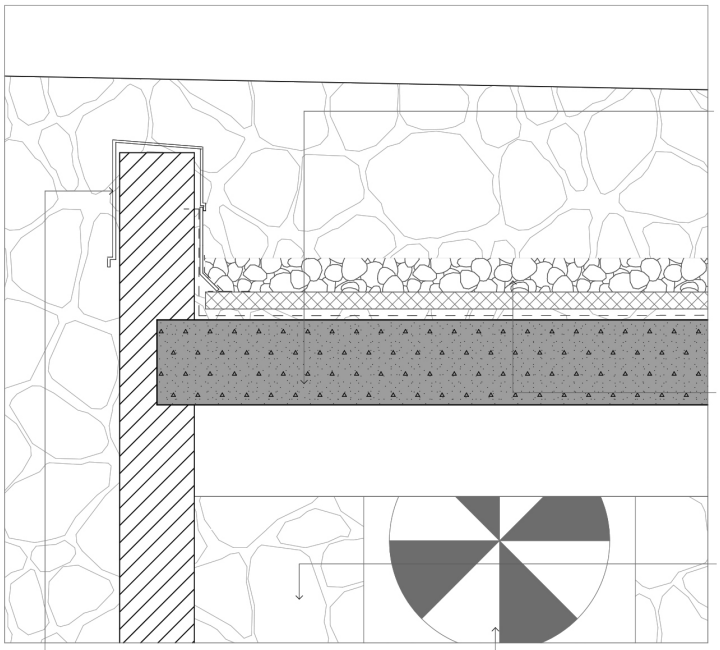


Figure 3.2.30: Flat roof detail

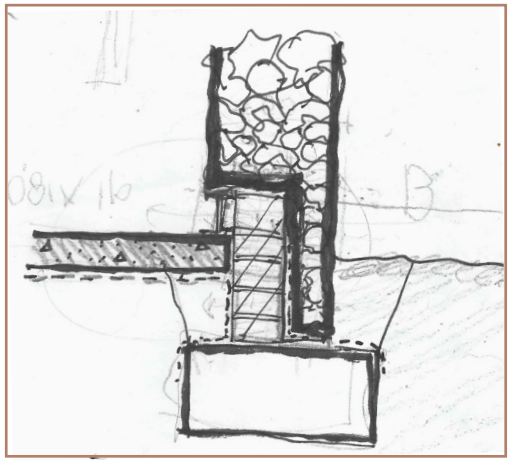


Figure 3.2.31: Floor-wall articulation development to achieve a floating wall illusion

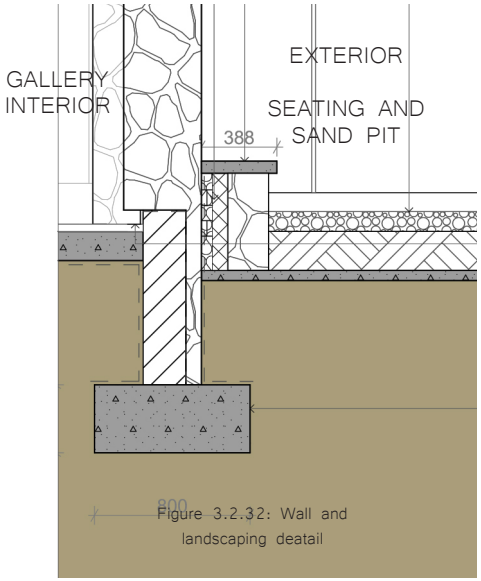


Figure 3.2.32: Wall and landscaping deatail

Superstructure:

Load-bearing desert masonry walls constructed from cement, desert sand and locally sourced stone (Fig. 3.2.26), host services and systems for the building. Stone are exposed and constructed in random rubble pattern with 50mm deep mortar joints. Walls are formed through sectional bandings built on top of each other, till required height is achieved.
Sand pits for dancing are constructed via retaining walls, with a sand fill in-between walls according to “Rieldans” medium (Fig. 3.2.29).
Interior floor finishes mostly consist of polished screed. Exterior terraces and walkways consists of exposed aggregate concrete paving (Fig. 3.2.27).
Strip clerestory windows are installed in the gallery’s exhibition space just below the low pitched roofs. These windows allow for cross-ventilation and natural indirect light to enter exhibition space. All windows and glass doors consist of 8mm laminated safety glass panels installed in purpose-made aluminium frame in Manor red colour.
Gallery has a hovering pitched roof hovering above the thick walls. Roof is constructed from inverted steel trusses that sculpt interior ceiling. Roof sheeting is from Corten/weathered steel plates.
Flat roofs (Fig. 3.2.30) consist of bulk-insulation with a top-layer of locally sourced stone that also contribute to the aesthetical aim of the proposed design. Flat roofs and landscaping walls are rounded off with Corten or weathered steel flashing plates.

Substructure:

Foundations – Strip foundations are used where desert masonry walls are located.
The stone store forms part of the substructure and rests on a concrete slab.
Dwarf walls, that form part of the stone store chamber, serve as support for the floor slab. These walls are stacked in such a way that gaps allow the flow of air to filter through.

CONCLUSION

In conclusion to the technical report, the design focuses on being rooted in place, using the aesthetic and found material of place to grow and nest itself within the chosen site. Stereotomic elements cater mostly for load-bearing purposes and serves as support to the tectonic elements of the building – which is to allow cool interiors via the ventilation system and to let light into the building.
The rootedness, use of material, form-giving and systems incorporated, gives reference to characteristics and aspects seen and found in the essence of the Nama “Rieldans”.

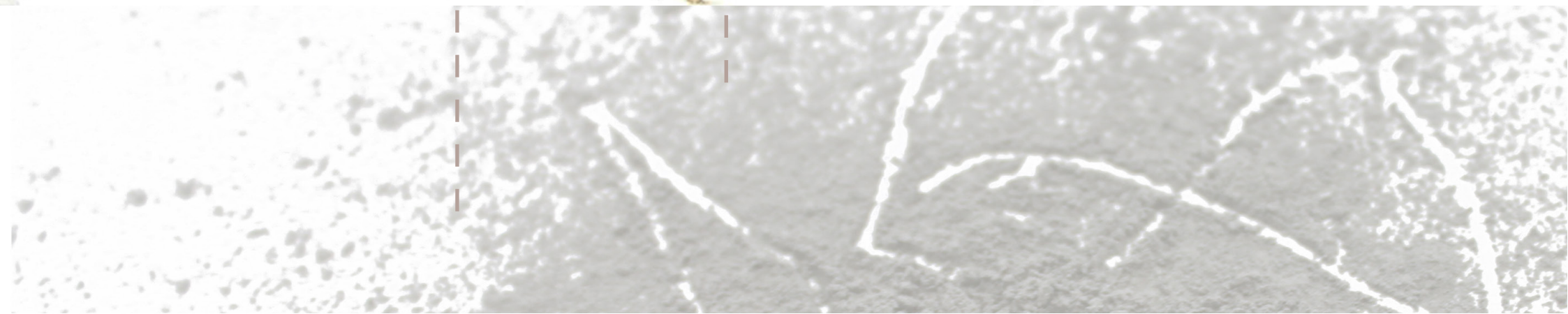
3.3.
CONCLUSION

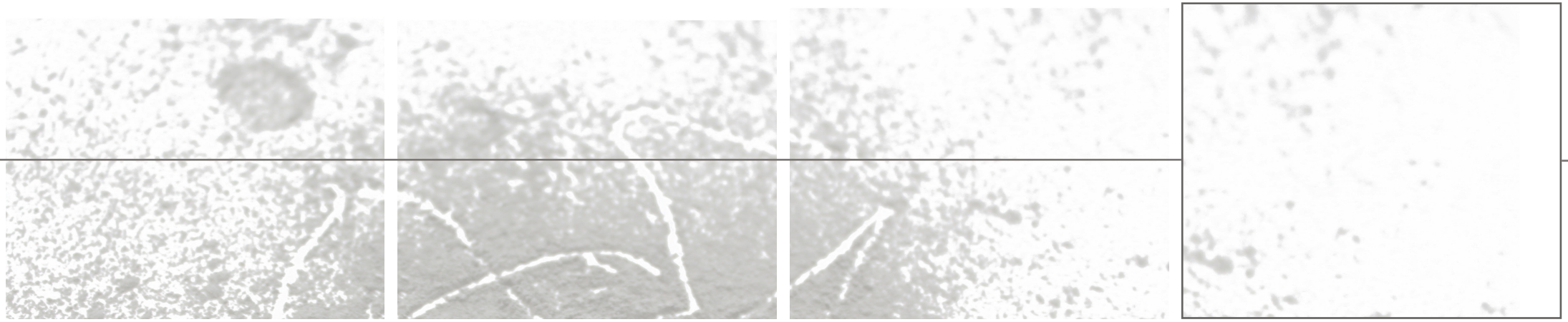
The exhibition complex can now be said to be WHERE THE DUST NEVER SETTLES.

This project revealed that in order for architecture to embody an ephemeral art, the character of place and the essence of an ephemeral cultural art needs to be extracted and reinterpreted as a unification between elements of the fourfold. Embodied architecture establishes a meaningful and identifiable cultural artefact, marking the human presence as touched by temporal time and spatial aspects.

The concept of place surfaces as the land or context becomes the artist that performs in this cultural activity.

The cultural activity flows from the skin of the earth and, with moments where a reunion between members of the fourfold are possible.





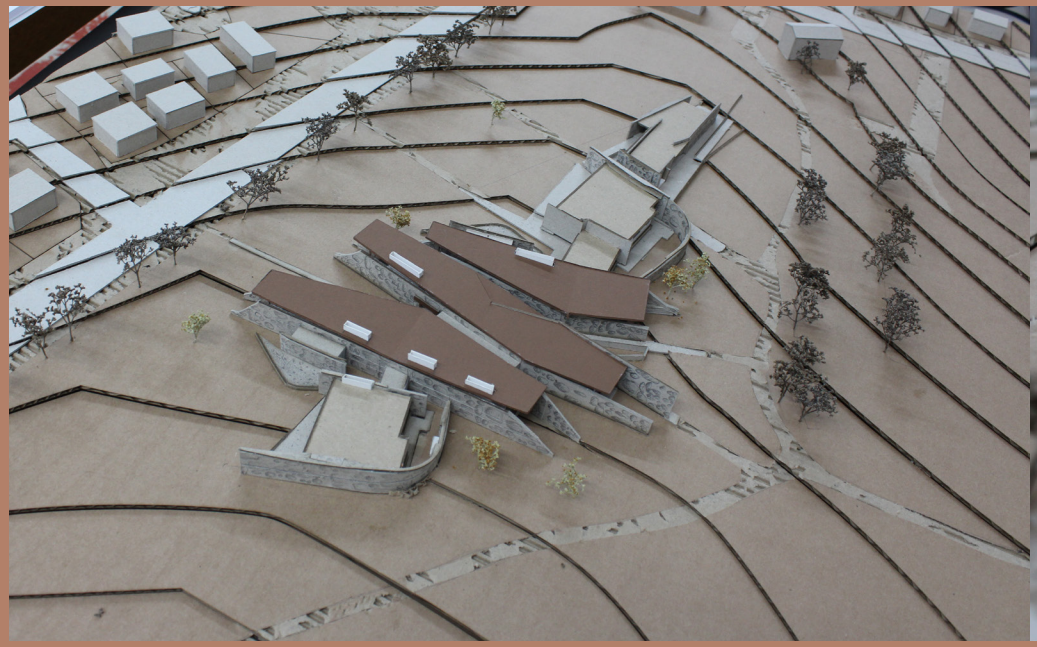
PART 4

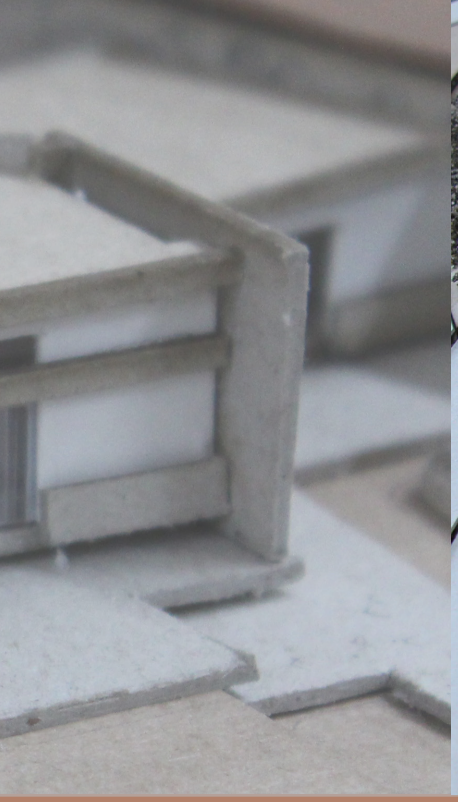
4.1.
REFLECTION

Throughout the process of this dissertation I realized the great extend of poetics that is embedded within the architectural design process. Architecture, has a magical ability to capture the elements of life, and use it as a material to create all kinds of spaces. It is like a new ball of clay that can be sculpted and morphed into an unique and identifiable object that creates the spaces we live in.

I also realised that place identity is closely linked to personal identity, and that no place will ever be the same. From all the memebers in the Heidegarian fourfold, I believe the mortal is the luckiest – because it is the mortal who gets to experience the genius loci on intricate and obscure ways. We get to climb, run, walk, laugh taste and smell the thousands of morphed identities occupied in space.

4.2.
FINAL MODEL PHOTOGRAPHS





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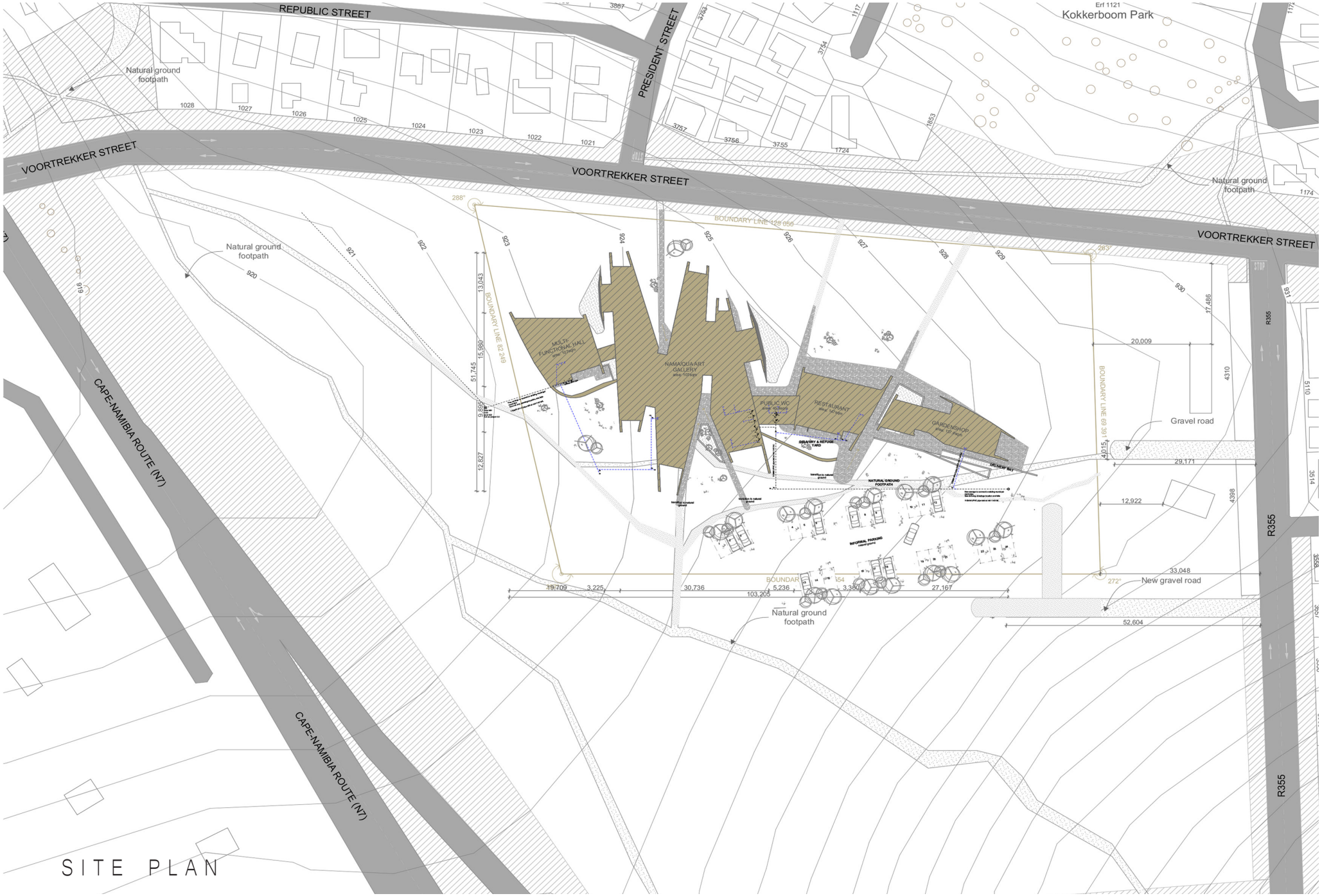
4.4.
APPENDIXES
Technical drawings

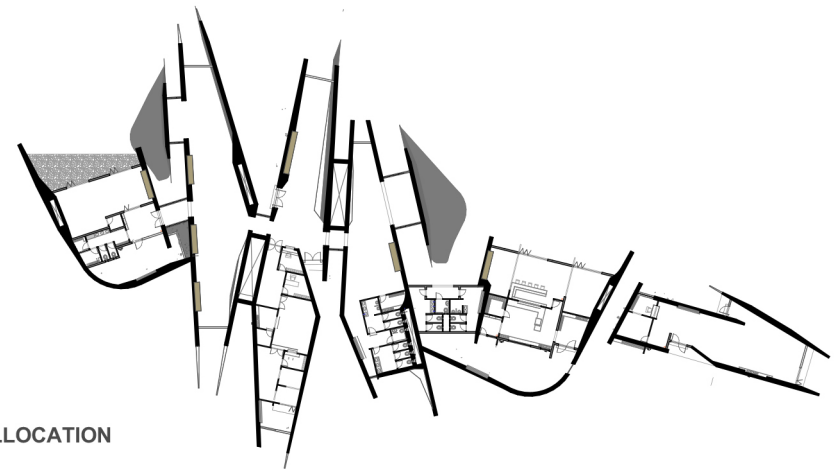
AREA PLAN


REPUBLIC STREET
PRESIDENT STREET
VOORTREKKER STREET
VOORTREKKER STREET
VOORTREKKER STREET
Erf 1121
Kokkerboom Park
Natural ground footpath
Natural ground footpath
Natural ground footpath
Natural ground footpath
CAPE-NAMIBIA ROUTE (N7)
CAPE-NAMIBIA ROUTE (N7)
R355
R355
R355
BOUNDARY LINE 128 050
BOUNDARY LINE 82 249
BOUNDARY LINE 69 39
MULTI FUNCTIONAL HALL
NAMAQUAART GALLERY
PUBLIC WC
RESTAURANT
GARDENSHOP
DELIVERY & REFUSE YARD
NATURAL GROUND FOOTPATH
INFORMAL PARKING
Gravel road
New gravel road
STOP
288°
272°
263°
20,009
17,486
4310
29,171
4015
12,922
4398
33,048
52,604
30,736
103,205
5,236
3,380
27,167
19,709
3,225
13,043
15,980
51,745
9,859
12,827
5110
3514
3568
3507
SITE PLAN

GROUND FLOOR PLAN

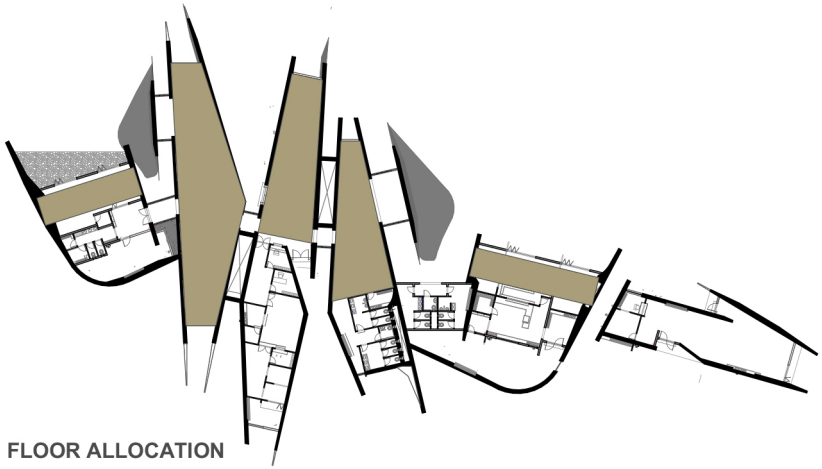
FLOOR PLAN

Scale 1: 100



CHIMNEY ALLOCATION

Scale 1: 500



SUSPENDED FLOOR ALLOCATION

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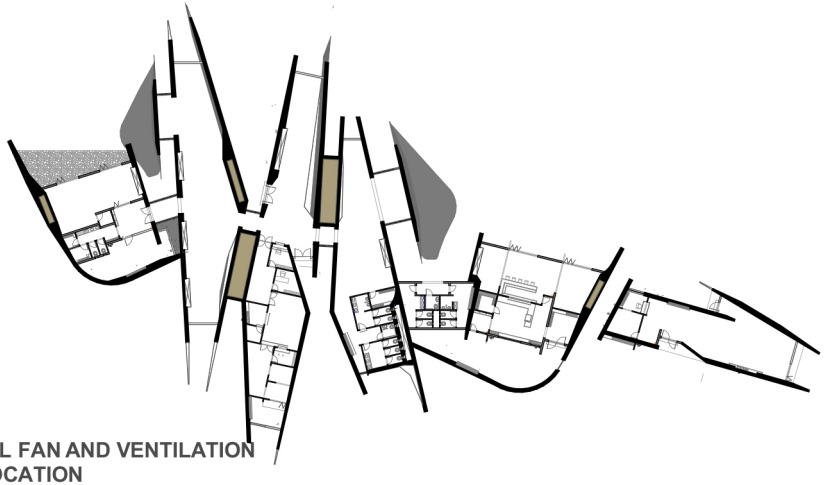

MECHANICAL FAN AND VENTILATION SHAFT ALLOCATION

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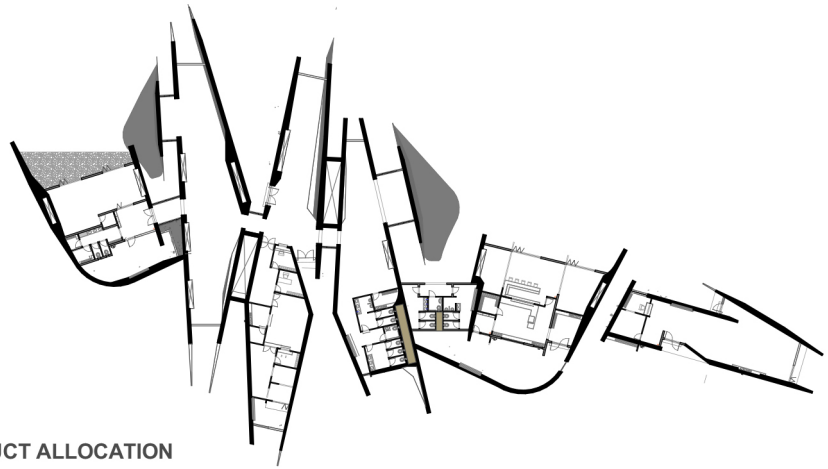

SERVICE DUCT ALLOCATION

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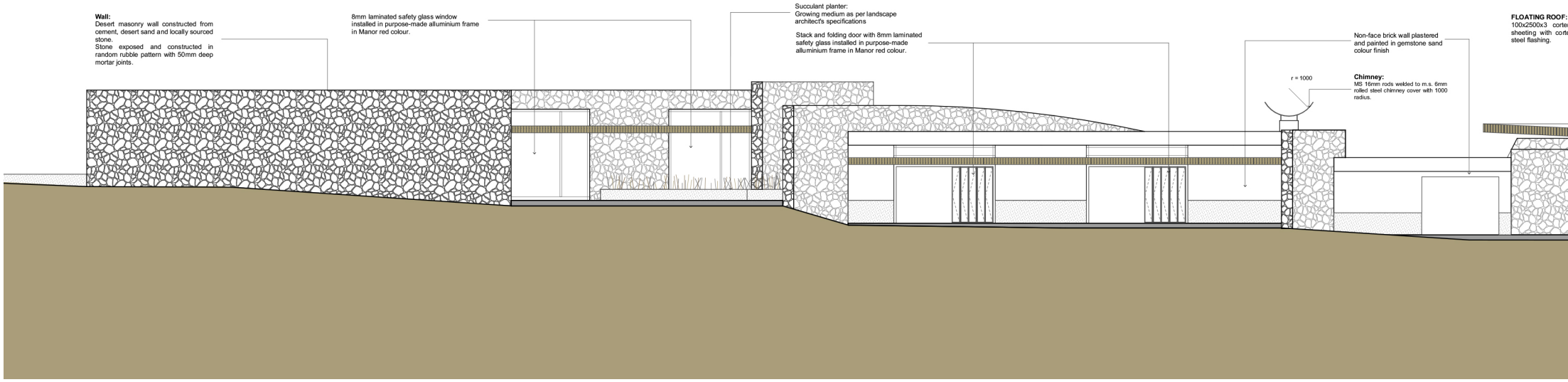
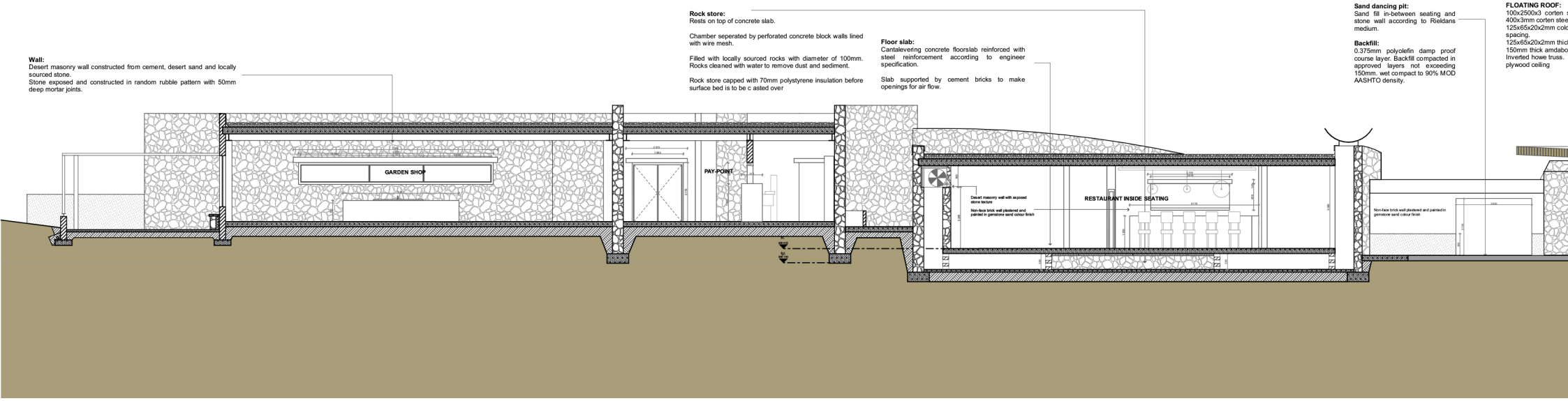
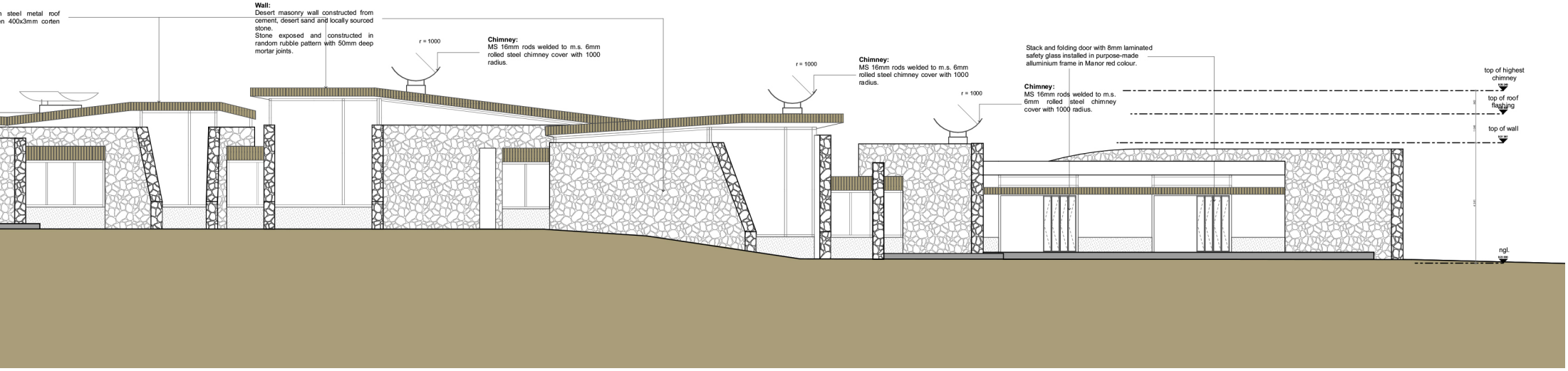
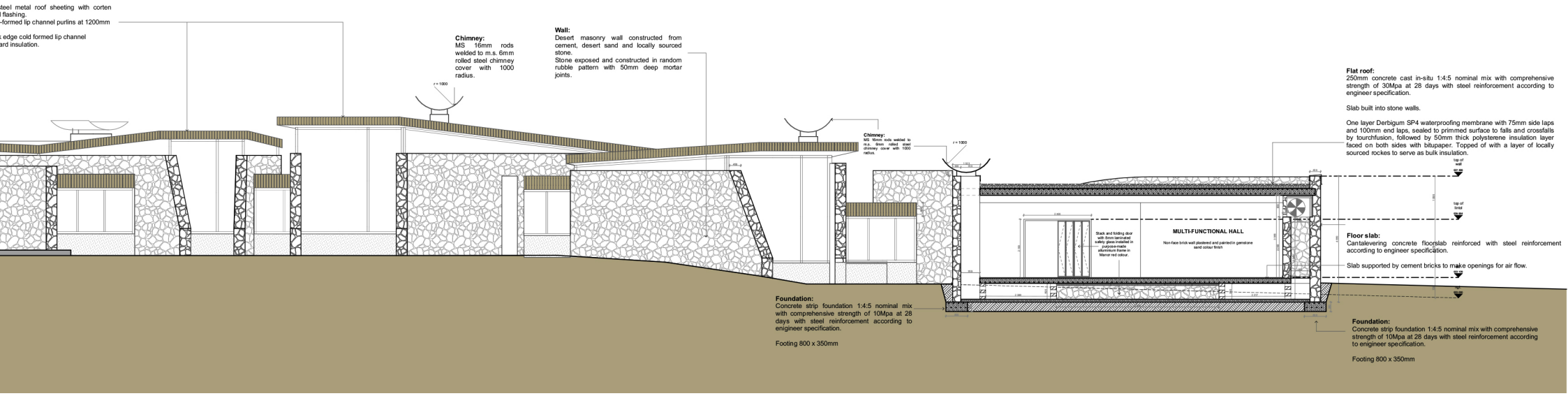


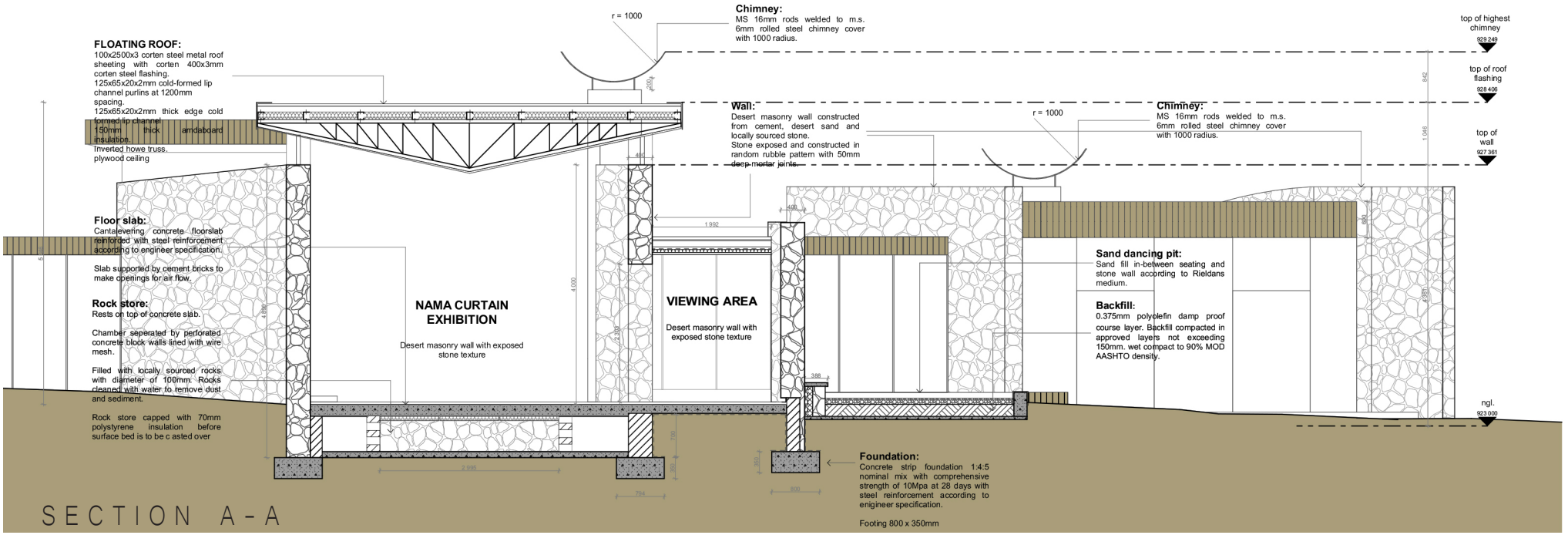
NORTH ELEVATION

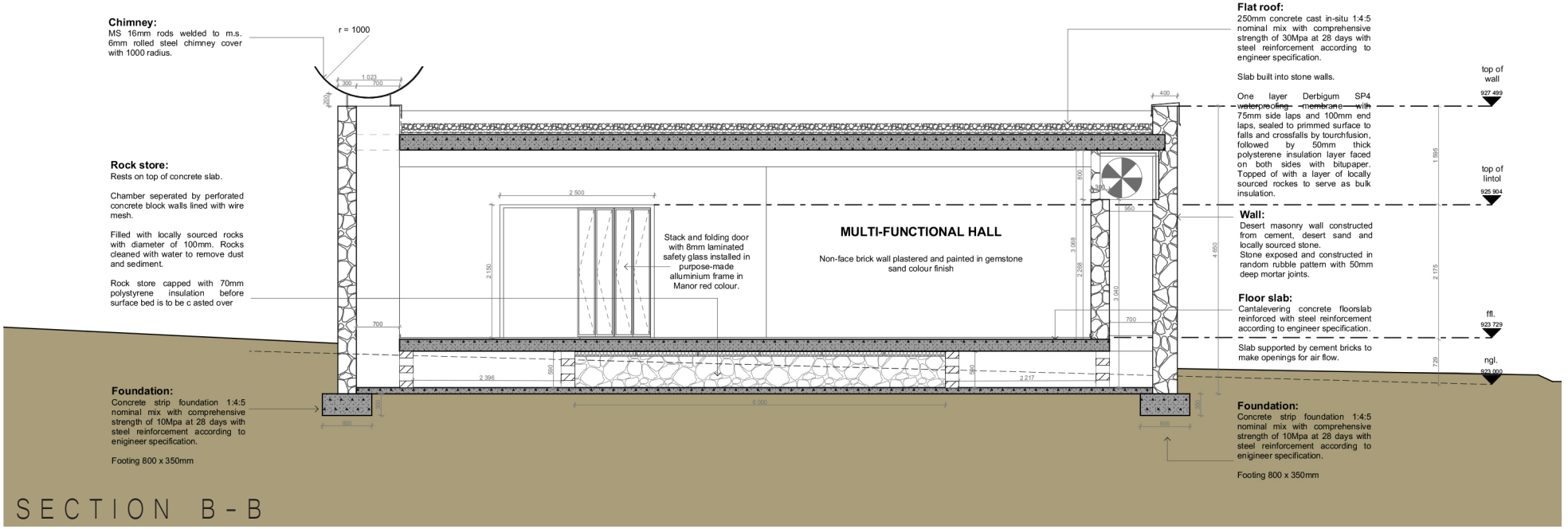


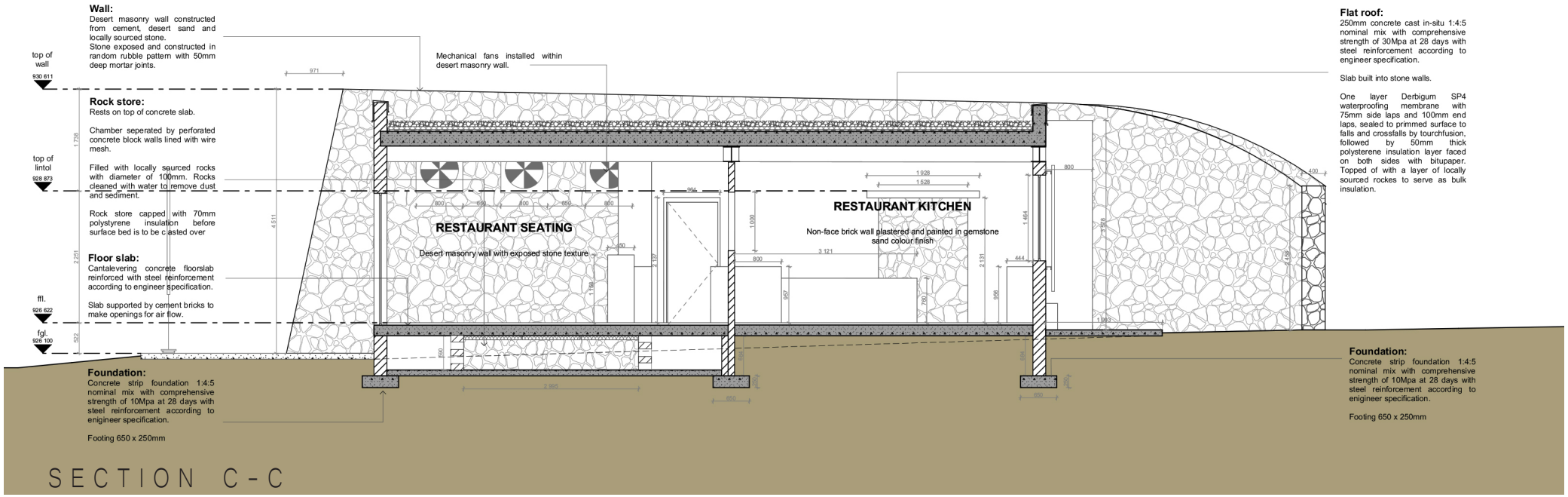
SECTION THROUGH FLAT ROOFS



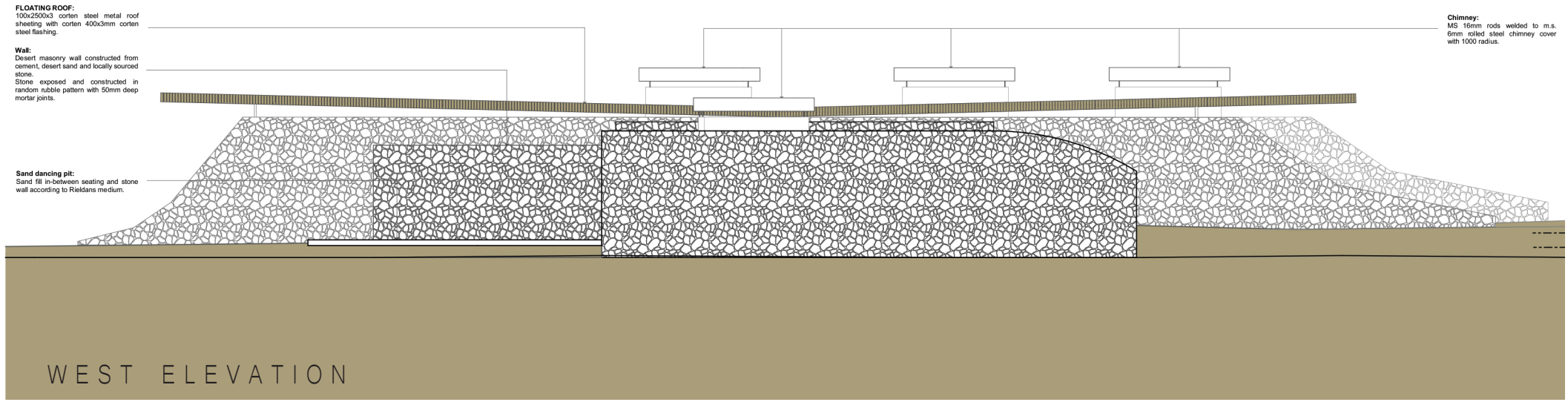



FLOATING ROOF:
100x2500x3 corten steel metal roof sheeting with corten 400x3mm corten steel flashing.
125x65x20x2mm cold-formed lip channel purlins at 1200mm spacing.
125x65x20x2mm thick edge cold formed lip channel
150mm thick amdabdard insulation.
Inverted howe truss.
plywood ceiling
Chimney:
MS 16mm rods welded to m.s. 6mm rolled steel chimney cover with 1000 radius.
r = 1000
Wall:
Desert masonry wall constructed from cement, desert sand and locally sourced stone.
Stone exposed and constructed in random rubble pattern with 50mm deep mortar joints.
Floor slab:
Cantalevering concrete floorslab reinforced with steel reinforcement according to engineer specification.
Slab supported by cement bricks to make openings for air flow.
Rock store:
Rests on top of concrete slab.
Chamber seperated by perforated concrete block walls lined with wire mesh.
Filled with locally sourced rocks with diameter of 100mm. Rocks cleaned with water to remove dust and sediment.
Rock store capped with 70mm polystyrene insulation before surface bed is to be c asted over
NAMA CURTAIN EXHIBITION
Desert masonry wall with exposed stone texture
VIEWING AREA
Desert masonry wall with exposed stone texture
Sand dancing pit:
Sand fill in-between seating and stone wall according to Rieldans medium.
Backfill:
0.375mm polyolefin damp proof course layer. Backfill compacted in approved layers not exceeding 150mm. wet compact to 90% MOD AASHTO density.
Foundation:
Concrete strip foundation 1:4:5 nominal mix with comprehensive strength of 10Mpa at 28 days with steel reinforcement according to enigineer specification.
Footing 800 x 350mm
top of highest chimney
929 249
top of roof flashing
928 406
top of wall
927 361
ngl.
923 000
SECTION A-A

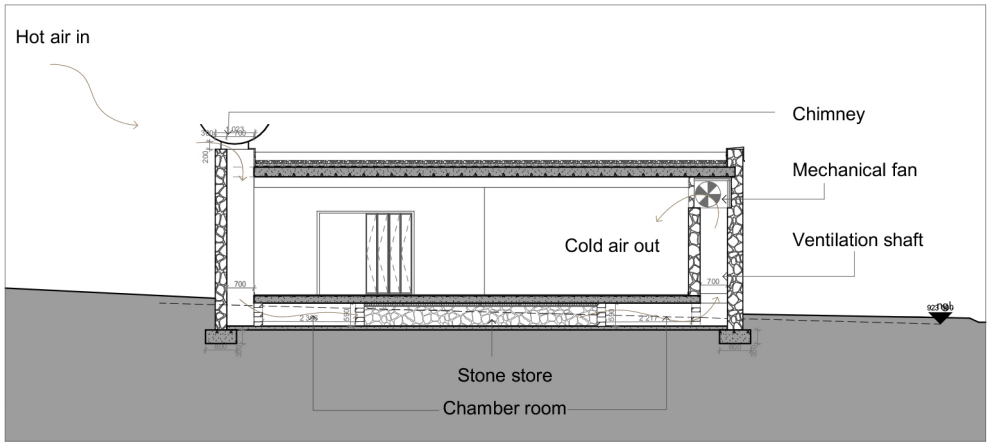

Chimney:
MS 16mm rods welded to m.s. 6mm rolled steel chimney cover with 1000 radius.
r = 1000
Rock store:
Rests on top of concrete slab.
Chamber seperated by perforated concrete block walls lined with wire mesh.
Filled with locally sourced rocks with diameter of 100mm. Rocks cleaned with water to remove dust and sediment.
Rock store capped with 70mm polystyrene insulation before surface bed is to be c asted over
Foundation:
Concrete strip foundation 1:4:5 nominal mix with comprehensive strength of 10Mpa at 28 days with steel reinforcement according to enigineer specification.
Footing 800 x 350mm
Stack and folding door with 8mm laminated safety glass installed in purpose-made alluminium frame in Manor red colour.
MULTI-FUNCTIONAL HALL
Non-face brick wall plastered and painted in gemstone sand colour finish
Flat roof:
250mm concrete cast in-situ 1:4:5 nominal mix with comprehensive strength of 30Mpa at 28 days with steel reinforcement according to engineer specification.
Slab built into stone walls.
One layer Derbigum SP4 waterproofing membrane with 75mm side laps and 100mm end laps, sealed to primmed surface to falls and crossfalls by tourchfusion, followed by 50mm thick polysterene insulation layer faced on both sides with bitupaper. Topped of with a layer of locally sourced rockes to serve as bulk insulation.
Wall:
Desert masonry wall constructed from cement, desert sand and locally sourced stone.
Stone exposed and constructed in random rubble pattern with 50mm deep mortar joints.
Floor slab:
Cantalevering concrete floorslab reinforced with steel reinforcement according to engineer specification.
Slab supported by cement bricks to make openings for air flow.
Foundation:
Concrete strip foundation 1:4:5 nominal mix with comprehensive strength of 10Mpa at 28 days with steel reinforcement according to enigineer specification.
Footing 800 x 350mm
top of wall
927 499
top of lintol
925 904
ffl.
923 729
ngl.
923 000
SECTION B-B



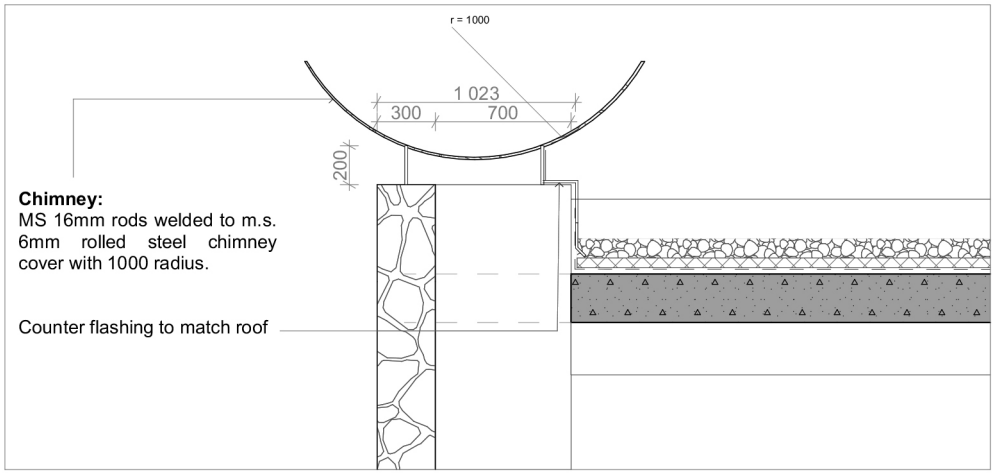
SECTION C-C



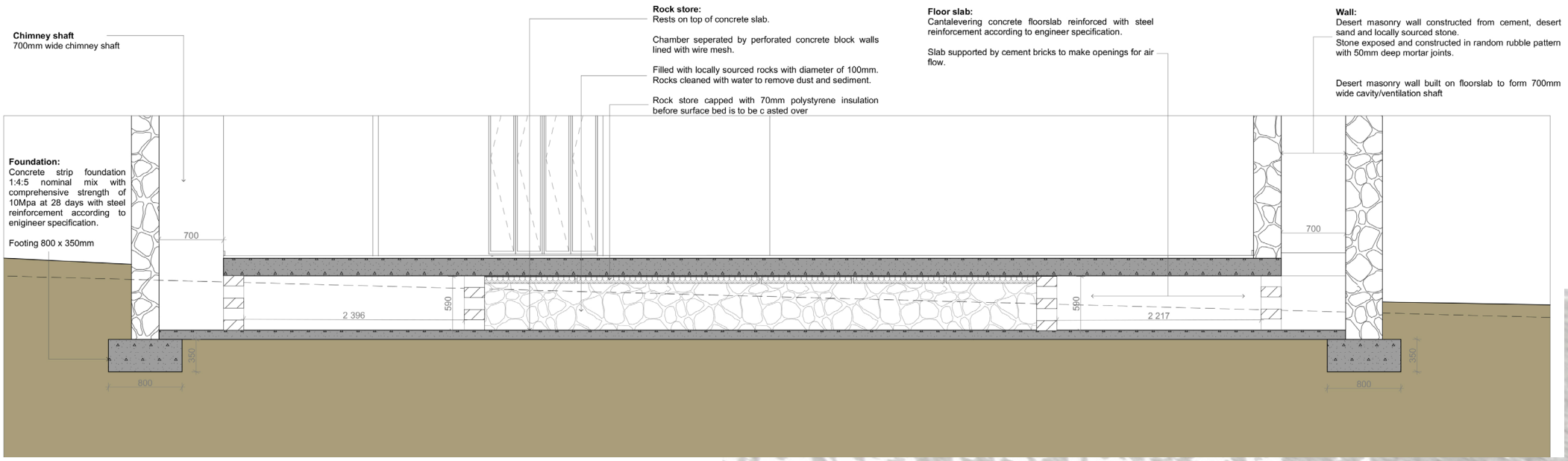
WEST ELEVATION



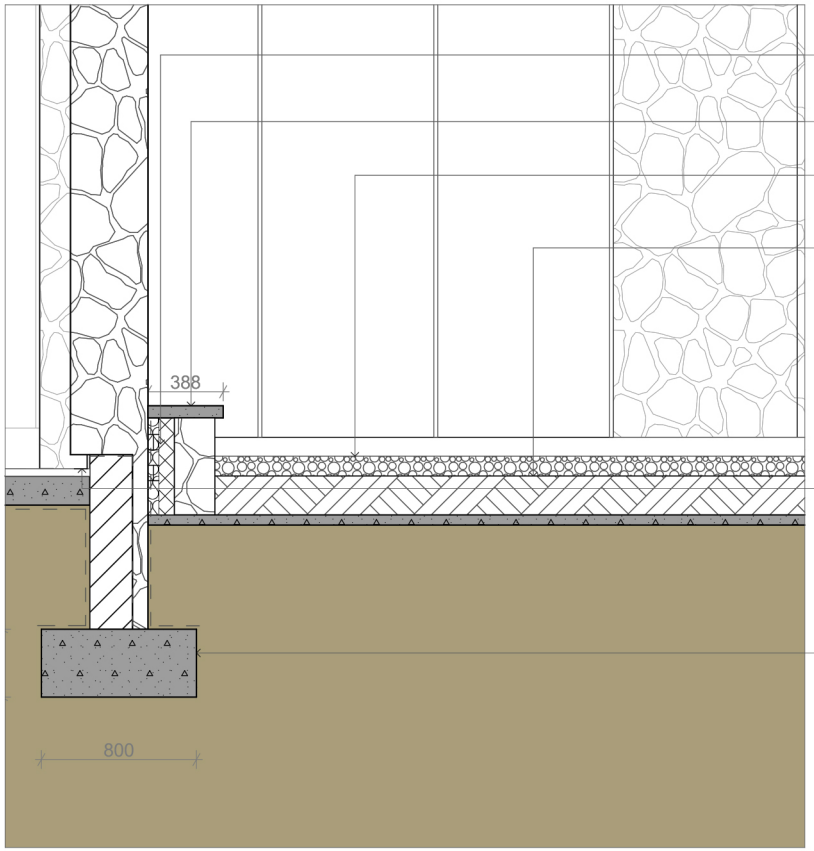
DIAGRAMS: Natural airflow through building



DETAIL: Chimney



DETAIL: STONE STORE



Sand dancing pit:

Stone wall insulaton and water proofing membrane: 100mm expanded Isothern polyester insulation with 2.33 R-value density of 20kg/m3, faced on both sides with bitumen paper.

Sandblasted concrete sone paver laid on stone wall.

Sand fill in-between seating and stone wall according to Rieldans medium and landscape architect's specifications.

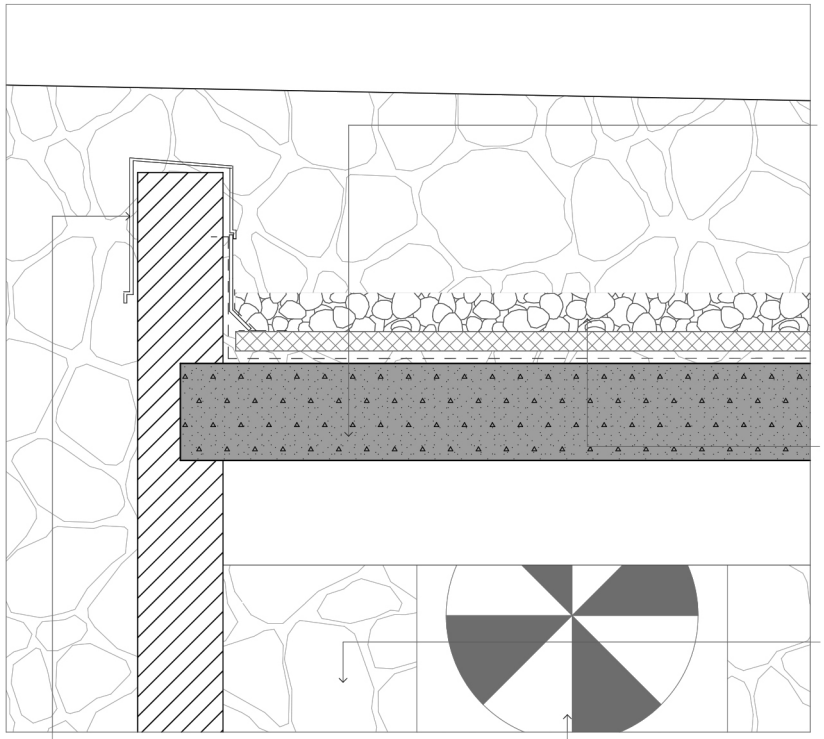
Backfill:
0.375mm polyolefin damp proof course layer. Backfill compacted in approved layers not exceeding 150mm. wet compact to 90% MOD AASHTO density.

Interior wall-floor connection:
Desert stone masonry wall casted on 120 x 120 x 2 mm C-channel. Channel fixed to foundation brick wall and polished screed floor.

Foundation:
Concrete strip foundation 1:4:5 nominal mix with comprehensive strength of 10Mpa at 28 days with steel reinforcement according to enigineer specification.

Footing 800 x 350mm

DETAIL 1: Sand pit



Flat roof:
250mm concrete cast in-situ 1:4:5 nominal mix with comprehensive strength of 30Mpa at 28 days with steel reinforcement according to engineer specification.

Slab built into stone walls.

min 50mm screed to fall to outlets.

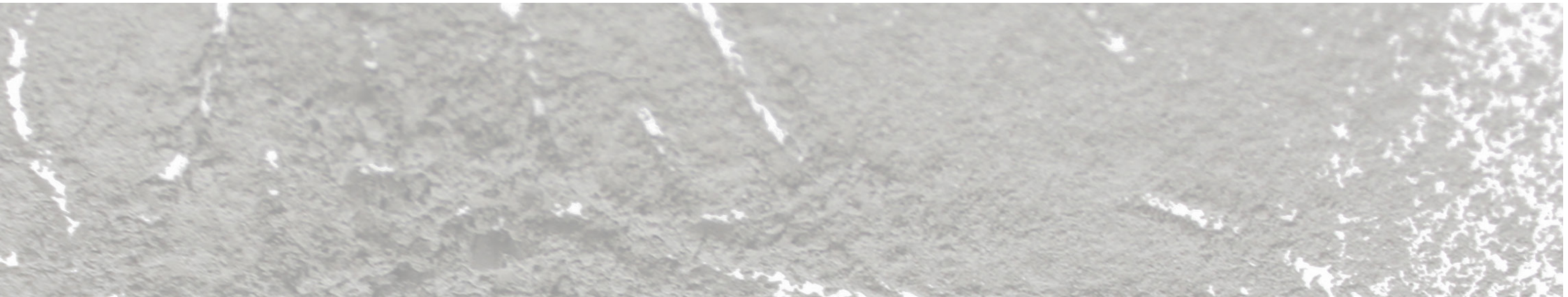
One layer Derbigum SP4 waterproofing membrane with 75mm side laps and 100mm end laps, sealed to primmed surface to falls and crossfalls by tourchfusion, followed by 50mm thick polysterene insulation layer faced on both sides with bitupaper. Topped of with a layer of locally sourced rockes to serve as bulk insulation.

Wall:
Desert masonry wall constructed from cement, desert sand and locally sourced stone.
Stone exposed and constructed in random rubble pattern with 50mm deep mortar joints.

Corten steel flashing attached to upstand-beam with steel screws.

Mechanical fans installed within desert masonry wall.

DETAIL 2: Flat roof



4.4.
ADDENDUM
Plagiarism report

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