HESSEQUA MUNICIPALITY

PORTION 257 OF THE FARM MELKHOUTE FONTEIN NO. 480, DIVISION RIVERSDALE (STILBAAI)

APPLICATION FOR:

Building Line Departure

APPLICANT:

NuPLAN AFRICA

PROJECT DETAIL

APPLICANT:	NuPlan Africa Town Planners
CONTACT PERSON:	Danette Jones 082 370 1317 danette@nuplanafrica.co.za
PROJECT REFERENCE:	C1.089
DATE:	25 April 2025

APPLICATION PARTICULARS

APPLICATION FOR THE:

- **Permanent Departure** of the western boundary building line from 30m to 1m, to allow for the construction of a new main dwelling unit, in terms of Section 15(2)(b) of the Hessequa Municipal Planning By-law 2015.

TABLE OF CONTENTS

LIST OF ANNEXURES

LIST OF PLANS

1. INTRODUCTION

Nuplan Africa Town Planners has been appointed by the subject property owner, to lodge this land use application on their behalf. The purpose of the application is to obtain the required land use rights to construct a main dwelling on the farm.

In order to achieve this, the following application is required:

- **Permanent Departure** of the western boundary building line from 30m to 1m, to allow for the construction of a new main dwelling unit, in terms of Section 15(2)(b) of the Hessequa Municipal Planning By-law 2015.

Section 4 and **7** of this report includes more detail and motivation on the application.

The following in respect to the application and the property is attached to this report:

- **ANNEXURE 1**: Land Use Application form.
- **ANNEXURE 2**: Pre-application minutes.
- **ANNEXURE 3**: Proof of payment of the application fees.
- **ANNEXURE 4**: Copy of Certificate of Registered Title.
- **ANNEXURE 5**: The power of attorney in favour of NuPlan Africa.
- **ANNEXURE 6**: CC Registration documents.
- **ANNEXURE 7**: Consent letter from John & Kinna Ellis Familie Trust ("the trust").
- **ANNEXURE 8**: SG Diagram

2. PROPERTY DETAILS & STATUS QUO

The description of the subject property is outlined in Table 1 below:

Table 1: PROPERTY DESCRIPTION

Property description	Portion 257 of the Farm Melkhoute Fontein No. 480, Division Riversdale (Stilbaai)
Extent of Property	50,1544ha
Current zoning	Agriculture Zone I
Current land use	The farm is used for small scale farming (grazing of sheep) and consist of one labourer's house and a storage building.
Ownership	Ellis Farming Enterprises CC (Reg. nr: 1998/033137/23)
Title deed	T36479/2021
Servitudes	None.
Restrictive conditions	None.

2.1 LOCALITY

The subject property is in the rural area of Hessequa, to the north-west of Stilbaai, directly adjacent to the Goukou River (on the northern embankment).

Access to the farm is via the Spuithoek Road (4854) which is a gravel road from the R305 which gives access to the farms along the northern embankment of the Goukou River. Refer to the locality plan on **Figure 1** and attached **PLAN 1**.

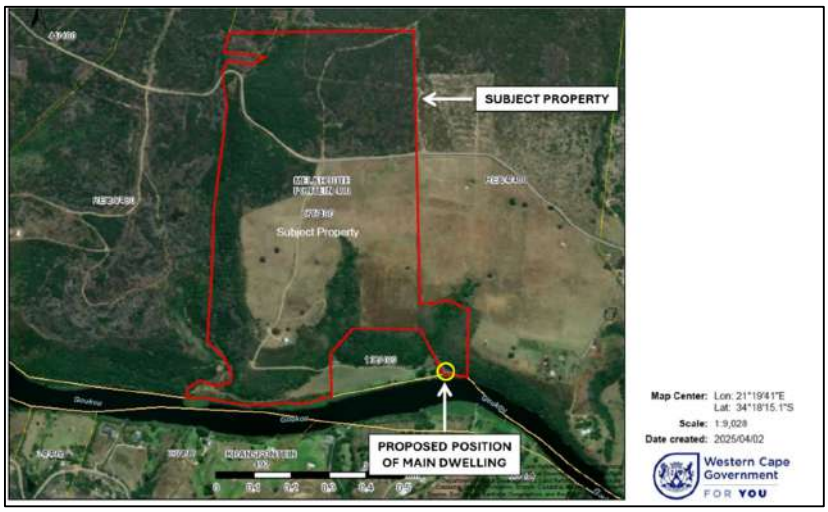


Figure 1: LOCALITY PLAN

2.2 ZONING AND LAND USE

The zoning of the subject property is Agriculture Zone I. The property is currently used for small scale farming; the old agricultural fields are used for the grazing of sheep. There are currently two existing structures on the property and includes (refer to **Figure 2**):

- A labourer's dwelling with a total floor area of 101,97m² which was approved in 2012 (refer to building plans attached as **PLAN 2**).
- Opposite the labourer's house is a dilapidated building which used to be a labourer's house and is now used for storage of farm equipment.

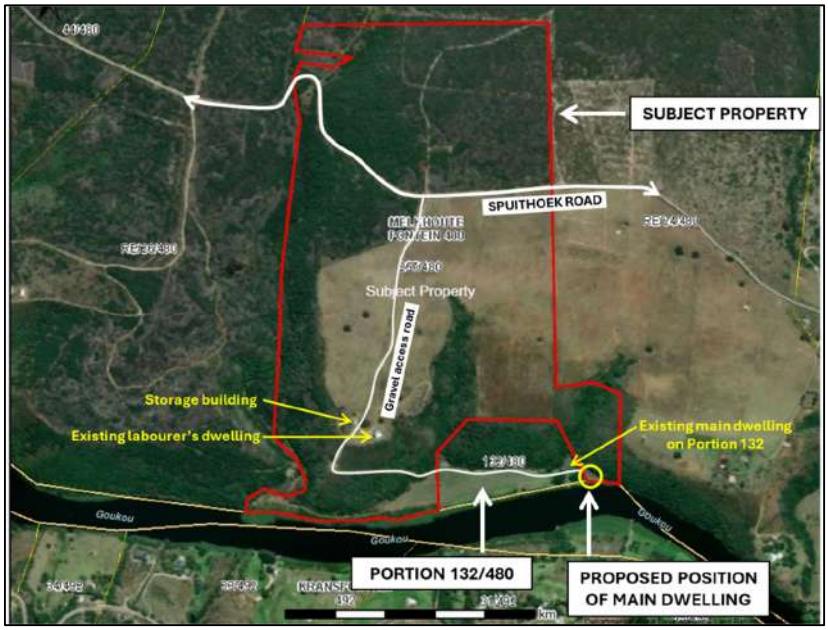


Figure 2: AERIAL INDICATING EXISTING STRUCTURES & INFRASTRUCTURE

2.3 SURROUNDING AREA

The surrounding area is rural in nature and includes farms for agricultural (intensive agricultural production), farms with smaller scale agricultural activities, farms with tourist facilities and accommodation as well as lifestyle farms), tourism, natural (private nature reserves and natural areas), Goukou River and roadways.

3. PRE-APPLICATION & PUBLIC PARTICIPATION

A pre-application was submitted to the Hessequa Planning department. The following was noted:

- Public participation: The adjacent property, Portion 132/480, must provide comment or consent for the application. No other neighboring properties need to be informed.
  - Refer to attached **ANNEXURE 7** for consent letter.
- A Site Plan indicating all structures on the property must be submitted with the application (refer to **Figure 2**).
- The application must include Consent for an additional dwelling.
  - Note: This requirement was subsequently discussed with the Planning department and explained that the existing dwelling on the farm is a labourer's dwelling which was approved in 2012 (refer to approved building plans attached as **PLAN 2**), and is a primary right, therefor it is not required to submit a Consent Use application.
- No internal or external departments were identified to provide comment on the application.

4. DETAIL OF APPLICATION AND DEVELOPMENT PROPOSAL

The section below outlines the detail of the proposed development. To achieve this the following applications are required:

- **Permanent Departure** of the western boundary building line from 30m to 1m, to allow for the construction of a new main dwelling unit, in terms of Section 15(2)(b) of the Hessequa Municipal Planning By-law 2015.

Refer to the Site Development Plan attached to this report as **PLAN 3** and the floor plans and elevations of the proposed dwelling attached as **PLAN 4**.

4.1 DESCRIPTION OF DEVELOPMENT PROPOSAL

The owner wants to establish a new main dwelling on the subject property, adjacent to the Goukou River. The position of the proposed dwelling is 1m from the western farm boundary and requires a departure from 30m to 1m. The position of the proposed dwelling is rather fixed due to the floodline in the south and existing milkwood trees and vegetation on the eastern side. For this reason, the dwelling cannot be moved further from the farm boundary, and a building line departure is required. Refer to the photos in **Figure 3** and **Figure 4** which illustrates the position of the proposed dwelling as well as proximity to Portion 132/480.

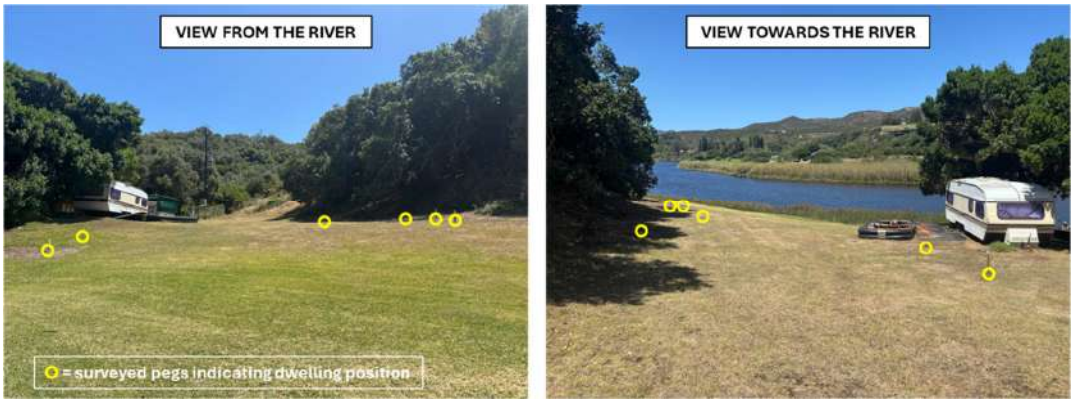


Figure 3: PHOTOS ILLUSTRATING POSITION OF PROPOSED DWELLING

Figure 4: POSITION OF PROPOSED DWELLING ADJACENT TO PTN 132/480

4.1.1 Association of the Subject Property with Portion 132/480

The subject property located adjacent to Portion 132/480, and in fact surrounds Portion 132/480 on three of the four cadastral boundaries (north, east and west). Access to Portion 132 is also over the subject property.

The subject property is owned by "*Ellis Farming Enterprises CC*" and the members of this CC are two brothers: Johannes Petrus Ellis and Philip Viljoen Ellis.

Portion 132/480 is owned by "*John & Kinna Ellis Familie Trust*" of which the three siblings, Johannes Petrus Ellis, Philip Viljoen Ellis and their sister Mariane Groenewald, are the trustees and beneficiaries.

As can be seen, two of the trustees are members of the CC. These two properties; the subject property and Portion 132, are therefor in family ownership which is one of the reasons for; the

need to build the proposed main dwelling, as well as the reason for the position thereof, which is directly adjacent to the existing main dwelling on Portion 132.

Consent from the "*John & Kinna Ellis Familie Trust*" was obtained and attached as **ANNEXURE 7**.

4.1.2 MOTIVATION FOR PROPOSED POSITION OF DWELLING

Figure 5 indicates two positions (the proposed and alternative positions) adjacent to the river, on the subject property, where the main dwelling could be constructed. The motivation behind the proposed position as opposed to the alternative position is as follows:

- Proximity to existing dwelling on Portion 132/480:
  - The existing main dwelling on Portion 132/480 is owned by the family trust, as explained in **Section 4.1.1** of this report.
  - Amongst the other reasons listed below, the proposed position is favourable for the owners of the subject property as well as for the trust (owners of Portion 132/480) because of its proximity to the existing dwelling as both will be dwellings owned by the family. Refer to letter from the trust attached as **ANNEXURE 7**.
- Availability of services:
  - The proposed position is close to existing services, whereas the alternative position is much further away which will make it difficult and more costly to provide services:
    - ❖ The Eskom 3-phase electrical connection is located on the boundary of the subject property, adjacent to the existing dwelling on Portion 132 as well as adjacent to the proposed main dwelling, making it easy to provide electricity.
    - ❖ The existing water tanks, connected to the borehole on the subject property, is located just north of the chosen site, on a hill. As discussed in **Section 4.1.5** of this report, the proposal is to install 2 x 5000l in addition to the existing tanks with a new 40mm water line to provide water to the proposed main dwelling.
- Best view:
  - The proposed position provides the best view and access to the river.
  - The alternative position will require removal of natural vegetation and reeds and substantial groundworks to obtain access to the river.
  - The proposed position is sheltered against elements such as wind and sun, whereas the alternative position is very exposed to the elements and will require additional design with cost implications as well as increased electricity usage.
- Adjacent to existing dwelling owned by trust:
  - The proposed position's proximity to existing dwelling on Portion 132 helps to share facilities such as garages.
- Flood level study:
  - In 2023 a flood level study was conducted, and the recommendation was that the proposed position will be viable if the floor level of the dwelling is above the 5,5m contour level then it will be above the 1:100 floodline. This guided the design of the dwelling being built on stilts.

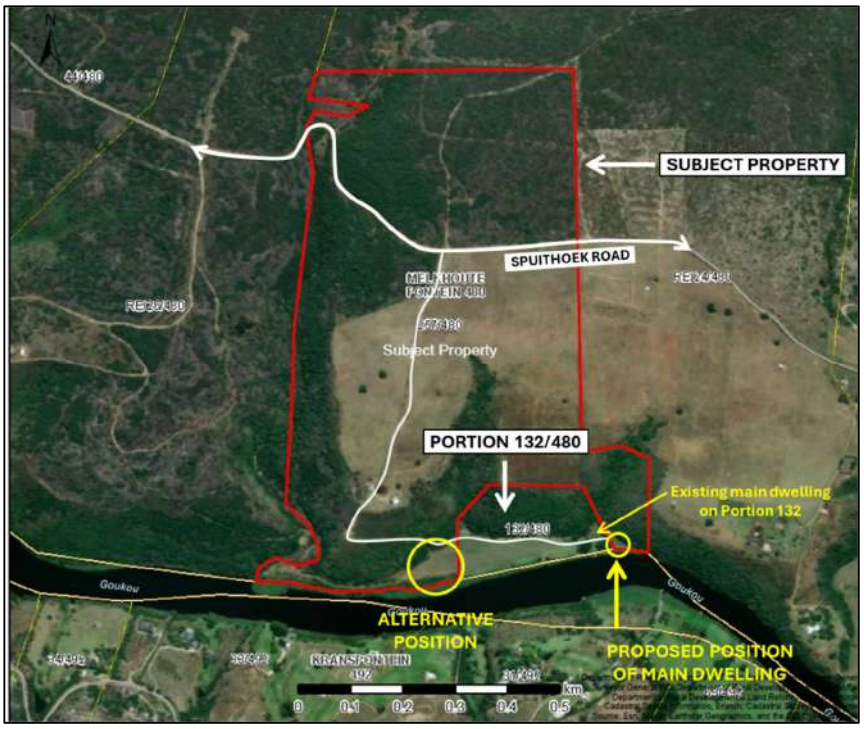


Figure 5: PROPOSED MAIN DWELLING – PROPOSED AND ALTERNATIVE POSITIONS

4.1.3 Access

Access to the proposed dwelling can be obtained via the neighboring property (Portion 132/480) using the existing access road. A right of way servitude is in process of being registered over Portion 132/480 in favor of the subject property.

4.1.4 Design of the Dwelling

Due to its proximity to the Goukou River, the development is planned to be stilted rather than built on the ground, which also reduces its footprint on vegetation. The proposed new dwelling will be constructed in a timber frame to comply with relevant SABS codes and the National Building Regulations.

A raised timber base floor structure on SABS approved treated timber columns secured to B600 Engineer designed steel reinforced prefabricated concrete footings will eliminate the need for excavations and/or filling and ensure the floor level of the house to be constructed above the 1:100-year flood line.

The floor level will be at 5,5m above the high-water mark as per the recommendation of WML Coast Consulting engineers who conducted a Flood Level Study of the Goukou River in the vicinity of the subject property.

Internal and external floor structures, wall frames and roof structure are all per the designs and specifications provided by the appointed civil Engineers.

Wall frame cavities will allow for the reticulation of electrical wiring, plumbing, water lines, gas, TV and other required services and all cavities are to be tightly packed with noncombustible fiber wool insulation. External walls will be cladded with fiber cement planking.

The roof cover will be Color Bond AZ 200 metal profile sheets installed to manufacturers specifications.

4.1.5 SERVICES

The sections below give an overview of the services, the full Services report is attached as **ANNEXURE 9**.

Sewerage

A masonry conservancy tank, serviced by Hessequa Municipality, will be constructed according to SANS 10400-P:2010 Edition 3. The capacity of the tank will be 6000 liters and will be constructed to the north of the dwelling, next to the parking area, to ensure easy access for the Municipal truck. It will be positioned on the 5,5m contour level and thus above the 1:100 flood line.

Electricity

There is an existing 3-phase Eskom connection, on the boundary between Portion 257 and Portion 132, which is directly adjacent to the position of the proposed new dwelling.

Water

There is an existing borehole on the subject property, with 2 x 5000l water tanks installed and connected with the borehole. An existing 20mm water line connects these tanks with 2 x 2500l water tanks further south on a hill, which currently provides water to the existing dwelling on Portion 132 (owned by the trust) via a 32mm gravity water line.

The proposal is to install 2 x 5000l tanks on the hill, which is just above the proposed new dwelling and connect it to the new dwelling with a new 40mm water line.

5. BASIC ASSESSMENT APPLICATION

Cape EAPrac has been appointed as Environmental Assessment Practitioners (EAP) to undertake the Basic Assessment process for the proposed main dwelling. The process is as follows:

- *Notice of Intent:*
  - This was already submitted, and comment was obtained from DEADP on the Specialist Studies required.
- *Formal Application Form*:
  - This will be submitted at the beginning of May 2025.
  - From this submission date the EAP has 90 days to submit the Final Basic Assessment report.
- *Draft Basic Assessment Report*:
  - Within this 90-day period the Draft Basic Assessment Report is circulated for comment and the 30-day public participation is done, which includes an advertisement in the newspaper, site notices and notification of the following:

a. Surrounding neighbours.
b. Hessequa Municipality.
c. Cape Nature
d. Heritage Western Cape.
e. WC Department of Agriculture.
f. BOCMA.
g. Garden Route District Municipality.
h. DEADP: Oceans & Coast.
i. As well as any person who wants to register as an interested and affected party.

- *Final Basic Assessment Report*
  - After the public participation process, the report will be finalised for submission to DEADP.
  - DEADP has 107 days to take a decision on the application.
  - If the application is approved, there is a 20-day appeal period.

The estimated timeframe for the Basic Assessment, from submission of the Formal Application Form is approximately 7 months. A decision is therefore expected in November 2025.

As part of the Basic Assessment process, the following Specialist studies were conducted:

- Terrestrial and Plant Species Theme Specialist Assessment.
- Terrestrial Animal Species.
- Flood Level Study.
- Specialist Aquatic Biodiversity Assessment.
- Agricultural Assessment.

The following sections provides an overview of these studies.

5.1 TERRESTRIAL AND PLANT SPECIES THEME SPECIALIST ASSESSMENT

Confluent Environmental Pty (Ltd) was appointed to undertake a specialist assessment for botanical and terrestrial sensitivity for the proposed development of a dwelling on the subject property. Below is an extract from the findings of the report, the full report is attached as **ANNEXURE 10.**

Terrestrial Biodiversity

The entire subject property is mapped as a CBA1 area. The vegetation type mapped for the site (Gouritz Valley Thicket) is highlighted by the National Vegetation Map as Critically Endangered. However, all accessible vegetation at the site shows transformation for agriculture either historical or current and other transformation (such as maintained lawn). The dense thicket vegetation, however, is in good condition and no alien invasive species were noted. The development as proposed falls outside of any thicket vegetation and will not compromise the quality of the thicket vegetation. The area therefore has a **Low** site sensitivity, which differs from the **Very High** sensitivity assigned by the DFFE screening tool.

Botanical Diversity

Southern White Milkwood (*Sideoxylon inerme inerme*), a protected tree, although not highlighted by the screening tool or desktop search, was found during the site assessment in

close proximity to the proposed development. Since the development is proposed for the grassed area of the site, no SCC has a high probability of occurrence in its direct footprint.

During the site visit the landowner noted that the development will be stilted. Adjacent milkwood trees may hang too far over into the proposed development area to accommodate the dwelling. Permits would therefore need to be sought to cut back on these branches or alternatively they should be avoided. Despite this, the site is given a **Low** sensitivity for the botanical theme which does not accord with the **Medium** sensitivity assigned by the DFFE screening tool.

5.1.1 COMPLIANCE STATEMENT AND RECOMMENDATIONS

Following on from the sensitivity verification section of this report for both the Plant Species and Terrestrial Biodiversity Themes, a compliance statement can be issued for the proposed development on the site. Some general recommendations for the project include:

- The access road to the site is bounded by milkwood trees in the north and should not be widened where these trees may be affected or permits for the removal/ trimming back of these trees should obtained.
- The Milkwood tree/s hanging over the pegs outlining the development will need to be avoided to accommodate the dwelling. Alternatively, a license may be obtained to cut back overhanging branches.
- Care should be taken to prevent the transportation of invasive alien species to the site during construction of the dwelling.

5.2 TERRESTRIAL ANIMAL SPECIES:

Confluent Environmental Pty (Ltd.) was appointed to conduct a specialist assessment for the proposed construction of a single residence on the subject property. Below is an extract from the findings of the report, the full report is attached as **ANNEXURE 11**.

Site Sensitivity Verification and Compliance Statement

During the site visit the faunal specialist conducted a thorough assessment of the site sensitivity for the terrestrial animal theme on the subject property. Contrary to the **MEDIUM** sensitivity indicated by the Department of Forestry, Fisheries and the Environment (DFFE) Screening tool, our desktop and field assessment indicate that the site sensitivity is, in fact, **LOW** for the following reasons:

- The faunal surveys conducted in and around the farm revealed no SCC. The absence of SCC significantly reduces the site's conservation significance and sensitivity. Furthermore, the lack of habitat-specific or range-restricted species, which are typically indicative of high conservation value, reinforces the site's LOW sensitivity.
- Based on a comprehensive analysis of habitat characteristics and species requirements, there is a low probability of occurrence for the SCC identified by the DFFE Screening tool and public resources. This conclusion is supported by the fact that the site's habitat attributes do not align with the specific requirements of these SCCs, rendering it unsuitable for their survival and persistence.

5.3 FLOOD LEVEL STUDY

WML Coast has been appointed to conduct a flood level study of the Goukou River in the vicinity of Farm 480/25 Melkehoutefontein. The purpose of this study is to assess the potential flood risk associated with the construction of a new residential house adjacent to the river. Below is an extract from the recommendation of the report, the full report is attached as **ANNEXURE 12**.

5.3.1 RECOMMENDATIONS FOR NEW DWELLING

This study predicts that the present 50-year flood line level is at 4.05 m MSL, this level does not account for the kinematic energy of the water and therefore further run-up can be expected.

The footprint of the proposed new dwelling extends from the 5.25m MSL contour to the 3m MSL contour on the river side. The setting out points of the new dwelling is shown on **Figure 6** ("HUIS1" to "HUIS5").

The following recommendations are made:

- The dwelling should be built on piled supports (pillars).
- The floor level of the dwelling should be above the 1 in 100-year flood level to limit flood risk;
  - Setting out point "HUIS5" is situated on an elevation of 5.25 m MSL, if this level is used as the house floor level, the house will be elevated above the present 1 in 100-year flood level.
  - To account for the future 1 in 100-year flood event the floor level should be above 5.5m MSL, which is easily achievable within the current development footprint.
- Riverbank scour could result in undermining of the foundations of the house, the design of the house should consider potential scour of the riverbank due to flood events, however;
  - Model predicted scour velocities for the 1 in 100-year flood event at point "HUIS3" are in the order of 0.7 m/s.
  - This flow velocity is mild and it is not expected that the riverbank, at the house footprint will be scoured significantly.

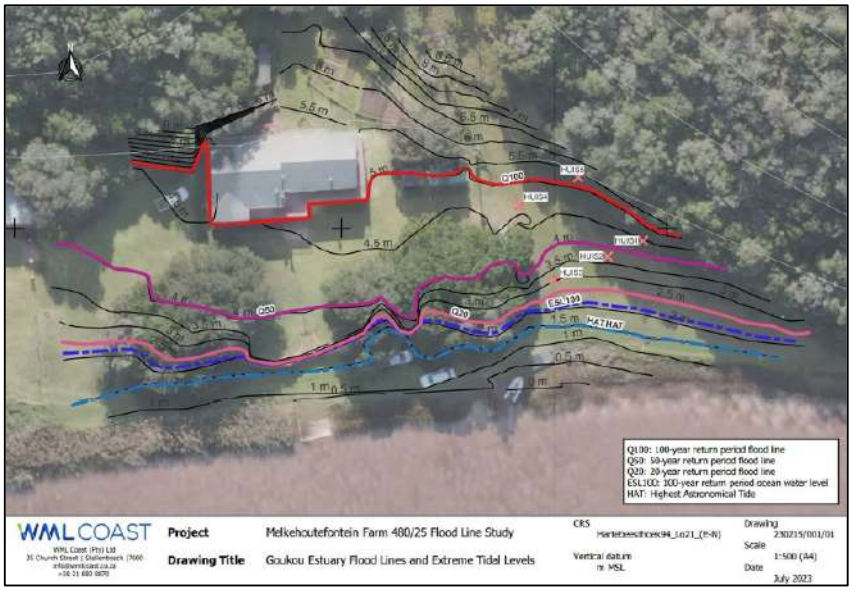


Figure 6: Goukou Estuary Flood Lines and Position of proposed dwelling

5.4 SPECIALIST AQUATIC BIODIVERSITY ASSESSMENT

Confluent Environmental was appointed to undertake an aquatic biodiversity assessment survey for the proposed construction of a single residential dwelling on the subject property. Below is an extract from the findings of the report, the full report is attached as **ANNEXURE 13**.

5.4.1 FINDINGS AND RECOMMENDATIONS

While the proposed development does occur within the EFZ of the Goukou Estuary, and is therefore contrary to management objectives aligned to the WCBSP and the Goukou EMP, the development footprint has been historically transformed and, assuming the implementation of recommended mitigation measures, its construction will not result in any modification to functional estuarine habitat. The dwelling is located in the 1:100-year floodline and there is a risk of flooding and scouring of the banks during the operational phase. For this reason, the authorization of this development should only be considered subject to the implementation of the recommendations made by the floodline assessment conducted by WML Coast (2023).

5.5 AGRICULTURAL ASSESSMENT

Soil ZA (Johan Lanz) was appointed to undertake an Agricultural Assessment. Below is an extract from the concluding statement of the report, the full report is attached as **ANNEXURE 14**.

"The overall conclusion of this assessment is that the proposed development is acceptable because it leads to a negligible loss of future agricultural production potential.

The screening tool classifies the assessed area as being high agricultural sensitivity. This assessment disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because of its assessed lack of cropping potential. Cropping potential is predominantly limited by the location of the site, isolated from all other agricultural production land, and by the very small size of the site.

An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of a development. Due to the facts that the proposed development will exclude only a very small area of land, which has low agricultural potential, the overall, negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved."

6. PLANNING FRAMEWORKS AND LEGISLATION

6.1 SPATIAL PLANNING AND LAND USE MANAGEMENT ACT 16 OF 2013 (SPLUMA)

Section 42 of SPLUMA sets out the factors which needs to be taken into consideration when a decision is taken on an application, and stipulate that a Municipal Planning Tribunal must:

a) Be guided by the development principles set out in Chapter 2 of SPLUMA:
   (i) Spatial justice
   (ii) Spatial sustainability
   (iii) Efficiency
   (iv) Spatial resilience
   (v) Good administration

   Applicant response: This is addressed in **Section 6.1.1** of this report.

b) Make a decision which is consistent with norms and standards and protect and promote:
   (i) The sustainable use of agricultural land.
   Applicant response: The subject property is a farm which is used for small scale farming (grazing of sheep). The position of the proposed dwelling is adjacent to the river and not on existing agricultural fields or any high potential agricultural land.
   (ii) National and Provincial government policies.
   Applicant response: Refer to **Section 6.2**.
   (iii) The Municipal Spatial Development Framework (MSDF).
   Applicant response: Refer to **Section 6.3**.

c) Take into account:
   (i) The public interest.
   Applicant response: The prescribed public participation processes will be followed to inform the public of this proposed development and obtain their comments.
   (ii) The constitutional transformation imperatives and the related duties of the State.
   Applicant response: This is not applicable due to the small scale of this application.
   (iii) The facts and circumstances relevant to the application.
   Applicant response: The facts and circumstances of this application is outlined in this motivation report.
   (iv) The respective rights and obligations of all those affected.
   Applicant response: The application will follow the prescribed public participation process to ensure that the rights of the affected parties are taken into consideration.
   (v) The state and impact of engineering services, social infrastructure and open space requirements.
   Applicant response: The application will not have a negative impact on engineering services, social infrastructure or open space requirements.
   (vi) Any factors that may be prescribed, including timeframes for making decisions.
   Applicant response: The applicant will adhere to the timeframes set by the Municipal Planning Bylaw.

6.1.1 DEVELOPMENT PRINCIPLES SET OUT IN CHAPTER 2 OF SPLUMA

The principles for land development set out in SPLUMA stipulates that spatial planning, land development and land use management should be guided by the principles of *spatial justice, spatial sustainability, efficiency, good administration* and *spatial resilience*.

The table below outlines the principles and indicates how the application is in line with the principles, where relevant and if applicable.

PRINCIPLES	ALIGNMENT OF APPLICATION
(a) The principle of **SPATIAL JUSTICE**, whereby – *(i)* past spatial and other development imbalances must be redressed through improved access to and use of land; *(ii)* spatial development frameworks and policy at all spheres of government must address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements, former homeland areas and areas characterised by widespread poverty and deprivation; *(iii)* spatial planning mechanisms, including land use schemes, must incorporate provisions that enable redress in access to land by disadvantaged communities and persons; *(iv)* land use management systems must include all areas of a municipality and specifically include provisions that are flexible and appropriate for the management of disadvantaged areas, informal settlements and former homeland areas; *(v)* land development procedures must include provisions that accommodate access to secure tenure and the incremental upgrading of informal areas; and *(vi)* a Municipal Planning Tribunal considering an application before it, may not be impeded or restricted in the exercise of its discretion solely on the ground that the value of land or property is affected by the outcome of the application.	The principle of Spatial Justice refers to development imbalances where access to land, services and opportunities must be addressed by government policies. Due to the nature of this application, spatial justice in not applicable.
(b) The principle of **SPATIAL SUSTAINABILITY** whereby spatial planning and land use management systems must –	
(i) promote land development that is within the fiscal, institutional and administrative means of the Republic;	(i) The proposal is to build a new main dwelling which requires a building line departure. This is a private development and infrastructure, and services are available and will therefore not put any additional financial pressure on the Municipality.
(ii) ensure that special consideration is given to the protection of prime and unique agricultural land;	(ii) No prime of unique agricultural land will be affected by this application.
(iii) uphold consistency of land use measures in accordance with environmental management instruments;	(iii) A Basic Assessment in terms of NEMA is submitted in parallel to this application to ensure that the environment is considered and protected.
(iv) promote and stimulate the effective and equitable functioning of land markets;	(iv) The proposed new dwelling will increase and add value to the property.
(v) consider all current and future costs to all parties for the provision of infrastructure and social services in land developments;	(v) No use of Municipal infrastructure is required, except for sewerage removal, and therefor it will

	bear limited to no current or future cost to anyone.
(vi) promote land development in locations that are sustainable and limit urban sprawl; and	(vi) The nature of the proposal does not promote urban sprawl as the application is to enable the construction of a new main dwelling on a farm which is a primary right in terms of the Municipal Planning Bylaw.
(vii) result in communities that area viable.	(vii) The application, if approved, will mean that a dwelling will be constructed which will provide employment opportunities which is positive for economic development. It will also house an additional family in the Stilbaai area which means potential increased economic activity. Therefore it could have an overall positive impact on the area and its viability.
(c) The principle of **EFFICIENCY** whereby -	
(i) Land development optimises the use of existing resources and infrastructure;	(i) The proposal is to build a new main dwelling on a farm where infrastructure and services are available.
(ii) decision-making procedures are designed to minimise negative financial, social, economic or environmental impacts; and	(ii) The nature of this application will not cause any negative financial, social, economic or environmental impacts.
(iii) development application procedures are efficient and streamlined and timeframes are adhered to by all parties.	(iii) This application is submitted in line with the Municipal Planning By-law requirements and all effort will be made by the Applicant that procedures are efficient, and timeframes are adhered to.
(d) The principle of **SPATIAL RESILIENCE**, whereby flexibility in spatial plans, policy and land use management systems are accommodated to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic and environmental shocks.	The location of the property provides for flexibility as it can either be used for residential, or given the location adjacent to the Goukou River, application can be made for the rights to use it for tourism purposes.
(e) The principle of **GOOD ADMINISTRATION**, whereby **-**	
(i) all spheres of government ensure an integrated approach to land use and land development that is guided by the spatial planning and land use management systems as embodied in this Act; (ii) all government departments must provide their sector inputs and comply with any other prescribed requirements during the preparation or amendment of spatial development frameworks;	(i) & (ii) The application is submitted to the Municipality in terms of the Municipal Planning Bylaw and will be circulated to the relevant sector departments for input and comments, thereby ensuring an integrated inter-governmental approach to land use planning. No amendment of the spatial Development Framework is required.
(iii) the requirements of any law relating to land development and land use are met timeously;	(iii) The relevant laws in this instance include SPLUMA, LUPA, Municipal SDF, Hessequa IDP and Hessequa Municipal Planning Bylaw which has been addressed in this application.
(iv) the preparation and amendment of spatial plans, policies, land use schemes as well as procedures for development applications, include transparent processes of public participation that afford all parties the opportunity to provide inputs on matters affecting them; and	(iv) The application will go through a public participation process as prescribed by the Municipal Planning Bylaw.

(v) policies, legislation and procedures must be clearly set in order to inform and empower members of the public.	(v) The application process will be dealt with in terms of the relevant policies and legislation.

6.2 RURAL DEVELOPMENT GUIDELINES WESTERN CAPE LAND USE PLANNING GUIDELINES, RURAL AREAS (MARCH 2019)

This policy envisages a wide range of accommodation/residential opportunities in the rural area which is summarized in the table below.

LOCATION	TYPE OF ACCOMMODATION
Farms	One homestead (owner's dwelling) Five additional dwellings Agri worker housing Guest house Camping sites
Resorts	Temporary Tourist accommodation Employees' accommodation
Nature reserves	One homestead (Owner's dwelling) Accommodation for tourists Employees' accommodation
Smallholdings (on urban fringe)	One homestead (Owner's dwelling) Second dwelling Guest house
Agri-village	Accommodation for bona fide agri workers

For the purposes of this application, the first location in the table, "farms", is applicable. According to this policy a farm can have one homestead (owner's / main dwelling), five additional dwellings, agri worker housing etc.

This application involves the establishment of one main dwelling. There is already one labourer's dwelling / agri worker housing on the farm, as explained in **Section 2.2** of this report. No other dwellings or accommodation is proposed at this stage and therefore this application is in line with this policy.

6.3 HESSEQUA MUNICIPALITY SPATIAL DEVELOPMENT FRAMEWORK (MSDF), 2013 & 2017

The Hessequa Municipality Spatial Development Framework (SDF) 2013 (with update in 2017), is the applicable policy document guiding spatial development in the Municipality.

The subject property is a farm located outside of the urban edge and in a rural area of the Municipality, north-west of Stilbaai and adjacent to the Goukou River.

The role of Stilbaai within the larger Municipal area is that of a holiday and retirement town as well as service centre with a variety of functions. Stilbaai is categorised as an important node in Hessequa and is seen as a settlement with sustainable growth opportunities and development potential.

Compliance with the MSDF:

The MSDF states that tourism accommodation on farms, provides an opportunity for agricultural practices to earn an additional income whilst it also contributes to tourism development in the area (SDF 2013, p. 77).

Although the application is not for tourism accommodation, it still deals with accommodation, as it is for a building line departure to enable the establishment of a main dwelling on a farm, which is a primary right in terms of the Hessequa Land Use Planning Bylaw.

The MSDF however does not specifically address this type of accommodation, but only focus on tourism / guest accommodation on farms and promotes the development thereof within certain guidelines. Thus, when assessing the alignment of this application with the MSDF, the establishment of the main dwelling can be assessed against the guidelines for accommodation in the MSDF. The proposal is therefore deemed to be in line with the MSDF for the following reasons:

- It is in line with B11.4: The proposed dwelling will have a scale and form which is compatible with the rural environment.
- The owner does not intend to subdivide or alienate the dwelling.
- The farm will remain a working agricultural farm.

7. MOTIVATION

The following sections includes the motivation of the application, and it is structured as follow:

- The desirability of the application in terms of the following:
  - Physical characteristics
  - Impact on existing planning in the area
  - Impact on the character of the area
  - Locality and accessibility of the property
  - Potential of the property
  - Provision of services
  - Construction phase of the proposal

7.1 DESIRABILITY

7.1.1 PHYSICAL CHARACTERISTICS OF THE SUBJECT PROPERTY

The subject property is 50,1544ha in size and has the following existing structures:

- A labourer's dwelling with a total floor area of 101,97m² which was approved in 2012 (refer to building plans attached as **PLAN 2**).
- Opposite the labourer's house is a dilapidated building which used to be a labourer's house and is now used for storage of farm equipment.

The site where the new dwelling is proposed is a mowed lawn area which slopes gently towards the Goukou River. According to the Aquatic Biodiversity Assessment, attached as **ANNEXURE 13** (p. 13), the proposed development therefore occurs within a transformed area and while in close proximity to the Goukou River, is not representative of natural estuarine habitat as indicated by the WCBSP and the national vegetation map.

The Specialist Studies confirmed the following:

- From a terrestrial biodiversity perspective, the site for the new dwelling has a Low site sensitivity, as discussed in **Section 5.1** of this report.
- From a botanical perspective, the site is also given a Low sensitivity, as discussed in **Section 5.1** of this report.
- From a terrestrial animal species perspective, the site sensitivity is low due to the absence of species of conservation concern as well as the habitat characteristics, as discussed in **Section 5.2** of this report.

The Flood Level Study that was conducted confirmed that the new dwelling can be built in the chosen position if the following recommendations are implemented:

- The dwelling should be built on piled supports (pillars).
- The floor level of the dwelling should be above the 1 in 100-year flood level (thus the 5,5m contour level) to limit flood risk.

The physical characteristics of the property does not pose any challenge to the proposed new main dwelling.

7.1.2 Impact on Existing Planning in the Area

In terms of accommodation, the farm only has one labourer's dwelling and does not have a main dwelling. According to the Hessequa Bylaw on Municipal Planning (2019), the MSDF (2017) and the Rural Development Guidelines Western Cape Land Use Planning Guidelines, Rural Areas (March 2019) a main dwelling is a primary right and is allowed. The proposal for a main dwelling is therefor in line with the legislation and policies.

With regards to the application for a building line departure, this will not have a negative impact on the planning of the area, considering the fact that, the owners of the subject property is also part of the family trust which owns the adjacent property (Portion 132/480).

7.1.3 Impact on Character of the area

The character of the area is rural with farms along the Goukou River of which most has dwellings adjacent or overlooking the river.

When considering the impact on the character of an area, the type of land use and scale of development must be taken into consideration. In this case, the proposal is to build a main dwelling adjacent to the river which requires a building line departure from 30m to 1m, due to the location of the chosen site and existing vegetation.

Due to its proximity to the Goukou River, the proposed dwelling will be constructed in timber frame and stilted rather than built on the ground, which also reduces its footprint on vegetation.

The type and scale of the proposal is in keeping with the character of the area, and the building line being reduced will also not have a negative impact on the character as the new dwelling will still be approximately 25m from the existing dwelling on Portion 132/480.

7.1.4 LOCALITY AND ACCESSIBILITY OF THE PROPERTY

The subject property can be easily accessed from the Spuithoek Road. Access to the new dwelling is over the adjacent property, Portion 132/480, via an existing road. A right of way servitude is currently being registered.

Locality and accessibility do not pose a challenge to this application.

7.1.5 PROVISION OF SERVICES

The new dwelling can easily be serviced:

- Sewerage: A masonry conservancy tank, serviced by Hessequa Municipality, will be constructed according to SANS 10400-P:2010 Edition 3. The capacity of the tank will be 6000liters and will be constructed to the north of the dwelling, next to the parking area, to ensure easy access for the Municipal truck. It will be positioned on the 5,5m contour level and thus above the 1:100 flood line.
- Electricity: There is an existing 3-phase Eskom connection, on the boundary between Portion 257 and Portion 132, which is directly adjacent to the position of the proposed new dwelling.
- Water: There is an existing borehole on the subject property, with 2 x 5000l water tanks installed and connected with the borehole. An existing 20mm water line connects these tanks with 2 x 2500l water tanks further south on a hill, which currently provides water to the existing dwelling on Portion 132 (owned by the trust) via a 32mm gravity water line. The proposal is to install 2 x 5000l tanks on the hill, which is just above the proposed new dwelling and connect it to the new dwelling with a new 40mm water line.

7.1.6 CONSTRUCTION PHASE OF THE PROPOSAL

Construction will include a timber frame construction on piled supports (pillars). Therefore, excavation will be limited to the foundations of the pillars, which will cause minimal disturbance of vegetation. Construction is estimated to be 10 weeks.

8. SUMMARY

Based on the information and motivation provided in this report, the application is considered to be desirable, in summary, for the following reasons:

- The proposed main dwelling and building line departure will not have a negative impact on the character of the surrounding area.
- No sensitive vegetation or valuable agricultural land will be affected.
- It is in line with the Municipal Spatial Development Framework.
- It is aligned with the principles of land development set out in SPLUMA.
- It is aligned with the Western Cape Rural Development Guidelines.

It is therefore recommended that the application be supported by the Hessequa Municipality and other relevant authorities and that the following applications be approved:

- **Permanent Departure** of the western boundary building line from 30m to 1m, to allow for the construction of a new main dwelling unit, in terms of Section 15(2)(b) of the Hessequa Municipal Planning By-law 2015.

oooOooo

ANNEXURE 1: APPLICATION FORM

GRONDGEBRUIKAANSOEKVORM
(Artikel 15 van die HESSEQUA MUNISIPALITEIT: Verordening op Grondgebruikbeplanning)
LAND USE APPLICATION FORM
(Section 15 of the HESSEQUA MUNICIPALITY: Bylaw on Land Use Planning)

LET ASB OP DIE VOLGENDE:

- Vul asb. die vorm volledig in met **BLOK HOOFLETTERS** en merk die tersaaklike blokkies.
- Die volledige aansoekvorm tesame met al die nodige inligting en dokumentasie soos gelys in G & H van die aansoekvorm, moet as 1 elektroniese en 1 harde kopie ingedien word.
- Versoek asseblief die faktuur vir die grondgebruikaansoek by landuse@hessequa.gov.za en heg die bewys van betaling by die aansoek aan. Dit moet gedoen word voordat die aansoek ingedien word.

PLEASE NOTE THE FOLLOWING:

- Please complete the form in BLOCK CAPITAL LETTERS and tick the relevant boxes.
- The complete application form, together with all the necessary information and documentation as listed in G & H of the application form, must be submitted as 1 electronic and 1 hard copy.
- Please request the invoice for the land use application from landuse@hessequa.gov.za and attach the proof of payment to the application. This must be done before submitting the application

A: APPLIKANT BESONDERHEDE:
APPLICANT DELTAILS:

Naam(e)/Name(s):	DANETTE		
Van/Surname:	JONES		
Suid Afrikaanse Raad vir Beplanners (SACPLAN) registrasie nommer *(indien van toepassing)*: *South African Council for Planners (SACPLAN) registration number (if applicable):*	SACPLAN A/1697/2013		
Maatskappy Naam *(indien van toepassing)*: *Company Name (if applicable):*	NUPLAN AFRICA		
Fisiese Adres: Pysical Address:		Pos Kode: Postal Code:	
E-pos/E-mail:	danette@nuplanafrica.co.za		
Tel/Phone:		Sel/Cell:	082 370 1317

B: REGISTREEDE EIENAAR(S) BESONDERHEDE *(indien verskil van applikant):*
REGISTERED OWNER(S) DETAILS *(if different from applicant):*

Geregistreerde eienaars(s): Registered owner:	ELLIS FARMING ENTERPRISES CC		
Fisiese Adres: Pysical Address:	SPUITHOEK ROAD	Pos Kode: Postal Code:	7764
E-pos/E-mail:	philip@ellisandpartners.com		
Tel/Phone:		Sel/Cell:	+264 81 124 1819

C: EIENDOM BESONDERHEDE (in ooreenstemming met d ie Titel Akte): **PROPERTY DETAILS** (in accordance with the Title Deed):								
Eiendoms beskrywing *[Nommer(s) of Erf/Erwe/Gedeeltes(s) of Plaas(e), toewysings area]:* **Property description** *[Number(s) or Erf/Erf/Part(s) or Farm(s), allocations area]:*	PORTION 257 MELKHOUTE FONTEIN 480							
Fisiese Adres: Physical Address:	SPUITHOEK ROAD							
GPS Ko-ordinate: GPS Co-ordinates:				Dorp/Area: Town/Area:	STILBAAI			
Grootte (ha/m²): Area (ha/m²):	50,1544HA			Is daar enige bestaande geboue? Are the any existing buildings?	J/Y	N		
Huidige Sonering: Current Zoning:	AGRICULTURE I							
Toepaslike Soneringskema: Applicable Zoning Scheme:	HESSEQUA ZONING SCHEME BYLAW							
Huidige Grondgebruik: Current Land Use:								
Titelakte Nommer en Datum: Tile Deed Number & Date:	T	T36479/2021						
Beperkende Voorwaardes: Restrictive Conditions:	J/Y	N	Indien Ja, lys voorwaarde(s): If Yes, list condition(s):					
Beperkende voorwaarde/s ten gunste van 'n derde party(e): Restrictive condition/s in favor of a third party(s):	J/Y	N	Indien Ja, lys die party(e): If Yes, list party(ies):					
Eiendom verswaar met 'n verband: Property encumbered with a mortgage:	J/Y	N	Indien Ja, lys die verbandhouer: If Yes, list Bond Holder:					
Enige onwettige gebou(e) en/of grondgebruik(e) op die tersaaklike eiendom(me): Any illegal building(s) and/or land use(s) on the relevant property(s):				J/Y	N	Indien Ja, is die aansoek om die gebou(e)/ grondgebruik(e) te wettig? If Yes, is this application to legalize the building(s)/land use(s)?	J/Y	N

Enige hofsaak(e)/lasgewing(s) uitstaande van toepassing op die tersaaklike eiendom(me): Any court case(s)/injunction(s) outstanding applicable to the relevant property(s):	J/Y	N	Is daar enige grondeis(e) geregistreer teen die tersaaklike eiendom(me)? Are there any land claim(s) registered against the relevant property(s)?	J/Y	N

D: VOORAF-AANSOEK KONSULTASIE:
PRE-APPLICATION CONSULTATION:

Enige Vooraf-Aansoek konsultasie? Any Pre-Application Consultation?	J/Y	N	Indien Ja, voltooi die onderstaande inligting en heg die notule van die pre-aansoek konsultasie aan: If Yes, complete the information below and attach the minutes of the pre-application consultation:

Amptenaar Naam: Officials name:	W VAN BRAKEL P LOUW	Verwysings Nommer: Reference number:	040225103834	Datum van konsultasie: Date of consultation:	20 FEB 2025

E: GRONDGEBRUIKAANSOEKE IN TERME VAN ARTIKEL 15 VAN HESSEQUA MUNISIPALITEIT: VERORDENING OP GRONDGEBRUIKBEPLANNING, 2015 - FOOIE BETAALBAAR:
LAND USE APPLICATIONS IN TERMS OF SECTION 15 OF HESSEQUA MUNICIPALITY: BY-LAW ON LAND USE PLANNING, 2015- FEES PAYABLE:

Merk: **Mark:**	**Artikel:** **Section**	**Tipe aansoek:** **Type application**	**Koste:** **Cost/s:**
	2(a)	'n Hersonering van grond/eiendom: Rezoning of land/property:	R 2 709.00
✓	2(b)	'n Permanente Afwyking van die parameters van die Soneringskema: A Permanent Departure from the parameters of the Zoning Scheme:	~~R 2 540.00~~ R2 680.00
	2(c)	'n Afwyking toegestaan op 'n tydelike basis, om grond te gebruik vir 'n doel wat nie toelaatbaar is in terme van die primêre regte van die sonering van toepassing op die grond/eiendom nie: A Departure granted on a temporary basis, to use land for a purpose that is not permissible in terms of the primary rights of the zoning applicable to the land/property:	R 2 540.00
	2(d)	'n Onderverdeling van grond/eiendom, wat nie vrygestel is in terme van Artikel 24, insluitend die registrasie van 'n serwituut of huurooreenkoms: A subdivision of land/property, which is not exempt in terms of Section 24, including the registration of an easement or lease agreement:	R 2 540.00
	2(e)	'n Konsolidasie van grond/eiendom wat nie vrygestel is in terme van Artikel 24 nie: A Consolidation of land/property that is not exempt in terms of Section 24:	R 2 540.00
	2(f)	'n Opheffing, Opskorting of Wysiging van Beperkende Voorwaardes van toepassing op 'n grond eenheid of eiendom: A Removal, Suspension or Amendment of Restrictive Conditions applicable to a land unit or property:	R 2 540.00
	2(g)	'n Toestemming vereis in terme van die Soneringskema: A Permission required in terms of the Zoning Scheme:	R 1 569.00
	2(h)	'n Wysiging, Verwydering of Oplegging van voorwaardes van toepassing op 'n bestaande goedkeuring: An Amendment, Deletion or Imposition of conditions in respect of an existing approval:	R 1 569.00

	2(i)	'n Verlenging van die geldigheidperiode van 'n goedkeuring: An extention of thevalidity period of an approval:	R 1 569.00
	2(j)	'n Goedkeuring van 'n Oorlegsone soos voorgeneem word in die Soneringskema: An Approval of an Overlay Zone as contemplated in the Zoning Scheme:	R 2 766.00
	2(k)	'n Wysiging of kansellasie van 'n goedgekeurde onderverdelingsplan of deel daarvan, ingesluit 'n Algemene Plan of Diagram: An Amendment or cancellation of an approved Subdivision Plan or part thereof, including a General Plan or Diagram:	R 2 709.00
	2(l)	'n Toestemming vereis in terme van 'n voorwaarde van goedkeuring: A Permission required in terms of a condition of approval:	R 779.00
	2(m)	'n Soneringsbepaling: A Determination of a Zoning:	R 2 540.00
	2(n)	'n Sluiting van 'n openbare plek of gedeelte daarvan: A Closure of a public place or part thereof:	R 2 540.00
	2(o)	'n Vergunningsgebruik soos bedoel word in die Soneringskema: A Consent Use as contemplated in the Zoning Scheme:	R 2 709.00
	2(p)	'n Geleentheids gebruik van grond/eiendom: An Occational use of land:	R 2 540.00
	2(q)	'n Huiseienaarsvereniging op te hef: To disestablish a home owner's association:	R 2 540.00
	2(r)	'n Regstelling van 'n versuim deur 'n huiseienaarsvereniging om sy verpligtinge na te kom met betrekking to sy kontrole oor of onderhoud van dienste: To rectify a failure by a home owner's association to meet its obligations in respect of the control over or maintenance of services:	R 2 348.00
	2(s)	'n Toestemming benodig vir die rekonstruksie van 'n bestaande gebou wat deel vorm van 'n nie-konformerende gebruik, wat so vernietig of beskadig is dat dit nodig is om 'n substansiële gedeelte van die gebou te sloop: A permission required for the reconstruction of an existing building that constitutes a non-conforming use that is destroyed or damaged to the extent that it is necessary to demolish a substantial part of the building.	R 2 348.00
		SUB-TOTAAL / SUB-TOTAL:	R2 680.00

VOORGESKREWE KENNISGEWING EN FOOIE** *(vir voltooiing en gebruik deur amptenaar)*

Merk: **Mark**	**Kennisgewing van die aansoek in die media:** **Notification of the application in the media:**	**Tipe aansoek:** **Type application:**	**Koste:** **Cost/s:**
	DIEN VAN KENNISGEWING: SERVE OF NOTICE:	Aflewering per hand; geregistreerde pos; data boodskappe	
	PUBLISERING VAN KENNISGEWING: PUBLISHING OF NOTICE:	Plaaslike Koerant(e); *Provinsiale Koerant*; Terrein Kennisgewing; Munisipale web-tuiste	
	ADDISSIONELE PUBLISERING VAN KENNISGEWING: ADDITIONAL PUBLISHING OF NOTICE:	Terrein kennisgewing, publieke vergadering, plaaslike radio stasie, Munisipale web-tuiste, briewe van instemming of beswaar	
	KENNISGEWING VAN BESLUIT: NOTICE OF DECISION:	*Provinsiale Koerant*	

	GEÏNTEGREERDE PROSEDURES: INTEGRATED PROCEDURES:		
		SUB-TOTAAL /SUB-TOTAL	
		TOTAAL /TOTAL *	R2 680.00

* ***Aansoek fooie betaal aan die munisipaliteit is nie terugbetaalbaar nie en bewys van betaling moet die aansoek vergesel.***
*****Die applikant is verantwoordelik vir die koste om die aansoek te publiseer.***

BANK BESONDERHEDE:
BANK DETAILS:

Naam/Name:	**HESSEQUA MUNISIPALITEIT**
Bank:	**FIRST NTIONAL BANK (FNB)**
Tak Kode / Branch Code:	**200313**
Rekening No.: Account Nr.:	**53571024174**
Betalings Verwysing: (indien van toepassing) **Payment Reference:**	**SSB** -PTN257/480

F: BESONDERHEDE VAN AANSOEK:
DETAIL OF APPLICATION:

Kortlikse beskrywing van die voorgestelde ontwikkeling / intensie van die aansoek:
Brief description of the proposed development / intention of the application:

REFER TO MOTIVATION REPORT.

G: AANHANGSELS EN ONDERSTEUNENDE INLIGTING EN DOKUMENTASIE VIR DIE GRONDGEBRUIKAANSOEK
[Artikel *15(2)(a) tot (s) van die HESSEQUA MUNISIPALITEIT:* Verordening op Grondgebruikbeplanning*]:*
ATTACHMENTS AND SUPPORTING INFORMATION AND DOCUMENTATION FOR THE LAND USE APPLICATION
[Section 15(2)(a) to (s) of the HESSEQUA MUNICIPALITY: Bylaw on Land Use Planning]:

Voltooi die volgende kontrole lys en heg alle relevante inligting en dokumentasie aan die ontwikkelingsvoorstel /aansoek. Die versuim om alle relevante inligting en dokumentasie aan te heg sal veroorsaak dat die aansoek onvolledige geag te wees. Dit sal nie as volledig beskou word alvorens alle relevante inligting en dokumentasie ingedien is nie:
Complete the following checklist and attach all relevant information and documentation to the development proposal / application. Failure to attach all relevant information and documentation will result in the application being deemed incomplete. It will not be considered complete until all relevant information and documentation has been submitted:

Inligting en dokumentasie vereis in terme van Artikel 38(1) van die genoemde wetgewing:
Information and documentation required in terms of Article 38(1) of the said legislation:

J/Y	N	Volmag / Eienaar se toestemming indien die aansoeker nie die eienaar is nie: Power of attorney / Owner's consent if the applicant is not the owner:		J/Y	N N/A	Verbandhouer se toestemming (indien van toepassing): Bond Holders Consent (if applicable):
J/Y	N	Resolusie of bewys dat die applikant gematig is om op te tree namens 'n juridiese persoon: Resolution or proof that the applicant is fit to act on behalf of a legal person:		J/Y	N	Bewys van geregistreerde ienaarskap of enige ander reg van toepassing op die eiendom: Proof of registered ownership or any other right applicable to the property:
J/Y	N	Skriftelike motivering: Written motivation:		J/Y	N	L.G. diagram / Algemene Plan uitreksel: L. G. diagram / General Plan extract:
J/Y	N	Liggings plan: Locality Plan:		J/Y	N	Terreinontwikkelingsplan of konsepsionele Uitlegplan: Site Development Plan or Conceptual Layout Plan:
J/Y	N N/A	Voorgestelde Onderverdelingsplan: Proposed Sudivision Plan:		J/Y	N N/A	Bewys van ooreenkoms of toestemming vir verlangde serwituut(e): Evidence of agreement or consent for desired servitude(s):
J/Y	N	Bewys van betaling van die aansoekfooie: Proof of payment of Application Fees:		J/Y	N	Volledige kopie van die Titel Akte: Full copy of the Title Deed:
J/Y	N	Aktebesorger sertifikaat: Conveyancer's certificate:		J/Y	N	Notule van die Vooraf-Konsultasie vergadering (indien nodig): Minutes of the Pre-Consultation meeting (if applicable):

Ondersteunende inligting en dokumentasie:

J/Y	N	NVT/ NA	Konsolidasieplan: Consolidation Plan				
J/Y	N	NVT/ NA	Straatnaam en nommer plan: Street name and number plan:	J/Y	N	NVT/ NA	Grondgebruikplan / Soneringsplan: Land Use / Zoning Plan:
J/Y	N	NVT/ NA	Landskapering / Boom plan: Landscaping and tree plan:	J/Y	N	NVT/ NA	1 : 50 / 1:100 Vloedlynbepaling (plan / verslag): Flood Line determination (plan / report)
J/Y	N	NVT/ NA	Aanliggende eienaar(s) toestemming: Adjacent owner's consent:	J/Y	N	NVT/ NA	Huiseienaarsvereniging toestemming: Home Owners Association consent:
J/Y	N	NVT/ NA	Kopie van die Omgewings Impakstudie (OIS) / ~~Erfenis Impakstudie (EIS)~~ /	J/Y	N	NVT/ NA	Diensteverslag of bewyse van alle munisipale dienste / geregistreerde serwitute:

			~~Verkeersimpakstudie (~~VIS) / ~~Verkeersimpakverklaring~~ (VIV)/ ~~Hoof Gevaar Impakstudie~~ (HGIS) / ~~Omgewings Magtiging~~ (OM) / ~~Rekord van Besluitneming~~ (RVB) (haal deur indien nie van toepassing): Copy of the Environmental Impact Study (EIA) / ~~Heritage Impact Study~~ (EIS) / ~~Traffic Impact Study (~~VIS) / ~~Traffic Impact Statement~~ (VIV)/ ~~Main Hazard Impact S~~tudy (HGIS) / ~~Environmental Authori~~zation (~~OM) / Record of Decisi~~on ~~Making (RVB)~~ (strike through if not applicable):					Service report or evidence of all municipal services / registered serviudes:
J/Y	N	NVT/ NA	Kopie van oorspronklike goedkeuring en voorwaardes van goedkeuring: Copy of original approval and conditions of approval:		J/Y	N	NVT/ NA	Bewys van versuim deur huiseienaarsvereniging: Proof of default by homeowners association:
J/Y	N	NVT/ NA	Bewys van wettige gebruiksreg: Proof of legal use right:		J/Y	N	NVT/ NA	Enige addisionele dokumentasie of inligting wat gelys is in die Vooraf-Aansoek Konsultasievorm / notule: Enige addisionele dokumentasie of inligting wat gelys is in die Vooraf-Aansoek Konsultasievorm / notule:
J/Y	N	NVT/ NA	Aantal kopië van dokumentasie: Number of copies of the document:		J/Y	N	NVT/ NA	Ander (spesifiseer): Other (specify):

H: MAGTIGING(S) IN TERME VAN ANDER WETGEWING							
J/Y	NVT/ NA	Wet op Nasionale Erfenishulpbronne, 1999 (Wet 25 van 1999): National Heritage Resources Act, 1999 (Act 25 of 1999):		J/Y	NVT/ NA	Spesifieke Omgewingsbestuurswet(e) (SOBW)(SEMA) (bv.: Omgewingsbewaringswet, 1989 (Wet 73 van 1989), Nasionale Omgewingsbestuurwet: Lugkwaliteit Wet, 2004 (Wet 39
J/Y	NVT/ NA	Nasionale Omgewingsbestuurswet, 1998 (Wet 107 van 1998):					

		National Environmental Management Act, 1998 (Act 107 of 1998):				van 2004), Nasionale Omgewings Geïntegreerde Kusbestuurswet, 2008 (Wet 24 van 2008), Nasionale Omgewingsbestuur: Omgewingsbestuurs: Afvalwet, 2008 (Wet 59 van 2008), Nasionale Waterwet, 1998 (Wet 36 van 1998) (haal deur indien nie van toepassing): Specific Environmental Management Act(s) (SEBW)(SEMA)(eg.: Environment Conservation Act, 1989 (Act 73 of 1989), National Environmental Management Act: Air Quality Act, 2004 (Act 39 of 2004), National Environmental Integrated Coastal Management Act, 2008 (Act 24 of 2008), National Environmental Management: Environmental Management: Waste Act, 2008 (Act 59 of 2008), National Water Act, 1998 (Act 36 of 1998) (strike through if not applicable):
J/Y	NVT/ NA	Onderverdeling van Landbougrond Wet, 1970 (Wet 70 van 1970): Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970):				
J/Y	NVT/ NA	Ruimtelike Beplanning en Grondgebruikbestuurswet, 2013 (Wet 16 van 2013)(RBGGBW): Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013)(SPLUMA):				
J/Y	NVT/ NA	Beroepsgesondheid en Veiligheids Wet, 1993 (Wet 85 van 1993): Hoof Gevaarinstallasie Regulasies: Occupational Health and Safety Act, 1993 (Act 85 of 1993): Main Hazard Installation Regulations:				
J/Y	NVT/ NA	Wes-Kaap Provinsie: Grondgebruikbeplanningswet, 2014 (Wet 3 van 2014) (GGBW): Western Cape Province: Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA):		J/Y	NVT/ NA	Ander (spesifiseer): Other (specify):
J/Y	N	Indien benodig, is aansoek vir OIS / EIS / VIS / VIV / HGIS goedkeuring reeds gedoen? Indien ja, heg dokumente / planne / bewys van indiening aan, ens. If required, has application for EIS / EIS / VIS / VIV / HGIS approval already been made? If yes, attach documents / plans / proof of submission etc.				
J/Y	N	Indien benodig, wil u 'n geïntegreerde aansoekprosedure volg in terme van Artikel 44(1) van die **HESSEQUA MUNISIPALITEIT: Verordening op Grondgebruikbeplanning**? Indien ja, heg asseblied die motivering daarvoor aan. If necessary, do you want to follow an integrated application procedure in terms of Article 44(1) of the HESSEQUA MUNICIPALITY: Bylaw on Land Use Planning? If yes, please attach the motivation for it.				

I: VERKLARING:
STATEMENT:

EK VERKLAAR HIERMEE DIE VOLGENDE:

1. Dat die inligting vervat in die aansoekvorm and aangehegte dokumentasie volledig en korrek is;.

2. **Ek is bewus daarvan dat dit 'n oortreding is in terme van Artikel 86(1)(e) van die wetgewing, om besonderhede, inligting en antwoorde te verskaf, wetende dat die besonderhede, inligting en antwoorde vals, nie korrek, misleidend en nie glo dit is korrek nie;**
3. **Ek is behoorlik gevolmag om die aansoek te doen namens die eienaar(s) en (waar van toepassing) 'n kopie van die relevante volmag of toestemming hierby aangeheg is;**
4. **Waar 'n agent aangestel is om die aansoek namens die eienaar(s) in te dien, word dit aanvaar dat korrespondensie en kennisgewings vanaf die municipaliteit in terme van hierdie Verordening, versend sal word slegs aan die agent en dat die eienaar op 'n gereelde basis met die agent sal konsulteer hieroor;**
5. **Dat hierdie indiening alle grondgebruikbeplanningsaansoeke insluit, wat benodig word om die voorgestelde ontwikkeling te realiseer soos hierin vervat;**
6. **Ek bevestig dat alle relevante Titelakte(s) bestudeer is en dat daar geen beperkende voorwaardes voorkom, wat 'n impak sal hê op die aansoek of alternatief vorm 'n aansoek om Opheffing, Opskorting of Wysiging van Beperkende Voorwaardes van toepassing op die grond eenheid of eiendom deel van die indiening;**
7. **Ek is bewus daarvan dat ontwikkelingskoste en tariewe aan die munisipaliteit betaalbaar is deur die applikant, in verband met die verskaffing van eksterne ingenieursdienste as 'n resultaat van die voorgestelde ontwikkeling.**

I HEREBY DECLARE THE FOLLOWING:

1. **That the information contained in the application form and attached documentation is complete and correct;.**
2. **I am aware that it is an offense in terms of Section 86(1)(e) of the legislation, to provide details, information and answers, knowing that the details, information and answers are false, incorrect, misleading and not believing it to be correct;**
3. **I am duly authorized to make the application on behalf of the owner(s) and (where applicable) a copy of the relevant power of attorney or consent is attached;**
4. **Where an agent has been appointed to submit the application on behalf of the owner(s), it is accepted that correspondence and notices from the municipality in terms of this By-law will be sent only to the agent and that the owner on ' A regular basis with the agent will consult about this;**
5. **That this submission includes all land use planning applications, which are required to realize the proposed development as contained herein;**
6. **I confirm that all relevant Title Deed(s) have been studied and that there are no restrictive conditions, which will have an impact on the application or alternatively form an application for Lifting, Suspension or Amendment of Restrictive Conditions applicable to the land unit or property part of the submission;**
7. **I am aware that development costs and rates are payable to the municipality by the applicant, in connection with the provision of external engineering services as a result of the proposed development.**

Applikant Handtekening: Applicant Signature:		Datum: Date:	2025/04/16
Volle Naam: Full Name:	DANETTE JONES		
Professionele hoedanigheid: Professional Capacity:	TOWN PLANNER		
SACPLAN Registrasie No.: SACPLAN Registration Nr.:	SACPLAN A/1697/2013		

VIR KANTOORGEBRUIK ALLEEN / FOR OFFICE USE ONLY

Datum ontvang: Date received: _____	Ontvang deur: Received deur: _____
Munisipale Stempel Municipal Stamp	

AANHANGSELS / ATTACHMENTS

Die volgende Aanhangsels is aangeheg vir u inligting, slegs waar van toepassing:
The following Attachments are attached for your information only where applicable:

Aanhangsel A:
Aanhangsel B:
Aanhangsel C:

ANNEXURE 2: PRE-APPLICATION MINUTES

Danette Jones

From: ESRI GIS Administrator <gisadmin@hessequa.gov.za>
Sent: Thursday, February 20, 2025 3:02 PM
To: Danette Jones
Subject: Hessequa Land Use Application: 040225103834

Good day,

Your land use pre-application (Ref. 040225103834) has been reviewed.

Application Description: Building line departure: The owner wants to construct a new main dwelling on the subject property, adjacent to the river. The position of the proposed dwelling is 1m from the farm boundary and requires a departure from 30m to 1m. The position of the proposed dwelling is rather fixed due to the floodline in the south and existing Milkwoods on the eastern side. For this reason the dwelling cannot be moved further from the farm boundary, and a building line departure is required. An Environmental Authorisation has been submitted for the new dwelling and is currently in process.

Public Participation: LD132/480 - se kommentaar moet saam met die aansoek ingedien word.

Internal Comments:

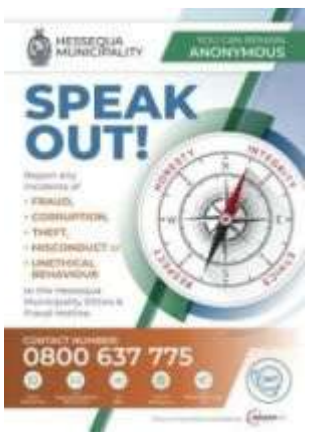
External Comments:

Feedback: 'n Terreinplan moet aandui watter strukture op die plaas is. Dit is 'n Vergunningsgebruik vir 'n Addisionele Wooneenheid ook.

To continue with the land use application, click here.

Kind Regards

Please do not reply to this email.



ANNEXURE 3: MUNICIPAL APPLICATION FEE PROOF OF PAYMENT

FNB NAMIBIA
130 INDEPENDENCE AVENUE
@PARKSIDE, KHOMAS REGION
WINDHOEK
SWIFT BIC: FIRNNANX
Email ID: SWIFTNamibia@rmb.com.na
Telephone: 0612998668

Settlement Receipt - Customer Copy

ADVICE - OUTWARD SWIFT

Customer : Ellis and Partners Legal Practition
ID: -
8 Sinclair Street
Windhoek
Windhoek Namibia
Windhoek

NA

Contact Persons Details: Irene
061309111
reni@ellisandpartners.com

Beneficiary Details: HESSEQUA MUNICIPALITY
P.O.BOX1234

RIVERSDALE WESTERN CAPE ZA 6670

Transaction Date: 06-MAR-25
Value Date : 06-MAR-25
BoP Category : 242
Branch Name : 1674-CIB Corporate
Teller :
Transaction Ref. : 25-2060772-1674 **Direct Deal** Not Applicable

Description	Transaction Amount		Rate	Fee	Net Amount
Outward Swift	ZAR	2,680.00	1.000000	20-NAD	2,700.00

Settled By Account : 62250827436
Swift Advice:

Declaration made by customer:
I/We declare that the funds involved are not the proceeds of illegal transactions.
Customer Signature:.....

ANNEXURE 4: COPY OF CERTIFICATE OF CONSOLIDATED TITLE

11

STBB SMITH TABATA BUCHANAN BOYES
8th & 9th Floor
5 St Georges Mall
Cape Town
8001
Docex 45

Prepared by me,

CONVEYANCER
CHARNE SYMINGTON
94998

FEE
R 371.00

T 000036479 / 2021

CERTIFICATE OF CONSOLIDATED TITLE

[Issued under the provisions of section 40 of the
Deeds Registries Act, 1937 (No. 47 of 1937)]

DATA / VERIFY
14 -08- 2021
VUYELWA LAMANI

WHEREAS

ELLIS FARMING ENTERPRISES CC
Registration Number 1998/033137/23

has applied for the issue to it of a Certificate of Consolidated Title under the provisions of Section 40 of the Deeds Registries Act, 1937.

AND WHEREAS

ELLIS FARMING ENTERPRISES CC
Registration Number 1998/033137/23

is the registered owners of :

DATA / CAPTURE
13 -08- 2021
JENNY VAN WYK

1. **PORTION 256 (A PORTION OF PORTION 24) OF THE FARM MELKHOUTE FONTEIN NUMBER 480**
   IN THE MUNICIPALITY OF HESSEQUA
   DIVISION RIVERSDALE
   PROVINCE OF THE WESTERN CAPE

   IN EXTENT 2,0298 (TWO COMMA ZERO TWO NINE EIGHT) HECTARE

   HELD BY DEED OF TRANSFER NUMBER_____

   AND

2. **REMAINDER PORTION 25 OF THE FARM MELKHOUTE FONTEIN NUMBER 480**
   IN THE MUNICIPALITY OF THE HESSEQUA
   DIVISION RIVERSDAL
   PROVINCE OF THE WESTERN CAPE

   IN EXTENT 46, 2998 (FOUR SIX COMMA TWO NINE NINE EIGHT) HECTARES

   HELD BY DEED OF TRANSFER NUMBER T98086/1998

which have been consolidated into the land hereinafter described

NOW THEREFORE in pursuance of the provisions of the said Act, I, the Registrar of Deeds at Cape Town, do hereby certify that the said

ELLIS FARMING ENTERPRISES CC
Registration Number 1998/033137/23

its heirs, executors, adminisators or assigns, are the registered owners of:

PORTION 257 OF THE FARM MELKHOUTE FONTEIN NUMBER 480
IN THE MUNICIPALITY OF THE HESSEQUA
DIVISION RIVERSDAL
PROVINCE OF THE WESTERN CAPE

IN EXTENT 50, 1544 (FIVE ZERO COMMA ONE FIVE FOUR FOUR) HECTARES

As will appear from diagram S.G. Number 505/2017

AS REGARDS the figure A B H J K a left river bank of the Goukou River m middle of stream n P on Diagram S.G Number 505/2017:

A. **SUBJECT** to the conditions referred to in Deeds of Transfer Number 1413 and 1414 dated 19th March 1896.

B. **SUBJECT FURTHER** and **ENTITLED** to the benefit of the Servitude referred to in the endorsement dated 9th June 1921 on Deeds of Transfer Number T1413/1896 and T1414/1896, which endorsement reads as follows:

REGISTRATION OF SERVITUDE

By Notarial Deed dated 15th March and 16th April 1921 annexed to Transfer 4917 dd 26th May 1921 and agreement was entered into by the owners hereof and of the property thereby conveyed relative to the use of the water flowing down the kloof which forms boundary of the properties, as will more fully appear on reference to the copy annexed to the said transfer.

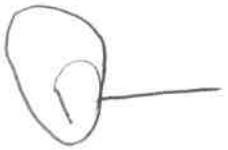
AS REGARDS the figure C D E f left river bank of the Goukou River g H on Diagram S.G Number 505/2017:

A. **SUBJECT** to the conditions referred to in the following Deeds of Transfer Numbers: T28702/1979, T1954/1960, T1953/1960, T2965/1907, T2973/1907, T100/1972, T11298/1956, T4518/1917 and T6739/1936

AND that by virtue of these presents **ELLIS FARMING ENTERPRISES CC,** its administrators or assigns now is and henceforth shall be entitled thereto conformably to local custom, the State, however, reserving its rights.

IN WITNESS WHEREOF I, the said Registrar, have subscribed to these presents and have caused the Seal of Office to be affixed thereto.

THUS DONE AND EXECUTED at the office of the Register of Deeds at Cape Town on this the 6 day of August 2021



Registrar of Deeds

SYE	METER	RIGTINGS-HOEKE	KOORDINATE	Y Stelsel WG 21°	X
		Konstantes		+0.00	+3700 000.00
AB	491.80	269 33 30	A	-29 968.61	+ 96 905.10
BC	729.29	358 55 40	B	-30 460.40	+ 96 901.31
CD	77.23	262 37 40	C	-30 474.05	+ 97 630.47
DE	57.60	294 53 50	D	-30 550.64	+ 97 620.56
EF	180.56	1 00 40	E	-30 602.89	+ 97 644.81
FG	71.97	105 54 40	F	-30 599.70	+ 97 825.34
GH	122.06	153 06 50	G	-30 530.49	+ 97 805.61
HJ	179.57	91 04 50	H	-30 475.29	+ 97 696.74
JK	90.72	42 49 00	J	-30 295.75	+ 97 693.35
KL	104.33	358 18 10	K	-30 234.09	+ 97 759.90
LM	397.52	106 22 00	L	-30 237.18	+ 97 864.18
MN	802.61	187 30 30	M	-29 855.77	+ 97 752.17
NP	7.43	97 05 20	N	-29 960.63	+ 96 956.44
PA	52.71	196 55 30	P	-29 953.26	+ 96 955.53
KONNEKSIEDATA					
EQ	50.24	1 00 40	Q	-30 602.00	+ 97 695.04
QR	66.84	1 00 40	R	-30 600.82	+ 97 761.87
RF	63.48	1 00 40			
CH	66.28	358 55 40			
AANDUIDINGSDATA					
Ff		181 00 40			
Gg		333 06 50			
La		358 18 10			
Nn		277 05 20			
	Riv 40	△	114	-31 710.69	+ 96 320.93
	Riv 79	△	148	-31 137.34	+ 95 747.90

L. G. No.

505/2017

Goedgekeur Nolfer

Landmeter-generaal

24 · 04 · 2017

Vel 1 van
3 Velle

(1)

Die figuur A B C D E f linker oewer van Goukourivier g H J K a linker oewer van Goukourivier m middel van stroom n P

stel voor **50,1544 hektaar** grond, synde

GEDEELTE 257 van die plaas **MELKHOUTE FONTEIN** nr. **480**

en bestaan uit 1. en 2. soos aangedui op Vel 2

geleë in die Munisipaliteit van Hessequa
Administratiewe Distrik Riversdal
Provinsie Wes-Kaap

Opgemeet in Januarie 2013 tot Maart 2017
deur my

BvdWalt

B. van der Walt PLS-0640

Pr. Landmeter

Hierdie kaart is geheg aan	**Die oorspronklike kaarte is**	**Lêer No.** *RSDLE 480*
No.	*soos aangedui op Vel 2.*	**M.S. No.** 311/2017
gedateer	~~No.~~ ~~geheg aan~~	**Komp.** *AK - 3BA (6163)*
t.g.v.	~~Transport/Grondbrief~~	
	~~No.~~	
Registrateur van Aktes		*LPI C0640000*

Exempt i.t.o. Section 24(1)(g)(i)... of Municipal Bylaw of Act 3/2014
Ref: 15/4/8/2
Date: 13 April 2017

From 480 ptn 257 Riversdal

L. G. No.
505/2017
Goedgekeur
Landmeter-generaal
24. 04. 2017

Vel 2 van
3 Velle

2

GEDEELTE 257 van die plaas
MELKHOUTE FONTEIN nr. 480
geleë in die Munisipaliteit van Hessequa
Administratiewe Distrik Riversdal
Provinsie Wes-Kaap

KOMPONENTE

1. Die figuur A B H J K a linker oewer van Goukourivier m middel van stroom n P stel voor die Restant van Gedeelte 25 van Melkhoute Fontein nr. 480
   Sien Kaart L.G. nr. 1418/1895
   Transportakte nr. 1896 - 16 - 1413

2. Die figuur C D E f linker oewer van Goukourivier g H stel voor Gedeelte 256 van Melkhoute Fontein nr. 480
   Sien Kaart L.G. nr. **504/2017**
   Transportakte nr.

BAKENBESKRYWING

A, B, C, G, H, J, K, L, N, P	20mm Ysterpen
D, E, Q, R	16mm Ysterpen
F	12mm Boorgat in rots
M	Ingeplante klip

Opgemeet in Januarie 2013 tot Maart 2017
deur my

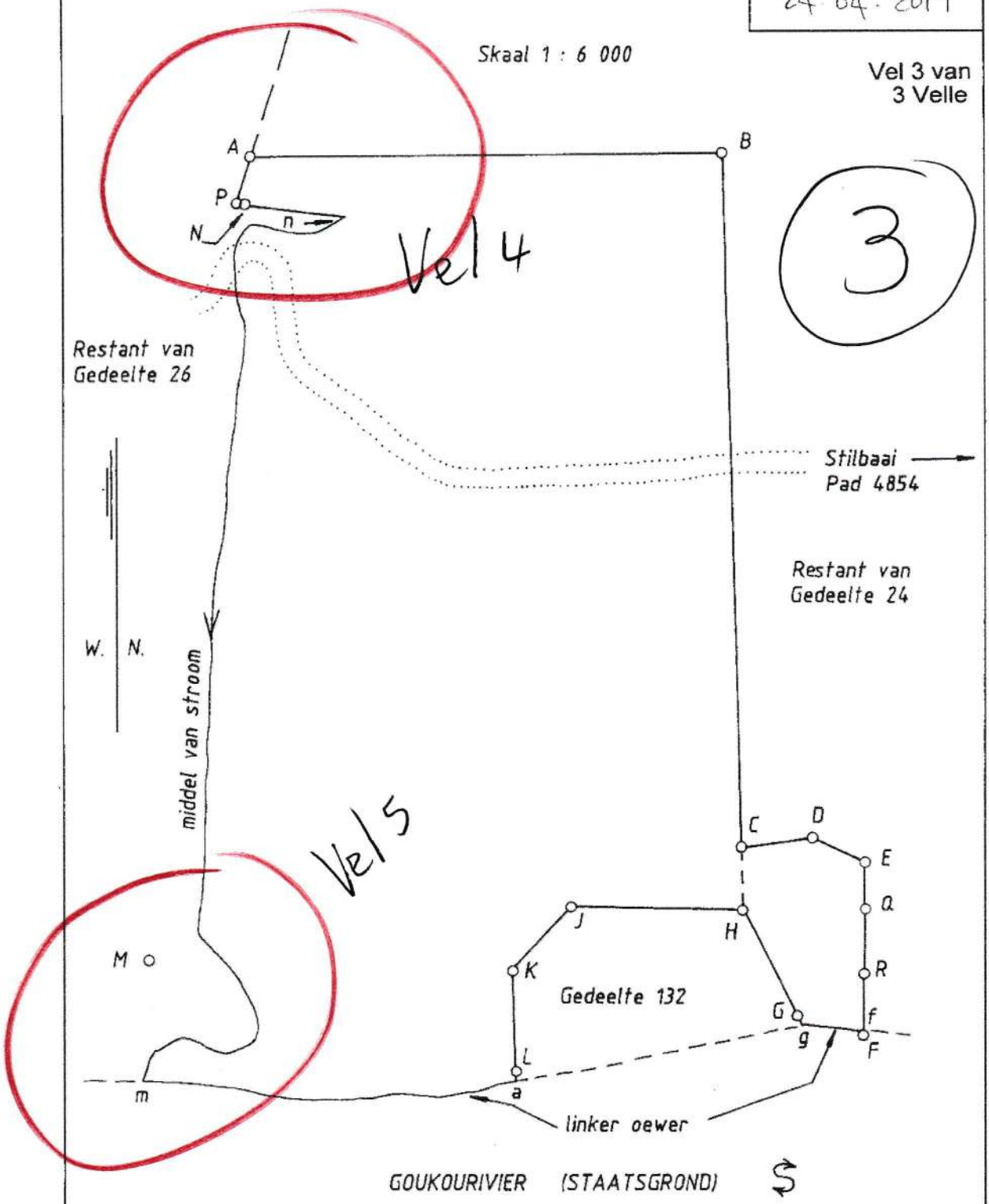
B. van der Walt PLS-0640 (Pr. Landmeter)

GEDEELTE 257 van die plaas
MELKHOUTE FONTEIN nr. 480
geleë in die Munisipaliteit van Hessequa
Administratiewe Distrik Riversdal
Provinsie Wes-Kaap

L. G. No.
505/2017
Goedgekeur
Landmeter-generaal
24 . 04 . 2017

Skaal 1 : 6 000

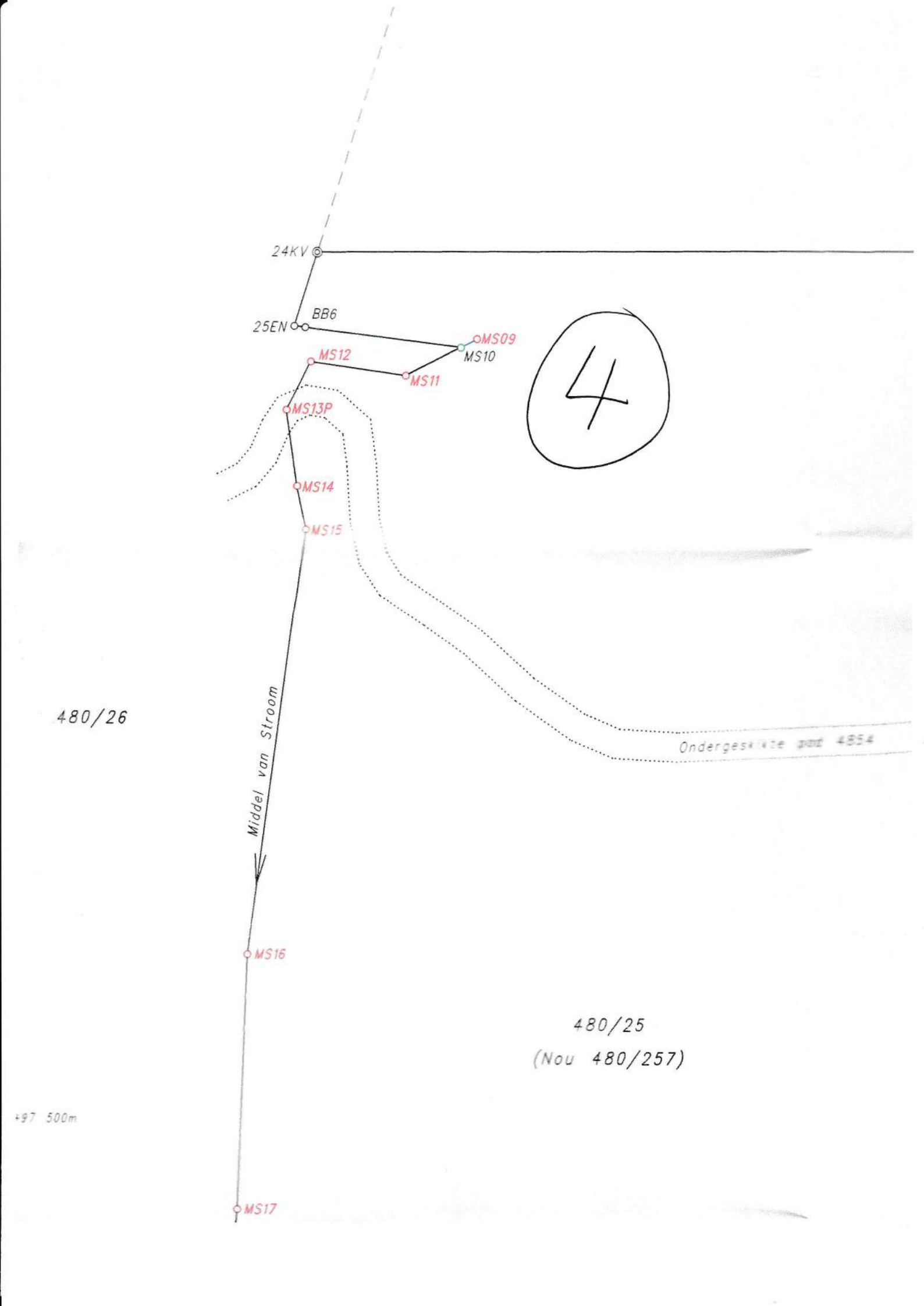
Vel 3 van
3 Velle

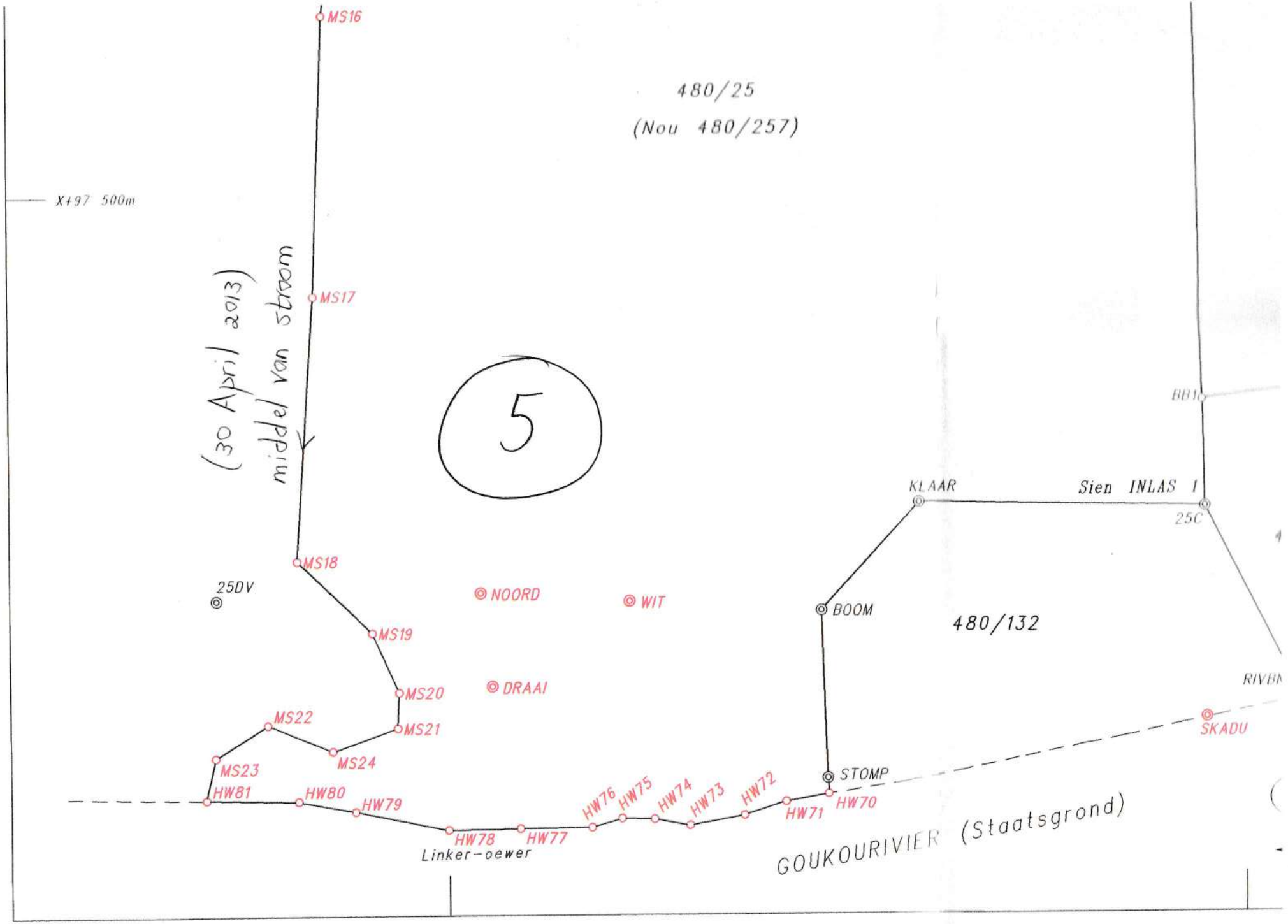


Opgemeet in Januarie 2013 tot Maart 2017
deur my

B/d Walt B. van der Walt PLS-0640 (Pr. Landmeter)

MOSPRINT 1848


24KV
25EN
BB6
MS09
MS10
MS12
MS11
MS13P
MS14
MS15
MS16
MS17
4
480/26
Middel van Stroom
480/25
(Nou 480/257)
+97 500m


480/25
(Nou 480/257)
X+97 500m
(30 April 2013)
middel van stroom
5
MS16
MS17
MS18
MS19
MS20
MS21
MS22
MS23
MS24
25DV
NOORD
WIT
DRAAI
KLAAR
Sien INLAS 1
25C
BOOM
480/132
STOMP
SKADU
HW81
HW80
HW79
HW78
HW77
HW76
HW75
HW74
HW73
HW72
HW71
HW70
Linker-oewer
GOUKOURIVIER (Staatsgrond)

ANNEXURE 5: POWER OF ATTORNEY

SPECIAL POWER OF ATTORNEY

I, THE UNDERSIGNED

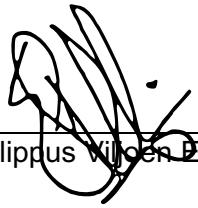
Philippus Viljoen Ellis

DULY AUTHORISED BY **ELLIS FARMING ENTERPRISES CC**

BEING THE OWNER OF **PORTION 257 MELKHOUTE FONTEIN 480**

Wish to certify that authority is hereby granted to DANETTE JONES OF THE PLANNING STUDIO (PTY) LTD. T/A NUPLAN AFRICA, to lodge the application for Building line departure and Administrator Consent on the subject property, as well as any other land use application that might result as part of this application.

SIGNED AT STILL BAY ON THIS 5TH DAY OF MARCH 2025.



Philippus Viljoen Ellis

CONFIRMED

Johannes Petrus Ellis

ANNEXURE 6: CC REGISTRATION DOCUMENTS

Companies and Intellectual Property Commission
a member of the dti group

Date: 06/12/2012

Our Reference: 716048707

PETRUS CARSTENS
E-mail: PETRUS@DUTOITESTERHUYSE.CO.ZA
PO BOX 331
WORCESTER
WORCESTER
6849

RE: Application to Amend Close Corporation
Close Corporation Number: 1998/033137/23
Close Corporation Name: ELLIS FARMING ENTERPRISES

We have received a CK2&CK2A from you dated 14/11/2012.
The Close Corporation 'ELLIS FARMING ENTERPRISES' with Enterprise Number '1998/033137/23' was successfully amended on our database.

Yours truly
Registrar of Close Corporations

Please Note:

The attached certificate can be validated on the CIPC website at www.cipc.co.za.
The contents of the attached certificate was electronically transmitted to the South African Revenue Services.

Certificate issued by the Registrar of Companies & Close Corporations on Thursday, December 06, 2012 12:29
Certificate of Amended Founding Statement

Registration Number	1998 / 033137 / 23
Enterprise Name	ELLIS FARMING ENTERPRISES
Enterprise Shortened Name	None provided.
Enterprise Translated Name	None provided.
Registration Date	09/06/1998
Business Start Date	09/06/1998
Enterprise Type	Close Corporation
Enterprise Status	In Business
Financial Year End	February
Tax Number	9053008091
Number of Members	2
Aggregate Members' Contribution	R 100.00
Description of Principal Business	THE BUSINESS OF FARMING AND THE CRUSHING OF STONE FOR COMMERCIAL PURPOSES
Postal Address	P O BOX 470 WORCESTER 6849
Address of Registered Office	HERLANDIA BUILDING 68 HIGH STREET WORCESTER 8650

Accounting Officer

Name	P L CARSTENS
Postal Address	P O BOX 470 WORCESTER 6849
Profession	The South African Institute of Professional Accountants (SAIPA)
Membership/Practice No	000637

Active Members

Surname and first names	ID number or date of birth	Contrib. (R)	Interest (%)	Appoint-ment date	Addresses
ELLIS, PHILIPPUS VILJOEN	60080210023	50.00	50.00	09/06/1998	Postal: P O BOX 1122, WINDHOEK, NAMIBIA, 0090 Residential: 16 HERZINGER CRESCENT, WINDHOEK, NAMIBIA, 0090

Certificate issued by the Registrar of Companies & Close Corporations on Thursday, December 06, 2012 12:29
Certificate of Amended Founding Statement

Registration number **1998 / 033137 / 23**

Enterprise Name **ELLIS FARMING ENTERPRISES**

Active Members

Surname and first names	ID number or date of birth	Contrib. (R)	Interest (%)	Appoint-ment date	Addresses
ELLIS, JOHANNES PETRUS	5804305025082	50.00	50.00	09/06/1998	Postal: P O BOX 1231, HEIDELBERG, GAUTENG, 1438 Residential: 2 BLESBOK STREET, JORDAAN PARK, HEIDELBERG, GAUTENG, 1441

Change Summary for 1998/033137/23 as a result of the lodging of document number 716048707.

Postal Address Change on 06/12/2012.
P O BOX 3300
WINDHOEK

0090
Registered Address Change on 06/12/2012.
11 HERLANDIA BUILDING
68 HIGH STREET

WORCESTER
8650
Accounting Officer Change on 06/12/2012.
Change Record
Name: = DU TOIT ESTERHUYSE EN VAN LILL
Status: = Resign
Accounting Officer Change on 06/12/2012.
Add Record
Name: = P L CARSTENS
Status: = Current
Member Change on 06/12/2012.
Change Record
Surname: = ELLIS
First Names: = JOHANNES PETRUS
Status: = Active
Member Change on 06/12/2012.
Change Record
Surname: = ELLIS
First Names: = PHILIPPUS VILJOEN
Status: = Active

ANNEXURE 7: CONSENT LETTER FROM THE TRUST

5 March 2025

Hessequa Municipality
Planning Department - Directorate: Development Planning
Van den Berg Street
Riversdale
6670

TO WHOM IT MAY CONCERN;

APPLICATION FOR BUILDING LINE DEPARTURE: Portion 257 of the Farm Melkhoute Fontein No. 480, Division Riversdale (Stilbaai)

We, Philippus Viljoen Ellis and Johannes Petrus Ellis, are the only members of *Ellis Farming Enterprises CC* which is the registered owner of Portion 257/480 (the 'subject property').

We are also trustees of the *John & Kinna Ellis Family Trust* (the 'trust'*)*, who is the registered owner of the property adjacent to the subject property, namely Portion 132 of the Farm Melkhoute Fontein 480. The trust has the following trustees:

- Johannes Petrus Ellis ("Johann")
- Philippus Viljoen Ellis ("Philip")
- Maria Susanna Groenewald ("Marian")

Because this is a family trust and Ellis Farming Enterprises CC is a family-owned business, both properties are owned by the Ellis family. The proposed new main dwelling on the subject property will be for the sole use of the Ellis family.

The trust therefore supports the application for the building line departure from 30m to 1m, in order to position the new dwelling as close as possible to the existing family dwelling.

Please find attached the trust resolution.

If you have any questions, please contact Philip on +264 811 241819. or Johann on +27 83 629 8387

Kind regards,

Philippus Viljoen Ellis	Johannes Petrus Ellis	Maria Susanna Groenewald

ANNEXURE 8: SG DIAGRAM

OFFICE COPY

SYE METER		RIGTINGS-HOEKE		KOORDINATE Stelsel WG 21° Y	X
		Konstantes		+0.00	+3700 000.00
AB	491.80	269 33 30	A	-29 968.61	+ 96 905.10
BC	729.29	358 55 40	B	-30 460.40	+ 96 901.31
CD	77.23	262 37 40	C	-30 474.05	+ 97 630.47
DE	57.60	294 53 50	D	-30 550.64	+ 97 620.56
EF	180.56	1 00 40	E	-30 602.89	+ 97 644.81
FG	71.97	105 54 40	F	-30 599.70	+ 97 825.34
GH	122.06	153 06 50	G	-30 530.49	+ 97 805.61
HJ	179.57	91 04 50	H	-30 475.29	+ 97 696.74
JK	90.72	42 49 00	J	-30 295.75	+ 97 693.35
KL	104.33	358 18 10	K	-30 234.09	+ 97 759.90
LM	397.52	106 22 00	L	-30 237.18	+ 97 864.18
MN	802.61	187 30 30	M	-29 855.77	+ 97 752.17
NP	7.43	97 05 20	N	-29 960.63	+ 96 956.44
PA	52.71	196 55 30	P	-29 953.26	+ 96 955.53
KONNEKSIEDATA					
EQ	50.24	1 00 40	Q	-30 602.00	+ 97 695.04
QR	66.84	1 00 40	R	-30 600.82	+ 97 761.87
RF	63.48	1 00 40			
CH	66.28	358 55 40			
AANDUIDINGSDATA					
Ff		181 00 40			
Gg		333 06 50			
La		358 18 10			
Nn		277 05 20			
	Riv 40	△ 114		-31 710.69	+ 96 320.93
	Riv 79	△ 148		-31 137.34	+ 95 747.90

L. G. No.
505/2017
Goedgekeur
Landmeter-generaal
24.04.2017

Vel 1 van 3 Velle

Die figuur A B C D E f linker oewer van Goukourivier g H J K a linker oewer van Goukourivier m middel van stroom n P

stel voor 50,1544 hektaar grond, synde

GEDEELTE 257 van die plaas MELKHOUTE FONTEIN nr. 480

en bestaan uit 1. en 2. soos aangedui op Vel 2

geleë in die Munisipaliteit van Hessequa
Administratiewe Distrik Riversdal
Provinsie Wes-Kaap

Opgemeet in Januarie 2013 tot Maart 2017
deur my

B. van der Walt PLS-0640
Pr. Landmeter

Exempt i.t.o. Section 24(1)(g)(i)... of Municipal Bylaw of Act 3/2014
Ref. 15/4/8/2
Date 13 April 2017

Hierdie kaart is geheg aan	Die oorspronklike kaarte is	Lêer No. RSDLE 480
No. CCT. 36479/2021 gedateer	soos aangedui op Vel 2.	M.S. No. 311/2017
t.g.v.	~~No. geheg aan Transport/Grondbrief No.~~	Komp. AK - 3BA (6163)
Registrateur van Aktes		LPI C0640000

Farm 480 ptn 257. Riversdal

OFFICE COPY

L. G. No.
505/2017
Goedgekeur
Landmeter-generaal
24.04.2017

Vel 2 van
3 Velle

GEDEELTE 257 van die plaas
MELKHOUTE FONTEIN nr. 480
geleë in die Munisipaliteit van Hessequa
Administratiewe Distrik Riversdal
Provinsie Wes-Kaap

KOMPONENTE

1. Die figuur A B H J K a linker oewer van Goukourivier m middel van stroom n P stel voor die Restant van Gedeelte 25 van Melkhoute Fontein nr. 480
   Sien Kaart L.G. nr. 1418/1895
   Transportakte nr. 1896 - 16 - 1413

2. Die figuur C D E f linker oewer van Goukourivier g H stel voor Gedeelte 256 van Melkhoute Fontein nr. 480
   Sien Kaart L.G. nr. 504/2017
   Transportakte nr.

BAKENBESKRYWING

A, B, C, G, H, J, K, L, N, P	20mm Ysterpen
D, E, Q, R	16mm Ysterpen
F	12mm Boorgat in rots
M	Ingeplante klip

Opgemeet in Januarie 2013 tot Maart 2017
deur my

B. van der Walt PLS-0640 (Pr. Landmeter)

Farm 480 ptn 257 Riversdal

L. G. No.

505/2017

Goedgekeur

Notler

Landmeter-generaal

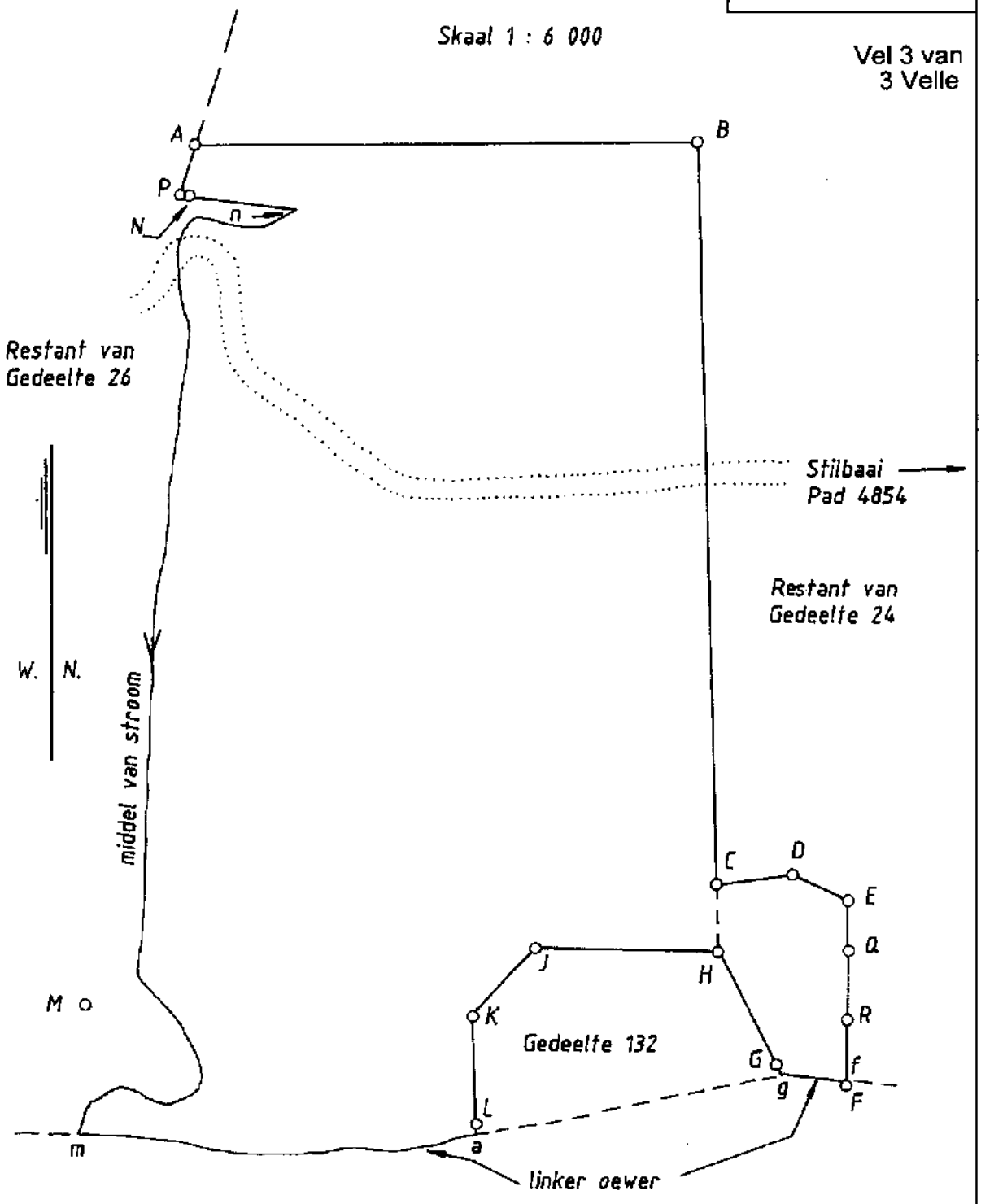
24 04 2017

GEDEELTE 257 van die plaas MELKHOUTE FONTEIN nr. 480

geleë in die Munisipaliteit van Hessequa
Administratiewe Distrik Riversdal
Provinsie Wes-Kaap

Skaal 1 : 6 000

Vel 3 van 3 Velle



Opgemeet in Januarie 2013 tot Maart 2017
deur my

B/d Walt B. van der Walt PLS-0640 (Pr. Landmeter)

MOSPRINT 1848

Farm 480 ptn 257 Riversdal

ANNEXURE 9: SERVICES REPORT

PROPOSED RESIDENTIAL HOUSE PHILIP ON PORTION 257 OF THE FARM MELKHOUTE FONTEIN NO. 480, STILL BAY, WESTERN CAPE

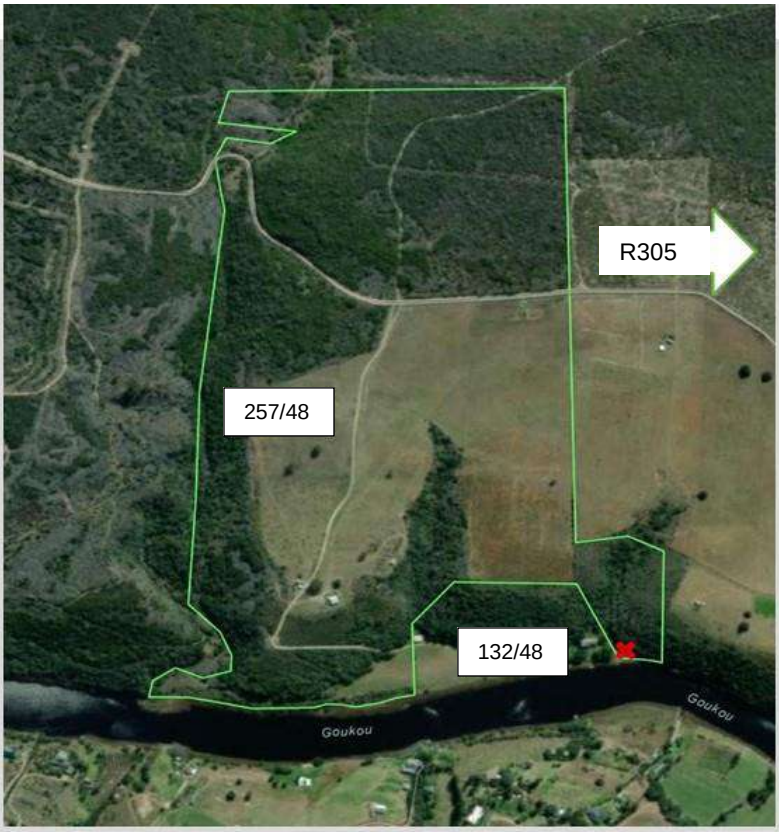


Table 1 : Current Report Version

Report Title:	**PROPOSED RESIDENTIAL HOUSE PHILIP ON PORTION 257 OF THE FARM MELKHOUTE FONTEIN NO. 480, STILL BAY, WESTERN CAPE**
Client:	Mr PV ELLIS
Report Number:	T105
Revision Number:	03

Table 1 : Report Revision History

Date	**Rev**	**Written By**	**Reviewed By**		**Distribution**	**Format**
			Name	**Institution**		
17 March 2025	01	Thomas Martinson	Japie van Eeden		E-mail	.pdf
1 April 2025	02	Thomas Martinson	Japie van Eeden		E-mail	.pdf
10 April 2025	03	Thomas Martinson	Japie van Eeden		E-mail	.pdf

Table of Contents

1. Introduction

Thomas Martinson, a knowledgeable professional multi discipline Construction Manager with more than 40 years experience in construction and project management, was appointed by Mr F V Ellis to prepare the necessary Civil Engineering Service Report for the proposed building of one residential house on Portion 257 of the farm Melkhoute Fontein 480, Riethuiskraal, Hessequa Local Municipality, Western Cape near Still Bay.

Japie van Eeden, a registered Professional Engineer (Pr Eng), reviewed the report.

The total size of the property is 50,15 ha.

The development consists of a primary residential house with a disturbed footprint of not more than 158 m². The only excavations will be for the foundations of the house supports, the 6 m² excavation for the conservancy tank and a 4 m² concrete slab for the rain water tank. The 36 m² parking area will be undisturbed.

This dwelling will be provided by a basic access road, 3 phase electrical supply from Escom and a 6,0 cu.m conservancy tank.

Figure 1: Locality map (Google Earth Image)

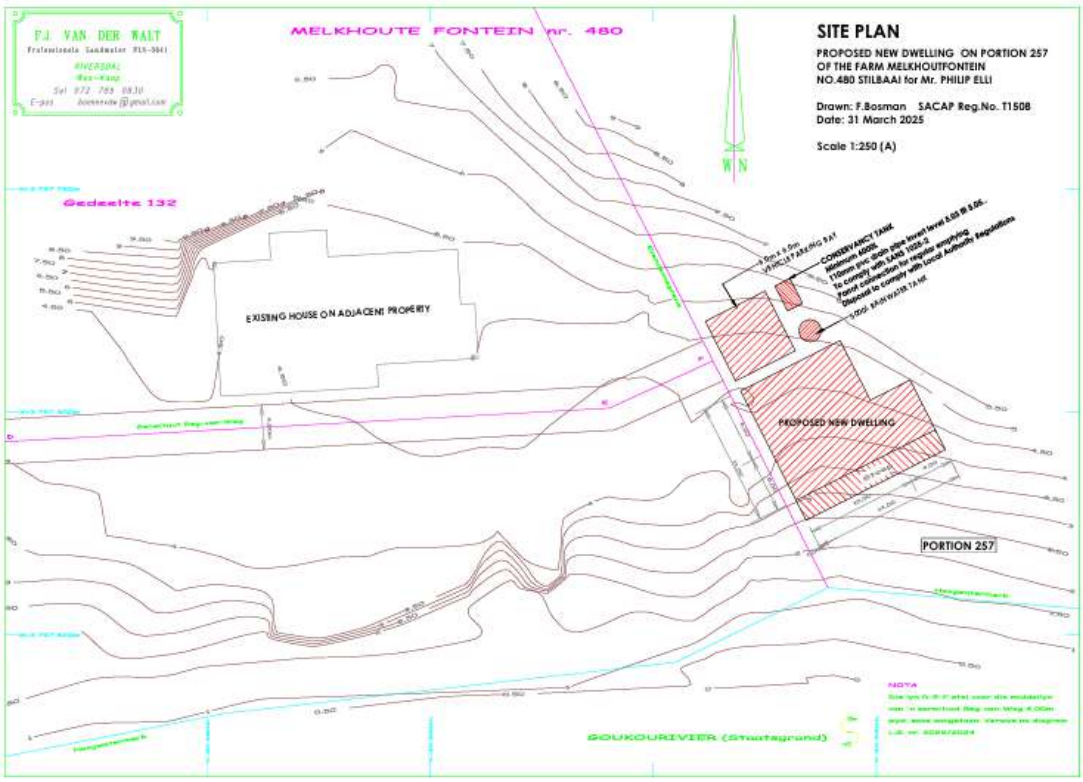


Figure 2: Site layout

2. LAND USE

The current zoning is Agricultural 1 (AGR1) for the total area. Application will be made for a departure of the building line from 30m to 1m from the adjacent property.

3. EXISTING SERVICES

3.1 Buildings

Existing Farm Worker house on top of the hill as well as an old farm worker house, that is being used as a storage facility.

3.2 Water

An existing borehole with a capacity of 8 000 litre/day supplies water to two x 5 000 litre water tanks next to the borehole. These tanks gravity feed (20m head) via a Ø20mm water pipeline to two x 2 500 litre water tanks on top of the hill above the proposed dwelling. A Ø 32mm above ground pipeline runs from the storage tanks on the hill to the existing dwelling on 132/480. (37m head). **(See Figure 3: Existing water supply)**

Figure 3: Existing water supply

3.3 Sewerage

None

3.4 Electricity

Three phase Escom electrical connection is available on site.

3.5 Access and Roads

Access to the proposed development position is via an unnamed gravel road that connects to the R305. The gravel road continues south towards the Goukou River, where it traverses the neighboring portion 132/480 in front of the existing dwelling via a servitude that is currently being registered.

3.6 Refuge Removal Services

Hessequa municipality collect refuse on Thursdays at the entrance gate of the farm.

3.7 Storm Water

The area is naturally drained in a southern direction towards the Goukou River

4. PROPOSED CIVIL ENGINEERING SERVICES

4.1 House Construction

The proposed development will not result in any additional construction of infrastructure within the dynamic, tidal extent of the estuary and construction and operational phase activities will not impact on the base flows or hydrological regime (i.e. timing and magnitude of surface flows) of the estuary and are of such a scale that will in no way impact on the frequency of estuary mouth closure.

The proposed new dwelling will be constructed in timber frame to comply with relevant SABS codes and the National Building Regulations. Relevant Codes to adhere to include SANS 517, 1040, 10082, 10160 and 10163.

A raised timber base floor structure on SABS approved treated timber columns secured to B600 Engineer designed steel reinforced pre-fabricated concrete footings will eliminate the need for excavations and /or filling and secure the floor level of the house to be constructed above the 1:100-year flood line. The floor level will be at 5,5m above the high-water mark as per the recommendation of WML Coast Consulting engineers who conducted a Flood Level Study of the Goukou River in the vicinity of Farm 480/257 Melkhoutfontein in July 2023.

Internal and external floors structures, wall frames and roof structure are all per the designs and specifications provided by the appointed civil Engineers. Wall frame cavities will allow for the reticulation of electrical wiring, plumbing, water lines, gas, TV and other required services and all cavities are to be tightly packed with non-combustible fibre wool insulation.

External walls will be cladded with fibre cement planking.

The roof cover will be ColorBond AZ 200 metal profile sheets to manufacturers specification.

4.2 Water

4.2.1 Water During Construction Phase

Water during construction will be available via the existing water supply from the top of the hill above the new dwelling.

4.2.2 Water for Long Term Use

The expected water usage will be between 800 – 1 000 litres/day. Two new 5 000 litre water tanks will be installed above the new dwelling on top of the hill as indicated. A new Ø 40mm above ground pipeline will be installed from the storage tanks on the hill to the proposed new dwelling. (37m head). This water supply will be used for residential usage. **(See Figure 4: Planned water supply)**

Figure 4: Planned water supply

Drinking water will be purified water supplied via 10 litre water bottles on a countertop water dispenser in the kitchen.

The recommended water storage capacity for household use is 10 000 litres.

A further 5 000 litre rainwater tank will be installed next to the house and will be connected to the house supply water with a booster pump.

It is proposed that the residential unit be equipped with the following water saving technology:

- **Dual Flush Toilets**
- **Low flow shower heads** – It is proposed that the residential unit be equip with low flow shower heads, as these can not only reduce water consumption by up to 50%, but also the energy required for water heating by up to 50% (Eartheasy, 2008 - http://eartheasy.com/live_lowflow_aerators.htm). Low flow shower heads make use of either aerators or pulse systems to reduce the flow without compromising the quality of the shower. The choice of shower head is up to the homeowner but must have a flow of less than 7 litres per minute

- **Low flow faucets** - Low flow faucets use aerators to reduce the flow of the water. These are either built into the faucet or added as an aftermarket product. The faucets in bathrooms should have a peak flow of less than 10 litres per minute
- **Rainwater Tank** - The house will be fitted with a 5 000 litre rainwater collection tank that will be connected to the house water supply with a booster pump via a filter system
- **Geyser and pipe insulation** - Apart from the savings in terms of energy as detailed above, insulating geysers and pipes save water, as shorter periods of running the tap to get hot water are required. Homeowners must be required to install geyser and pipe insulation; this must be included in their building guidelines.

4.3 Sewerage

The calculated sewage and grey water generation from the new dwelling has been calculated as 500 - 750 litre/day. A masonry conservancy tank will be constructed according to SANS 10400-P:2010 Edition 3. The capacity of the tank will be 6 000 litres and will be constructed next to the parking area above the house at the 5,5m contour line in line with the registered servitude road to the new dwelling. The sewage will be collected by the Hessequa municipality on request.

4.4 Electricity

Three Phase Escom connection is available on site.

4.5 Access and Roads

No new access roads need to be constructed for access to the new home.

4.6 Storm water

The structure of the new dwelling will be above ground level and will not affect the current flow of storm water on the property.

4.7 Solid waste

Two types of refuse will be generated. The following options for disposing of the refuse will be followed.

4.7.1 Normal household refuse

A distinction will be made on the premises between recyclable and non-recyclable refuse. Both these types of refuse will be delivered to the closest refuse collection point at the current farm gate where it will be collected by the municipality.

4.7.2 Garden refuse

Will be managed on-site by the resident of the home through a composting facility in such a way that it does not pose a fire hazard to the environment.

5. CONSTRUCTION PHASE IMPACTS AND MITIGATIONS

The following construction impacts and mitigations will have to be implemented as per the Specialist Aquatic Biodiversity assessment conducted by Dr. J.M Dabrowski (PhD) in November 2024.

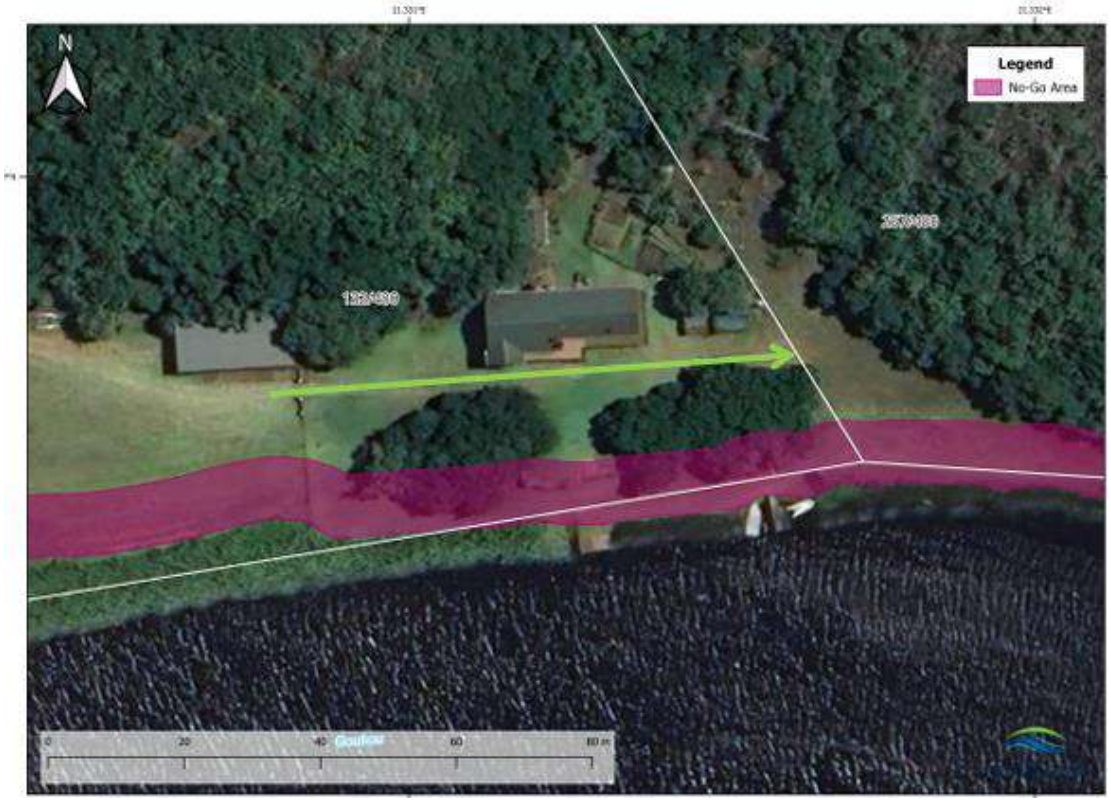


Figure 5: Map indicating No-Go area in purple and recommended access route (green arrow) to the development area in Portion 257 of Farm 480.

5.1 Impact 1

Transformation of habitat within the Estuarine Functional Zone (EFZ) of the Goukou River estuary. Construction of the residential dwelling will occur within a transformed section of the Goukou EFZ which offers limited habitat options for estuarine biota. No part of the development will occur within the river and no aquatic estuarine biota are expected to be adversely impacted. It is therefore unlikely that this development will significantly affect the ecological or functional attributes of the broader estuarine system.

5.1.1 Mitigation:

- Working areas must be clearly demarcated. Estuarine habitat outside of the working area must be designated as No-Go and no disturbance (i.e. trampling, smothering etc.) of estuarine habitat in this area is permitted. A 10 m buffer (measured from the edge of the bankfull channel) must be implemented and be clearly demarcated as a No-Go area
- No excavated material must be dumped or stockpiled in the No-Go area
- A comprehensive method statement must be drawn up which provides a clear step by step plan of the sequence of construction activities that will be undertaken. The method statement must aim to minimise the length of time that cleared areas remain exposed and vulnerable to erosion.

5.2 Impact 2

Erosion and sedimentation caused by clearance of vegetation during construction Clearing of vegetation will expose soil which may be vulnerable to erosion resulting in sediment input into the estuary and smothering and die-back of estuarine vegetation.

5.2.1 Mitigation:

- Working areas must be clearly demarcated to avoid unnecessary clearing of vegetation. Estuarine habitat outside of the working area must be designated as No-Go and no disturbance (i.e. trampling, smothering etc.) of estuarine habitat in this area is permitted
- For Alternative A, vegetation clearance must be limited to the proposed location of supporting piles
- Construction of the dwelling must be planned for the dry season (May to July). A comprehensive method statement must be drawn up which provides a clear step by step plan of the sequence of construction activities that will be undertaken. The method statement must aim to minimise the length of time that cleared areas remain exposed and vulnerable to erosion
- Silt fencing must be placed along the lower southern boundary of the development footprint to prevent sediment input in the event of a rainfall event
- Any disturbed, exposed areas outside of the development footprint must be reprofiled to natural contours and re-vegetated.

5.3 Impact 3

Disturbance of estuarine and coastal habitat caused by general construction activities. The proposed location of the dwelling is located immediately adjacent to sensitive estuarine and habitat. Failure to adequately manage activities on the construction site (e.g. access to construction areas, location and management of laydown and stockpile areas, waste management etc.) could lead to physical disturbance, solid waste pollution (e.g. general litter, building rubble, construction materials, cement etc.) and chemical pollution (e.g. hydrocarbons from vehicles and machinery and wastewater from cement mixing and temporary ablution facilities) of estuarine habitat.

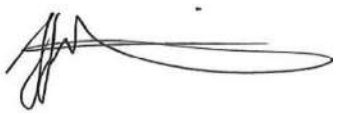
5.3.1 Mitigation:

- Access to the construction area through the No-Go area is not permitted. Access must be restricted to the strip of transformed EFZ immediately south of the main residential dwelling on Portion 132 of Farm 480
- No construction materials may be stored or stockpiled outside of the area delineated by the rock revetment or in any part of the undeveloped areas of the EFZ. Portion 257 of Farm 24 Melkhoutefontein
- Rubble and waste materials must be managed on site and must not be dumped or stockpiled within the No-Go area
- Chemical toilets should be provided on-site at 1 toilet per 10 persons
- Waste from chemical toilets must be disposed of regularly (at least once a week) in a responsible manner by a registered waste contractor.

6. GENERAL

For any further queries do not hesitate to contact Thomas Martinson on 083 564 7098 or Japie van Eeden on 082 418 9003.

Yours truly



T.J. MARTINSON
Construction Manager

Reviewed by:

J.D. van EEDEN Pr Eng.

ANNEXURE 10: TERRESTRIAL & PLANT SPECIES ASSESSMENT

Proposed Development on Portion 257 of Melkhoute fontein 480, Riethuiskraal, Hessequa Local Municipality, Western Cape

Terrestrial and Plant Species Theme Specialist Assessment:

Site Sensitivity Verification Report and Compliance Statement

Author: Kim Daniels (MSc)
Confluent Environmental Pty (Ltd)
7 St. Johns Street,
Dormehls Drift,
George, 6529

SACNASP: Certified Natural Scientist (Ecological Sciences), 162841

Reviewer: J. Dabrowski ()

Date: September 2024, Updated April 2025

Version: Final

DECLARATION OF SPECIALIST INDEPENDENCE

I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);

At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;

Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;

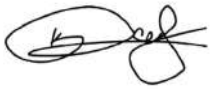
I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;

I do not have any influence over decisions made by the governing authorities;

I undertake to disclose all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by a competent authority to such a relevant authority and the applicant;

I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;

All the particulars furnished by me in this document are true and correct.



Kim Daniels (MSc)

September 2024

SUMMARY OF EXPERIENCE AND ABRIDGED CV
KIM DANIELS

Core skills

- MSc. Biodiversity and Conservation Biology (University of Cape Town) and 3 years of work experience (research assistance and education) for research projects aimed at investigating invertebrate diversity, plant diversity, insect ecology, disease ecology, invasive species, plant systematics, herpetology, and climate change impacts on a variety of taxa.
- Ecological and field work experience before, during, and after postgraduate degrees across a range of environments (mesic savanna, arid savanna, fynbos, succulent karoo, and Nama karoo) and taxa (plants, invertebrates, avifauna, amphibians, and small mammals).
- My postgraduate studies have been focused on vegetation change in the fynbos and parasitic plants as thermal refugia for arid savanna birds.

Work experience

- Teaching assistant at the Organization of Tropical Studies and Roots & Shoots
- Internships in Entomology, Horticulture, and Plant Conservation
- Research assistant at the Centre for Invasion Biology
- Field assistant at Valuing Orchard and Integrated Crop Ecosystem Services Project

Qualifications

- BSc. Biodiversity and Conservation Biology (2018, University of the Western Cape)
- BSc. Hons. Biodiversity and Conservation Biology (2021, University of the Western Cape)
- MSc. Conservation Biology (2023, University of Cape Town)

References

- Dr Timm Hoffman – Academic supervisor and previous employer

  Former Director of the Plant Conservation Unit; University of Cape Town

  Email: timm.hoffman@uct.ac.za; Tel: 021 650 5551

- Ms. Paula Strauss – Previous employer

  Research co-ordinator; Grootbos Nature Reserve

  E-mail: paula@grootbosfoundation.org; Tel: 072 611 7971

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACCRONYMS

CBA	Critical Biodiversity Area
CD:NGI	Chief Directorate: National Geo-spatial Information
DFFE	Department of Forestry, Fisheries, and the Environment
ESA	Ecological Support Area
NEMA	National Environmental Management Act
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDP	Site Development Plan
SSVR	Site Sensitivity Verification Report
WCBSP	Western Cape Biodiversity Spatial Plan

1. INTRODUCTION

Confluent Environmental Pty (Ltd) was appointed to undertake a specialist assessment for botanical and terrestrial sensitivity for the proposed development of a dwelling as well as the introduction of a grassed parking bay, rainwater and conservancy tank on the south-eastern extent of Portion 257 of Melkhoute Fontein 480, Riethuiskraal, Hessequa Local Municipality, Western Cape (hereafter referred to as “the site”).

1.1 General Site Location

The site is ca. 2.02 hectares in extent and is bounded on the south by the Goukou River. The property is used for agriculture and situated within an agricultural area. The site is only accessible via the road running through Portion 132 of Melkhoute Fontein 480 and Portion 257 of Melkhoute Fontein 480. The property falls within the larger Gouritz Cluster Biosphere Reserve. No rivers or wetlands are mapped for the property (Figure. 1).

Figure 1. Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal (in purple), site outlined for assessment in the Screening Tool (in green), and the Site Development Plan (SDP) in red.

1.2 Development Layout

At the time of writing this report an area demarcated for the development of a dwelling and associated infrastructure was outlined in the south-eastern corner of the site area, below the 10m contour line (Figure. 2). As per the Engineering Report (2025), a three phase Eskom connection is available on-site. A conservancy tank will be constructed next to the dwelling and sewage will be collected by the Hessequa Municipality. A rainwater tank is also proposed to be introduced. Access would be obtained via the neighbouring property using the current access road and a parking bay is included in the SDP. (Figure 3). Due to its proximity to the Goukou River, the development is planned to be stilted rather than built on the ground, which reduces its footprint on vegetation.

Figure 2: The SDP outline (in red) on the site area outlined in the Screening Tool (in green) of Portion 257 of the farm Melkhoute fontein 480, 1.5m contours are included.

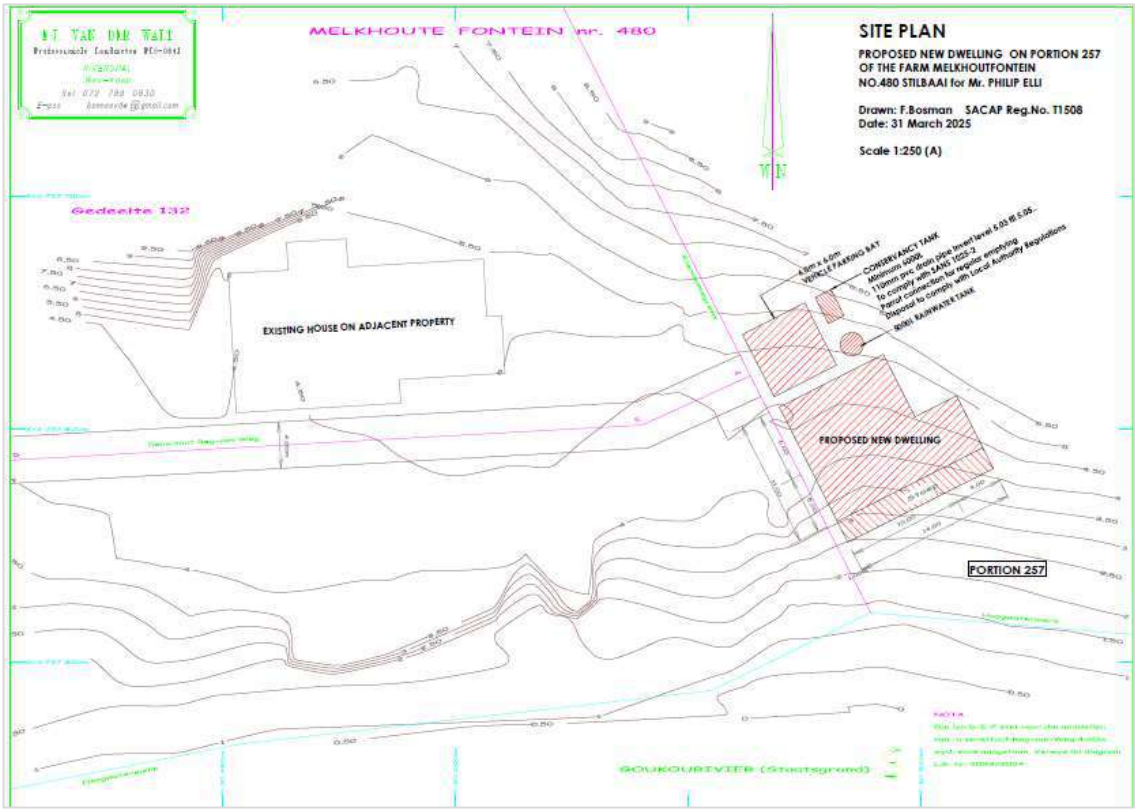


Figure 3. The location of the new dwelling and associated infrastructure relative to existing dwelling and the high-water mark for the Goukou River.

2. TERMS OF REFERENCE

This screening tool sensitivity verification report provides information on Terrestrial and Botanical diversity and sensitivity of the proposed development. The results presented are based on a desktop and field assessment, which includes a consideration of historical photographic records of the site. The assessment presented in this report follows the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity, and Terrestrial Plant Species themes.

This site sensitivity assessment follows the requirements of:

The Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), which includes:

The protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial plant species (28 July 2023).

The protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial biodiversity (20 March 2020).

Additional guidelines for the terrestrial biodiversity theme:

Ecosystem Guidelines for Environmental Assessment in the Western Cape (de Villiers et al., 2016).

The Western Cape Biodiversity Spatial Plan Handbook and summary booklet (CapeNature, 2017; Pool-Sandvliet et al., 2017).

The Subtropical Thicket Ecosystem Programme Handbook: Integrating the natural environment into land-use decisions at the municipal level: towards sustainable development (Pierce & Mader, 2006).

Additional guidelines for the terrestrial plant species theme:

Species Environmental Assessment Guideline: Guidelines for the implementation of the Terrestrial Flora (3c) & Terrestrial Fauna (3d) Species Protocols for environmental impact assessments in South Africa (Verburgt et al., 2020).

The assessment was undertaken by a specialist registered with the South African Council for Natural Scientific Professionals (SACNASP) with relevant expertise in the field of Botanical and/or Ecological science.

2.1 Online Screening Tool

The Department of Forestry, Fisheries, and the Environment (DFFE) screening tool report for the development footprint has identified the **terrestrial plant species theme as having a Medium sensitivity**. The **terrestrial biodiversity theme is considered Very High sensitivity** (Figure. 4). Note that the Screening Tool plant species theme does not take Near Threatened plant populations into account. A Medium screening tool sensitivity for plants indicates that:

> *"Model-derived suitable habitat areas for threatened and/or rare species are included in the medium sensitivity level. Two types of spatial models have been included. The first is a simple rule-based habitat suitability model where habitat attributes such as vegetation type and altitude are selected for all areas where a species has been recorded to occur. The second is a species distribution model which uses species occurrence records combined with multiple environmental variables to quantify and predict areas of suitable habitat. The models provide a probability-based distribution indicating a continuous range of habitat suitability*

> *across areas that have not been previously surveyed. A probability threshold of 75% for suitable habitat has been used to convert the modelled probability surface and reduce it into a single spatial area which defines areas that fall within the medium sensitivity level."* ~ (Verburgt et al., 2020)

A Very High sensitivity rating for terrestrial biodiversity according to the screening tool is triggered for all Biodiversity Priority Areas (BPAs) and other sensitive features (Stewart et al., 2021) (Figure. 3). BPAs include the various management layers of the Western Cape Biodiversity Spatial Plan (WCBSP), as well as the other sensitive features. The BPA triggered for the property is that parts of the area are mapped as Ecological Support Areas and Critical Biodiversity Areas. The property is mapped as containing Gouritz Valley Thicket (Critically Endangered).

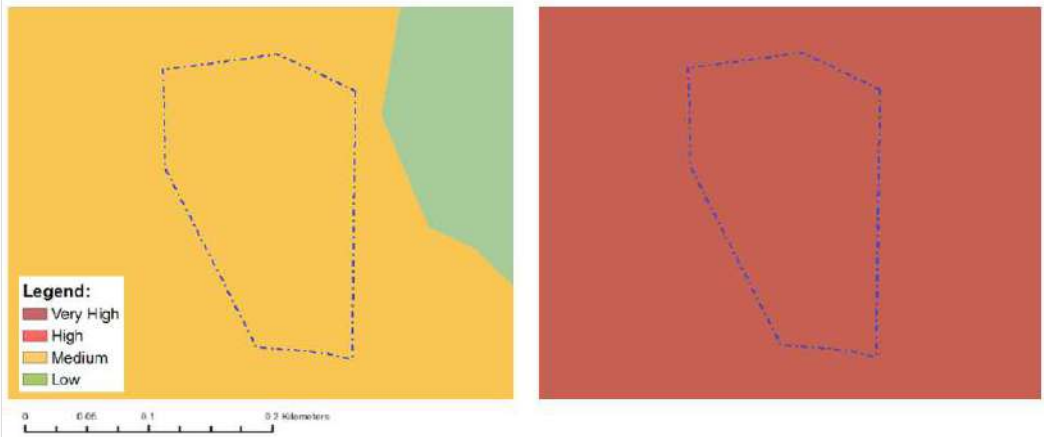


Figure 4. DFFE Online Screening Tool outcome for the plant species (Left) and terrestrial biodiversity (Right) themes for the site at Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal. The site area is indicated by the blue dashed line.

Table 1. Species of Conservation Concern highlighted by the DFFE Online Screening Tool for site at Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal.

Sensitivity	Feature(s)	Status*
Medium	*Agathosma eriantha*	Vulnerable
Medium	*Agathosma microcarpa*	Vulnerable
Medium	*Agathosma minuta*	Endangered
Medium	*Agathosma muirii*	Vulnerable
Medium	*Agathosma riversdalensis*	Vulnerable
Medium	*Agathosma robusta*	Vulnerable
Medium	*Argyrolobium harmsianum*	Endangered
Medium	*Aspalathus acutiflora*	Endangered
Medium	*Aspalathus arenaria*	Vulnerable
Medium	*Aspalathus calcarea*	Vulnerable
Medium	*Aspalathus odontoloba*	Endangered
Medium	*Aspalathus prostrata*	Vulnerable
Medium	*Aspalathus sanguinea* subsp. *foliosa*	Vulnerable

Medium	*Aspalathus tylodes*	Endangered
Medium	*Athanasia quinquedentata* subsp. *rigens*	Vulnerable
Medium	*Chrysocoma strigosa*	Vulnerable
Medium	*Cliffortia longifolia*	Vulnerable
Medium	*Cotula myriophylloides*	Critically Endangered
Medium	*Diosma tenella*	Endangered
Medium	Sensitive species 500	Endangered
Medium	Sensitive species 654	Vulnerable
Medium	*Drosanthemum lavisii*	Endangered
Medium	*Duvalia immaculata*	Endangered
Medium	*Erica baueri* subsp. *baueri*	Endangered
Medium	*Erica baueri* subsp. *gouriquae*	Critically Endangered
Medium	*Erica calcicola*	Endangered
Medium	*Erica viscosissima*	Vulnerable
Medium	*Euchaetis albertiniana*	Endangered
Medium	Sensitive species 784	Vulnerable
Medium	Sensitive species 764	Endangered
Medium	*Felicia ebracteata*	Vulnerable
Medium	Sensitive species 800	Vulnerable
Medium	*Heliophila linearis* var. *reticulata*	Vulnerable
Medium	*Hermannia lavandulifolia*	Vulnerable
Medium	*Indigofera mundiana*	Endangered
Medium	Sensitive species 5	Vulnerable
Medium	*Lampranthus ceriseus*	Vulnerable
Medium	*Lampranthus fergusoniae*	Rare
Medium	*Lampranthus foliosus*	Endangered
Medium	*Lampranthus pauciflorus*	Endangered
Medium	*Lebeckia gracilis*	Endangered
Medium	*Leucadendron galpinii*	Vulnerable
Medium	*Leucospermum praecox*	Vulnerable
Medium	*Lobelia valida*	Vulnerable
Medium	*Metalasia luteola*	Vulnerable
Medium	Sensitive species 335	Endangered
Medium	*Muraltia barkerae*	Endangered
Medium	*Oedera steyniae*	Vulnerable
Medium	*Otholobium* sp. nov. (Esterhuysen 33240a BOL)	-
Medium	*Pentameris calcicola* var. *hirsuta*	Vulnerable
Medium	*Phylica incurvata*	Vulnerable
Medium	*Polygala pubiflora*	Vulnerable
Medium	*Ruschia leptocalyx*	Endangered
Medium	*Selago diffusa*	Vulnerable
Medium	*Selago glandulosa*	Vulnerable
Medium	*Selago villicaulis*	Vulnerable
Medium	*Stoebe muirii*	Vulnerable
Medium	*Thamnochortus muirii*	Vulnerable
Medium	*Thamnochortus pluristachyus*	Vulnerable
Medium	*Wahlenbergia polyantha*	Vulnerable
Medium	Sensitive species 340	Vulnerable
Medium	Zostera capensis	Endangered

* Red list status as per SANBI's Red List of South African Plants (http://redlist.sanbi.org/index.php).

3. METHODOLOGY

3.1 Desktop Assessment

The desktop assessment was performed using Cape Farm Mapper and QGIS version 3.28.3 “Firenze.” Plant species data was obtained from the following sources:

- The DFFE screening tool listed SCC.
- Information on plant occurrence prior to the site visit was sourced from SANBIs Botanical Research and Herbarium Management System (BRAHMS) for the Plants of Southern Africa (POSA) database.
- iNaturalist observations of the property and surrounding areas.
- Specialist insight into the species likely present in the area.

Ecosystem/ vegetation type data was sourced from:

- The 2018 updated South African National Vegetation Map from SANBIs Biodiversity GIS (BGIS) database, and the National Biodiversity Assessment report of 2018 (Skowno et al., 2018).
- Shapefiles for the Western Cape Biodiversity Spatial Plan (WC-BSP) i.e., information on PAs, CBAs, ESAs, and ONAs were downloaded from BGIS database (CapeNature, 2017; Pool-Sandvliet et al., 2017).
- Cape Farm Mapper for additional spatial information required for the site.
- Chief Directorate: National Geo-spatial Information (CD: NGI) Geospatial Portal and Google Earth for the acquisition of historical aerial imagery of the site.
- The conservation status of ecosystems was found in the Revised National List of Ecosystems that are Threatened and in need of protection, published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004, as revised in Nov. 2022), and also by using the Vegetation of South Africa, Lesotho, and Swaziland (Mucina & Rutherford, 2006).

3.2 Field Assessment

The field assessment took place during winter on the 16th of July 2024. The method for identifying species was similar to a BioBlitz, also described as a “timed meander”, where the

specialist especially keeps an eye out for rarer and threatened species. Some Red Listed Plant species are found more easily during a site survey than other species. This survey method is an attempt to account for the short and single survey period, where detection probability of some rare and threatened species (e.g., geophytes, small succulents, small perennials etc.) is low (Garrard et al., 2008; Wintle et al., 2012A). Observations of individual species and environmental characteristics were documented using both a Nikon Coolpix and Canon EOS 1200D cameras. A provisional species list (Table 5) and plant species accumulation curve (Figure. 11) is provided in the Appendix1

3.3 Assumptions and Limitations

This assessment is subject to a few assumptions, uncertainties, and limitations, as listed below. These are specific to the development footprint and surrounding area surveyed unless otherwise stated:

- Only one survey took place in late winter (26 August 2024). Season and time of day play a role in the outcome of a botanical survey. Many species were not flowering at the time of the survey, and some species are less conspicuous at certain times of the year compared to others.
- Some species may have been incorrectly identified on the site due to missing key characteristics and identifying features. This is largely applicable to species that are do not have other visible defining characteristics (eg. graminoids) and less so to charismatic species such as trees.
- Some rare and threatened plant species are difficult to locate and easily overlooked in the field (e.g., geophytes, small succulents, small shrubs, etc.). This is a general limitation but is more applicable to the densely vegetated area alongside the development area (due to poor visibility in dense vegetation) than the development area itself.
- Environmental factors such as the prevailing fire regime, successional stage of the vegetation present, previous cultivation of the land, and the level of alien infestation at the site affects the species visible at the time of assessment (Cowling et al., 2010; Privett et al., 2001). This is a general limitation which applies to all developments on open land.
- The dense thicket sections around the development footprint made it hard to gain access to most of the site.

4. RESULTS: DESKTOP ASSESSMENT

4.1 Terrestrial Biodiversity

4.1.1 Climate, Geology, and Soil

The climate in the area is considered moderate. It receives a low amount of rainfall throughout the year (31mm on average) with peak precipitation occurring in November (41mm). The coldest month of the year is July (9^0C daily minimum with 18^0C daily maximum on average) and the hottest months of the year are January and February (18^0C daily minimum with 25^0C daily maximum on average).

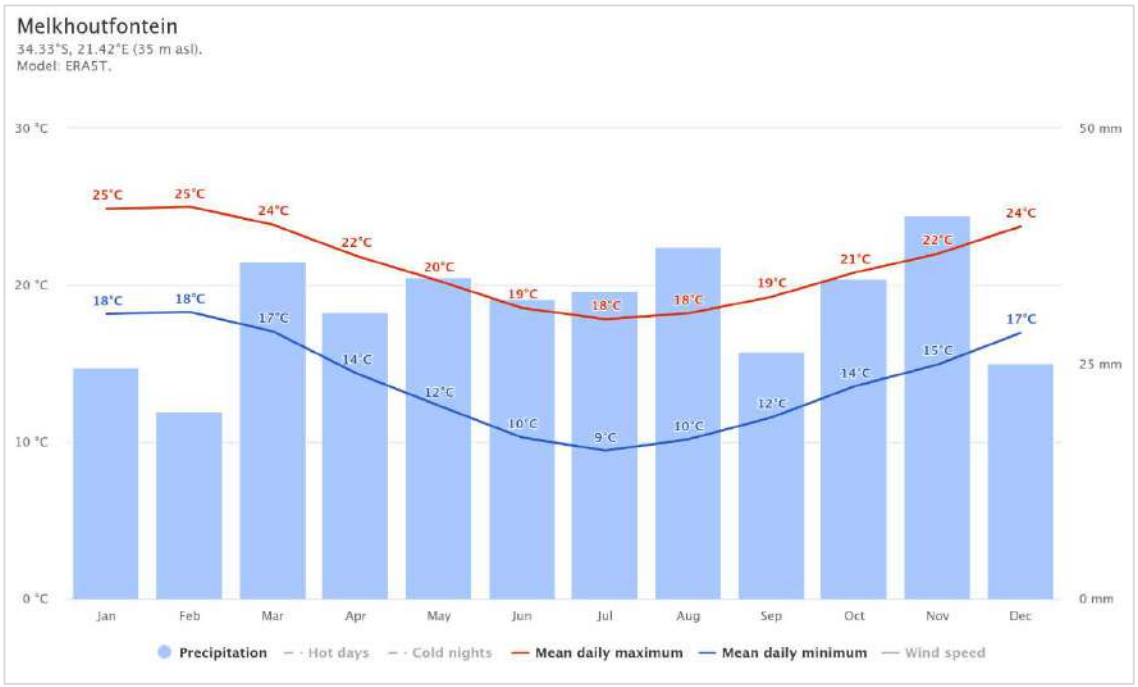


Figure 5. The climate of Melkhoutfontein indicating the mean monthly temperatures and precipitation from recent years (https://www.meteoblue.com/)

Geology of the region is the Bredasdorp Group (calcarenite and calcareous sandstone with gravel, pebble and coquinite layers, calcareous aeolianite, dunes of sand and calcareous sand, calcrete) overlying predominantly shale (as well as mudrock, siltstone, minor sandstone) of the Bokkeveld group. The latter is mapped as present at the site presumably due to weathering of rock by water, as most of the banks of the Goukou River shares this classification. Shallow, loamy-clayey soils derived from siltstone and shales is what is expected to occur at the site.

4.1.2 Vegetation Type

The vegetation of the site is mapped as **critically endangered (CR) Gouritz Valley Thicket (AT37)** (Figure. 6; Dayaram et al., 2019; Mucina & Rutherford, 2018).

Gouritz Valley Thicket is found only in the Western Cape Province primarily in the lower stretches of the Gouritz River Valley (between Herbertsdale and Gouritz Mouth), with smaller patches in the lower Goukou River Valley (between Riethuiskraal and Still Bay). The steep, rocky slopes, geomorphology and consequently poor soil development create environmental conditions very different from the surrounding renosterveld vegetation (Fynbos Biome) which typically covers the coastal plateaus of the Southern Cape. The habitats supporting Gouritz Valley Thicket are usually protected from fire that occurs in the neighbouring renosterveld. Grazing by domestic animals was (or in places still is) common (Hoare et al. 2006). On steep slopes of deeply incised valleys of rivers flowing mainly in a north-south direction and dissecting the Southern Cape coastal peneplain. Medium-sized to tall (3 – 5 m), dense thicket composed of small trees and woody shrubs (e.g. *Euclea, Grewia, Gymnosporia, Putterlickia, Searsia, Sideroxylon, Tarchonanthus*) as well as an ericoid shrub component (e.g. *Athanasia, Elytropappus, Oedera, Stoebe*). The succulent tree, *Aloe ferox* is locally dominant and the low shrub layer contains a high proportion of succulents (e.g. *Aloe, Crassula, Euphorbia, Ruschia*). Grasses are abundant in some favoured grazing areas (Mucina & Rutherford, 2018). Some of the typical plants that are associated with Gouritz Valley Thicket as described by Mucina & Rutherford (2018) include (species found during the site visit in blue; "(d)" dominant species; "(e)" South African endemic; "(en)" endemic to the vegetation type):

Small tree:	*Vachellia karroo*, *Schotia afra*, *Sideroxylon inerme* (d)
Herb:	*Arctotheca calendula*, *Berkheya heterophylla* (e), *Cineraria lobata* (e), *Cotula sororia* (e), *Erucastrum austroafricanum*, *Hypoestes aristata*, *Lepidium africanum*, *Leobordea divaricata*, *Nemesia fruticans*, *Sebaea ramosissima* (e), *Sisymbrium capense*, *Stachys aethiopica*
Succulent shrub:	*Adromischus triflorus* (e), *Aloe maculata*, *Mesembryanthemum cordifolium*, *Cotyledon orbiculata* var. *orbiculata*, *Cotyledon papillaris* (e), *Crassula cultrata* (e), *Euphorbia burmannii* (e), *Euphorbia mauritanica*, *Lampranthus prominulus* (e), *Zygophyllum foetidum* (e), *Cotyledon eliseae* (et)
Succulent herb:	*Anacampseros telephiastrum* (e), *Carpobrotus edulis*, *Carpobrotus muirii* (e), *Crassula muscosa*, *Crassula saxifraga* (e), *Curio ficoides*, *Haworthia chloracantha* (e), *Haworthia retusa* (e).
Climber:	*Pelargonium peltatum* (e).
Succulent tree:	*Aloe ferox* (d).
Geophytic herb:	*Bulbine praemorsa*, *Cheilanthes hirta*, *Cheilanthes multifida*, *Cyanella lutea*, *Hesperantha acuta* (e), *Mohria caffrorum* (e), *Nerine humilis* (e), *Oxalis bifurca* var. *angustiloba* (e), *Oxalis obtusa*, *Oxalis pes-caprae.*

Low shrub:	*Pteronia incana* (d, e), *Anthospermum aethiopicum*, *Anthospermum prostratum* (e), *Aspalathus globulosa* (e), *Asparagus capensis* var. *capensis*, *Asparagus striatus*, *Athanasia pectinata* (e), *Chaenostoma caeruleum* (e), *Felicia filifolia*, *Freylinia undulata* (e), *Galenia pubescens* (e), *Garuleum latifolium* (e), *Gnidia squarrosa*, *Lauridia tetragona*, *Leonotis leonurus*, *Oedera genistifolia* (e), *Otholobium hirtum* (e), *Pentzia incana*, *Polygala myrtifolia*, *Polygala scabra*, *Stoebe muirii* (e).
Graminoid:	*Ehrharta erecta* (d), *Cynodon dactylon*, *Ehrharta calycina*, *Festuca scabra*, *Tribolium curvum* (e), *Tenaxia stricta*, *Panicum maximum*, *Stipa dregeana.*
Tall shrub:	*Dicerothamnus rhinocerotis* (d), *Olea europaea* subsp. *cuspidata* (d), *Osteospermum moniliferum* (d), *Carissa bispinosa*, *Clausena anisata*, *Euclea undulata*, *Grewia occidentalis*, *Gymnosporia buxifolia*, *Putterlickia pyracantha* (e), *Scolopia mundii*, *Searsia glauca* (e), *Searsia longispina* (e), *Searsia lucida*, *Tarchonanthus littoralis* (d).
Woody climber:	*Asparagus africanus*, *Asparagus aethiopicus*, *Cussonia thyrsiflora* (e), *Crassula perforata* (d), *Cynanchum viminale*.
Herbaceous climber:	*Cynanchum obtusifolium.*

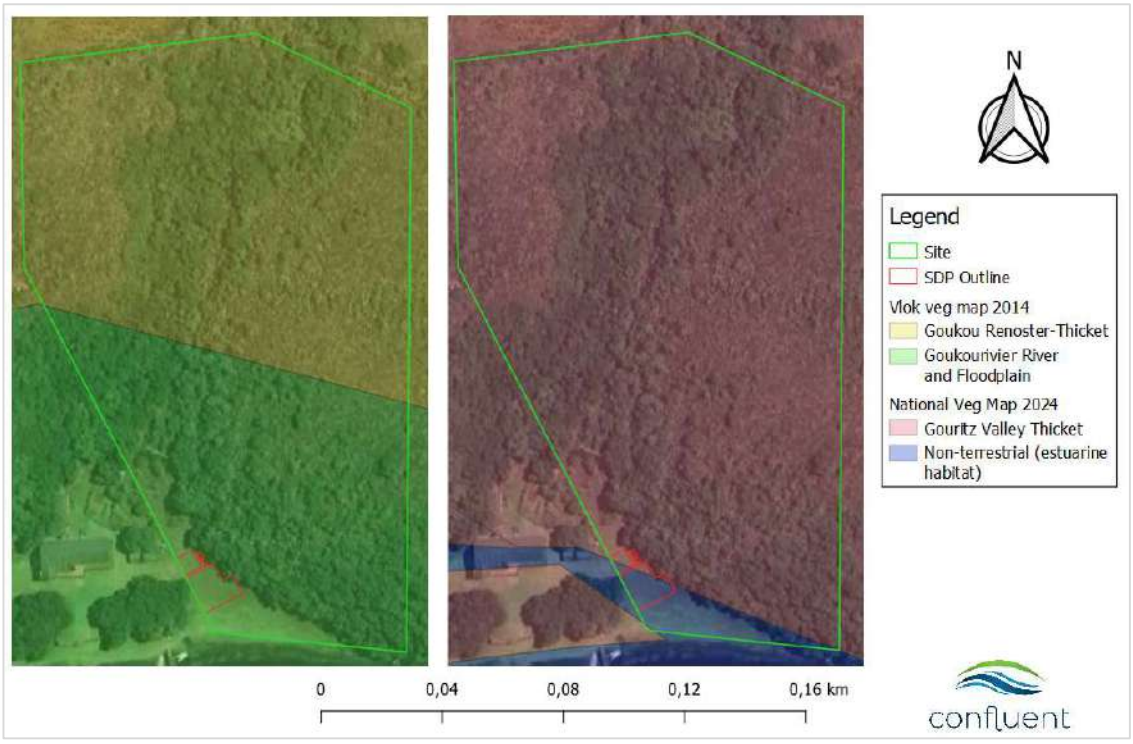


Figure 6. Vegetation mapped for the National Vegetation Map 2024 (Right) and Vlok vegetation map (Left) for the site at Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal.

4.1.3 *Western Cape Biodiversity Spatial Plan*

The Biodiversity Spatial Plan for the Western Cape (WCBSP) contains several conservation planning layers that are used to set priority areas for conserving biodiversity. The definition and objectives of the WCBSP layer mapped on the site area of Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal is given in Table 2. The development area is mapped as a CBA 1 area for terrestrial biodiversity in both the 2017 and updated 2024 versions of the map. The 2017 version shows a small portion on the western boundary mapped as ESA2 (See Table. 2; Figure. 7), whilst the 2024 update shows the north-western extent of the property as CBA2.

Table 2. WCBSP categories mapped for the property, their definitions and management objects

WCBSP Category	Definition	Management Objective
Critical Biodiversity Area 1 (CBA1)	Areas in a natural condition. Required to meet biodiversity targets for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.
Ecological Support Area 2 (ESA 2)	Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services.	Restore and/or manage to minimize impact on ecological processes and ecological infrastructure functioning, especially soil and water-related services, and to allow for faunal movement.

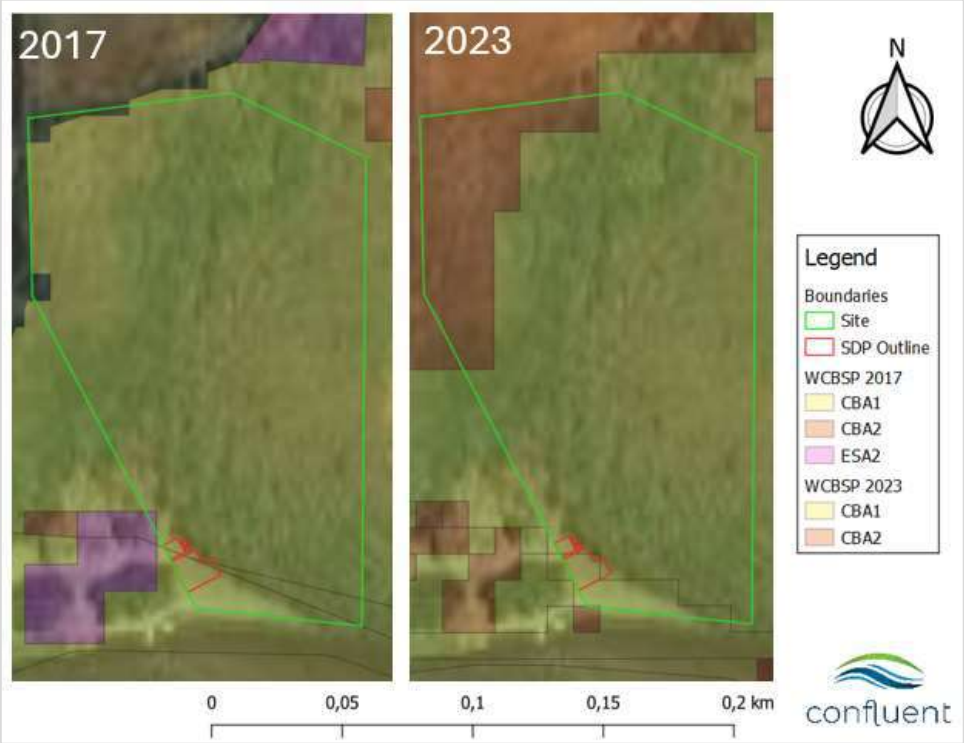


Figure 7. WCBSP layers mapped for the site of Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal. Layers mapped in 2017 are presented on the left whilst the updated 2023 is presented on the right.

A BSP reasons layer for the 2024 WCBSP layers has not been released but CapeNature (pers. comm) has confirmed that the 2024 BSP reasons layer is likely have the same reasons outlined as 2017 or reflect recent changes in the National Vegetation Map. The reasons for the assignment of the 2017 WCBSP layers in this area are listed below (grey reasons either do not apply to the site or are outside of the scope of this study to comment on):

Albany Thicket Valley Channelled Valley Bottom Wetland: This trigger is outside of the scope of this report. See the Aquatic Specialist Report (J. Dabrowski- Confluent Environmental).

Bontebok Extended Distribution Range: This WCBSP trigger falls outside of the scope of this study. Refer to the Faunal Specialist Report (V. Martins- Confluent Environmental) for comment.

East Coast Shale Renosterveld Channelled Valley Bottom Wetland: See the Aquatic Specialist Report (J. Dabrowski- Confluent Environmental).

Goukou (Core) Estuary: See the Aquatic Specialist Report (J. Dabrowski- Confluent Environmental).

Southern Cape Valley Thicket (VU): This is an older (2012) classification for what is now Gouritz Valley Thicket, a Critically Endangered vegetation type. Gouritz Valley Thicket is assessed as “narrowly distributed with high rates of habitat loss from 1990 to 2018, placing the ecosystem type at risk of collapse”.

Southern Coastal Belt Permanent Lower Foothill River: This WCBSP trigger falls outside of the scope of this study.

Watercourse protection- Southern Coastal Belt: This WCBSP trigger falls outside of the scope of this study.

4.1.4 *Historical Aerial Imagery*

High resolution historical imagery (Figure. 8) was sourced from Google Earth and the CDNGI Geospatial Portal to look at historical changes in vegetation and land use.

The oldest aerial image obtained was of the property and surrounds in 1983. Evidence of agriculture can be seen in the north-west and east. A heavily vegetated trough runs from the north of the site to the south-west, as can be seen today. Dense vegetation can be seen in the south-east of the site expanding out in an easterly direction. The south-western corner of the site is less heavily vegetated.

In 2004 the clearer imagery shows that more land in the landscape is being used for agriculture. It also shows the establishment of dwellings at the site through which access will be gained to this development. Vegetation thickening has also occurred in the east and north-western corner of the site.

By 2006 there is increased vegetation thickening in the east of the site. A road appears in the south-western corner of the site, proposed for development.

In 2017 and 2024 show an expansion of the area cleared as a road.

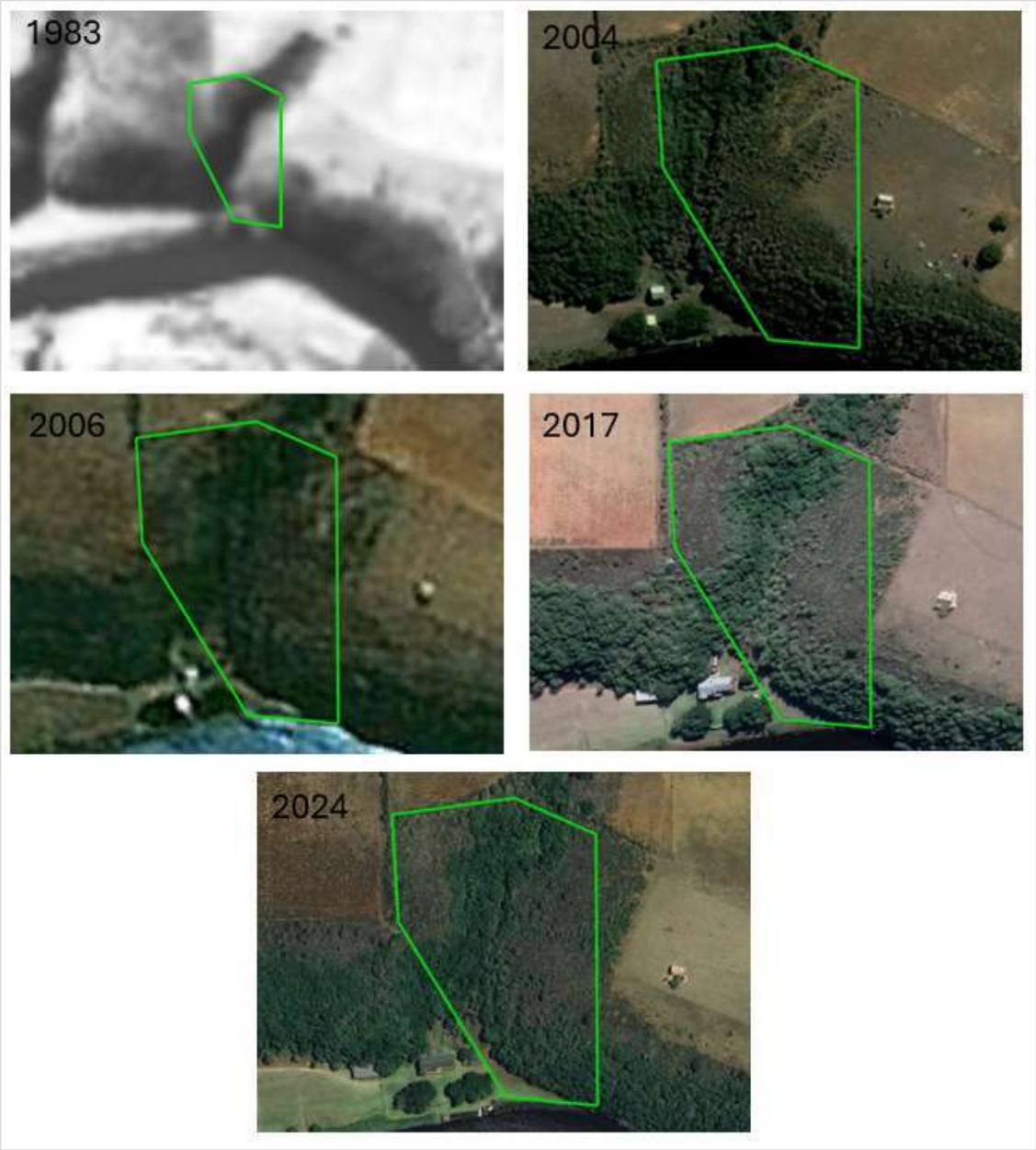


Figure 8. Historical Aerial imagery of the site area of Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal (outlined in green).

4.2 Plant Species

The plant species theme sensitivity of Medium is dependent on the presence, or likely presence, of several plant species of conservation concern (SCC).

4.2.1 Species of conservation concern (SCC).

Several SCC have the potential to occur on the site (Table. 3). These species are sourced from the Screening tool and iNaturalist observations in the area, with status verified using the SANBI Red List.0

Table 3. SCC with the potential to occur on the site.

Species	Identified by	Red-list Status
Agathosma eriantha	Screening tool	Vulnerable
Agathosma microcarpa	Screening tool	Vulnerable
Agathosma minuta	Screening tool	Endangered
Agathosma muirii	Screening tool	Vulnerable
Agathosma riversdalensis	Screening tool	Vulnerable
Agathosma robusta	Screening tool	Vulnerable
Argyrolobium harmsianum	Screening tool	Endangered
Aspalathus acutiflora	Screening tool	Endangered
Aspalathus arenaria	Screening tool	Vulnerable
Aspalathus calcarea	Screening tool	Vulnerable
Aspalathus odontoloba	Screening tool	Endangered
Aspalathus prostrata	Screening tool	Vulnerable
Aspalathus sanguinea subsp. *foliosa*	Screening tool	Vulnerable
Aspalathus tylodes	Screening tool	Endangered
Athanasia quinquedentata subsp. *rigens*	Screening tool	Vulnerable
Chrysocoma strigosa	Screening tool	Vulnerable
Cliffortia longifolia	Screening tool	Vulnerable
Cotula myriophylloides	Screening tool	Critically Endangered
Diosma tenella	Screening tool	Endangered
Drosanthemum lavisii	Screening tool	Endangered
Duvalia immaculata	Screening tool	Endangered
Erica baueri subsp. *baueri*	Screening tool	Endangered
Erica baueri subsp. *gouriquae*	Screening tool	Critically Endangered
Erica calcicola	Screening tool	Endangered
Erica viscosissima	Screening tool	Vulnerable
Euchaetis albertiniana	Screening tool	Endangered
Felicia ebracteata	Screening tool	Vulnerable
Gnidia chrysophylla	iNaturalist	Near Threatened
Heliophila linearis var. *reticulata*	Screening tool	Vulnerable
Hermannia lavandulifolia	Screening tool; iNaturalist	Vulnerable
Indigofera mundiana	Screening tool	Endangered
Lachnaea axillaris	iNaturalist	Near Threatened
Lampranthus ceriseus	Screening tool; iNaturalist	Vulnerable
Lampranthus fergusoniae	Screening tool; iNaturalist	Rare
Lampranthus foliosus	Screening tool	Endangered
Lampranthus pauciflorus	Screening tool; iNaturalist	Endangered
Lebeckia gracilis	Screening tool	Endangered
Leucadendron galpinii	Screening tool; iNaturalist	Vulnerable
Leucospermum praecox	Screening tool; iNaturalist	Vulnerable
Lobelia valida	Screening tool	Vulnerable
Metalasia luteola	Screening tool	Vulnerable
Muraltia barkerae	Screening tool	Endangered
Oedera steyniae	Screening tool	Vulnerable
Otholobium sp. nov. (Esterhuysen 33240a BOL)	Screening tool	No assessment completed
Pentameris calcicola var. hirsuta	Screening tool	Vulnerable
Phylica incurvata	Screening tool	Vulnerable
Polygala pubiflora	Screening tool	Vulnerable

Protea obtusifolia	iNaturalist	Near Threatened
Ruschia leptocalyx	Screening tool; iNaturalist	Endangered
Selago diffusa	Screening tool	Vulnerable
Selago glandulosa	Screening tool	Vulnerable
Selago villicaulis	Screening tool	Vulnerable
Sensitive species 335	Screening tool	Endangered
Sensitive species 340	Screening tool; iNaturalist	Vulnerable
Sensitive species 5	Screening tool	Vulnerable
Sensitive species 500	Screening tool	Endangered
Sensitive species 654	Screening tool	Vulnerable
Sensitive species 764	Screening tool	Endangered
Sensitive species 784	Screening tool; iNaturalist	Vulnerable
Sensitive species 800	Screening tool	Vulnerable
Stoebe muirii	Screening tool	Vulnerable
Thamnochortus muirii	Screening tool	Vulnerable
Thamnochortus pluristachyus	Screening tool	Vulnerable
Wahlenbergia polyantha	Screening tool	Vulnerable
Zostera capensis	Screening tool	Endangered

5. RESULTS: FIELD ASSESSMENT

5.1 Refined Vegetation Map

The vegetation of most of the proposed site is dense thicket and transformed vegetation (Figure. 9). The south-western corner proposed for development, however, is maintained as lawn and does not contain any SCC (Figure. 10).

The vegetation type mapped for the site is confirmed by the presence of woody species known to occur in this vegetation type in the dense thicket (Figure. 11). Of these, the species most relevant to development plans is *Sideroxylon inerme inerme* (Southern White Milkwood) which is a protected tree species (protected tree 579). Due to the impenetrable nature of the thicket vegetation, the centre of the thicket patch could not be surveyed, although it can be confirmed as thicket based on aerial imagery of the site area, as can be done for the north for vegetation transformed by agriculture.

Figure 9. Vegetation map for the site outlined on Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal based on field observations.

Figure 10. Area proposed for development on Portion 257 of the farm Melkhoute fontein 480, Riethuiskraal.

Figure 11. Woody species found in Dense thicket at the site: A. Southern White Milkwood (Sideroxylon inerme inerme); B. Crossberry (Grewia occidentalis); C. Bastard Spikethorn (Putterlickia pyracantha); D. Samandua (Clausena anisata); E. Num-num (Carissa bispinosa).

5.2 Plant Species on Site

The thicket vegetation alongside the outlined area (Figure. 10) included many large individuals of a protected tree species Milkwood trees *Sideroxylon inerme inerme* (protected tree 579) and more Milkwood trees were also found outside of the property alongside the access road. The area proposed for development was grassed and maintained as a lawn. No other SCC

were found but seven common species found in the vegetation type were observed (see Section 4.1.7, highlighted in blue).

5.3 Likelihood of Occurrence for SCC

All SCC that may be present on the site have been identified using the screening tool report for the site, iNaturalist nearby observations, and the POSA database (Table. 4). The current state of thicket vegetation at the property, not the development footprint, made it likely that numerous species were missed during the site assessment. All SCC that have been observed nearby on iNaturalist and POSA have been captured by the DFFE screening tool. The probability of occurrence that is stated in this section is a subjective assessment of SCC likelihood on the area proposed for development.

Table 4. Plant SCC flagged for the site and nearby surroundings and their likely occurrence at the site.

Species	Common name	Family	Growth Form	Source	South African Red list status	Probability of Occurrence
Agathosma eriantha	Ridged buchu	Rutaceae	Shrub	Screening tool	Vulnerable	Very Low This SCC is found at Still Bay and further north along the Goukou River. However, the area along the bank of the river in the south was surveyed extensively and no species that match the description for the SCC were found. This SCC was also also not found within 2km of the site.
Agathosma microcarpa	Buchu	Rutaceae	Dwarf shrub	Screening tool	Vulnerable	Very Low The site is primarily comprised of dense thicket and transformed lands, neither of which are preferable vegetation types for this SCC. The SCC was also not found within 2km of the site.
Agathosma minuta	Buchu	Rutaceae	Shrublet	Screening tool	Endangered	Very Low Predominantly occurs in Bredasdorp and Swellendam
Agathosma muirii	Heart buchu	Rutaceae	Shrub	Screening tool	Vulnerable	Very Low Observed mostly in Still Bay and does not seem to be associated with the Goukou River. It is typically associated with deep limestone sands.
Agathosma riversdalensis	Buchu species	Rutaceae	Shrub	Screening tool	Vulnerable	Very Low This SCC is not associated with the vegetation type (preferring sand fynbos, strandveld, and dune thicket) or its description at this site.
Agathosma robusta	Buchu	Rutaceae	Shrublet	Screening tool	Vulnerable	Very Low This SCC is not associated with the description of the vegetation (namely fynbos on dry, sandy soil overlying limestone).
Argyrolobium harmsianum	Limestone Silverpod	Fabaceae	Herbaceous perennial	Screening tool	Endangered	Very Low Individuals have generally been found within 10km of the coast.

Aspalathus acutiflora	Capegorse species	Fabaceae	Herbaceous perennial	Screening tool	Endangered	Very Low Prefers sand plain fynbos and marine sands between limestone outcrops.
Aspalathus arenaria	Sand Capegorse	Fabaceae	Shrublet	Screening tool	Vulnerable	Very Low Individuals have generally been found within 10km of the coast.
Aspalathus calcarea	Capegorse species	Fabaceae	Shrublet	Screening tool	Vulnerable	Very Low Closest individuals found in Still Bay. Associated with lowland limestone fynbos.
Aspalathus odontoloba	Capegorse species	Fabaceae	Herbaceous perennial	Screening tool	Endangered	Low Core of range at the Gouritz River mouth and Albertinia.
Aspalathus prostrata	Capegorse species	Fabaceae	Scrambling perennial	Screening tool	Vulnerable	Very Low SCC associated with lowland fynbos on sandstone.
Aspalathus sanguinea subsp. *foliosa*	Capegorse species	Fabaceae	Shrublet	Screening tool	Vulnerable	Very Low The SCC is associated with coastal fynbos.
Aspalathus tylodes	Capegorse species	Fabaceae	Shrublet	Screening tool	Endangered	Very Low Associated with limestone sands.
Athanasia quinquedentata subsp. rigens	Kanniedoods	Asteraceae	Shrublet	Screening tool	Vulnerable	Low This SCC could occur in the larger landscape, but no individuals were found within the SDP outline and no close by observations are noted.
Chrysocoma strigosa	Bitterbushes	Asteraceae	Shrublet	Screening tool	Vulnerable	Very Low Occurs on coastal limestone flats.
Cliffortia longifolia	Longleaf River Caperose	Rosaceae	Shrublet	Screening tool	Vulnerable	Low At least 1 observation falls within 2km of site although it is noted that no species were found within the SDP outline that might be mistaken for this SCC.
Cotula myriophylloides	Watergras	Asteraceae	Hydrophyte	Screening tool	Critically Endangered	Very Low Distribution is primarily in the Cape Peninsula and Plettenberg bay.
Diosma tenella	Clay Bitterbuchu	Rutaceae	Shrublet	Screening tool	Endangered	Very Low This SCC is associated with sandy soils not occurring at the site.

Drosanthemum lavisii	Scarlet dewfig	Aizoaceae	Succulent	Screening tool	Endangered	Very Low The area was not mapped as or observed to be an ecotone between renosterveld and fynbos. These are vegetation characteristics that are favoured by this SCC.
Duvalia immaculata	Succulent	Apocynaceae	Succulent	Screening tool	Endangered	Very Low Arid fynbos-renosterveld ecotone vegetation, on shale and limestone does not characterise this site.
Erica bauera subsp. *bauera*	Albertinia White Heath	Ericaceae	Shrublet	Screening tool	Endangered	Very Low Species is associated with Albertinia sand fynbos and sandy flats. These were not found at the site.
Erica baueri subsp. *gouriquae*	Gouriqua Heath	Ericaceae	Shrublet	Screening tool	Critically Endangered	Very Low Predominantly a coastal species.
Erica calcicola	Heaths	Ericaceae	Shrublet	Screening tool	Endangered	Very Low This species occupies moderate to steep, southwest- to southeast-facing slopes on limestone ridges. Observations have been made in Still Bay close to the coast.
Erica viscosissima	Heaths	Ericaceae	Shrublet	Screening tool	Vulnerable	Very Low Species is associated with Albertinia sand fynbos and sandy flats. These were not found at the site.
Euchaetis albertiniana	Albertina beardbuchu	Rutaceae	Shrub	Screening tool	Endangered	Very Low Occurs on coastal sands and limestones.
Felicia ebracteata	Hope Felicia	Asteraceae	Herbaceous perennial	Screening tool	Vulnerable	Very Low Restricted to limestone patches.
Gnidia chrysophylla	Gold capesaffron	Thymelaeaceae	Perennial	iNaturalist	Near Threatened	Very Low Species has a wide distribution but favours coastal flats.
Heliophila linearis var. *reticulata*	Hairy Needly Sunspurge	Brassicaceae	Herbaceous perennial	Screening tool	Vulnerable	Very Low Distribution is primarily coastal (coastal sands are preferred).
Hermannia lavandulifolia	Lavender-leaved dollrose	Malvaceae	Herbaceous perennial	Screening tool; iNaturalist	Vulnerable	Low Species is widespread and common but was not found in the area to be developed.

Indigofera mundiana	Scarce Limestone Indigo	Fabacaeae	Scrambling perennial	Screening tool	Endangered	Low One record was found in Still Bay and the species prefers sandy coastal plains.
Lachnaea axillaris	Teeny stripper	Thymelaeaceae	Shrub	iNaturalist	Near Threatened	Low Three records are present close to the site but fall within a different vegetation type than the site. No suitable habitat exists for this SCC at the site (fynbos was not found).
Lampranthus ceriseus	Cerise brightfig	Aizoaceae	Succulent	Screening tool; iNaturalist	Vulnerable	Low Observation with 2km of the site was made in 1985.
Lampranthus fergusoniae	Limestone brightfig	Aizoaceae	Succulent	Screening tool; iNaturalist	Rare	Low Observations were made just outside of the 2km radius of the site. However, the SCC was not found at the site nor were any species that resemble it.
Lampranthus foliosus	Dewplants	Aizoaceae	Succulent	Screening tool	Endangered	Low No records have been found for Still Bay and its surrounds.
Lampranthus pauciflorus	Beach brightfig	Aizoaceae	Succulent	Screening tool; iNaturalist	Endangered	Low Observation close by was made more than 10 years ago and the habitat is not suitable to host this species given its ecology.
Lebeckia gracilis	Slender ganna	Fabaceae	Shrub	Screening tool	Endangered	Low The habitat is not suitable: this species inhabits coastal fynbos, renosterveld and strandveld in deep, sandy soils.
Leucadendron galpinii	Hairless conebush	Proteaceae	Shrub	Screening tool; iNaturalist	Vulnerable	Low This SCC likely occupies the larger landscape but is not flagged for this vegetation type and was not observed at the site.
Leucospermum praecox	Mossel Bay pincushion	Proteaceae	Shrub	Screening tool; iNaturalist	Vulnerable	Low This SCC likely occupies the larger landscape but is not flagged for this vegetation type and was not observed at the site. The site contains no suitable habitat for this SCC although it was observed within 2km of the site.

Lobelia valida	Galjoen Lobelia	Campanulaceae	Perennial herb	Screening tool	Vulnerable	Low This SCC was observed at a close by property but is not likely to occur at the area to be developed.
Metalasia luteola	Yellow blombush	Asteraceae	Shrublet	Screening tool	Vulnerable	Low This SCC was observed at a close by property but is not likely to occur at the area to be developed.
Muraltia barkerae	Purplegorses	Polygalaceae	Shrublet	Screening tool	Endangered	Low This SCC likely occupies the larger landscape but is not flagged for this vegetation type and was not observed at the site. The area to be developed contains no suitable habitat for this SCC.
Oedera steyniae	Sharp Perdekaroo	Asteraceae	Shrublet	Screening tool	Vulnerable	Low Observations are more coastal in their distribution.
Otholobium sp. nov. (Esterhuysen 33240a BOL)	Cape dotty peas	Fabaceae		Screening tool	No assessment completed	Low No information exists for the species therefore deductions are be made based on the genus level classification. The area to be developed is botanically depauperate and unlikely to hold this genus and by extension this species.
Pentameris calcicola var. *hirsuta*	Grasses	Poaceae	Graminoid	Screening tool	Vulnerable	Low Limestone outcrops and dune thicket habitats are suitable for this SCC.
Phylica incurvata	Hardleaves	Rhamnaceae	Perennial herb	Screening tool	Vulnerable	Low Closest observations area in Still Bay East, a different vegetation type than what exists at the site and at the area proposed for development.
Polygala pubiflora	Hairyflower falsepea	Polygalaceae	Herbaceous perennial	Screening tool	Vulnerable	Low The SCC occurs on limestone and shale rocky outcrops, which does not characterise the habitat found at the site.
Protea obtusifolia	Limestone sugarbush	Proteaceae	Shrub	iNaturalist	Near Threatened	Low The SCC is unlikely to be found at the area proposed for development.

Ruschia leptocalyx	Tentfigs	Aizoaceae	Succulent	Screening tool; iNaturalist	Endangered	Low The species occurs nearby and may occur at the site but is unlikely to occur within the footprint for the proposed development.
Selago diffusa	Bitterbushes	Scrophulariaceae	Shrublet	Screening tool	Vulnerable	Low This SCC occurs on limestone flats, outcrops, slopes and hills, as well as sand dunes.
Selago glandulosa	Bitterbushes	Scrophulariaceae	Herbaceous perennial	Screening tool	Vulnerable	Low Most observations are in Mossel Bay in a different vegetation type than what exists on the site. It occurs in coastal dunes and on limestone hills and outcrops.
Selago villicaulis	Dune bitterbush	Scrophulariaceae	Herbaceous perennial	Screening tool	Vulnerable	Low No observations of this SCC were found close to the Goukou River. Additionally, it is largely restricted to fixed dunes.
Sensitive species 335				Screening tool	Endangered	Low In Still Bay this SCC exists on well-drained sand among coastal dunes far from this site.
Sensitive species 340				Screening tool; iNaturalist	Vulnerable	Low This SCC occurs in this vegetation type and has close-by observations but has no suitable habitat (shallow pockets of sandy soil between limestone boulders) within the area to be developed.
Sensitive species 5				Screening tool	Vulnerable	Low Occurs on limestone hills and flats near the coast.
Sensitive species 500				Screening tool	Endangered	Low This SCC occurs on rocky headlands, limestone and sandy soils which do not occur in the area to be developed.
Sensitive species 654				Screening tool	Vulnerable	Low May occur within the larger landscape but was not found and is not likely to be found at the area proposed for development.
Sensitive species 764				Screening tool	Endangered	Low Only occurs within the Still Bay area on limestone ridges.

Sensitive species 784				Screening tool; iNaturalist	Vulnerable	Low Occurs in coastal limestone fynbos. The habitat present at the site is unsuitable for the species.
Sensitive species 800				Screening tool	Vulnerable	Low Limestone and clay loam soil, fynbos and renosterveld on coastal lowlands are preferred by this SCC but the species has a low likelihood of occurrence in the area surveyed.
Stoebe muirii	Grey Snakebush	Asteraceae	Shrublet	Screening tool	Vulnerable	Low May occur within the larger landscape but was not found and is not likely to be found at the area proposed for development.
Thamnochortus muirii	Thatching reeds	Restionaceae	Graminoid	Screening tool	Vulnerable	Low Observations only made 20km east of Goukou River.
Thamnochortus pluristachyus	Thatching reeds	Restionaceae	Graminoid	Screening tool	Vulnerable	Low This SCC is not found within this vegetation type and is unlikely to occur in eth area proposed for development.
Wahlenbergia polyantha	Capebells	Campanulaceae	Herbaceous perennial	Screening tool	Vulnerable	Low Preferred habitat for this SCC is sandy flats which does not accord with the vegetation found at the site or mapped for the site.
Zostera capensis	Cape dwarf-eelgrass	Zosteraceae	Hydrophytic graminoid	Screening tool	Endangered	Low The species is marine/ estuarine and would not be found in a lower salinity area. Additionally, the development is not at the waterline.

6. SITE SENSITIVITY VERIFICATION

6.1 Terrestrial Biodiversity

All of the development site is mapped as a CBA1 area. The vegetation type mapped for the site (Gouritz Valley Thicket) is highlighted by the National Vegetation Map as Critically Endangered. All accessible vegetation at the site shows transformation for agriculture either historical or current and other transformation (such as maintained lawn). The dense thicket vegetation, however, is in good condition and no alien invasive species were noted. The development as proposed will not compromise the quality of the thicket vegetation and the area therefore has a **Low** site sensitivity, which differs from the **Very High** sensitivity assigned by the DFFE screening tool.

6.2 Botanical Diversity

Southern White Milkwood trees (*Sideoxylon inerme inerme*) a protected tree, although not highlighted by the screening tool or desktop search, was found during the site assessment in close proximity to the proposed development. Since the development is proposed for the grassed area of the site, no SCC have a high probability of occurrence in its direct footprint. During the site visit the landowner noted that the development will be stilted. Milkwood trees may therefore hang too far over to the proposed development area to accommodate the dwelling. Permits would need to be sought to cut back these branches or they should be avoided. Despite this, the site is given a **Low** sensitivity for the botanical theme which does not accord with the **Medium** sensitivity assigned by the DFFE screening tool.

7. COMPLIANCE STATEMENT AND RECOMMENDATIONS

Following on from the site sensitivity verification for the Terrestrial Animal Species Theme, a compliance statement is issued for the proposed filling station.

Some general recommendations for the project include:

- All recommendations made by the Botanical Specialist Report (B. Fouche, Confluent Environmental) must be applied to reduce impacts on any native vegetation and thereby associated fauna species.
- Stormwater flow in the greater landscape is compromised by litter and dense vegetation at this site and across the road (Figure. 10). This must be addressed to promote animal health in the greater landscape which may use this space for foraging (birds and mammals) or as habitat (amphibians, mammals, and invertebrates).

- General recommendations and best practice guidelines should be followed for all animal species encountered (regardless of whether they are SCC or not) during any stage of construction at the site. These are summarised in Box 1 below:

Box 1: Best practice principles for ALL fauna encounters during construction or operational phases of projects

If any animals are seen on site, a photo or a video should be taken if possible (to assist in identification) and all fauna encountered on site should be reported to the EO or ECO immediately. This is particularly important when:

- An animal is harmed or compromised in any way during construction.
- Ground-dwelling animals their nests or eggs are unearthed during construction (e.g. moles, tortoise eggs, terrapins/frogs estivating).
- Any animal with limited mobility is found on site (e.g. tortoises, moles, chameleons).
- Any potentially dangerous animal is encountered. This includes any potentially venomous animal (e.g. snakes, scorpions) or any medium-large animal that has become cornered in an enclosed area such that it cannot escape (e.g. porcupines, monkeys, baboons, antelope). It is critical in the case of snakes/ scorpions o get pictures/videos to aid in identification and appropriate treatment of anyone needing medical assistance.
- Any animal that shows a reluctance to escape or move away from the construction site thereby increasing its exposure to harm or increasing the risk of injuring people on site.

The EO or ECO should provide guidance or assistance to get all animals to safety, treating any injured animals, and issuing instructions on when to continue with construction (once they are satisfied that all animals have been removed from site) or put additional mitigation measures in place to protect animals on the site from harm.

For any injured animals or animals to be removed from site (domestic or wild):

A local SPCA or animal welfare society can collect and treat most animals and should be the first point of call for assistance. If they cannot directly assist, they will revert and notify the relevant authorities/vets.

For any assistance with snake removals/relocations, identifications, or bite treatment contact the African Snakebite Institute. The contact details of a suitably qualified snake handler can be found at the following link: https://snakeremoval.co.za/george

SNAKEBITE EMERGENCIES:	
Poisons Information Helpline	+27 861 555 777
Dr Jenna Taylor	+27 83 631 4816
Dr Christoff Bell	+27 73 174 0199
Johan Marais	+27 82 494 2039
Jason Seale	+27 82 781 8498
Arno Naude	+27 83 739 9303
Dr PJC Buys	+26 481 127 5109 (Namibia)

GET THE FREE APP:

(Scan this code with your phone's camera.)

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APPENDIX 1: PROVISIONAL PLANT SPECIES LIST

A species accumulation curve for all the species recorded on the site during the assessment are presented in Figure. 11. All species that were observed during the site visit are in Table 5. The site assessment species list is not exhaustive.

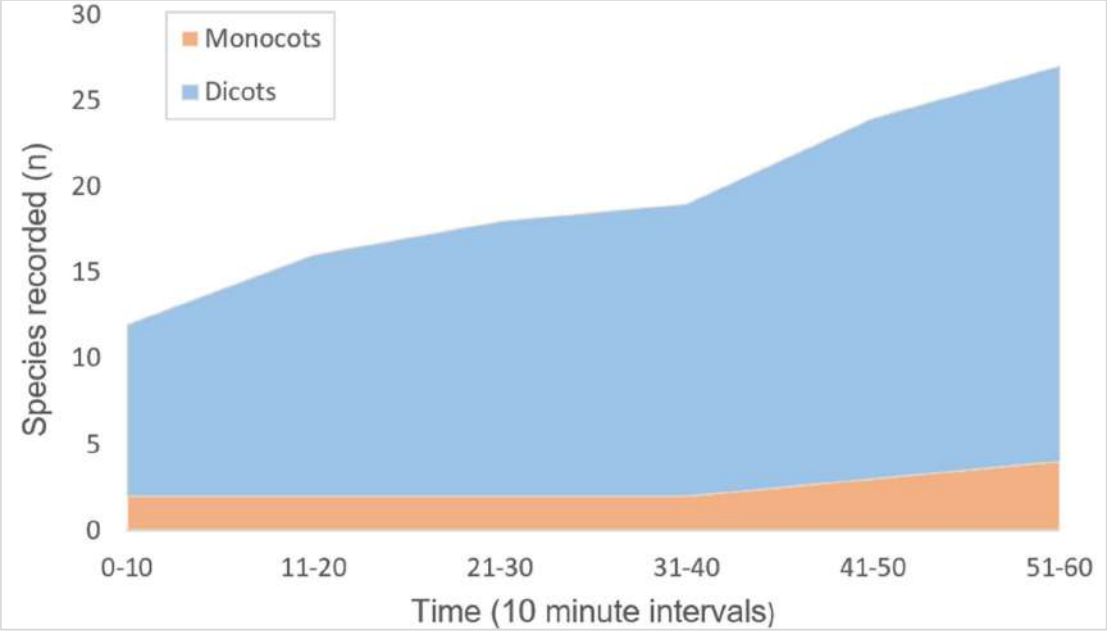

Figure 12. Plant species accumulation curve for the site assessment.

Table 5. Provisional plant species list for the site. Protected trees are in green.

Family Name	Scientific Name	Common name
Amaryllidaceae	*Agapanthus praecox*	Blue lily
Anacardiaceae	*Searsia glauca*	Blue Kunibush
Apocynaceae	*Carissa bispinosa*	Num-num
Asparagaceae	*Asparagus aethiopicus*	African Asparagus
Asparagaceae	*Asparagus suaveolens*	Catthorn Asparagus
Asphodelaceae	*Aloe arborescens*	Candelabra Aloe
Asteraceae	*Arctotheca prostrata*	Prostrate Capeweed
Asteraceae	*Cirsium vulgare*	Bull Thistle
Asteraceae	*Helichrysum*	Everlasting-flowers
Asteraceae	*Senecio*	Groundsels
Cactaceae	*Opuntia*	Prickly Pears
Celastraceae	*Putterlickia pyracantha*	Bastard Spikethorn
Ebenaceae	*Diospyros whyteana*	Bladder Nut
Lamiaceae	*Lavandula angustifolia*	Common Lavender
Lamiaceae	*Prunella vulgaris*	Common selfheal
Malvaceae	*Grewia occidentalis*	Crossberry
Meliaceae	*Ekebergia capensis*	Cape Ash
Oleaceae	*Olea exasperata*	Dune olive
Oxalidaceae	*Oxalis pes-caprae*	Bermuda buttercup

Rutaceae	*Clausena anisata*	Samandua
Rutaceae	*Zanthoxylum capense*	Small knobwood
Salvadoraceae	*Azima tetracantha*	Needle Bush
Sapotaceae	*Sideroxylon inerme inerme*	Southern White Milkwood
Scrophulariaceae	*Buddleja saligna*	False Olive
Solanaceae	*Solanum linnaeanum*	Yellow Bitter-apple
Zygophyllaceae	*Roepera morgsana*	Salad Twinleaf

ANNEXURE 11: TERRESTRIAL ANIMAL SPECIES ASSESSMENT

Proposed Development on Portion 257 of Melkhoutefontein 480, Riethuiskraal, Hessequa Local Municipality, Western Cape

Terrestrial Animal Species:

Site Sensitivity Verification Report and Compliance Statement

Prepared For: Cape Environmental practitioners
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SACNASP: Professional Natural Scientist (Ecological Sciences), 131088 (Application pending)
Reviewer: Dr JM Dabrowski – Pr. Sci. Nat. (Ecological Sciences) 114084

Date: September 2024
Version: Draft 1

confluent

DECLARATION OF SPECIALIST INDEPENDENCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
- At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;
- Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;
- I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;
- I do not have any influence over decisions made by the governing authorities;
- I undertake to disclose all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by a competent authority to such a relevant authority and the applicant;
- I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;
- This document and all information contained herein is and will remain the intellectual property of Confluent Environmental. This document, in its entirety or any portion thereof, may not be altered in any manner or form, for any purpose without the specific and written consent of the specialist investigators.
- All the particulars furnished by me in this document are true and correct.

Vusumzi Martins

Vusumzi Martins (PhD candidate)
Faunal Specialist
September 2024

SUMMARY OF EXPERIENCE AND ABRIDGED CV - VUSUMZI MARTINS

Core skills

- MSc. Zoology (University of Fort Hare) and 7 years of work experience in the field of terrestrial fauna conservation and management. Expertise with conducting different research projects involving at mammal ecology and behaviour, human-wildlife conflict, and natural resources use.
- Extensive ecological and field work experience across a range of environments including indigenous forests, mountain terrain fynbos and grasslands.
- Experience in conducting transdisciplinary research aimed at understanding the motivations and impacts of wild fauna harvesting and implementing mitigation strategies.

Work experience

- 2023-2023: Social-ecological research- Cape Leopard Trust.
- 2018-2019: Conservation co-ordinator- Kwantu Private Game Reserve (Makanda, Eastern Cape).
- 2014-2015: Biodiversity officer (SANBI Groen Sebenza)- Eastern Cape Parks and Tourism Agency.
- 2013-2014: Environmental education officer (NRF Intern)- FOSST Discovery Science Centre, University of Fort Hare.

Qualifications

- BSc. Zoology and Entomology (2011, University of Fort Hare)
- BSc. Honours Zoology (2012, University of Fort Hare)
- MSc. Zoology (with distinction, 2015, University of Fort Hare)
- Ph.D. Environmental Sciences (Current, Rhodes University)

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SACNASP Registration - Professional Natural Scientist (Ecological Sciences), 131088.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACCRONYMS

CBA	Critical Biodiversity Area
CD:NGI	Chief Directorate: National Geo-spatial Information
DFFE	Department of Forestry, Fisheries, and the Environment
ESA	Ecological Support Area
EWT	Endangered Wildlife Trust
NEMA	National Environmental Management Act
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDP	Site Development Plan
SSVR	Site Sensitivity Verification Report
WCBSP	Western Cape Biodiversity Spatial Plan

1. INTRODUCTION

1.1 Background and Site Location

Confluent Environmental Pty (Ltd.) was appointed by Cape Environmental Practitioners to conduct a specialist assessment for the proposed construction of a single residence (House Phillip) on Farm 480, Melkhoudfontein, Western Cape (Figure 1). Farm 480 is located in between Melkhoutefontein (southeast), Riversdale (north), and Stillbaai (south), on the banks of the Goukou River.

Figure 1: The general location of Farm 480, Melkhoudfontein, Western Cape

1.2 Development Layout

As of the date of this report, the Site Development Plan (SDP) for farm 480 (Figure 2) indicates the presence of an existing house (green outline on map). The proposed development of House Phillip will occur on portion 24 of farm 480 (Green stripes on map).

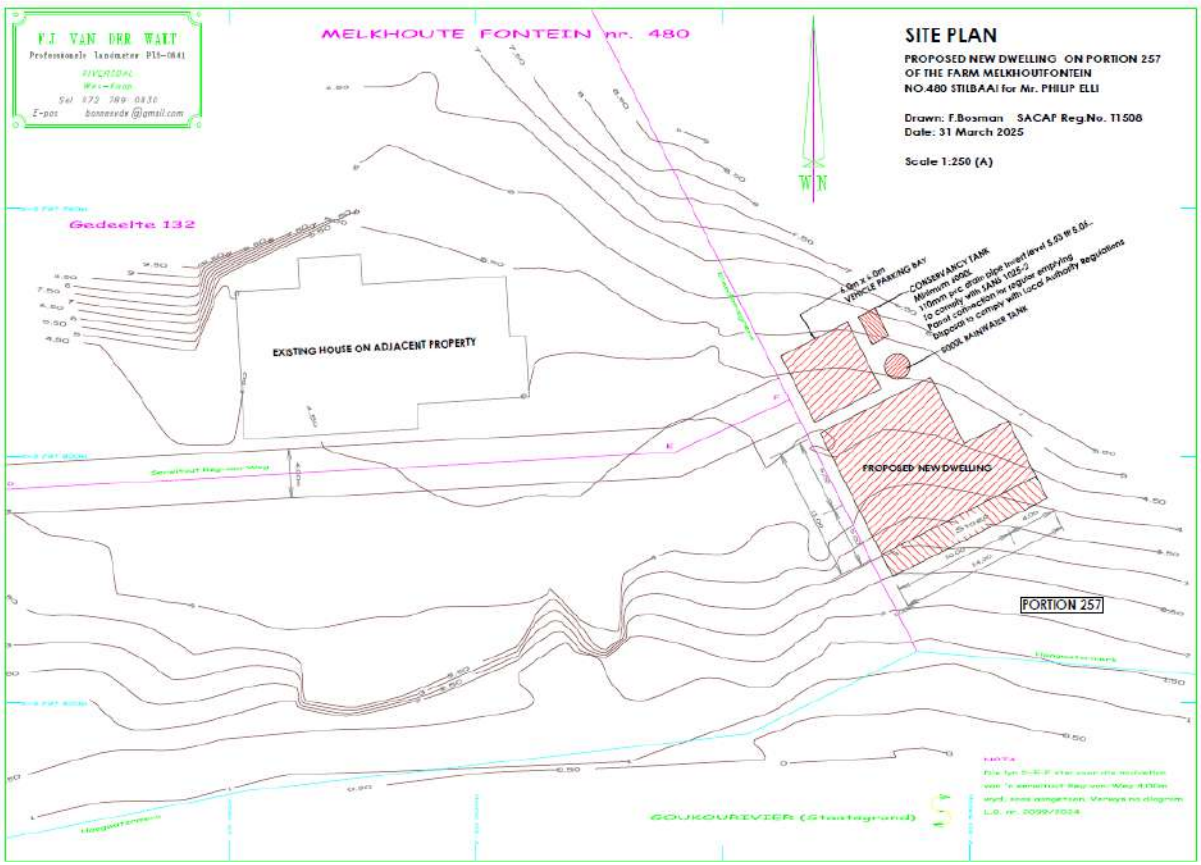

Figure 2: Map showing existing property on Farm 480 (green outline) and proposed House Phillip on portion 24 of the property (green stripes).

2. TERMS OF REFERENCE

2.1 Online Screening Tool

The scope of work for this report is guided by the legislative requirements of the National Environmental Management Act (NEMA; Act 107 of 1998), and the animal species protocols specified the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020). As such, the Department of Forestry, Fisheries and the Environment (DFFE) Screening Tool is used to assess the site sensitivity for the property.

The DFFE Screening Tool revealed a **MEDIUM** sensitivity for the terrestrial animal species theme across Farm 480, Melkhoutefontein (**Error! Reference source not found.**), with 10 f aunal Species of Conservation Concern (SCC) highlighted (**Error! Reference source not found.**).

A **MEDIUM** sensitivity rating indicates:

- Suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model for this species.
- SCC listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare.

Figure 3. DFFE Online Screening Tool outcome for the terrestrial animal species theme for House Phillip on Farm 480, Melkhoutefontein. The property boundary is indicated by the blue dashed line.

Table 1. Species of Conservation Concern highlighted by the DFFE Online Screening Tool for Philp's house on farm 480, Melkhoutefontein, Western Cape

Sensitivity	Classification	Scientific name	Common name	Red list status
High	Aves	*Bradypterus sylvaticus*	Knysna warbler	Vulnerable
High	Aves	*Circus ranivorus*	African marsh harrier	Least Concerned
Medium	Aves	*Podica senegalensis*	African finfoot	Vulnerable
Medium	Aves	*Circus maurus*	Black harrier	Vulnerable
Medium	Aves	*Stephanoaetus coronatus*	Crowned eagle	Near Threatened
Medium	Aves	*Hydroprogne caspia*	Caspian tern	Least Concerned
Medium	Aves	*Neotis denhami*	Denham's bustard	Near Threatened
Medium	Aves	*Afrotis afra*	Southern black korhaan	Vulnerable
Medium	Invertebrate	*Aneuryphymus montanus*	Yellow-winged Agile Grasshopper	Vulnerable
Medium	Invertebrate	*Chrysoritis brooksi tearei*	Brook's opal	Endangered

2.2 Scope of Work

The purpose of this report is to verify the site sensitivity of the proposed development of House Phillip on farm 480 for the terrestrial animal species theme in accordance with the protocols specified in the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020). The site sensitivity verification includes:

- A desktop assessment, to:
    - Characterize the vegetation, climate, general habitat features and topography of the property.
    - Assess the property's location within the context of the Western Cape Biodiversity Spatial Plan (WCBSP).
    - Conduct a historical assessment of the property and immediate surroundings for any disturbances, development and changes in land use or habitat characteristics over time.
    - Provide information on the habitat requirements for Species of Conservation concern highlighted by the DFFE online screening tool, in addition to other SCC indicated through online resources (e.g. Virtual Museum, iNaturalist) for the property and surrounding areas.
- On-site inspection(s) and field assessments to:
    - Verify the current land use and identify current impacts or disturbances on the property.
    - Characterize faunal habitats, determine the habitat suitability and the likelihood of SCC occurring on the property.
    - Conduct taxa-specific sampling for SCC in suitable habitats.
- Any other available and relevant information
- Should the site sensitivity verification indicate a **LOW** sensitivity, then a Terrestrial Animal Species Compliance Statement will be issued.

- Should the site sensitivity verification indicate a **HIGH** sensitivity, then a Terrestrial Animal Species Specialist Assessment including an Impact Assessment will be compiled.

3. DESKTOP ASSESSMENT

3.1 Vegetation, Climate and General Habitat

Farm 480 is situated in a temperate climate zone and receives almost the same amount of rainfall in all four seasons (Figure 4), with peaks in August and November. Temperature averages between 20 and 28 °C in the summer and between 12 and 20 °C in the winter. Rainfall is 639.2 mm per annum on average.

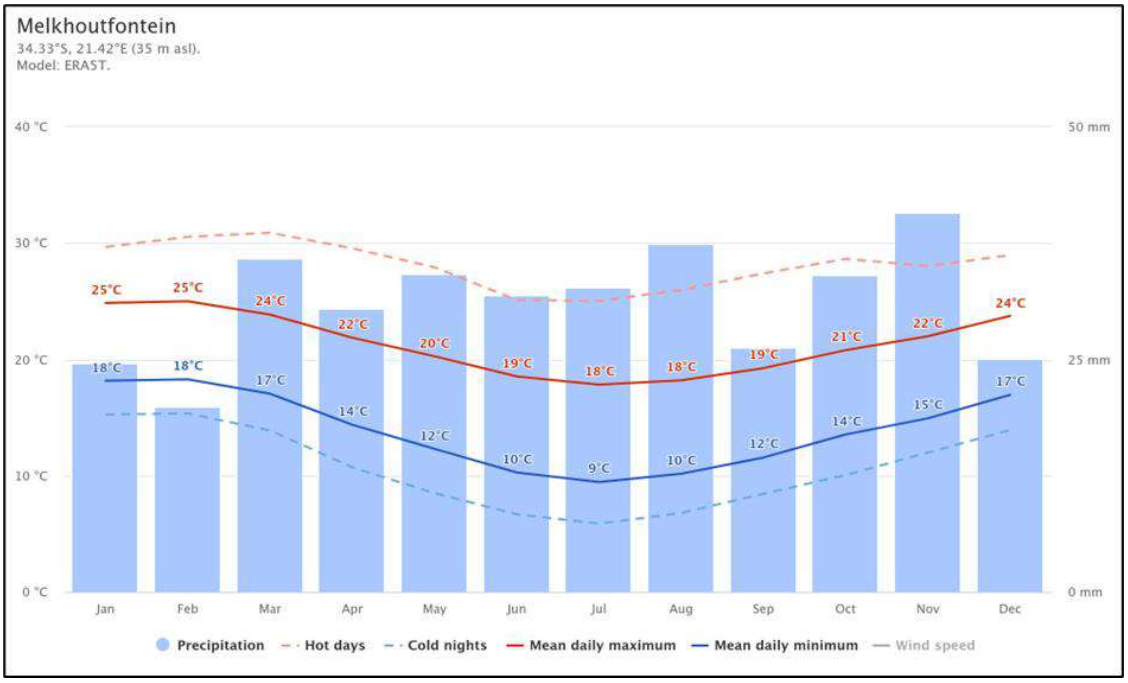

Figure 4. Summary of historical climate (modelled) for Melkhoutefontein, Western Cape (www.meteoblue.com).

The property borders the Goukou River and has a mosaic of habitats that supports various wildlife species. The house is planned to be constructed on grass lawn area which slopes gently down to the river edge. A patch of Gouritz Valley Thicket occurs on a steep slope immediately adjacent to the proposed development footprint. This vegetation type has a complex vegetation structure, characterized by a dense, impenetrable layer of shrubs and small trees, with a high species richness and diversity (Mucina & Rutherford, 2006) (Figure 5). The vegetation is dominated by a mix of succulent and leafy shrubs, including species such as *Euphorbia*, *Portulacaria*, and *Diospyros*, which have adapted to the local conditions (Cowling et al., 2005). The canopy cover is approximately 70%, with a dense layer of woody vegetation that shades the understorey, where a limited number of herbaceous species and geophytes, such as bulbs and tubers, have adapted to the low light conditions (Procheş et al., 2006).

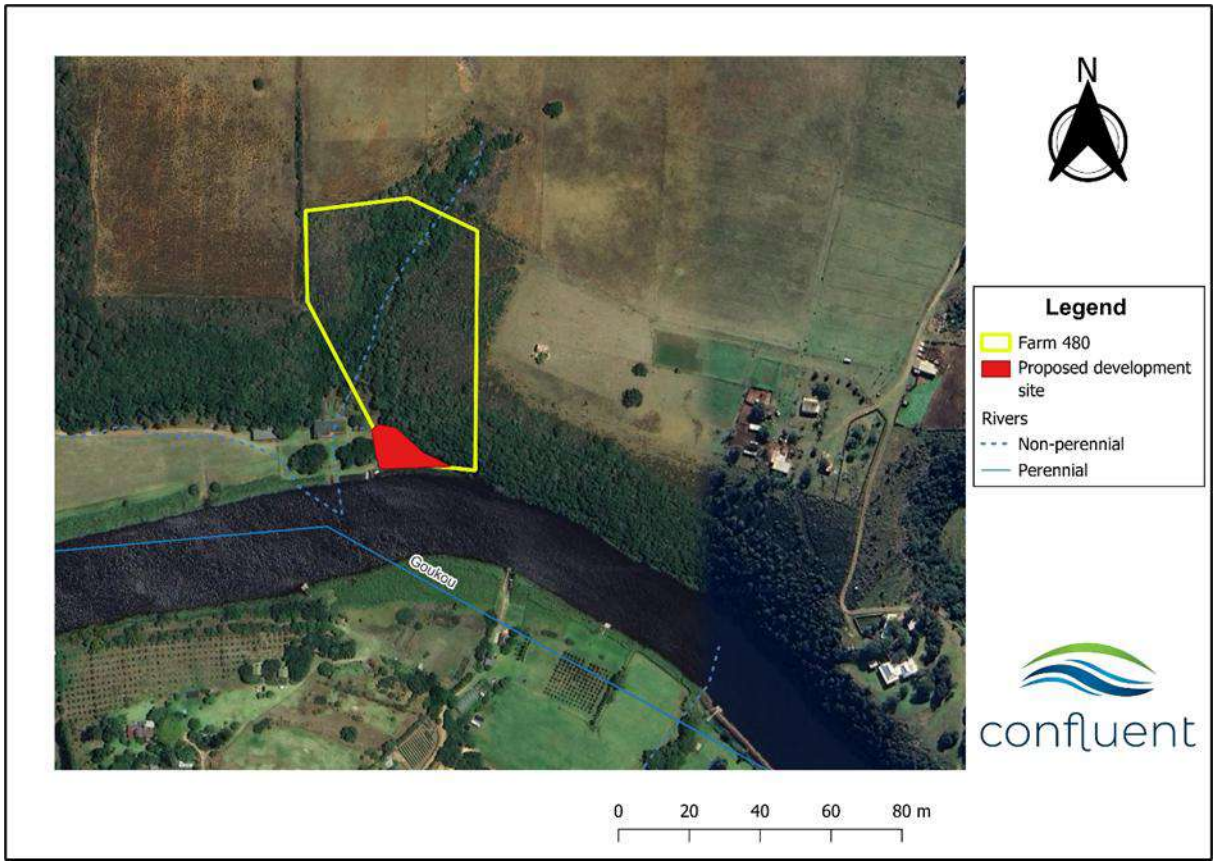

Figure 5. Satellite imagery showing the vegetation of the area and the proposed development site (in red)

The Gouritz Valley Thicket on the farm supports a rich diversity of vegetation, which is characterized by a mosaic of thicket species, including several endemic and threatened plant taxa (Boucher et al., 2010). This dense vegetation provides critical habitat for a wide range of wildlife, from herbivores to pollinators and seed dispersers, all of which depend on the thicket for food, shelter, and reproduction (Cowling et al., 2003). The flora, with its structural complexity, supports a variety of fauna, including threatened bird species, small mammals, and reptiles, which play essential roles in the ecosystem's trophic dynamics (Boucher et al., 2010; Cowling et al., 2003).

3.2 Western Cape Biodiversity Spatial Plan

Additional mapping layers were applied to the site to include the Western Cape Biodiversity Spatial Plan (CapeNature, 2017), with Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs) and Other Natural Areas (ONAs) assessed in Figure . The vast majority of the farm and the proposed development site fall within Critical Biodiversity Area 1 and a small portion is an Ecological Support Area 2. The reasons for the CBA and ESA assignments are listed as follows (CapeNature, 2017):

Feature 1: Albany Thicket Valley Channelled Valley Bottom Wetland

Feature 2: Bontebok Natural Distribution Range

Feature 3: Canca Limestone Fynbos (LT)

Feature 4: Climate adaptation corridor

Feature 5: Southern Cape Valley Thicket (VU)

Feature 6: Watercourse protection- Southern Coastal Belt

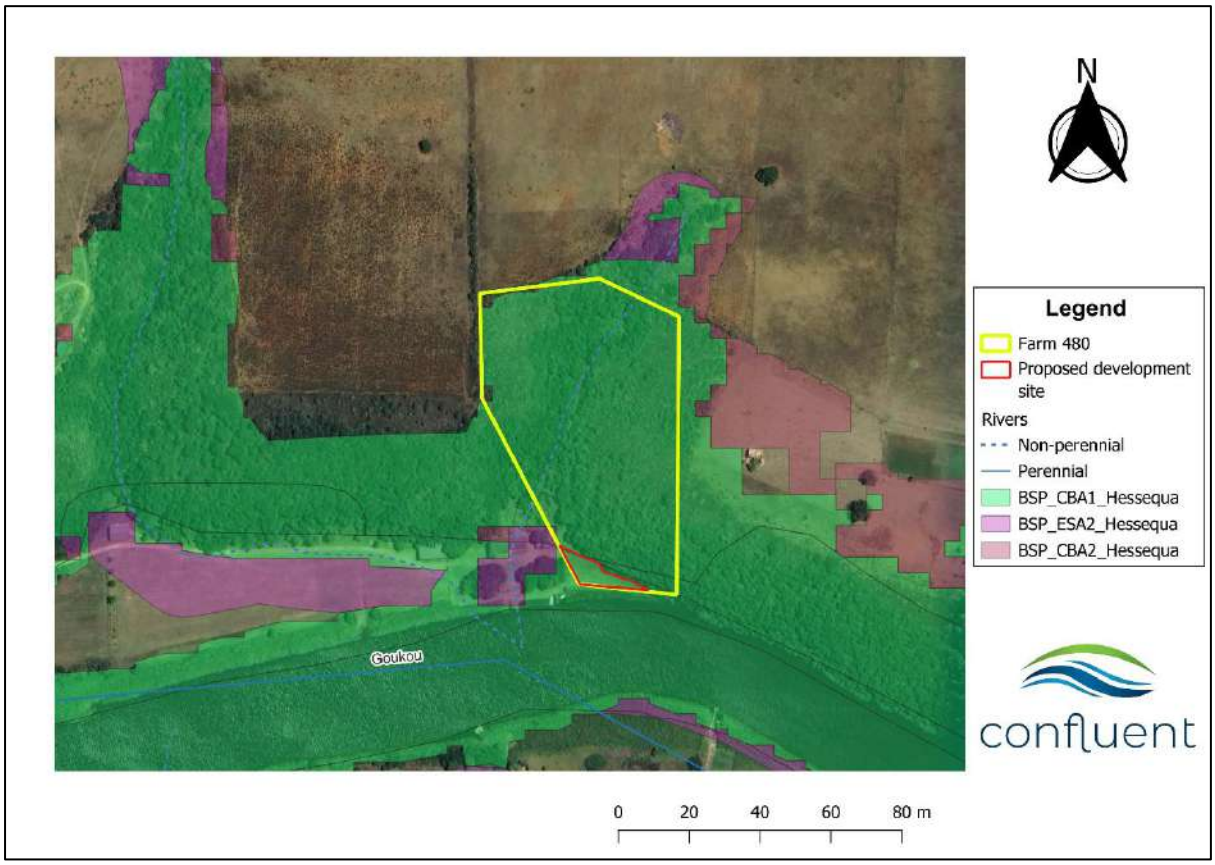

Figure 6. The proposed development area in relation to mapped conservation features of the Western Cape Biodiversity Spatial Plan (2017).

Table 2. Definitions and objectives for the conservation categories identified in the Western Cape Biodiversity Spatial Plan (CapeNature, 2017).

WCBSP Category	Definition	Management Objective
Critical Biodiversity Areas	Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.
Ecological Support Area	Areas severely degraded or have no natural cover and ecological functioning severely impaired. Not essential for meeting biodiversity targets but support ecological functioning and delivering ecosystem services.	Restoration required to return ecological functioning. Some limited habitat loss may be acceptable. A greater range of land uses over wider areas is appropriate but ensures the underlying biodiversity objectives and ecological functioning are not compromised.

3.3 Historical Assessment of Project Area

No historical images are available for the site prior to 2003, but analysis of satellite imagery from 2003 to 2023 shows the proposed development site has remained relatively consistent, with an open grass lawn patch bordered by Gouritz Valley Thicket to the north and the Goukou

River to the south (Figure 7). The proposed development of House Phillip on the grass lawn patch is unlikely to have any significant impact on vegetation and fauna, as no significant alterations to land cover and habitat features will be altered, ensuring ecological integrity is maintained.

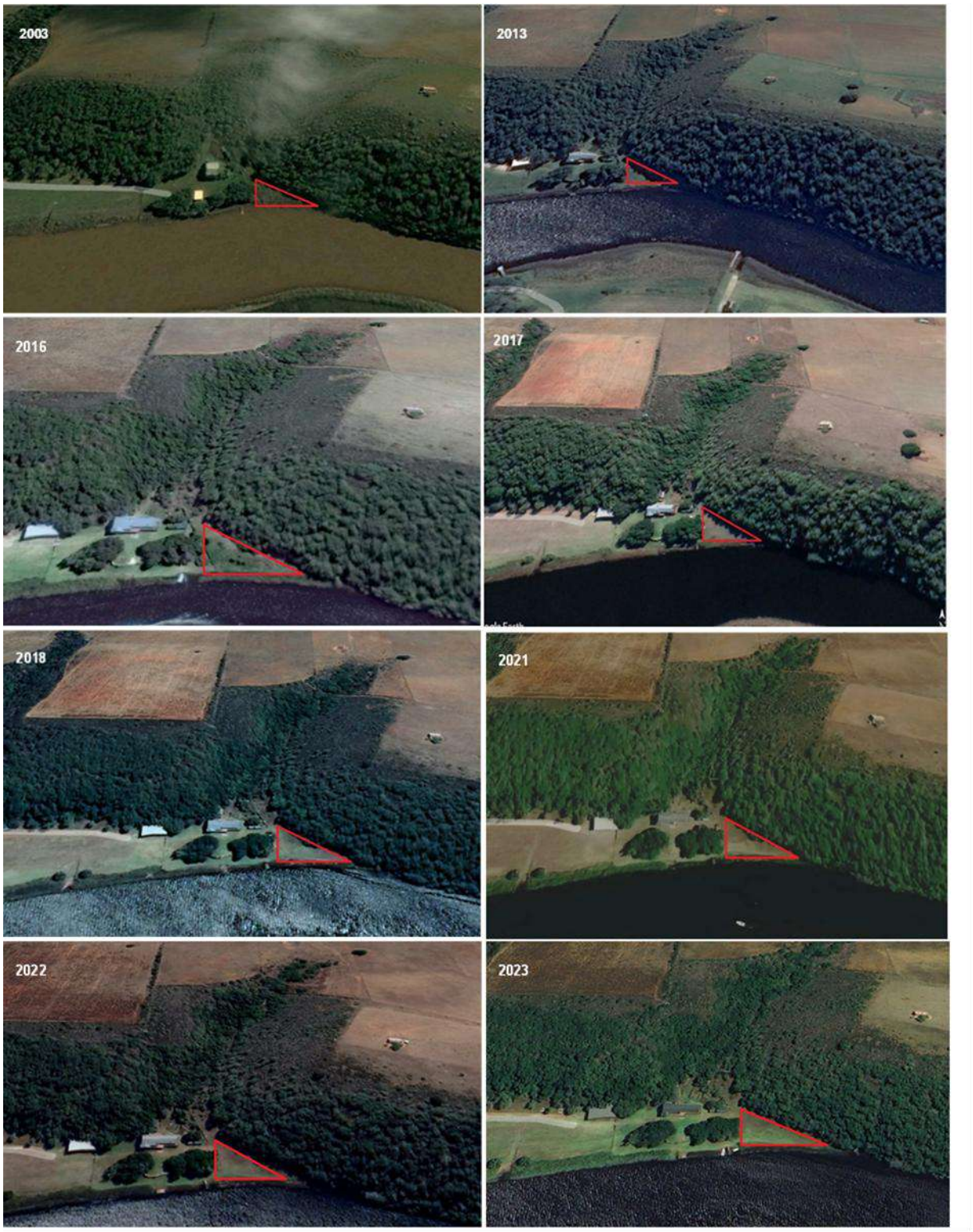

Figure 7. Historical imagery of development area sourced from the CD: NGI geospatial portal and Google Earth.

3.4 Species of Conservation Concern

In addition to the SCC highlighted by the DFFE screening tool (Figure 3. *DFFE Online Screening Tool outcome for the terrestrial animal species theme for House Phillip on Farm 480, Melkhoutefontein. The property boundary is indicated by the blue dashed line.*

Table 1), the following public resources were consulted to provide additional SCC for farm 480 and its immediate surroundings:

1. iNaturalist (all taxa) within a 2 km x 2 km radius of the property.
2. Virtual Museum for herpetofauna, mammals and invertebrate taxa within the Quarter Degree Squares (QDS) 3322DC: DungBeetleMAP, FrogMAP, LacewingMAP, LepiMAP, MammalMAP, OdonataMAP, ReptileMAP, ScorpionMAP, SpiderMAP.
3. South African Bird Atlas Project (SABAP2) for pentad 3355_2235.

Some SCC reported on the platforms were highly unlikely to occur at the site given either clearly unsuitable habitat or being deemed a vagrant/transient animal. For the purposes of this report these animals were excluded from further assessment (see also Section 4.2 and Appendix 1 for additional information).

The combined list of SCC (from DFFE Screening Tool and public resources) possibly occurring on the site, along with their habitat, breeding and feeding requirements are listed in Table 3. The information for each SCC presented in Table 3 stems largely from the online SANBI Red List of South African Species (http://speciesstatus.sanbi.org) in addition to a few key resources for each taxa:

1. Avifauna: Roberts Birds of Southern Africa VII (Roberts, Hockey, Dean, & Ryan, 2005)
2. Mammals: The Mammals of the Southern African Subregion (Skinner & Chimimba, 2005)
3. Invertebrates:
    - Field guide to the insects of South Africa (Picker, Griffiths, & Weaving, 2019)
    - Field guide to the butterflies of South Africa (Woodhall, 2005)

Any information presented from different sources is cited in the text.

Table 3. Summary of habitat, breeding, and feeding requirements for animal SCC potentially occurring in the proposed development site.

Red list status	Species	Habitat	Breeding	Feeding
AVIFAUNA				
Vulnerable	*Bradypterus sylvaticus* Knysna warbler	Inhabits dense understorey vegetation along riverbanks in fynbos forest patches, riverine woodland and Afromontane forest and has even adapted to thickets of non-native brambles (e.g. Rubus). (BirdLife International, 2016).	Breeds from August and December coinciding with the greatest abundance of invertebrate species. (BirdLife International, 2016).	Mostly on ground, creeping through dense, matted vegetation and scratches in humus. Eats mostly grasshoppers, insect larvae, spiders, slugs, worms
Endangered	*Circus ranivorus* Marsh Harrier	Considered a waterbird. Roosts on taller trees around wetland edges from where it has a good vantage point. Can adapt to novel wetland habitats such as wastewater treatment works.	Breeding occurs between September and December. Egg-laying is from August to November in South Africa. Nests made of grass, reed stems or sticks in reedbeds, short sedge areas or in trees along the water's edge. The same nest is often reused by the same pair in following years.	Dietary assessment (Simmons et al., 1991) of pellets and prey deliveries to nests includes birds, frogs, fish, eggs and micromammals (*Rhabdomys*, *Otomys*, and Shrews). Hunts primarily in wetland habitats using various flight methods including soaring, hovering and low flight over wetlands and along the water's edge. May hunt in open grasslands or pastures near wetland areas.
Vulnerable	*Podica senegalensis* African finfoot	Species inhabit slow-moving rivers, streams and estuaries, usually in densely vegetated or forested areas. They are highly secretive and difficult to spot.	The breeding behaviour of the species is not well-documented due to the bird's elusive nature. The breeding season varies across its range, often coinciding with the rainy season.	Species has a diverse diet, primarily consisting of aquatic and semi-aquatic prey. Forages by either swimming slowly along the surface or diving underwater to catch prey.
Vulnerable	*Circus maurus* Black harrier	In Western Cape, mostly found in Fynbos, especially montane Fynbos and strandveld. Less common in dry restios and renosterveld. Elsewhere, occurs in dry grassland, Karoo scrub, crop fields (wheat) and grasslands (sometime >3000m elevation). Many move from Fynbos to Karoo and grasslands during the winter, likely to follow rodent numbers (e.g. capitalise on late summer litter of Sloggett's ice rats in Free State and Lesotho). Birds move away following fires and don't return for several years.	Mainly monogamous but some polygamy observed. Mate fidelity is low. Usually solitary nester and territorial, but in Western Cape some semi-colonial nesting observed with less territorial behaviour. Nest is a small structure of grass, stems and small twigs. Usually on or just above ground, in rank marsh grasses or near Fynbos bushes and sedges (*Juncus spp*.) Nests most often in marshes or next to small streams, but also on damp soil or dry ground. Nest areas reused in successive years (one observation of nest site used for 26 years).	Primarily feeds on small mammals e.g. rodents, ground-nesting birds, and occasionally reptiles and insects. Hunts in open grasslands, fynbos, or wetlands. Diet varies with prey availability, but rodents often make up a large portion.

Red list status	Species	Habitat	Breeding	Feeding
Vulnerable	*Stephanoaetus coronatus* Crowned eagle	Forest (including gallery forest), dense woodlands and forested gorges in savannas and grasslands. Also, in Eucalyptus and Pine plantations. Perches for long periods, resting in canopy. Sometimes soars high over territory, then descends vertically to perch. Manoeuvres agilely through thick forest, can take off vertically from forest floor.	Monogamous, possibly long-term pair bond. Territorial (at least 10 km2), solitary nester. Tallest trees used to build large stick platform nest (sticks/branches up to 1.5m long, 3cm thick). Nest copiously lined with Beachwood *(Faurea saligna*), Pine or Eucalyptus leaves/needles. Nest often reused and added to in consecutive years, can reach up 2-3m diameter, 3m high. Nest trees often at the base of cliff/ravine or at the edge of plantation. Nest trees usually White-stinkwood (*Celtis africana*), yellowwoods (*Podocarpus spp*.), Cabbage tree (*Cussonia spicata*) but also Eucalytus and Pine species. Incubation 49-51 days.	Predominantly feeds on mammals (96% diet) and mostly on hyrax, antelope and primates. Will also take porcupine, hares, mongoose, sometimes domestic stock and domestic cats/dogs. Avian prey includes Hadeda Ibis, Egyptian geese and domestic chickens. Reptile prey mainly monitor lizards. Most prey taken on ground, but occasionally crashes into dense foliage in pursuit. Frequently still-hunts (stalks prey) and hunts from concealed perches frequently above waterholes in evening waiting for antelope to drink. Pair sometimes hunt monkeys cooperatively. Prey struck with downward blow of open foot, massive hind claw penetrates the skull killing instantly. Large prey that cannot be lifted are partly eaten and dismembered on the ground and then cached in trees.
Vulnerable	*Hydroprogne caspia* Caspian tern	Concentrated at estuaries and sheltered bays along the coastline and at large, permanent inland waterbodies (natural and artificial). The primary threats to this species are during the breeding period when it is highly susceptible to human disturbance, predation by domestic dogs and kelp gulls, and extreme weather events.	Coastal breeding habitat is primarily offshore islands but increasingly uses sandy beaches. Inland breeding habitat includes small islets in dams/pans. Monogamous, pair bonds lasting from year to year. Defends territory around nest site. Nest is shallow scrape on ground lined with dead vegetation. Laying dates in Western Cape are October - January. 1-3 eggs laid, incubation lasting 22-24 days.	Forages in clear, shallow water. Feeds throughout the day but most active the mornings. Diet almost entirely of fish, swallowed in flight.

Red list status	Species	Habitat	Breeding	Feeding
Near Threatened	*Neotis denhami* Denham's bustard	Inhabits a mosaic of cultivated pastures, agricultural croplands and natural vegetation, with seasonal variation in their preferences (Allan, 2003). Cultivated pastures are favoured habitat during winter in the southern Cape (Allan, 2003). Harvested cereal crop fields (stubble fields) are favoured, but ploughed fields and fields with growing cereal crops are avoided (Allan, 2003). Primarily inhabits open grasslands and African savannas (Allan, 2003). Being large-bodied with low flight manoeuvrability also leads to preference for open habitat. Preference for grasslands with a mix of short and tall grasses, and good visibility for foraging. Proximity to water sources, such as rivers or wetlands, is important for drinking and potential foraging (Allan, 2003). Avoids dense forests and habitats with high human disturbance.	Male courtship displays occur between August and January, but mainly in September and October (Allan, 2003). Eggs are laid in September and October, with unfledged young present between September and January (Allan, 2003). Preference for natural vegetation over pastures during summer breeding months. Larger bird groupings occur in winter, while in summer smaller groupings or individual birds occur. Nesting sites are concealed in open grasslands, often near vegetation or shrubs. Females construct shallow ground nests lined with grass or plant materials. Clutches consist of 1-3 eggs, incubated primarily by the female. Incubation lasts around 21-24 days.	Ground-dwelling bird that forages in open grasslands and savannas (Tarboton, 1989). Diet is omnivorous including insects, seeds, fruit, and vegetation. Grasshoppers, beetles and termites are important insect prey, especially in the breeding season (Allan, 2003). Feeding technique is probing and pecking the ground with their long bills. Opportunistically feed on grasshopper swarms.
Near Threatened	*Afrotis afra* Southern black korhaan	Renosterveld, Strandveld and Succulent Karoo shrublands. Endemic to South Africa, being confined to areas of the Albany Thicket, Fynbos and Succulent Karoo biomes, and the southern extreme of the Nama Karoo Biome, in the Western, Northern and Eastern Cape provinces.	Polygynous, no evidence of permanent pair-bonds. Solitary nester. Males display regularly and noisily at regularly used sites. Egg is laid on the ground where it conceals female incubating under shrubs. Laying dates August-November, incubation only by female.	Forages by walking and pecking close to ground. Diet includes insects, small reptiles, and plant material (green shoots). Eats invasive *Acacia* seeds possibly aiding their dispersal.
INVERTEBRATES				
Vulnerable	*Aneuryphymus montanus* Yellow-winged Agile Grasshopper	Very low area of occupancy between 100 and 1 000 km2. Threatened by declining habitat due to invasion by aliens and habitat transformation. Strong association with sclerophyllous fynbos vegetation on the southern slopes of the Outeniqua mountains, post-fire. Threats to the species include habitat transformation and invasion by alien plants.	Unknown	Unknown

Red list status	Species	Habitat	Breeding	Feeding
Vulnerable	*Chrysoritis brooksi tearei* Brook's opal	Endemic to the Western Cape Province in South Africa, only recorded from the Still Bay area in the west, Brenton on Sea near Knysna and from Goesabos (Tsitsikamma) in the east. At Brenton on Sea on both north- and south-facing slopes at an altitude of 80 m to 120 m in disturbed areas of Knysna Sand Fynbos with a high abundance of *Osteospermum monilifera* (Bitou). Habitat at Stilbaai is by contrast on limestone fynbos-covered hillsides at altitudes up to 300 m.	Adults are on wing year-round with peaks in October and March.	Larvae feed on *Chrysanthemoides incana*, *C. monilifera, Osteospermum polygaloides, Lebeckia plukenetiana, Aspalathus, Zygophyllum* and *Thesium* species. Host ant species is *Crematogaster peringueyi* ants.

4. FIELD ASSESSMENT

4.1 Methods

Following the Species Environmental Assessment Guidelines (SANBI, 2020) and Table 3, taxa-specific sampling techniques were conducted in habitats where SCC were likely to occur. Taxa-specific sampling was interspersed with a meander across the project area to collect additional opportunistic data for all fauna and inspect all habitat types (Table 4).

Table 4. Sampling techniques conducted for potential SCC occurring on the site.

Taxa	Field methods	Public platform where observations were reported
Avifauna	• Meander* across site for direct observations. • 4 point counts (5-minute bird counts).	Birdlasser (species lists), iNaturalist (photos)
Mammals	• Meander* across site for direct observations, tracks, scats and signs.	iNaturalist (photos)
Amphibia	• Meander* across site for direct observations. • Active searching.	iNaturalist (photos)
Invertebrates	• Meander* across site for direct observations. • Active searching. • Sweep netting.	iNaturalist (photos)

* Meandering involved slow walking across the site through various habitat types and key landscape features. Active observations took place for all fauna throughout this walk which was then supplemented by taxa specific sampling methods in habitats deemed most suitable for SCC.

4.2 Assumptions and Limitations

1. While the public platforms mentioned in Section 3.4 are excellent sources of additional information for animal species occurring within an area, these results require some expert interpretation to determine which of the SCC are relevant to include in the faunal assessment of the project area. For example, the coarse spatial scale of reporting within the Virtual Museum platforms (Quarter Degree Square level (27km x 27km) or SABAP2 pentad level (9km x 7 km)) can result in species records from habitats quite different to those present on site. Additionally, these platforms include sightings of vagrant or transient animals upon which an assessment cannot reasonably be based. Expert interpretation is therefore applied to the full list of SCC identified by the various public platforms (see Appendix 1) and some species are then excluded from further assessment due to the project area clearly lacking suitable habitat or the species clearly representing a vagrant or transient animal outside its normal range. The SCC assessed in this report therefore represents those which may reasonably occur on site. However, there is always the possibility that some SCC (although highly unlikely to occur on site) are overlooked in this process.
2. One field visit took place to the site for the faunal assessment. This only represents a "snap-shot" in time and it is possible that SCC occurring on site were not observed during this visit. These results should therefore be interpreted with this in mind and not be treated as an exhaustive list of species occurring on site.
3. The site visit took place during daylight hours so the likelihood of encountering nocturnal species was limited.
4. The site visit coincided with winter for the site. This may be of consequence for detecting some species showing seasonal variation in breeding and activity patterns. Nevertheless, the precautionary principle is applied where appropriate.
5. Evidence of animals in the form of tracks, scats and signs always brings with it a level of uncertainty, but best efforts were made in this regard and uncertainties are highlighted in the report.

4.3 Site Inspection Details

A site visit was conducted on 26th August 2024, characterized by warm to hot and sunny weather conditions. The proposed development site for House Phillip is confirmed to an open patch of grass lawn approximately 1300 m^2 in extent. To the south of the patch lies the Goukou River and immediately north there is a patch of Gouritz Valley Thicket. A thorough survey of the project area was undertaken, incorporating a meandering approach to facilitate taxa-specific sampling techniques across a range of suitable habitats for potential Species of Conservation Concern (SCC) (Figure 8).

Figure 8: Proposed site for the development of Phillip House, (A) Grass patch where the proposed development is to occur also showing the Goukou River, (B) Proposed site development area also showing the Gouritz Valley Thicket patch.

4.4 Results

4.4.1 Avifauna

No SCC were detected on site. An avifaunal survey conducted during the site visit yielded a total of 6 bird species (see Appendix 2). The survey employed a multi-faceted approach, comprising systematic bird counts across the property, supplemented by opportunistic observations and targeted searches for nesting and roosting sites.

4.4.2 Mammals

No SCC were observed during the site visit. However, notable soil heaps made by the Cape dune mole-rat (*Bathyergus suillus*) were observed on the proposed development site. After further surveys in the adjacent thicket patch, scat from three different mammal species were observed (Figure 10).

Figure 10: (A) Soil heap made by Cape dune mole-rat (Georychus capensis) on proposed development site (B) Bushpig (Potamochoerus larvatus) and (C) Suspected steenbok (Raphicerus campestris) scat, all observed during meander in the Goutitz Valley Thicket patch adjacent the proposed development site on Farm 480.

4.4.3 Terrestrial Invertebrates

No SCC were detected during the site inspection conducted on the property.

4.4.4 Amphibians

No SCC were encountered during the site visit. The comprehensive search yielded no amphibian species.

4.4.5 Likelihood of Occurrence for SCC

Following the terrestrial fauna surveys and site inspection, the possible SCC occurring on the proposed development site were evaluated according to their likelihood of occurrence. It is always possible that a species assessed as having a low probability of occurrence can still occur on the site and therefore this table should only be used as a guideline.

Table 5. Likelihood of occurrence for terrestrial fauna SCC in the proposed development site. Bold text indicates SCC highlighted by DFFE Online Screening Tool.

Red list status	Species	Observed on site	Suitable habitat	Likelihood of occurrence
AVIFAUNA				
Vulnerable	*Bradypterus sylvaticus* Knysna warbler	No	Possible	**LOW** SCC inhabits fynbos forest patches, riverine woodland and Afromontane forests. Though the species is likely to occur in the adjacent thicket, the construction of the house will not affect the habitat and breeding of the species.
Vulnerable	*Circus ranivorus* African marsh harrier	No	No	**LOW** Habitat unsuitable for SCC. SCC prefers cultivated pastures, agricultural croplands and natural vegetation, with seasonal variation in their preferences (Allan, 2003).
Vulnerable	*Podica senegalensis* African finfoot	No	Possible	**LOW** Species inhabits slow-moving rivers, streams, and estuaries, usually in densely vegetated or forested areas. Though species may occur in the estuary adjacent the proposed development site, the development will not affect the habitat and breeding of the species.
Vulnerable	*Circus maurus* Black harrier	No	NO	**LOW** Habitat not suitable for SCC. SCC found in Fynbos, especially montane Fynbos and strandveld.
Vulnerable	*Stephanoaetus coronatus* Crowned eagle	NO	Possible	**LOW** The SCC prefers forests and forested gorges in savannas and grasslands.
Vulnerable	*Hydroprogne caspia* Caspian tern	No	Possible	**LOW** Species typically found in coastal areas, large estuaries and rivers. Though species may occur in the estuary adjacent the proposed development site, the development will not affect the habitat and breeding of the species.
Near Threatened	*Neotis denhami* Denham's bustard	No	No	**LOW** Unfavourable habitat, as SCC prefers cultivated pastures, agricultural croplands

Red list status	Species	Observed on site	Suitable habitat	Likelihood of occurrence
Near Threatened	*Afrotis afra* Southern black korhaan	No	No	**Low** Unfavourable habitat, as SCC prefers Renosterveld, Strandveld and Succelent Karoo shrublands.
INVERTEBRATES				
Vulnerable	*Aneuryphymus montanus* Yellow-winged Agile Grasshopper	No	No	**Low** Unfavourable habitat, as SCC prefers sclerophyllous fynbos vegetation on the southern slopes of the Outeniqua mountains,
Vulnerable	*Chrysoritis brooksi tearei* Brook's opal	No	No	**Low** SCC not likely to occur in the site as the species is commonly associated with fynbos vegetation.

5. SITE SENSITIVITY VERIFICATION AND COMPLIANCE STATEMENT

During the site visit the faunal specialist conducted a thorough assessment of the site sensitivity for the terrestrial animal theme on Farm 480, Melkhoutefontein, Western Cape. Contrary to the **MEDIUM** sensitivity indicated by the Department of Forestry, Fisheries and the Environment (DFFE) Screening tool, our desktop and field assessment indicate that the site sensitivity is, in fact, **LOW** for the following reasons:

- The faunal surveys conducted in and around the farm revealed no SCC. The absence of SCC significantly reduces the site's conservation significance and sensitivity. Furthermore, the lack of habitat-specific or range-restricted species, which are typically indicative of high conservation value, reinforces the site's LOW sensitivity.
- Based on a comprehensive analysis of habitat characteristics and species requirements, there is a low probability of occurrence for the SCC identified by the DFFE Screening tool and public resources. This conclusion is supported by the fact that the site's habitat attributes do not align with the specific requirements of these SCCs, rendering it unsuitable for their survival and persistence.

6. RECOMMENDATIONS

General recommendations and best practice guidelines should be followed for all animal species encountered (regardless of whether they are SCC or not) during any stage of development on a site. These are summarised in Box 1 below:

BOX 1: <u>Best practice principles for ALL fauna encountered during construction or operational phases of projects.</u>

If any animals are seen on site, a photo or video should be taken if at all possible (to assist in identification) and all fauna encountered on site should be reported to the ECO immediately. This is particularly important when:

- An animal is harmed or compromised in any way during construction.

- Ground-dwelling animals, their nests or eggs are unearthed during earthworks (e.g. moles, tortoise eggs, terrapins/frogs estivating).

- Any animal with limited mobility is found on site (e.g. tortoises, moles, chameleons).

- Any potentially dangerous animal is encountered. This includes any potentially venomous animal (e.g. snakes, scorpions) or any medium-large animal that has become cornered in a room/enclosed area such that it cannot escape (e.g. porcupines, monkeys, baboons, antelope). It is critical in the case of snakes/scorpions to get pictures/videos to aid in identification and appropriate treatment of anyone needing medical assistance.

- Any animal that shows reluctance to escape or move away from the construction site, thereby increasing its exposure to harm or increasing the risk of injuring people on site. The ECO should provide guidance or assistance to get all animals to safety, treating any injured animals and issuing instructions on when to continue with construction (once they are satisfied that all animals have been removed from site) or put additional mitigation measures in place to protect animals on the site from harm.

Some helpful contact details numbers for the ECO's disposal include:

For any injured animals or animals to be removed from site (domestic or wild):

A local SPCA can collect and treat most animals, and should be a first point of call for assistance. If they cannot directly assist, they will revert and notify the relevant authorities/vets. In the Garden Route please contact:

SPCA George: 044 878 1990

SPCA Mossel Bay: 044 693 0824

For any assistance with snake removals/relocations, identifications, or bite treatment:

African Snakebite Institute (all details available on www.africansnakebiteinstitute.com)

General Enquiries: +27 73 186 9176

Snakebite Emergencies: +27 82 494 2039

7. REFERENCES

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APPENDIX 1: SCC IDENTIFIED FROM PUBLIC PLATFORMS.

SCC were included or excluded from further analysis in this report based on expert interpretation for the presence/absence of key landscape and habitat features on site. See Section 4.2 Assumptions and Limitations for more information.

APPENDIX 2: AVIFAUNA SPECIES OBSERVED IN THE PROPOSED DEVELOPMENT SITE

Common name	Scientific name
Cape Bulbul	*Cape Bulbul*
Cape Cormorant	*Phalacrocorax capensis*
Cape Robin	*Dessonornis caffer*
Cape Weaver	*Ploceus capensis*
Sombre Greenbul	*Sombre Greenbul*
Southern Boubou	*Laniarius ferrugineus*

APPENDIX 3: MAMMAL SPECIES OBSERVED ON IN THE PROPOSED DEVELOPMENT SITE

Order	Family	Common name	Scientific name	Notes
Rodentia	Bathyergidae	Cape mole rate	*Georychus capensis*	Soil heaps observed in the proposed development site
Artiodactyla	Bovidae	Steenbok	*Raphicerus campestris*	Faecal material observed in thicket adjacent the proposed development site
Artiodactyla	Suidae	Bushpig	*Potamochoerus larvatus*	Faecal material observed in thicket adjacent the proposed development site

ANNEXURE 12: FLOOD LEVEL STUDY

Flood Level Study for

Melkehoutefontein Farm 480/25

Report

Prepared for

Philip Ellis

Prepared by

WML Coast Pty (Ltd)

CONSULTING ENGINEERS

July 2023

Rev	Date	Description	By	Check	Appr
Draft	5/07/2023	First draft	EJ, DT	EJ	EJ
0	25/07/2023	First Issue	EJ,DT	EJ	EJ

Table of Contents

List of Figures

List of Tables

1 Introduction

1.1 Background

WML Coast has been appointed to conduct a flood level study of the Goukou River in the vicinity of Farm 480/25 Melkehoutefontein. The purpose of this study is to assess the potential flood risk associated with the construction of a new residential house adjacent to the river. The approximate farm boundary and the proposed location of the new house can be seen in Figure 1.

Site-specific flood water level data is required due to the fact that the proposed new house is situated within the 5 m contour line, within a distance of 32 meters from the edge of the Goukou River, and within 100 meters of the high-water mark of the Goukou estuary. Consequently, the proposed development falls within the estuarine functional zone of the Goukou River and is susceptible to periodic flooding. Therefore, it is necessary to thoroughly evaluate the flood risk in this area to ensure the safety and resilience of the proposed development.

Figure 1: Aerial image of Farm 480/25 boundary and location of proposed new residential house.

1.2 Scope

The study scope includes the following:

- One site visit performed by the WML Coast team
- Collection of bathymetric survey information during the site visit
- Assessment of the flood hydrology for the river section under consideration
- Consideration of combined coastal and river flood risk scenarios
- Flood line calculation for the interest area

1.3 Site visit notes

On May 19, 2023, the team from WML Coast conducted a site visit to Melkehoutefontein Farm 480/25. During the visit, bathymetric surveys were carried out using a Garmin EchoMap Chart Plotter. The following observations were made at the site:

- The river edge is typically characterized by a wide bank of reeds with limited access points, such as small jetties (see Figure 2).
- The riverbanks exhibit generally steep slopes.
- Both sides of the river feature floodplains covered mostly with grass, as depicted in Figure 3.
- At the time of the visit, the river was experiencing flooding, which may affect the interpretation of site dynamics, particularly the influence of ocean tides.
- The estuary water level was tidally driven but follows a distinct cycle separate from the ocean tide. Specifically, the water does not drain till the ocean low water level.
- The proposed development area is situated at the far end of a floodplain.
- The riverbed depth typically ranges from 2 to 3 metres, with a deeper section reaching 7.5 metres downstream from the erf.

These on-site observations provide important contextual information for the flood level study, allowing for a more comprehensive understanding of the site's characteristics and potential flood risks.

Figure 2: Riverbank with reeds

Figure 3: Reed riverbank with grass floodplain

1.4 Outline and approach

This study distinguishes between *present* and *future* flood level scenarios. *Present* flood levels are determined based on historical data observations and deterministic calculations derived from current conditions. For instance, the present 1:100-year flood refers to the flood event with a 1% annual exceedance probability in 2023.

On the other hand, *future* flood levels represent projected levels that align with a climate-change scenario anticipated to occur within the next 30 to 100 years. The future scenario incorporates the following adjustments:

- A sea level rise of 0.5 m.[1]
- A 15% increase in storm rainfall intensity.[2]

Section 2 provides an overview of the relevant coastal aspects pertinent to the Melkehoutefontein study. Following that, Section 3 presents the determination of the Goukou River flood hydrology. Subsequently, Section 4 details the calculation of Melkehoutefontein flood levels using 1-dimensional backwater calculations. The USACE HEC-RAS (Hydraulic Engineering Centre - River Analysis System) software package is utilized, taking into account the coastal and hydrological input variables outlined in Sections 2 and 3. It's important to note that this analysis excludes sediment transport and morphological modelling, including scour and dam-break analyses.

[1] Predictions for 2100 range from +0.5 m to +2.0 m; see 2.2 for more info
[2] As prescribed by the City of Cape Town for all future stormwater design and planning

2 Coastal aspects

The Goukou River mouth is situated at a distance of approximately 13 kilometres from the proposed development site at Melkehoutefontein Farm 480/25, as depicted in Figure 4. Consequently, the specific section of the river where the proposed development is located is in relatively close proximity to the ocean. As a result, the water level in this area is significantly influenced by tidal fluctuations.

Figure 4: Goukou River course

2.1 Ocean tidal water levels

Extreme sea levels result from a combination of astronomical and meteorological factors. During a storm, strong winds in conjunction with low atmospheric pressure contribute to elevated sea levels beyond the anticipated astronomical tidal level, a phenomenon known as "storm surge."

To obtain relevant data, the nearest tidal gauge station along the open coast is situated at the port of Mossel Bay, located 70 kilometres east of the Goukou River. Records of sea level measurements are maintained by the South African Navy Hydrographic Office (SANHO, 2019). Table 1 provides a comprehensive overview of the predicted (astronomical) tidal levels specifically for Mossel Bay. Additionally, Figure 5 presents an analysis of extreme frequency, incorporating observed tidal levels inclusive of storm surge effects.

The extreme high-water levels corresponding to various return periods, as indicated by the analysis, serve as downstream boundary conditions for the river flood modelling process detailed in Section 4.

Table 1: Predicted (astronomical) tidal water levels at Mossel Bay (SANHO, 2019)

		Tidal Level	
		(m Chart Datum)	(m MSL)
Highest astronomical tide	HAT	2.44	1.51
Mean high water at springs	MHWS	2.10	1.17
Mean high water at neaps	MHWN	1.46	0.53
Mean level	ML	1.17	0.24
Mean low water at neaps	MLWN	0.88	-0.05
Mean low water at springs	MLWS	0.26	-0.67
Lowest astronomical tide	LAT	0	-0.93

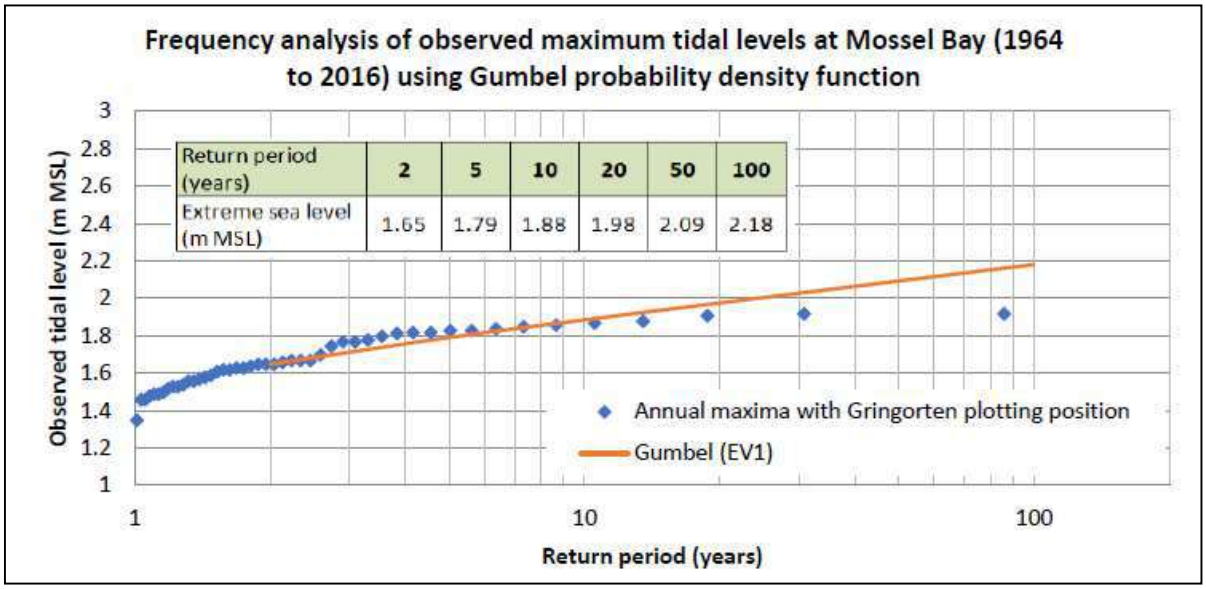

Figure 5: Extreme frequency analysis of observed tidal levels at Mossel Bay

2.2 Sea level rise

Projections of sea level rise for South Africa by the year 2100 range from 0.5 m (best-case scenario) to 1 m (best-estimate) to 2 m (plausible worst-case scenario) according to the CSIR (2014) report. The latest review on climate change conducted by the World Meteorological Organisation highlights that the impacts of climate change are being felt more severely and earlier than previously indicated in climate assessments from a decade ago. The global mean sea level rise has accelerated from an average of 3 mm/year between 1997 and 2006 to 4 mm/year between 2007 and 2016, as reported by the WMO (2019).

Considering the potential sea level rise of 0.5 m within the next 30 to 100 years, the impact on flood levels at Melkehoutefontein Farm 480/25 is taken into account when assessing the flood risks influenced by *near future* climate change. This inclusion allows for a comprehensive evaluation of the potential flood hazards associated with the proposed development, considering the anticipated rise in sea levels.

2.3 Wave impacts

The Goukou River mouth is characterized as a river with a permanently open mouth and a narrow tidal inlet, as documented by the CSIR (2011). Although some wave energy has the potential to enter the estuary, it is important to note that the proposed development site is positioned far upstream of the river mouth. As a result, the influence of wave entry into the river is considerably diminished to the extent of being negligible. Hence, the study does not incorporate the effects of ocean wave energy, given their insignificance in relation to the proposed development site.

3 Flood hydrology

3.1 Catchment and Estuary Characteristics

The Goukou River catchment and its tributaries fall under the jurisdiction of the Hessequa Municipality. As per the CSIR (2011) report, the reported catchment areas for the Goukou River vary between 1 188 km^2 and 1 550 km^2. Stretching across a length of 64 km, the river extends from its source to its confluence with the sea. In addition to smaller streams, the Goukou River receives water from five major tributaries, namely the Soetmelks, Naroo, Brak, Vet, and Kruis rivers, as documented by Carter and Brownlie (1990). Figure 6 provides a visual representation of the tertiary drainage region (H90), the rivers, and their proximity to the development area.

The Goukou Estuary encompasses an area of approximately 250 hectares and spans a length of 19 km. It is situated within a deep valley, as detailed in the CSIR (2011) report. Notably, the estuary is part of the Stilbaai Marine Protected Area (MPA), which was officially established on October 17, 2008. The estuary mouth remains open at all times, with a narrow tidal inlet.

Figure 6: Catchment and river map (QGIS, 2023)

3.2 Quaternary catchment information

The Goukou River is situated within the H90 tertiary drainage region, which comprises five distinct quaternary drainage regions, namely H90A, H90B, H90C, H90D, and H90E. In Figure 7, the quaternary catchments and a plot illustrating the mean annual precipitation of the region are displayed, based on research by Schulze (2009). The average annual precipitation for the entire catchment area is recorded as 482 mm, while the upper catchment area experiences a higher mean annual precipitation of 634 mm, as documented by Carter and Brownlie (1990).

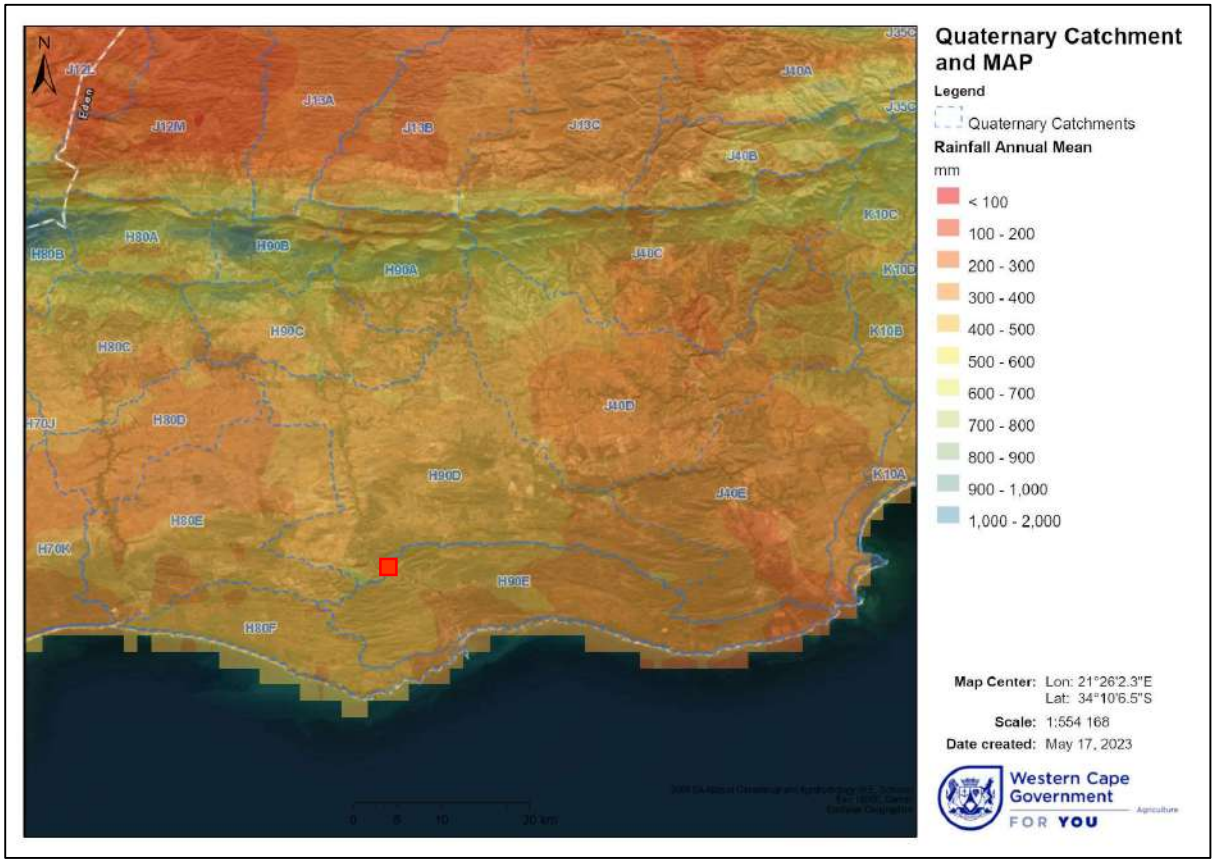

Figure 7: Quaternary catchments and MAP (CFM, 2023)

Table 2 provides a comprehensive summary of the significant hydrological characteristics of each quaternary catchment area. Notably, the proposed development site is situated at the boundary between the H90D and H90E quaternary catchment regions. As a result, the flood at the proposed development site is influenced by the contributions from quaternary catchments H90A, H90B, H90C, and H90D. The combined area of these catchments, which is considered for the analysis, amounts to 1 117 km^2.

Table 2: Quaternary catchment information (DWS, 2017)

Quaternary ID	Area [km^2]	*CMAP [mm]
H90A	179.09	644.68
H90B	118.18	663.76
H90C	217.58	466.68
H90D	602.12	425.13
H90E	495.65	489.62

*CMAP refers to a collection of precipitation data sets.

3.3 Average slope and longest watercourse

Figure 8 shows the longest water course for the region. The distance from the origin of the watercourse to the proposed development site measures 53.4 km. The average slope, denoted as S_{av}, was determined using the 1085-Slope method and computed as 0.005, where the vertical-to-horizontal ratio (V:H) is 1:200. To further illustrate the watercourse and the 1085-Slope method, refer to Figure 9. The formula for calculating the average slope using the 1085-Slope method is as follows:

$$S_{av} = \frac{H_{0.85L} - H_{0.10L}}{(1000)(0.75L)}$$

Where,

S_{av} is the average slope (m/m) = 0.005
$H_{0,10L}$ is the elevation height at 10% of the length of the watercourse (m) = 213.1m
$H_{0,85L}$ is the elevation height at 85% of the length of the watercourse (m) = 15.4m
L length of watercourse (km) = 53.4 km

Figure 8: Longest water course

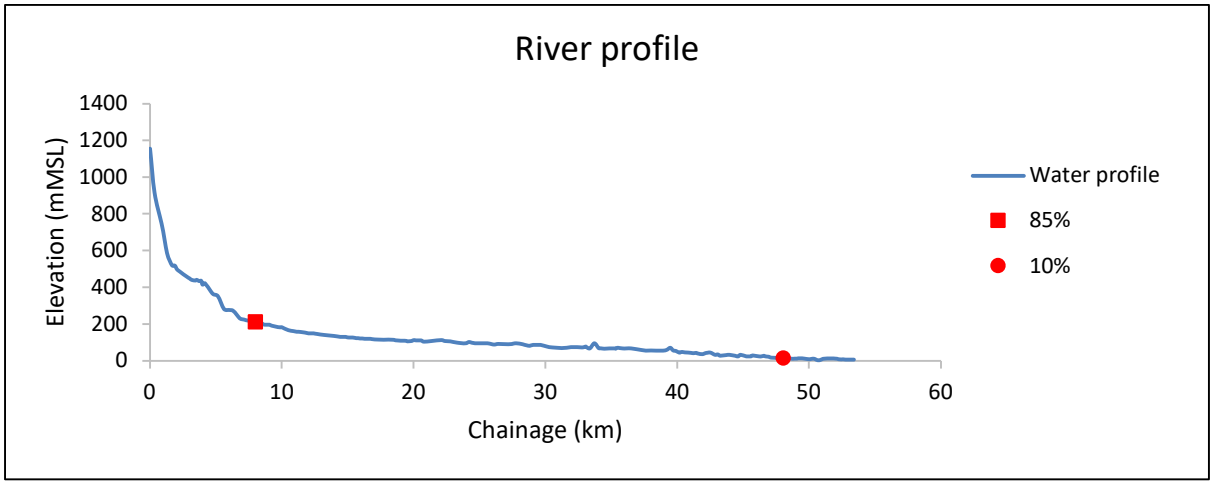

Figure 9: Watercourse profile

3.4 Flood determination

3.4.1 Previous studies

The estimated mean annual runoff (MAR) for the Goukou River is 106.42 million m^3, as reported by Pitman *et al.* (1981). Flood events with runoff exceeding 150 million m^3 occur on average every 3.2 years, while the yearly average MAR is surpassed every 2.8 years. However, according to Taljaard *et al.* (2015), the MAR entering the Goukou Estuary is recorded as 91.73 million m^3, indicating a 21% decrease compared to the natural MAR of 115.95 million m^3.

The largest recorded flood peak in the history of the Goukou River occurred on 25 January 1981, measuring 358 m^3/s. It is estimated that this flood event has a return period of 20 years. The 1:100-year flood has been estimated to be around 1 400 m^3, as documented by Carter and Brownlie (1990).

The Korentepoort Dam, located northwest of Riversdale on the Vet River, is the only major dam within the Goukou catchment. It has a capacity of 8.3 x 10^6 m^3 and was constructed during the period of 1963 - 1965 to provide water for the Korente-Vet River Irrigation canal and the town of Riversdale, as outlined by Carter and Brownlie (1990). It is important to note that the CSIR (2011) report mentions the lack of measured runoff data for the Goukou catchment, which is crucial for obtaining more precise flood estimations. In light of this limitation, the flood estimations provided by Carter and Brownlie (1990) will be considered as the most comprehensive and reliable scientific knowledge available up to the present time for this study.

Furthermore, Carter and Brownlie (1990) state that the influence of tides extends up to 19 km from the river mouth, indicating that the proposed development site falls well within the tidal influence zone.

3.4.2 Regional design flood methods

Standard Design Flood (Alexander, 2002)

The Standard Design Flood (SDF) method was used to verify the results of previous studies as mentioned in the previous section. The methodology as per the SANRAL (2013) was followed. The results from the SDF method are summarised in Table 3 later in this section. It should be noted that the area in consideration falls on the boundary of SDF basin 18 and 19. Basin 18 uses La Motte as a representative site whereas Basin 19 uses Letjiesbos. La Motte is typically a wetter region than the Goukou area, whereas Letjiesbos is dryer than the Goukou area – when considering the MAP. Hydrology calculations are presented in APPENDIX A and also the various inputs for the SDF method.

Table 3: SDF Peak flows

Basin	Peak flow (m^3/s)						
	2	**5**	**10**	**20**	**50**	**100**	**200**
18	243	531	761	1010	1371	1673	1992
19	61	205	335	487	725	935	1171

Midgley and Pitman (Rural I) – MIPI (1971)

Midgley and Pitman (1971) compiled regional curves of flood peaks, with the size of the catchment and the return period as variables. South Africa was divided into seven homogeneous flood regions. The Goukou River catchment falls under region 3. The results are summarised in Table 4.

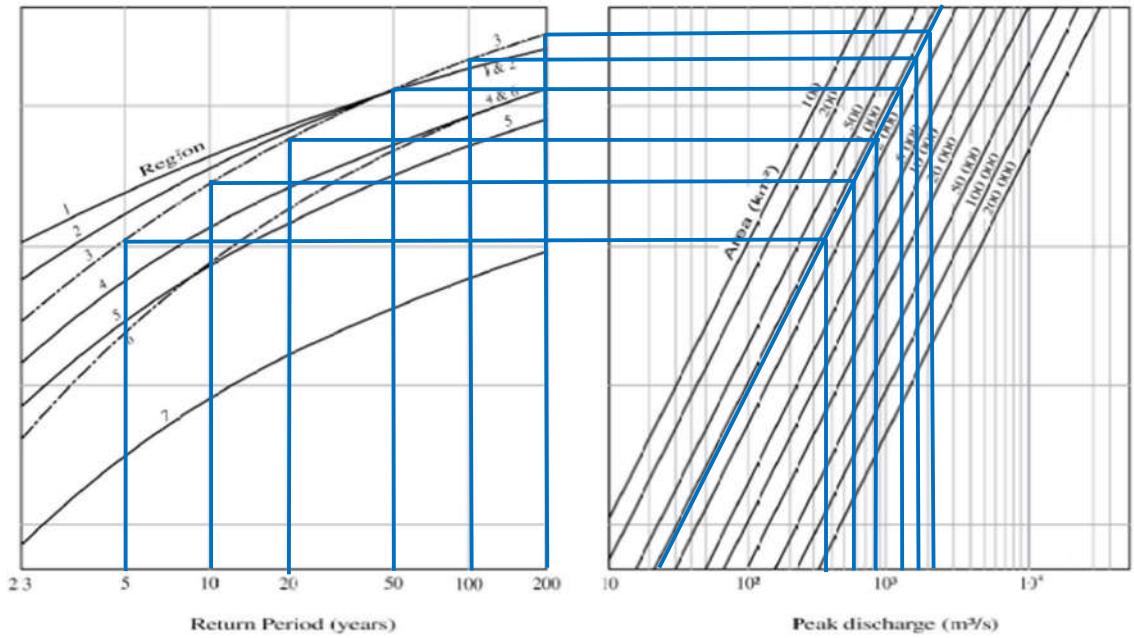

Figure 10: Peak discharge probability diagram for Midgley and Pitman (SANRAL, 2013)

Table 4: Peak discharges for Midgley and Pitman method

Peak flow	Return period					
	5	10	20	50	100	200
Q_T (m^3/s)	380	540	850	1300	1700	2100

Kovács method (1980)

The Kovács (1980) method is typically used to estimate floods with return periods more than 100 years. However, it is sometimes desirable or necessary to obtain realistic values for extreme peak floods and the accompanying water levels; particularly where human lives may be endangered and/or valuable property may be damaged. For this development these longer periods are of lesser importance, however the Kovács methods was extended to include shorter return period floods. The Goukou river system is located in region K5 The related formulae are:

$$Q_{RMF} = 10^6 \left(\frac{A}{10^8}\right)^{1-0.1K} = 3342\ m^3/s$$

Where:

Q_{RMF} is the regional maximum flood peak flow rate (m^3/s)
K is the regional constant

The Q_T/Q_{RMF} factors for region K5 was applied for to an approximated effective catchment area (1000km^2), and the results are summarised in Table 5:

Table 5: Kovács peak discharges

Peak flow	Return period			
	50	100	200	RMF
Q_T (m^3/s)	1775	2186	2530	3342

3.4.3 Summary and recommended flood

The results from previous studies and regional scale flood estimations are given in Table 6 and illustrated in Figure 11. The SDF estimation for the dryer region is similar to the 1:20 flood estimation based on previous studies. The 1:100-year flood from previous studies is significantly more than the SDF method for the dryer region, but similar to the wetter region as well as the Midgley and Pitman (1971) method. It should be noted that flood hydrology is difficult to quantify and predict which results in the wide spread of estimated flood peaks. A conservative approach should be considered. The recommended flood values are based on the previous studies and judgement when taking into account the results of the regional methods.

Table 6: Summary of peak discharge for various return periods

Method	Peak discharge (m^3/s)				
	5	10	20	50	100
Previous studies	-	-	358	-	1400
SDF – Wetter region	531	761	1010	1371	1673
SDF – Dryer region	205	335	487	725	935
Midgley and Pitman	380	540	850	1300	1700
Kovács	-	-	-	1775	2186
Recommended – Present	200	330	360	1000	1400
Recommended – Future*	230	380	414	1150	1610

* Allowance for 15% increase in peak flood discharge due to climate change

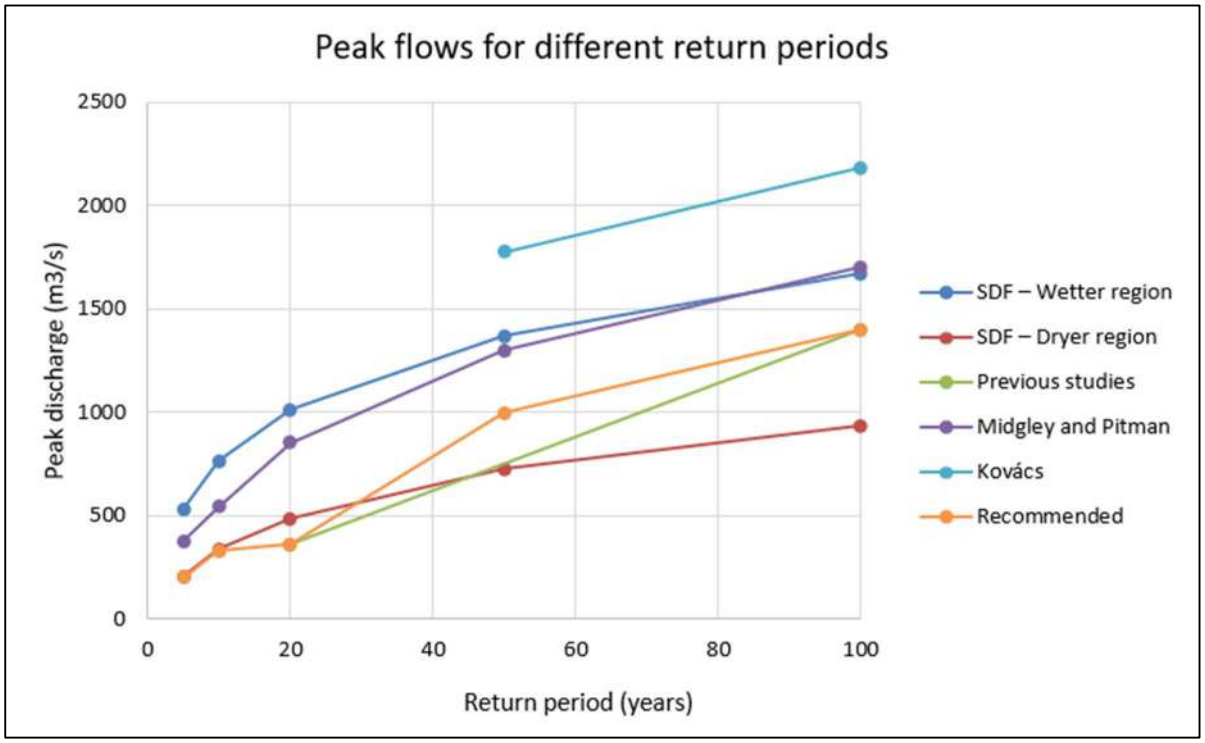

Figure 11: Peak flows for different return periods

4 Flood level determination

4.1 Methodology

Flood lines were determined using the HEC-RAS (Hydraulic Engineering Centre – River Analysis System) software package. The analysis involved performing 1-dimensional steady-state simulations, specifically "backwater calculations," using river cross sections and peak flood flows obtained from Section 3 of this study. Hydraulic parameters were estimated based on on-site observations.

The focus of this study is the area surrounding the proposed development site. Consequently, the flood line model was extended several kilometres upstream and downstream of this area to ensure that any potential boundary effects were minimized. A more detailed survey was conducted in the vicinity of the proposed development site to enhance the accuracy of the model for this specific area. No hydraulic structures such as weirs or bridges are present in this area. Therefore, the model exclusively represents the river channel and its associated characteristics. Sediment transport and morphological modelling were not included in the analysis.

4.2 Assumptions and limitations

The following assumptions were made in determining the flood lines:

- The variation in operation of the Korentepoort dam does not significantly affect the flood peaks.
- The flood peak with a T-year return period corresponds to the T-year return period extreme sea level at the Goukou Estuary, representing the worst-case scenario.
- Refer to Table 6 for the river flood peaks used for flood line calculations

4.3 Model setup

4.3.1 General parameters

Table 7: Melkehoutefontein HEC-RAS model general parameters.

Project Name	Melkehoutefontein Flood Line Study
Coordinate system	Model - UTM 34S EPSG32734, Survey - Hartebeesthoek94_Lo21 ESRI:102483
Datum level	Metres above mean sea level – m MSL
Channel Roughness	Manning n = 0.04, see Chow (1959), Fetter (2001), and Tak et al. (2016)
Floodplain Roughness	Manning n = 0.045, see Chow (1959), Fetter (2001), and Tak et al. (2016)
Terrain	1 m resolution GeoTiff
Flow type	Subcritical
Upstream boundary	Normal flow depth with 0.005 m/m slope
Downstream boundary	Multiple: Known water surface elevation (extreme sea levels), normal flow depth with 0.005 m/m slope
Simulation type	Steady State

4.3.2 Model geometry and terrain

A digital terrain model of the model domain was compiled from the following data sources:

- A topographical land survey at the interest area and at 8 cross sections – shown on Figure 12
- A bathymetric survey of the river conducted by WML Coast on the 19th of May 2023 – as shown on Figure 13
- South African Chief Directorate: National Geo-spatial Information (NG) contour lines for terrain above 5 m MSL
- Aerial imagery and elevation data captured with a drone

The model was extended upstream and downstream of the interest area with historical cross-section data of the river obtained from survey missions conducted by the CSIR, NGI topographical data and satellite aerial imagery and elevation data.

Model cross-sections were defined at appropriate locations, and the cross-section profiles were then derived from the digital terrain model. The terrain model, river cross-sections, river bank lines and total model extent is shown on Figure 14

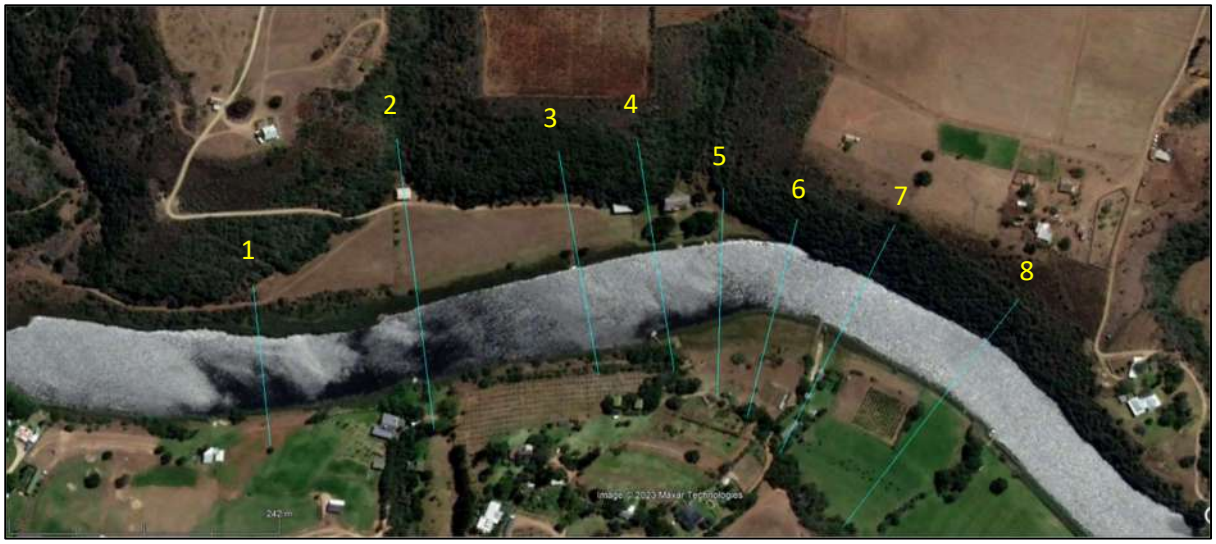

Figure 12: Goukou river surveyed cross-sections.

Figure 13: Extent of site topographic and bathymetric surveys.

Figure 14: Hec-Ras Model Geometry and associated terrain file used for the Melkehoutefontein flood line determination study.

4.4 Results

4.4.1 . River long section

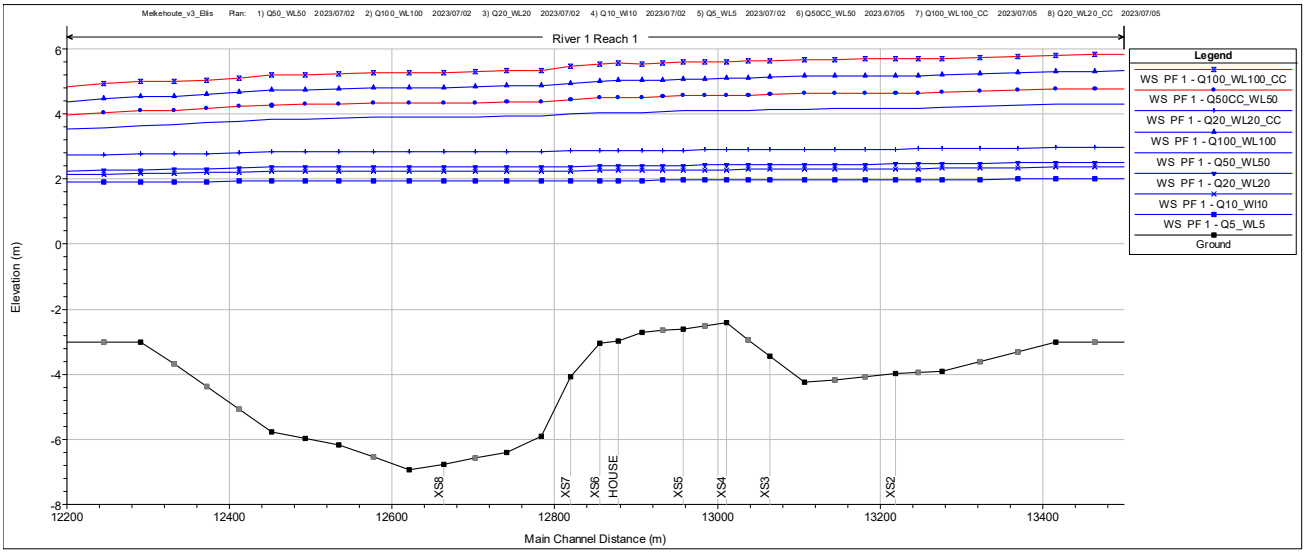

Figure 15: Goukou River Long Section along the model interest area with water surface elevations for the 1 in 5-year to 1 in 100-year flood events (*Present Case – blue lines; Future Case – red lines*).

4.4.2 River cross-section at proposed new dwelling

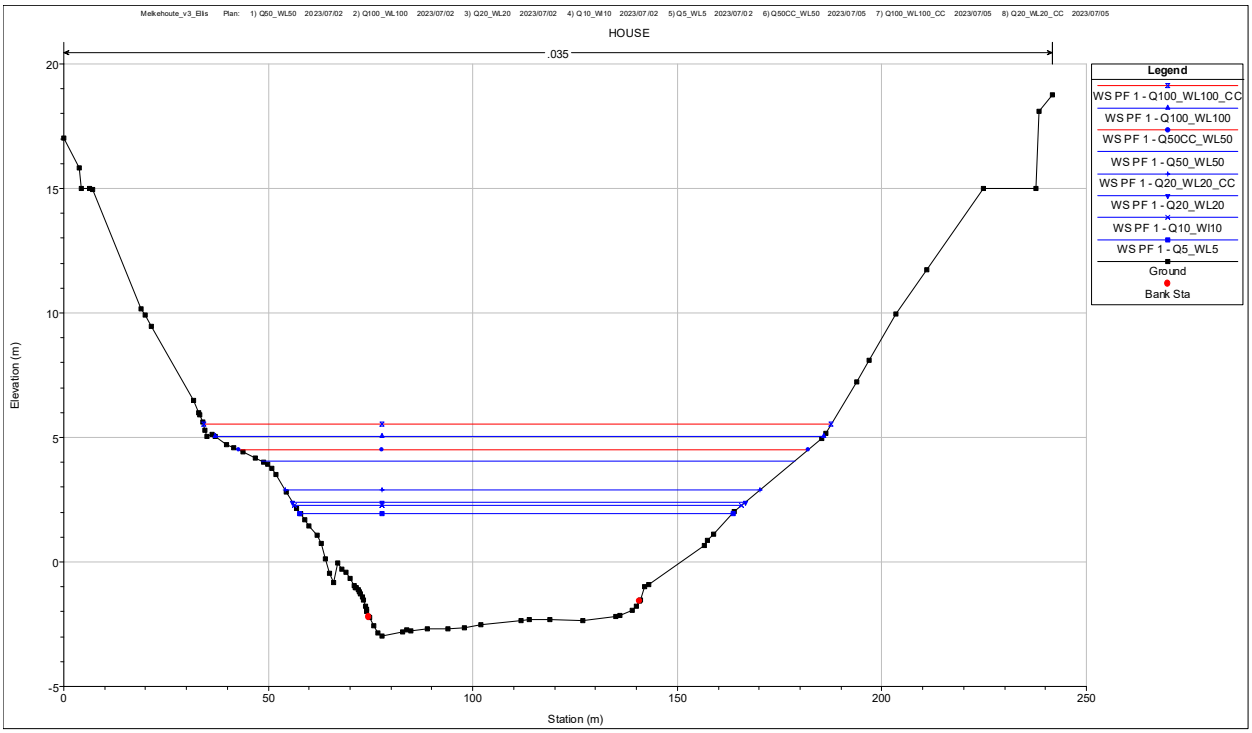

Figure 16: Goukou River Cross Section at the proposed new dwelling with water surface elevations for the 1 in 5-year to 1 in 100-year flood events ((*Present Case – blue lines; Future Case – red lines*).

4.4.3 Water surface elevation maps – Present Case

Figure 17: Water surface elevation (m MSL) for the Present 1 in 5 year flood (Q5_WL5).

Figure 18 Water surface elevation (m MSL) for the Present 1 in 10 year flood (Q10_WL10).

Figure 19 Present – Water surface elevation (m MSL) for the Present 1 in 20 year flood (Q20_WL20).

Figure 20: Water surface elevation (m MSL) for the Present 1 in 50 year flood (Q50_WL50).

Figure 21: Water surface elevation (m MSL) for the Present 1 in 100 year flood (Q100_WL100).

4.4.4 Summary of flood line levels at the proposed new dwelling

Table 8: Summary of flood line elevations at the proposed new dwelling on Melkehoutefontein Farm.

		Return Period (years)				
		5	**10**	**20**	**50**	**100**
UPSTREAM BOUNDARY 1 - Present						
Flood peak flow (m^3/s)		200	330	360	1000	1400
Goukou River						
UPSTREAM BOUNDARY 2 - Future						
Flood peak flow (m^3/s)		230	380	414	1150	1610
Goukou River						
DOWNSTREAM BOUNDARY - Present						
Extreme high sea level (m MSL)		1.79	1.88	1.98	2.09	2.18
Mossel Bay						
DOWNSTREAM BOUNDARY - Future						
Extreme high sea level (m MSL)		2.29	2.38	2.48	2.59	2.68
Mossel Bay						
RESULTS						
Flood water level at proposed new dwelling	Present	1.96	2.27	2.41	4.05	5.04
(m MSL)	Future			2.88	4.52	5.55

5 Summary and conclusions

5.1 Flood levels

The flood levels at Melkehoutefontein Farm 480/25 were determined with the HEC-RAS numerical model with boundary conditions considering combined coastal and river flood risk scenarios. This study distinguishes between *present* and *future* flood level scenarios.

Present flood levels are determined based on historical data observations and deterministic calculations derived from current conditions. On the other hand, *future* flood levels represent projected levels that align with a climate-change scenario anticipated to occur within the next 30 to 100 years. The future scenario incorporates the following adjustments:

- A sea level rise of 0.5 m.[3]
- A 15% increase in storm rainfall intensity.[4]

The flood line elevations at the proposed new dwelling, for the present and future scenario, as well as the boundary conditions used are given in Table 8.

A drawing showing the present flood level scenario is shown on Figure 22 and included in Appendix B. The setting out points of the proposed new dwelling are also shown on this drawing ("HUIS1" – "HUIS5"). The drawing indicates the *Present* 20-, 50- and 100-year flood lines, as well as the 1 in 100-year ocean water elevation (storm surge) and the highest astronomical tide that can be expected in this area.

[3] Predictions for 2100 range from +0.5 m to +2.0 m; see 2.2 for more info
[4] As prescribed by the City of Cape Town for all future stormwater design and planning

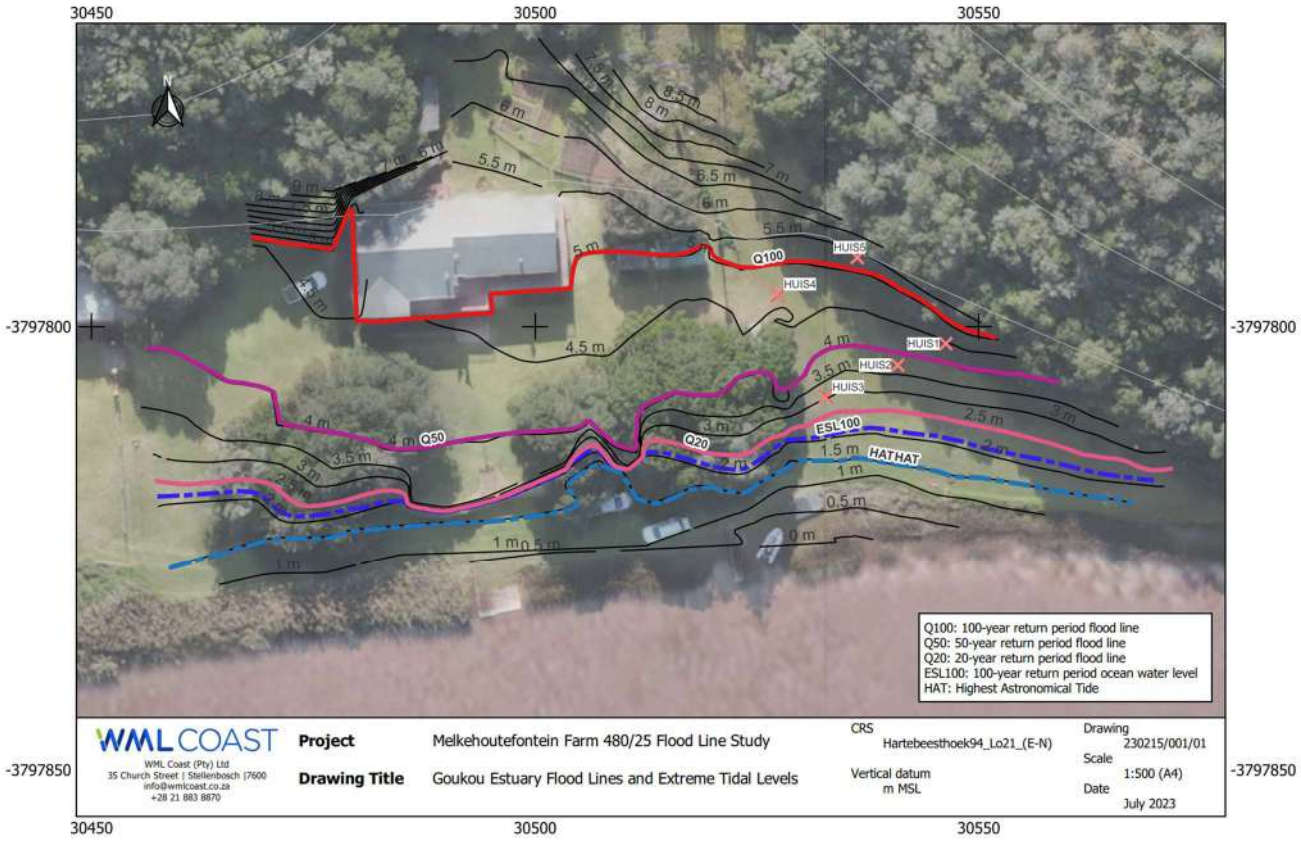

Figure 22: Goukou Estuary Flood Lines and Extreme Tidal Levels (*Present Case)*.

5.2 Recommendations for new dwelling

This study predicts that the present 50-year flood line level is at 4.05 m MSL, this level does not account for the kinematic energy of the water and therefore further run-up can be expected.

The footprint of the proposed new dwelling extends from the 5.25 m MSL contour to the 3 m MSL contour on the river side. The setting out points of the new dwelling is shown on Figure 22 ("HUIS1" to "HUIS5").

The following recommendation are made:

- The dwelling should be built on piled supports (pillars)
- The floor level of the dwelling should be above the 1 in 100-year flood level to limit flood risk;
    - Setting out point "HUIS5" is situated on an elevation of 5.25 m MSL, if this level is used as the house floor level, the house will be elevated above the *present* 1 in 100-year flood level.
    - To account for the *future* 1 in 100-year flood event the floor level should be above 5.5 m MSL, which is easily achievable within the current development footprint.
- Riverbank scour could result in undermining of the foundations of the house, the design of the house should consider potential scour of the riverbank due to flood events, however;
    - Model predicted scour velocities for the 1 in 100-year flood event at point "HUIS3" are in the order of 0.7 m/s.
    - This flow velocity is mild and it is not expected that the riverbank, at the house footprint will be scoured significantly.

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APPENDIX A – Flood Hydrology Calculations

Time of concentration

The US Soil Conservation Service formula was used to obtain the time of concentration T_c (hours) as suggested in HRU1/72 (Alexander, 1976).

$$T_c = \left[\frac{0.87L^2}{1000S_{av}}\right]^{0.385}$$

Where:

T_c is the time of concentration (hours) ≈ 11 hours

L is the watercourse length (km) = 53.5km

S_{av} is the average slope (m/m) = 0.005

Precipitation depth

The point precipitation depth $P_{t,T}$ (mm) for the time of concentration t (min) and a return period of T (years) was computed by interpolation between the values obtained using the modified Hersfield (Alexander, 2001) equation (6 hours limit) and TR102 for a 1 day duration. The modified Hersfield equation is:

$$P_{t,T} = 1.13\ (0.41 + 0.64lnT)(-0.11 + 0.27lnt)(0.79M^{0.69}R^{0.20})$$

Where:

$P_{t,T}$ is the precipitation depth for a duration of t minutes and a return period of T years

t is the storm duration in minutes (upper limit of 6 hours)

T is the return period

M is the 2-year return period daily rainfall from TR102

R is the average number of days per year on which thunder was heard

Area reduction factor and return period factors

The average rainfall intensity is calculated by multiplying an area reduction factor with the precipitation depth. The area reduction factor ARF (%) was calculated by:

$$ARF = (90000 - 12800lnA + 9830lnt)^{0.4} = 83.6\%$$

Refer to SANRAL (2013) for information regarding the return period factors to be used and the formula to calculate it.

Flood peak

The flood peak Q_T (m^3/s) for various return periods T is calculated from:

$$Q_T = \frac{C_T I_T A}{3.6}$$

Where:

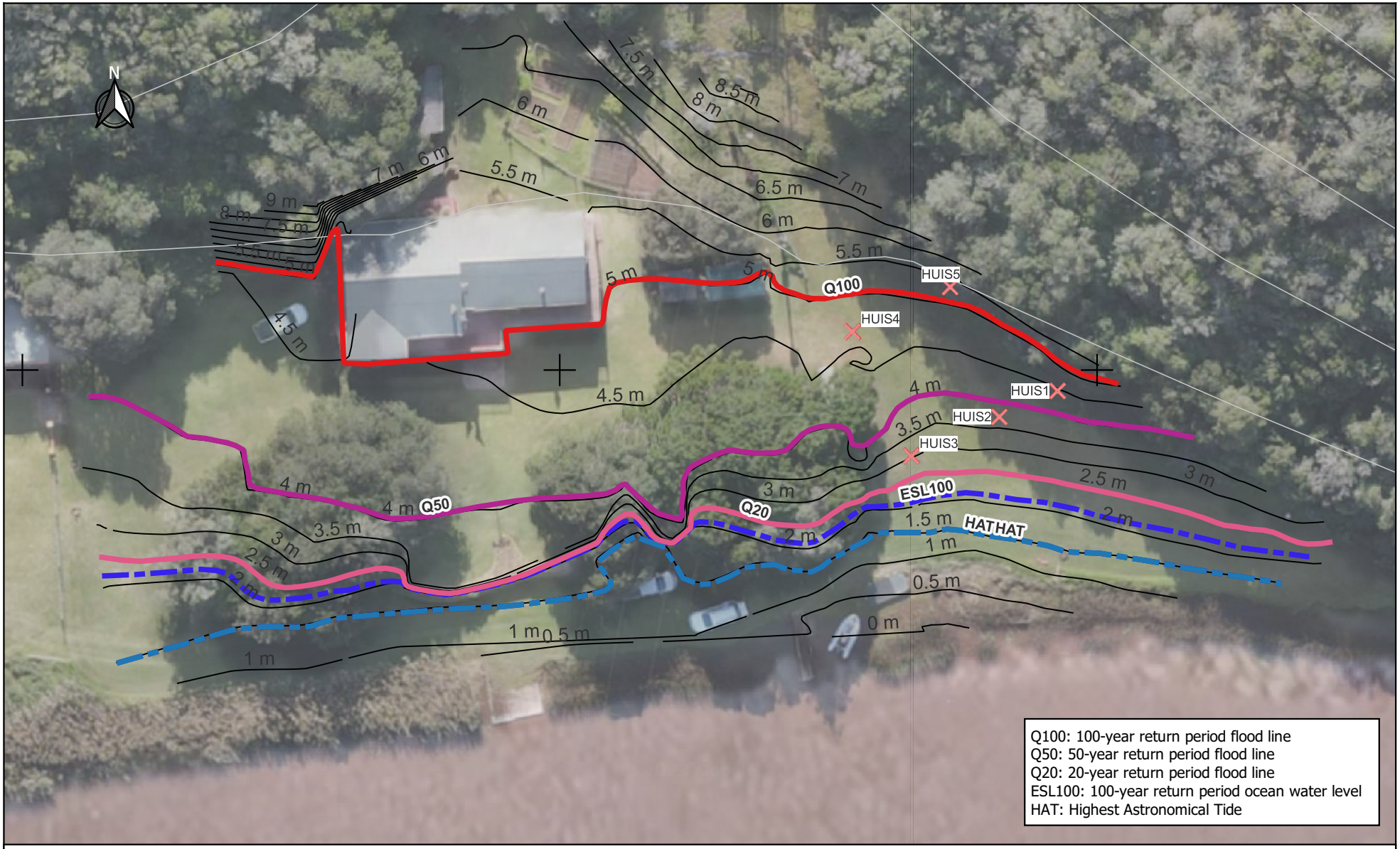
I_T is the average intensity (mm)

A is the area of the region considered (km)

STANDARD DESIGN FLOOD METHOD - BASIN 18							
Description of catchment	Catchement H90A,H90B, H90C and H90D						
River detail	Goukou River						
Calculated by	Danie Theron				Date	May-23	
Physical characteristics							
Size of the catchment (A)	1117	km^2	$Tc = \left(\frac{0.87\ L^2}{1000\ S_{av}} \right)^{0.385}$			10.9	hours
Longest watercourse (L)	53.5	km					
Average slope (S_{av})	0.005	m/m	Time of concentration, t(min)			656	minutes
SDF Basin	18		Days of thunder per year (R)			4	days/year
2-year return period rainfall (M)	59	mm					
TR102 n-day rainfall data							
Weather service station	La Motte		Mean annual precipitation (MAP)			810	mm
Weather service number	22113		Coordinates		33 ° 53' S	&	19 ° 04' E
Duration (days)	Return period (years)						
	2	**5**	**10**	**20**	**50**	**100**	**200**
1-day	59	77	91	105	125	142	160
Rainfall							
Return period (years), T	**2**	**5**	**10**	**20**	**50**	**100**	**200**
Point precipitation (mm), P_T	24.8	46.4	60.7	75.0	93.9	108.2	122.5
Interpolated precipitation (mm), P	34.2	54.8	69.0	83.2	102.4	117.4	132.7
ARF (Area reduction factor) (%)	83.6	83.6	83.6	83.6	83.6	83.6	83.6
Average intensity (mm/h)	2.61	4.19	5.28	6.37	7.84	8.99	10.16
Run-off coefficient							
Calibration factors :	C_2(2-year return period) :		30	C_{100}(100-year return period):			60
Return period (years), T	**2**	**5**	**10**	**20**	**50**	**100**	**200**
Return period factors (Y_T)	0	0.84	1.28	1.64	2.05	2.33	2.58
Run-off coefficient (C_T)	0.30	0.41	0.46	0.51	0.56	0.60	0.63
Peak flow (m^3/s)	243	531	761	1010	1371	1673	1992

STANDARD DESIGN FLOOD METHOD - BASIN 19							
Description of catchment	Catchement H90A,H90B, H90C and H90D						
River detail	Goukou River						
Calculated by	Danie Theron				Date	May-23	
Physical characteristics							
Size of the catchment (A)	1117	km^2	$Tc = \left(\frac{0.87\ L^2}{1000\ S_{av}} \right)^{0.385}$			10.9	hours
Longest watercourse (L)	53.5	km					
Average slope (S_{av})	0.005	m/m	Time of concentration, t(min)			656	minutes
SDF Basin	19		Days of thunder per year (R)			16	days/year
2-year return period rainfall (M)	34	mm					
TR102 n-day rainfall data							
Weather service station	Letjiesbos		Mean annual precipitation (MAP)			165	mm
Weather service number	69 483		Coordinates		32 ° 33' S	&	22 ° 17' E
Duration (days)	Return period (years)						
	2	**5**	**10**	**20**	**50**	**100**	**200**
1-day	34	55	72	92	124	152	185
Rainfall							
Return period (years), T	**2**	**5**	**10**	**20**	**50**	**100**	**200**
Point precipitation (mm), P_T	22.4	41.9	54.7	67.6	84.7	97.6	110.5
Interpolated precipitation (mm), P	25.5	45.5	59.5	74.3	95.4	112.5	130.9
ARF (Area reduction factor) (%)	83.6	83.6	83.6	83.6	83.6	83.6	83.6
Average intensity (mm/h)	1.96	3.48	4.55	5.69	7.30	8.61	10.01
Run-off coefficient							
Calibration factors :	C_2(2-year return period) :		10	C_{100}(100-year return period):			35
Return period (years), T	**2**	**5**	**10**	**20**	**50**	**100**	**200**
Return period factors (Y_T)	0	0.84	1.28	1.64	2.05	2.33	2.58
Run-off coefficient (C_T)	0.10	0.19	0.24	0.28	0.32	0.35	0.38
Peak flow (m^3/s)	61	205	335	487	725	935	1171

APPENDIX B - Drawings



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Project Melkehoutefontein Farm 480/25 Flood Line Study

Drawing Title Goukou Estuary Flood Lines and Extreme Tidal Levels

CRS
Hartebeesthoek94_Lo21_(E-N)

Vertical datum
m MSL

Drawing
230215/001/01

Scale
1:500 (A4)

Date
July 2023

ANNEXURE 13: SPECIALIST AQUATIC BIODIVERSITY ASSESSMENT

Proposed Development of a Residential Dwelling on Portion 257 of Melkhoutefontein 480, Riethuiskraal, Hessequa Local Municipality, Western Cape

Specialist Aquatic Biodiversity Assessment

Prepared For: Cape EAPrac
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SACNASP: Pr. Sci. Nat. (Water Resources) – 114084

Date: 8 May 2025
Version: Final

confluent

DECLARATION OF SPECIALIST INDEPENDANCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
- At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;
- Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;
- I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;
- I do not have any influence over decisions made by the governing authorities;
- I undertake to disclose all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by a competent authority to such a relevant authority and the applicant;
- I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;
- This document and all information contained herein is and will remain the intellectual property of Confluent Environmental. This document, in its entirety or any portion thereof, may not be altered in any manner or form, for any purpose without the specific and written consent of the specialist investigators.
- All the particulars furnished by me in this document are true and correct.

Specialist: Dr. James Dabrowski (Ph.D., Pr.Sci.Nat. Water Resources – Reg. No 114084)

Date: November 2024

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

Confluent Environmental was appointed by Ellis Farming Enterprises CC to undertake an aquatic biodiversity assessment survey for the proposed construction of a single residential dwelling on Portion 257 of Farm 480, Melkhoutefontein located adjacent to the Goukou River, in between Riversdale and Still Bay in the Western Cape (Figure 1). The scope of work for this report is guided by the legislative requirements of the National Environmental Management Act (NEMA).

Figure 1: Map indicating the proposed location of the residential dwelling.

1.1 National Environmental Management Act

According to the protocols specified in GN 1540 (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when Applying for Environmental Authorisation), assessment and reporting requirements for aquatic biodiversity are associated with a level of environmental sensitivity identified by the national web-based environmental screening tool (screening tool). An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of:

- **Very High** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment; or
- **Low** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Compliance Statement.

The screening tool classified the site as being of **Very High** aquatic biodiversity as part of the proposed development footprint falls within:

- An aquatic Critical Biodiversity Area (CBA1)
- The estuarine functional zone (EFZ) of the Goukou Estuary;

According to the protocol, a site sensitivity verification must be undertaken to confirm the sensitivity of the site as indicated by the screening tool.

1.2 National Water Act (NWA, 1998)

The Department of Water & Sanitation (DWS) is the custodian of South Africa's water resources and therefore assumes public trusteeship of water resources, which includes watercourses, surface water, estuaries, or aquifers.

A watercourse means:

- A river or spring;
- A natural channel in which water flows regularly or intermittently;
- A wetland, lake or dam into which, or from which, water flows; and
- Any collection of water which the Minister may, by notice in the Gazette, declare to be watercourse, and
- A reference to a watercourse includes, where relevant, its bed and banks.

For the purposes of this assessment, a wetland area is defined according to the NWA (Act No. 36 of 1998):

"Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil".

Wetlands must therefore have one or more of the following attributes to meet the NWA wetland definition (DWAF, 2005):

- A high water table that results in the saturation at or near the surface, leading to anaerobic conditions developing in the top 50 cm of the soil;
- Wetland or hydromorphic soils that display characteristics resulting from prolonged saturation, i.e. mottling or grey soils; and
- The presence of, at least occasionally, hydrophilic plants, i.e. hydrophytes (water loving plants).

No activity may take place within a watercourse unless it is authorised by the Department of Water and Sanitation (DWS). According to Section 21 (c) and (i) of the National Water Act, an authorization (Water Use License or General Authorisation) is required for any activities that impede or divert the flow of water in a watercourse or alter the bed, banks, course or characteristics of a watercourse. The regulated area of a watercourse for section 21(c) or (i) of the Act water uses means:

a) The outer edge of the 1 in 100-year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam;

b) In the absence of a determined 1 in 100-year flood line or riparian area the area within 100m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench (subject to compliance to section 144 of the Act); or

c) A 500 m radius from the delineated boundary (extent) of any wetland or pan.

According to Section 21 (c) and (i) of the NWA, any water use activities that do occur within the regulated area of a watercourse must be assessed using the DWS Risk Assessment Matrix (GN 509) to determine the impact of construction and operational activities on the flow, water quality, habitat and biotic characteristics of the watercourse. Low Risk activities require a General Authorisation (GA), while Medium or High Risk activities require a Water Use License (WUL).

1.3 Scope of Work

The objectives of this assessment included the following:

- To undertake a desktop analysis and site inspection to verify the sensitivity of aquatic biodiversity as **Very High** or **Low**; and
- Compile an Aquatic Biodiversity Compliance Statement or Aquatic Biodiversity Specialist Assessment based on the site verification of the sensitivity of the site.
- Determine whether any activities fall within the regulated area of a watercourse as defined by the NWA.

2. APPROACH

The following rationale was adopted to determine the sensitivity of aquatic biodiversity within the footprint of the site:

- In the event that watercourses are confirmed to fall within the development footprint and that these watercourses will be impacted by the development, then the site sensitivity is confirmed as **Very High** and a full specialist freshwater assessment is required; and
- In the event that no watercourses are identified within the development footprint the site sensitivity is confirmed as **Low** and an Aquatic Compliance statement is required.

The determination of the site sensitivity relied upon the following approaches:

- Interrogation of available desktop resources including:
    - DWS spatial layers;
    - National Freshwater Ecosystem Priority Areas (NFEPA) spatial layers (Nel et al., 2011);
    - National Wetland Map 5 and Confidence Map (CSIR, 2018) – the latest national wetland inventory map for South Africa;
    - Western Cape Biodiversity and Spatial Plan (WCBSP) for Hessequa (CapeNature, 2017).

- A site visit was undertaken, during which time the following activities were undertaken:
    - Identification and classification of watercourses within the footprint of the site according to methods detailed in Ollis et al. (2013);
    - Soil augering to confirm the presence of soil indicators (DWAF, 2005) that may indicate the presence of a wetland (if applicable); and
    - Identification of hydrophilic plant species that may indicate the presence of wetland plant species (if applicable).

3. ASSUMPTIONS AND LIMITATIONS

3.1 Estuarine Assessment

- Estuaries are complex, dynamic systems influenced by multiple environmental and anthropogenic variables. A comprehensive assessment that considers all of these variables did not form part of the scope of work. Assessments of the ecological state of the estuary were therefore derived using appropriate desktop resources.
- The dynamic nature of estuaries means that the structure of physical habitat and associated estuarine fauna and flora can change rapidly in response to tidal and hydrological (e.g. flooding events) influences. This assessment is based on a single site visit that took place in August 2024 and represents a ‘snapshot’ in time.
- No sampling of biota was undertaken (e.g. fish, invertebrates, microphytes, etc.) and all biotic data was derived from desktop sources.

4. METHODS

4.1 Estuarine Assessment

4.1.1 Present Ecological State of the Goukou Estuary

The 2018 National Biodiversity Assessment (NBA) evaluated the ecological health of all estuaries in South Africa (Van Niekerk et al., 2019a). This assessment considered both abiotic and biotic components, namely hydrology, hydrodynamics and mouth condition, water chemistry, sediment processes, microalgae, macrophytes, invertebrates, fish and birds. Each estuary was assigned a condition score based on the similarity to natural for these various abiotic and biotic components. For each of the components, a panel of experts estimated the change in health as a percentage (0 – 100 %) of the natural state. Scores were weighted (25 % for each abiotic and 20 % for each biotic component) and aggregated (to provide an overall score that reflects the present health of the system as a percentage of that under natural conditions.

Table 1: Estuary health scoring system indicating the relationship between the six Ecological Categories and the loss of ecosystem condition and functionality.

Category	Description
A	**Natural:** The natural biotic processes should not be modified. The characteristics of the resource should be determined by unmodified natural disturbance regimes. There should be no human induced risks to the abiotic and biotic processes and function.
B	**Largely Natural:** A small change in natural habitats and biota may have taken place, but the ecosystem functions are essentially unchanged.
C	**Moderately Modified:** A loss and change of natural habitat and biota have occurred, but the basic ecosystem functions are still predominantly unchanged
D	**Largely Modified:** A large loss of natural habitat, biota, and basic ecosystem function has occurred.
E	**Seriously Modified:** The loss of natural habitat, biota and basic ecosystem function is extensive.
F	**Critically Modified:** Modifications have reached a critical level and the system has been modified completely with an almost complete loss of natural abiotic processes and associated biota. In the worst instances the basic ecosystem functions have been destroyed and the changes are irreversible.

Van Niekerk et al. (2019b) assessed the overall ecological importance and sensitivity of estuaries based on several criteria including the size (i.e. surface area), habitat importance, zonal rarity type and biodiversity importance. These criteria were each rated (out of a score of 100) and the average of all criteria was used as the final EIS Score (Table 2).

Table 2: Description of EIS Scores for estuaries derived by Van Niekerk et al. (2019b).

EIS Score	Description
0 – 60	Average Importance
61 – 80	Important
80 – 100	High Importance

5. DESKTOP SURVEY

The site falls immediately adjacent to the Goukou which falls within Primary Catchment H (Breede) area and in quaternary catchment H90D (Figure 1). The Goukou River originates from the Langeberg Mountains to the north of Riversdale and flows in a southerly direction, before forming the Goukou Estuary at Still Bay. The property falls within the Southern Coastal Belt (22) Level 1 ecoregion (22.02 Level 2 Ecoregion), which is characterised by moderately undulating plains with altitude ranging from 0 to 300 m above mean sea level. Mean annual precipitation for the catchment area is approximately 450 mm per year and occurs all year-round, with peaks in October to November and March to April. Dominant natural vegetation in the catchment area comprises broadly of Hartenbos Dune Thicket, while the broader main river valleys (in which the property is located) is Gouritz Valley Thicket (Figure 3).

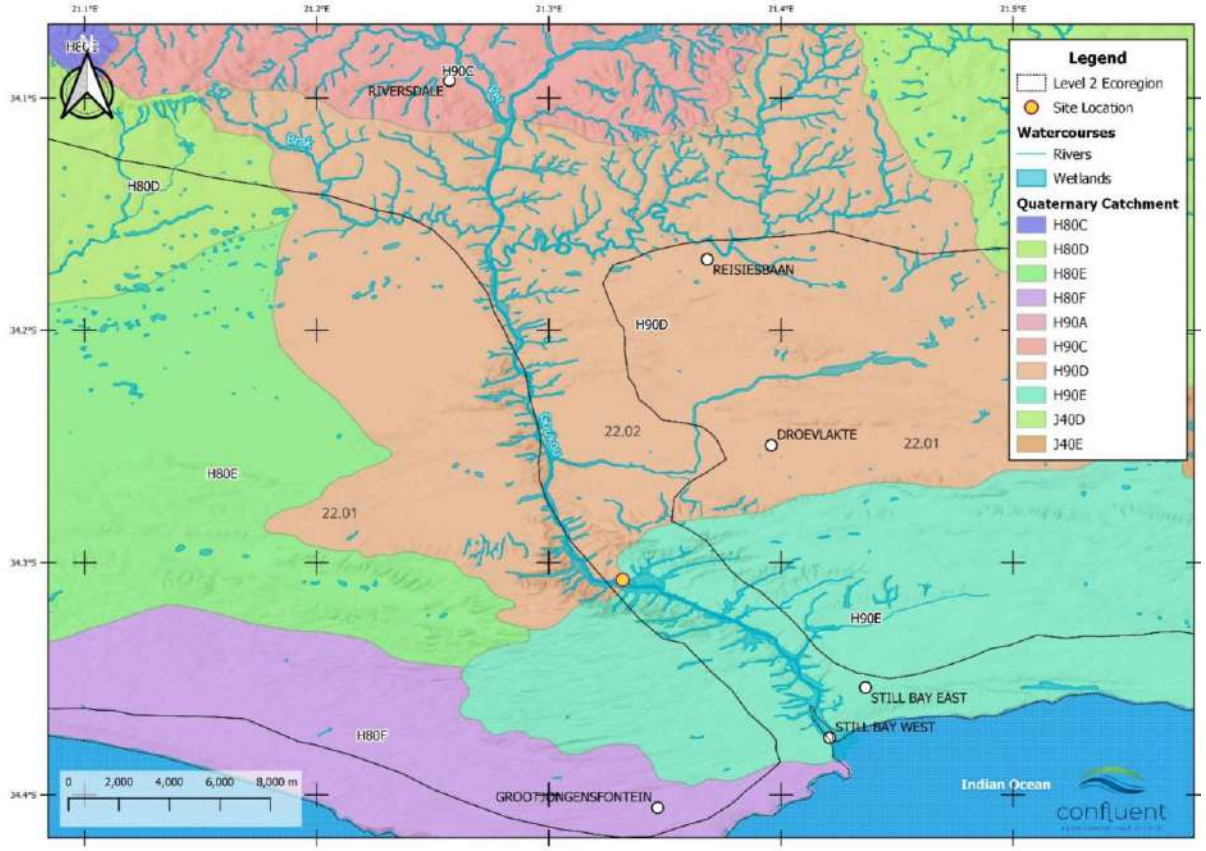

Figure 2: Map indicating the location of the property relative to the quaternary catchment area.

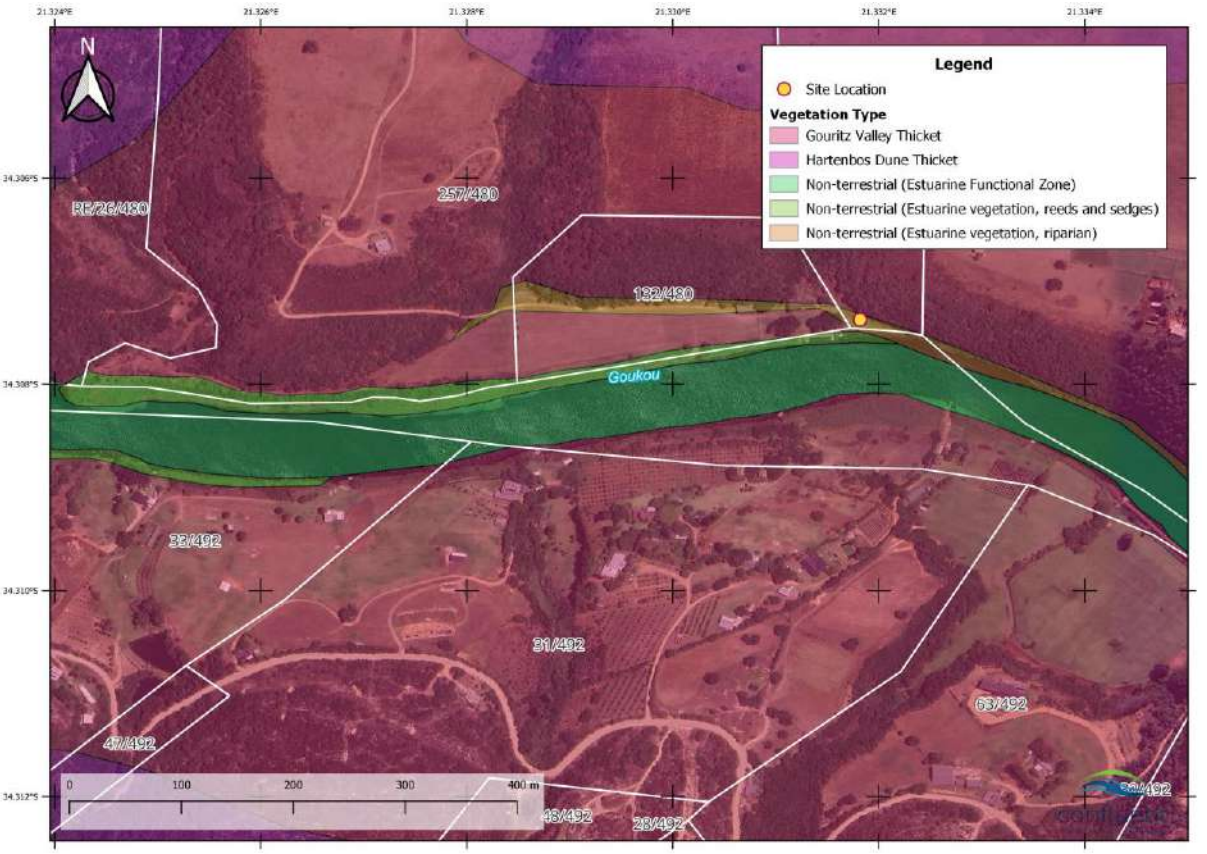

Figure 3: Map of vegetation types

According to geospatial data sources the section of the Goukou River adjacent to the property is estuarine and the footprint of the proposed residential dwelling is located in the Estuarine Functional Zone (EFZ - Figure 4). In South Africa, the EFZ is defined as the area that not only delineates the boundaries of the estuarine waterbody, but also the supporting physical and biological processes and adjacent habitats necessary for estuarine function and health (Van Niekerk et al., 2019a). It includes all dynamic areas influenced by long-term estuarine sedimentary processes, multiple ecotones of floodplain and estuarine vegetation that contribute organic material and provide refuge from strong currents during high flow events.

EFZs are currently delineated by the 5 m contour line and therefore include large areas of land (much of which has been developed) that border the actual open estuarine water body. The EFZ is now commonly used to delineate the spatial extent of the entire estuary. Large sections of the Goukou EFZ and the floodplain of the river have been transformed from natural terrestrial and estuarine vegetation into agricultural and residential developments.

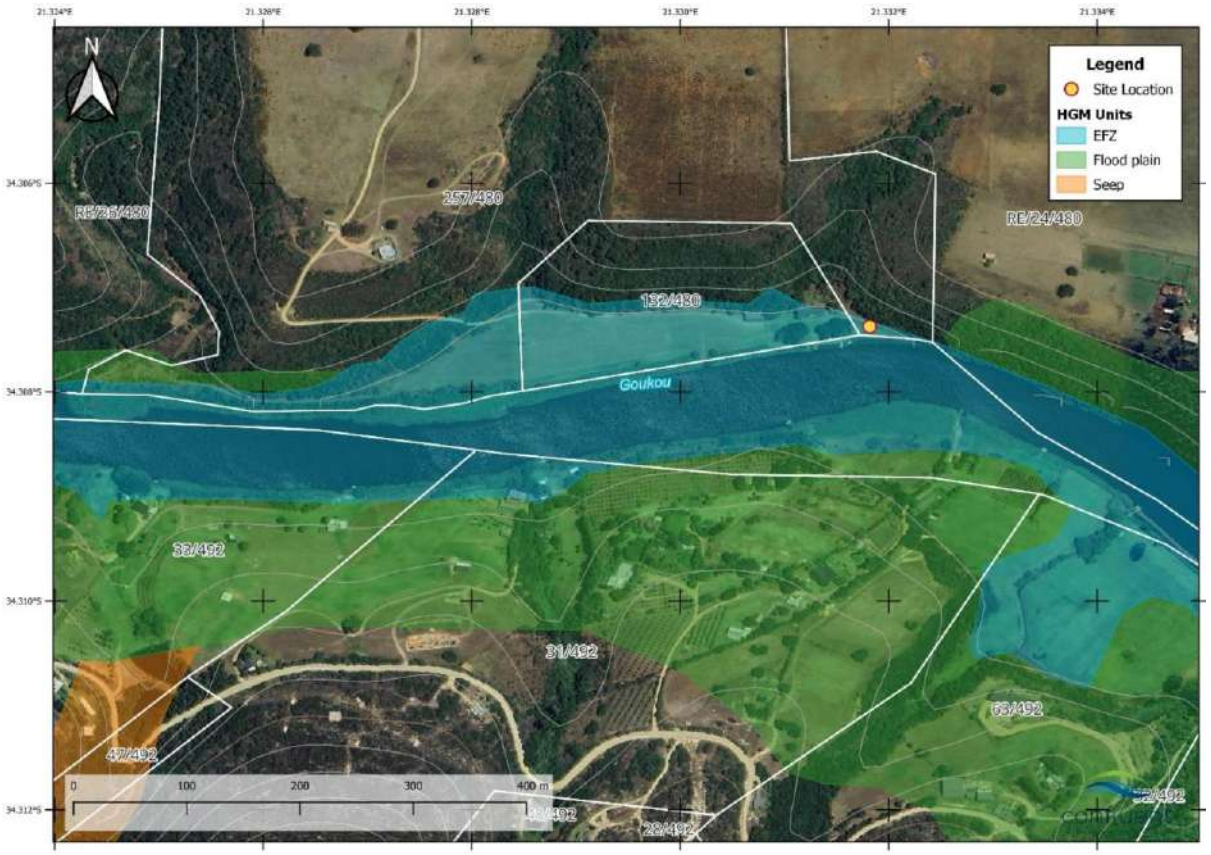

Figure 4: Mapped estuarine and wetland habitats.

5.1 Estuary Classification

The Goukou Estuary is classified as a Predominantly Open estuary which is characterised by the following (Van Niekerk et al., 2019c):

- They are open to the sea for more than 90 % of the time.
- They are linear systems in which mixing processes are dominated by both fluvial inputs and tidal action creating vertical and horizontal salinity gradients.

- They usually support wetlands, salt marshes, macrophyte beds and marine and estuarine fauna.
- They vary in size from as little as 10 ha to as much as 7 500 ha.

5.2 Conservation & Biodiversity Planning

5.2.1 National Freshwater Ecosystem Priority Areas

The property falls within sub-quaternary catchment (SQC) 9343, which, according to the National Freshwater Ecosystem Priority Atlas (NFEPA, Nel et al., 2011), has not been classified as a Freshwater Ecosystem Priority Area (FEPA) (Figure 5).

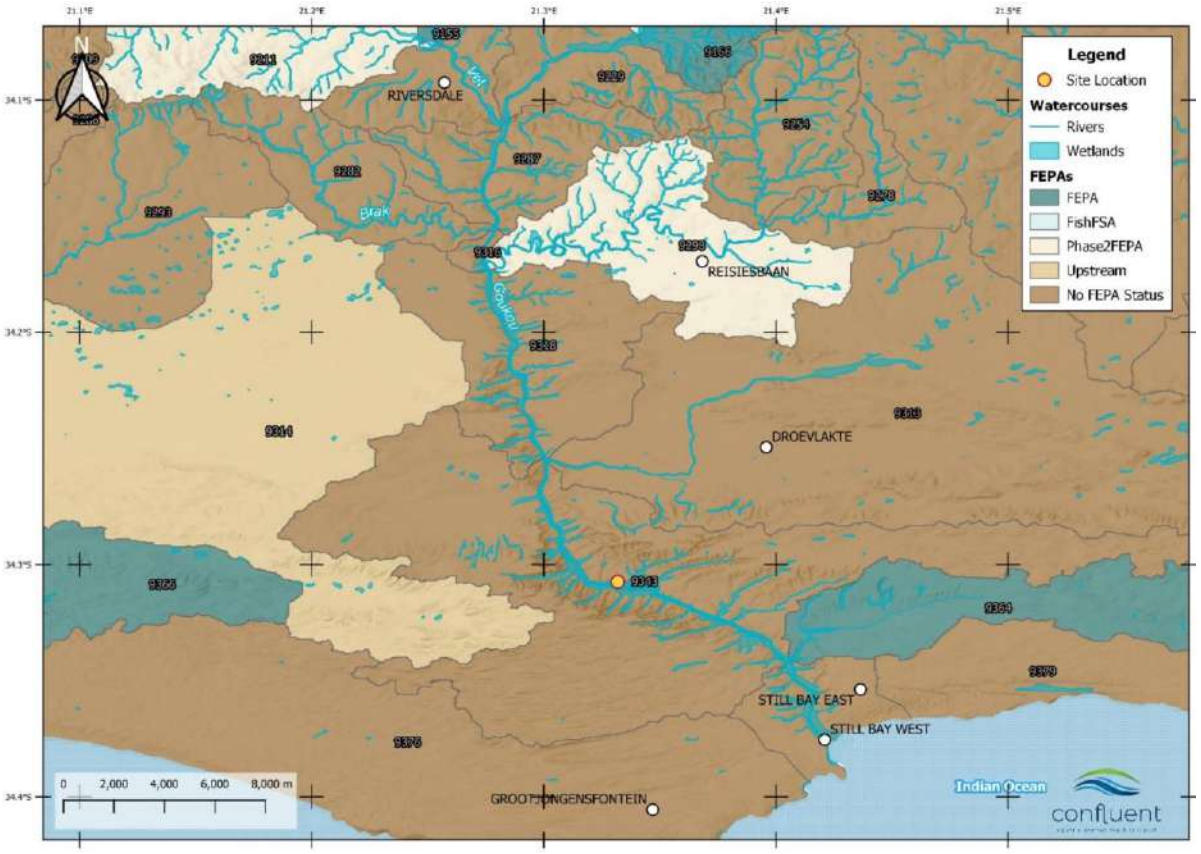

Figure 5: Map illustrating the loaction of the project area in relation to FEPA sub-quaternary catchments.

5.2.2 Western Cape Biodiversity Spatial Plan

The main purpose of a biodiversity spatial plan is to ensure that the most recent and best quality spatial biodiversity information can be accessed and used to inform land use and development planning, environmental assessments and authorisations, natural resource management and other multi-sectoral planning processes. The WCBSP plan achieves this by providing a map of terrestrial and freshwater areas that are important for conserving biodiversity pattern and ecological processes – these areas are called Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs).

According to the Western Cape Spatial Biodiversity Plan, the development footprint falls within an aquatic Critical Biodiversity Area 1 (CBA1) (Figure 6). Management objectives associated with CBAs are provided in Table 3.

Table 3: Definitions and management objectives of the Western Cape Biodiversity Spatial Plan.

Category	Description	Management Objective
CBA 1 (Estuaries)	Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.

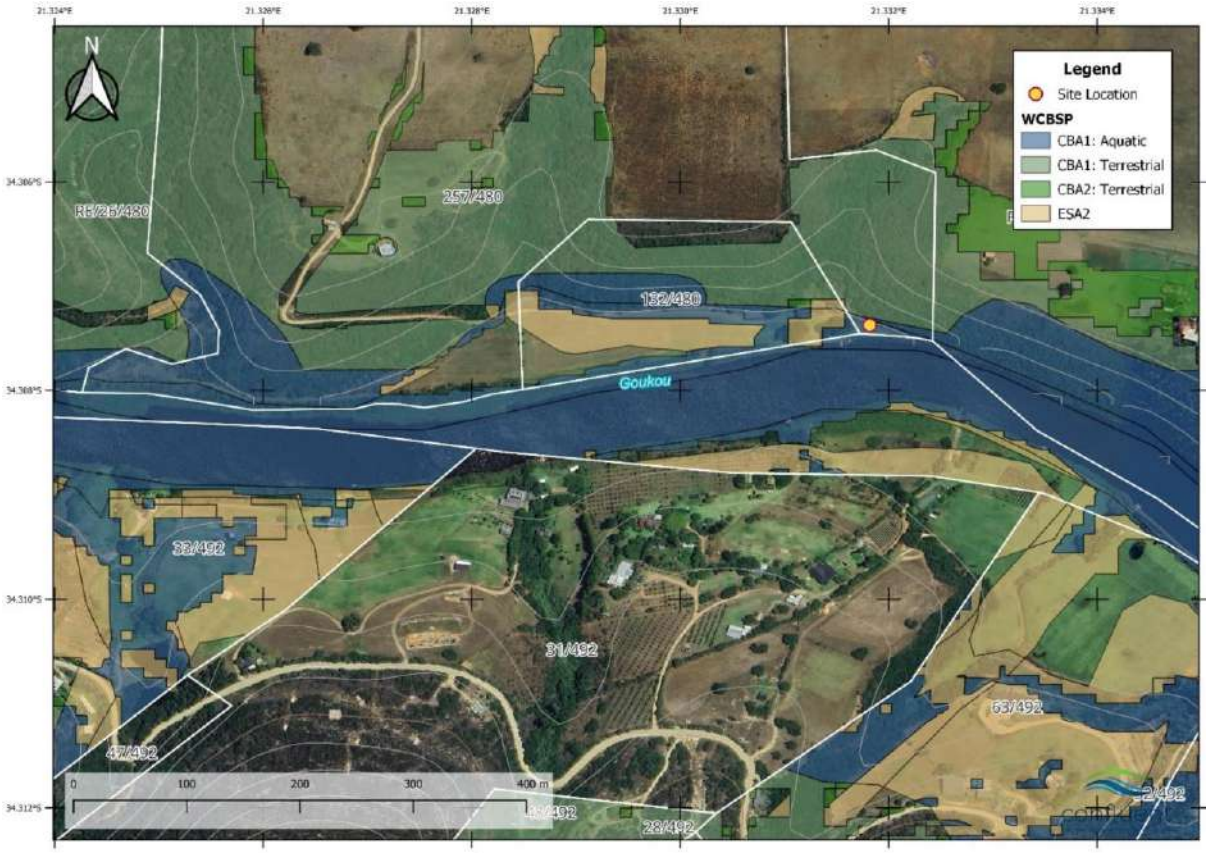

Figure 6: Map indicating the area of development in relation to the Western Cape Spatial Biodiversity Plan (WCBSP).

5.3 National Biodiversity Assessment

According to 2018 National Biodiversity Assessment (NBA) (Van Niekerk et al., 2019a), the PES of the Goukou Estuary is C (**Moderately Modified**), indicating that loss of natural habitat and biota has occurred but the ecosystem functions are essentially unchanged (According to Van Niekerk et al. (2019d) the ecosystem threat status of Warm Temperate Predominantly Open estuaries is **Vulnerable** and these systems are poorly protected in South Africa. The ecological importance is regarded as being **High** and has a **High** biodiversity priority rating (Van Niekerk et al., 2019e).

Table 4). Apart from modifications to hydrology (caused by high abstraction rates from the river for irrigation) modifications to microalgae and invertebrate assemblages are the most important drivers of change from the natural state. According to Van Niekerk et al. (2019d) the ecosystem threat status of Warm Temperate Predominantly Open estuaries is **Vulnerable** and these systems are poorly protected in South Africa. The ecological importance is regarded as being **High** and has a **High** biodiversity priority rating (Van Niekerk et al., 2019e).

Table 4: Summary of the Present Ecological Status (PES) and Ecological Importance of the Goukou River Estuary (Van Niekerk et al., 2019b).

Index	Category
Hydrology	*D*
Hydro-dynamics	*A*
Physical Habitat	*C*
Water Quality	*C*
Microalgae	*D*
Macrophytes	*C*
Invertebrates	*D*
Fish	*C*
Birds	*C*
Overall PES	**C**
Ecological Importance	**High**

5.4 Resource Quality Objectives

The classification of water resources and development of Resource Quality Objectives (RQOs) for the Breede-Gouritz Catchment Management Area was finalised in 2018. Quaternary catchment H90D, falls within the I18 Hessequa Integrated Unit of Analysis (IUA). The Water Resource Class for this IUA is III, sustainable minimal protection and high utilization. The Target Ecological Category (TEC) for the Goukou River has been set as C (Moderately Modified). Specific RQOs have been produced for the estuary in alignment with the TEC. These include specific limits at which indicators of water quantity and quality, habitat and biota must be maintained (Table 5). The scale of the proposed development is unlikely to affect the hydrodynamics, water quality, habitat or biotic RQOs for such a large system.

Table 5: Numeric RQOs for the Goukou Estuary

Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as close to natural as possible	
Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	River inflow: NOx-N not to exceed 100 µg/ℓ over 2 consecutive months, NH3-N not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average NOx-N not to exceed 100 µg/ℓ, no single measurement to exceed 150 µg/ℓ, average NH3-N not to exceed 20 µg/ℓ during survey, no single measurement to exceed 100 µg/ℓ
		DIP		River inflow: PO4-P not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average PO4-P not to exceed 20 µg/ℓ during survey, no single measurement to exceed 50 µg/ℓ
	Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Salinity should not exceed 0 at head of estuary, average salinity in Zone C < 20, Average salinity 11 km upstream from

Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
				mouth > 20 for no more than 3 months of the year, salinity <40 in saltmarsh sediments
	System variables	pH	System variables not to exceed TPCs for biota	6.0 < pH > 8.0 (black water system)
		Dissolved oxygen		Entire estuary and river inflow: DO >5 mg/ℓ
		Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
		Escherichia coli		≤500 E. coli/100 ml (90th percentile)
Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Estuary mouth permanently open
		Tidal variation	Flood regime is sufficient to maintain natural Bathymetry and sediment characteristics	Average tidal amplitude near the mouth during low flows (summer) must not change by >30% from established baseline.
	Sediment	Sediment characteristics, Channel shape/size	Flood regime to maintain natural bathymetry and the sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Median phytoplankton chlorophyll a (minimum 5 sites) not to exceed 3.5 µg/ℓ; prevent formation of localized phytoplankton blooms; maintain a high median intertidal benthic microalgal biomass; median intertidal benthic chlorophyll a (minimum 5 sites) not to exceed 42 mg/m^2; site specific chlorophyll a concentration not to exceed 20 µg/ℓ and cell density not to exceed 10000 cells/ℓ.
	Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the present area (2014) covered by the macrophyte habitats: Open surface water area: 206, Sand and mud banks: 35, Submerged macrophytes: 5, Salt marsh: 57, Reeds and sedges: 21; maintain pockets of reeds in lower and middle reaches (linked to freshwater seepage sites); maintain the reed and sedge stands in the upper reaches of the estuary; rehabilitate 20% of the floodplain habitat by removing agriculture and invasive plants; maintain the integrity of the riparian zone
	Invertebrates	Macrofauna Community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain rich populations of the mudprawn *Upogebia africana* on mudbanks in the middle estuary (Zones A and B); mudprawn density should not deviate from average baseline levels by more than 25% in each season; maintain rich invertebrate communities associated with the REI zone in the upper estuary (zooplankton and benthos); the dominant species in the zone (zooplankton and benthos) should not deviate from average baseline levels by more than 40% in each season
	Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species (; Category IIa obligate dependents should be well represented by large exploited species
	Birds	Avifauna Community composition,	Maintain composition, richness and abundance of different avifauna groups	The estuary should contain a diverse avifaunal community that includes representatives of all the original taxonomic groups (see 2015 EWR report).; tern roosts

Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
		abundance and richness		should be seen at the estuary on a regular basis; apart from gulls, terns and regionally increasing species such as Egyptian Goose, the estuary should generally support more than 200 birds; numbers of birds other than gulls, terns and regionally increasing species should not fall below 120 for three consecutive counts; numbers of waterbird species drop should not below 15 for 3 consecutive counts.

5.5 Goukou Estuary Management Plan (EMP)

Estuaries are recognised as particularly sensitive and dynamic ecosystems, and therefore require above-average care in the planning and control of activities related to their use and management. For this reason, the National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008, as amended by Act 36 of 2014) (ICMA), via the prescriptions of the South African National Estuarine Management Protocol (the Protocol), require Estuary Management Plans (EMPs) to be prepared for estuaries in order to create informed platforms for efficient and coordinated estuarine management. The Goukou EMP identified five key management priorities for which management objectives were defined:

- Water quantity and quality;
- Recreational activities;
- Living resource management;
- Land use and development (including mitigation for environmental hazards); and
- Funding and educational awareness

The most relevant management actions that are aligned to these objectives and that are applicable to the proposed development include the following:

- *Action 3.1: Ensure appropriate development in and around the Goukou River estuary through environmental authorization and implementation of IDP/SDF - considering ecosystem services and sense of place*. Key indicators include:
    - Spatial zonation and prescription of the Goukou River EMP captured in the IDP and SDF.
    - Goukou River Environmental Advisory Forum (EAF) registered as an Interested & Affected Party for all development and rezoning applications.
    - Database of all new developments and comment made by Goukou River EAF through EIA process.
    - Developments tabled at EAF meetings.
    - Construction sites monitored for compliance with environmental authorisation and approved environmental management plan.
- *Action 3.2: Develop appropriate setback lines for development that considers major floods and sea level rise for inclusion into the IDP/SDF.* Key indicators include:
    - Coastal management lines developed and gazetted.
    - Coastal management lines incorporated into IDP & SDF.
    - Development excluded from sensitive areas, including EFZ.

- Applicable building controls applied to high risk areas.

Given these actions it is important that the Goukou River EAF be included as an I&AP for this development. Furthermore, construction of the dwelling within the EFZ is not aligned with Action 3.2

6. SITE ASSESSMENT

The site was assessed on the 26th of August 2024. The footprint of the dwelling covers a mowed lawn area (comprising predominantly of *Cenchrus clandestinus*) that slopes gently down towards the Goukou River (Figure 7). The development area therefore occurs within a transformed area, and, while it is in close proximity to the Goukou River, is not representative of natural estuarine habitat as indicated by the WCBSP and the national vegetation map. The river is lined by a narrow zone (± 2m) of estuarine vegetation that includes *Phragmites australis, Cyperus textilis* and *Juncus krausii*. While the property is located approximately 12 km upstream of the river mouth, the river is clearly estuarine in nature and experiences daily tidal fluctuations. The geomorphological zonation of the Goukou River at this location is E (Lower Foothills) and is characterised by a broad (up to 80 m wide), deep, low gradient channel with limited instream habitat heterogeneity.

The property has remained relatively unchanged over recent past. The proposed development area has been clear of riparian vegetation since at least 2003, with the only major change being the expansion of the residential dwelling and the construction of a garage and store on Portion 132 of Farm 480. Otherwise, the extent of cleared lands and the width of fringing wetland vegetation along the banks of the Goukou River remains the same (Figure 8).

While the development will not result in any modification to functional estuarine habitat, it does occur in very close proximity to the river and according to WML Coast (2023) is also located within the 1:100 year floodline. The dwelling will therefore be susceptible to periodic flood events which could negatively affect estuarine habitat if not planned and designed appropriately. For this reason, the sensitivity of the site is considered to be **Very High**.

Figure 7: View of the Goukou River (A); view of the proposed development area from the north (B); and from the east (C); narrow fringe of estuarine vegetation comprised mainly of Phragmites australis along the Goukou River (D); Cyperus textilis (E); and Juncus kraussi (F).

Figure 8: Google Earth satellite image from 2004 (left) and 2023 (right). The red elipse indicates the position of the proposed dwelling.

7. IMPACTS ASSOCIATED WITH THE DEVELOPMENT

The site development plan (SDP) is shown in (Figure 9) and includes a dwelling, parking bay, conservancy tank and rainwater tank. The conservancy tank will be located outside of the 1:100-year floodline. The proposed development will not result in any additional construction of infrastructure within the dynamic, tidal extent of the estuary and construction and operational phase activities will not impact on the base flows or hydrological regime (i.e. timing and magnitude of surface flows) of the estuary and are of such a scale that will in no way impact on the frequency of estuary mouth closure.

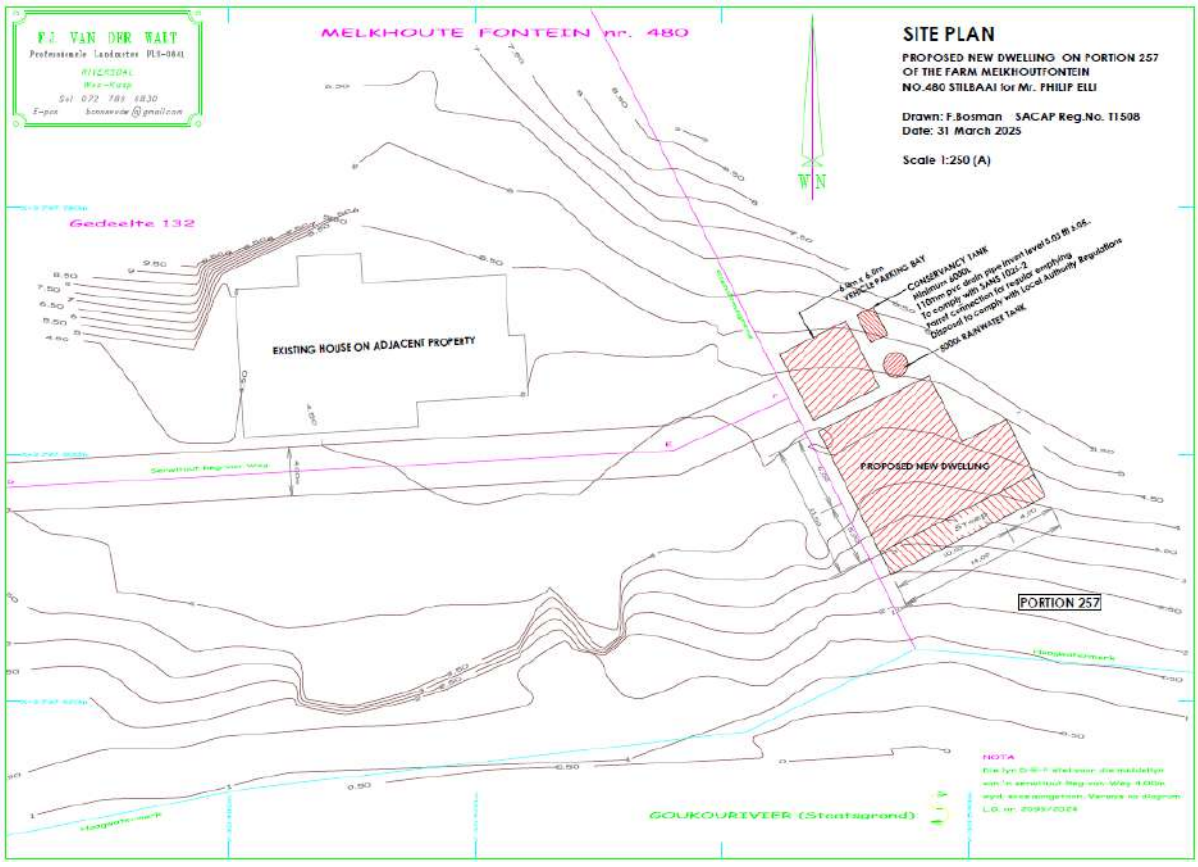

Figure 9: Proposed SDP

A floodline assessment (WML Coast, 2023) concluded that the development footprint is located within the 1:100-year floodline (Figure 11) and made the following recommendations:

- The dwelling should be built on piled supports (pillars);
- The floor level of the dwelling should be above the 1 in 100-year flood level to limit flood risk;
    - Setting out point “HUIS5” is situated on an elevation of 5.25 m MSL, if this level is used as the house floor level, the house will be elevated above the present 1 in 100-year flood level.
    - To account for the future 1 in 100-year flood event the floor level should be above 5.5 m MSL, which is easily achievable within the current development footprint.
- Riverbank scour could result in undermining of the foundations of the house, the design of the house should consider potential scour of the riverbank due to flood events, however;
    - Model predicted scour velocities for the 1 in 100-year flood event at the lowest elevation of the dwelling are in the order of 0.7 m/s.
    - This flow velocity is mild and it is not expected that the riverbank, at the house footprint will be scoured significantly.

Two alternatives were considered for the impact assessment and are described as follows:

- Alternative A follows the design recommendations of the floodline assessment described above and is constructed on top of supporting pillars according to the SDP in Figure 9 and Figure 10.
- Alternative B is constructed by cutting into the slope to create a level area for foundations.

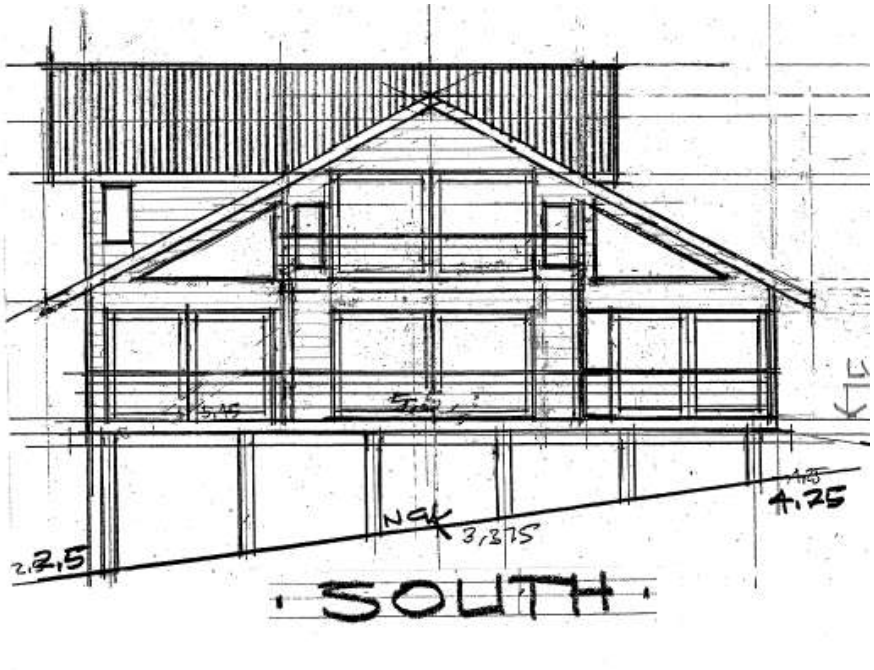

Figure 10: South facing section drawing of the proposed dwelling, supported on pillars (Alternative A).

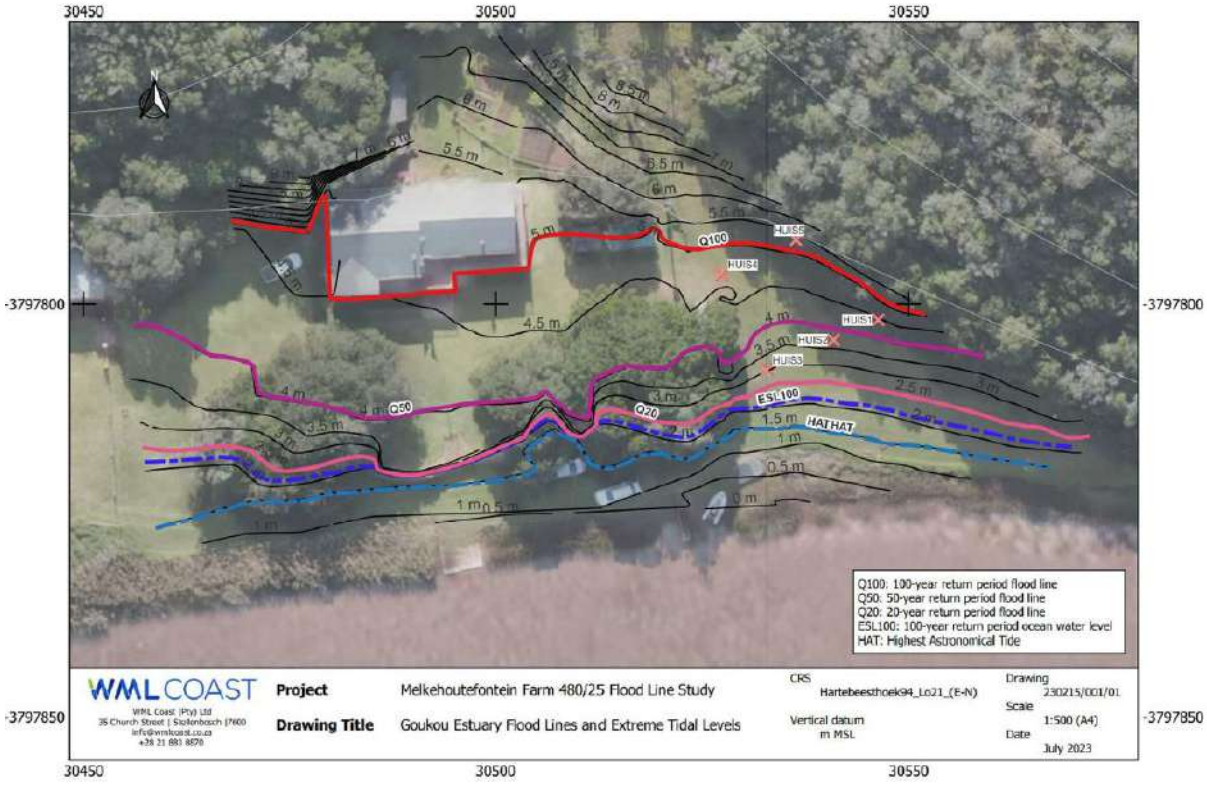

Figure 11: Goukou Estuary flood lines and extreme tidal levels (Present Case) as determined by WML Coast (Pty) Ltd (2023). Red crosses align to the perimeter of the proposed dwelling (Huis 3 is at the lowest elevation).

7.1 Construction Phase Impacts

Impact 1: Transformation of habitat within the Estuarine Functional Zone of the Goukou River estuary.

Construction of the residential dwelling will occur within a transformed section of the Goukou EFZ which offers limited habitat options for estuarine biota. No part of the development will occur within the river and no aquatic estuarine biota are expected to be adversely impacted. It is therefore unlikely that this development will significantly affect the ecological or functional attributes of the broader estuarine system.

	Alternative A		Alternative B		No-Go
	Without Mitigation	**With Mitigation**	**Without Mitigation**	**With Mitigation**	
Intensity	Negligible	Negligible	Negligible	Negligible	Negligible
Duration	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Extent	Very limited	Very limited	Very limited	Very limited	Very limited
Probability	Unlikely	Highly unlikely	Unlikely	Highly unlikely	Highly unlikely
Significance	**-24: Negligible**	**-8: Negligible**	**-24: Negligible**	**-8: Negligible**	**-8: Negligible**
Reversibility	High	High	High	High	High
Irreplaceability	Low	Low	Low	Low	Low
Confidence	High	High	High	High	High

Mitigation:

- Working areas must be clearly demarcated. Estuarine habitat outside of the working area must be designated as No-Go and no disturbance (i.e. trampling, smothering etc.) of estuarine habitat

in this area is permitted. A 10 m buffer (measured from the edge of the bankfull channel) must be implemented and be clearly demarcated as a No-Go area (see Figure 12).

- No excavated material must be dumped or stockpiled in the No-Go area.
- A comprehensive method statement must be drawn up which provides a clear step by step plan of the sequence of construction activities that will be undertaken. The method statement must aim to minimise the length of time that cleared areas remain exposed and vulnerable to erosion.

Figure 12: Map indicating No-Go area and recommended access route (green arrow) to the development area in Portion 257 of Farm 480.

Impact 2: Erosion and sedimentation caused by clearance of vegetation during construction

Clearing of vegetation will expose soil which may be vulnerable to erosion resulting in sediment input into the estuary and smothering and die-back of estuarine vegetation.

	Alternative A		Alternative B		No-Go
	Without Mitigation	**With Mitigation**	**Without Mitigation**	**With Mitigation**	
Intensity	Very low	Negligible	Moderate	Low	No Impact
Duration	Brief	Brief	Brief	Brief	
Extent	Very limited	Very limited	Very limited	Very limited	
Probability	Probably	Unlikely	Likely	Probably	
Significance	**-20: Negligible**	**-12: Negligible**	**-35: Negligible**	**-24: Negligible**	
Reversibility	High	High	High	High	
Irreplaceability	Low	Low	Low	Low	

Confidence	High	High	High	High	

Mitigation:

- Working areas must be clearly demarcated to avoid unnecessary clearing of vegetation. Estuarine habitat outside of the working area must be designated as No-Go and no disturbance (i.e. trampling, smothering etc.) of estuarine habitat in this area is permitted.
- For Alternative A, vegetation clearance must be limited to the proposed location of supporting piles
- Construction of the dwelling must be planned for the dry season (May to July).
- A comprehensive method statement must be drawn up which provides a clear step by step plan of the sequence of construction activities that will be undertaken. The method statement must aim to minimise the length of time that cleared areas remain exposed and vulnerable to erosion.
- Silt fencing must be placed along the lower southern boundary of the development footprint to prevent sediment input in the event of a rainfall event.
- Any disturbed, exposed areas outside of the development footprint must be reprofiled to natural contours and re-vegetated.

Impact 3: Disturbance of estuarine and coastal habitat caused by general construction activities.

The proposed location of the dwelling is located immediately adjacent to sensitive estuarine and habitat. Failure to adequately manage activities on the construction site (e.g. access to construction areas, location and management of laydown and stockpile areas, waste management etc.) could lead to physical disturbance, solid waste pollution (e.g. general litter, building rubble, construction materials, cement etc.) and chemical pollution (e.g. hydrocarbons from vehicles and machinery and wastewater from cement mixing and temporary ablution facilities) of estuarine habitat.

	Alternative A		**Alternative B**		**No-Go**
	Without Mitigation	**With Mitigation**	**Without Mitigation**	**With Mitigation**	
Intensity	Low	Negligible	Low	Negligible	No Impact
Duration	Brief	Brief	Brief	Brief	
Extent	Very limited	Very limited	Very limited	Very limited	
Probability	Likely	Unlikely	Likely	Unlikely	
Significance	**-30: Negligible**	**-12: Negligible**	**-30: Negligible**	**-12: Negligible**	
Reversibility	High	High	High	High	
Irreplaceability	Low	Low	Low	Low	
Confidence	High	High	High	High	

Mitigation:

- Access to the construction area through the No-Go area is not permitted. Access must be restricted to the strip of transformed EFZ immediately south of the main residential dwelling on Portion 132 of Farm 480.
- No construction materials may be stored or stockpiled outside of the area delineated by the rock revetment or in any part of the undeveloped areas of the EFZ.
- Rubble and waste materials must be managed on site and must not be dumped or stockpiled within the No-Go area.
- Chemical toilets should be provided on-site at 1 toilet per 10 persons.

- Waste from chemical toilets must be disposed of regularly (at least once a week) in a responsible manner by a registered waste contractor.

7.2 Operational Phase Impacts

Impact 4: Impedance and diversion of flood flows.

Alternative B will be susceptible to flood damage and present an obstruction to flood events which could result in localised diversion/impedance of flood flows which could cause scouring and erosion of the bank. Alternative A will allow flood water to pass beneath the building and will minimise the risk of flood damage, scouring and erosion.

	Alternative A		Alternative B		No-Go
	Without Mitigation	**With Mitigation**	**Without Mitigation**	**With Mitigation**	
Intensity	Low	Low	Moderate	Moderate	No Impact
Duration	Ongoing	Ongoing	Ongoing	Ongoing	
Extent	Limited	Limited	Limited	Limited	
Probability	Unlikely	Unlikely	Likely	Likely	
Significance	**-33: Negligible**	**-33: Negligible**	**-55: Minor**	**-55: Minor**	
Reversibility	High	High	High	High	
Irreplaceability	Low	Low	Low	Low	
Confidence	High	High	High	High	

Mitigation:

- No additional mitigation is applicable. Alternative A represents a lower impact due to the design.

8. WATER USE AUTHORISATION

According to the definition provided in Section 1.2, an estuary is not considered a watercourse. Section 21 (c) and (i) water uses are therefore not applicable to the proposed development and a water use authorisation is therefore not required.

9. CONCLUSION

While the proposed development does occur within the EFZ of the Goukou Estuary and is therefore contrary to management objectives aligned to the WCBSP and the Goukou EMP, the development footprint has been historically transformed and, assuming the implementation of recommended mitigation measures, its construction will not result in any modification to functional estuarine habitat. The dwelling is located in the 1:100-year floodline and there is a risk of flooding and scouring of the banks during the operational phase. For this reason, the authorisation of this development should only be considered subject to the implementation of the recommendations made by the floodline assessment conducted by WML Coast (2023). The SDP associated with Alternative A is considered acceptable from an aquatic biodiversity perspective.

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ANNEXURE 14: AGRICULTURAL ASSESSMENT

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South Africa

SITE SENSITIVITY VERIFICATION
AND
AGRICULTURAL COMPLIANCE STATEMENT
FOR A PRIMARY DWELLING ON FARM NUMBER 257/480
NEAR STILL BAY, WESTERN CAPE

Report by
Johann Lanz

8 May 2025

Table of Contents

EXECUTIVE SUMMARY

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to a negligible loss of future agricultural production potential.

The screening tool classifies the assessed area as being high agricultural sensitivity. This assessment disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because of its assessed lack of cropping potential. Cropping potential is predominantly limited by the location of the site, isolated from all other agricultural production land, and by the very small size of the site.

An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of a development. Due to the facts that the proposed development will exclude only a very small area of land, which has low agricultural potential, the overall, negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved.

1 INTRODUCTION

Environmental authorisation is being sought for a primary dwelling (see location in Figure 1). In terms of the National Environmental Management Act (Act No 107 of 1998 - NEMA), an application for environmental authorisation requires an agricultural assessment. In this case, because of the verified low agricultural sensitivity of the footprint (see Section 8), the level of agricultural assessment required by NEMA's agricultural protocol is an Agricultural Compliance Statement.

Figure 1. *Locality map of the development (within red circle) northwest of Still Bay*

The purpose of an agricultural assessment is to answer the question:

> Will the proposed development cause a significant reduction in future agricultural production potential, and most importantly, will it result in a loss of arable land?

Section 9 of this report unpacks this question, particularly with respect to what constitutes a significant reduction. To answer the above question, it is necessary to determine the existing agricultural production potential of the land that will be impacted, and specifically whether it is viable arable land or not. This is done in Section 7 of this report. Sections 7 and 9 of this report directly address the above question and therefore contain the essence and most important part of the agricultural impact assessment.

2 PROJECT DESCRIPTION

The proposed development is of a primary dwelling located on portion 257 of the farm Melkhoutefontein, nr. 480 near Still Bay, Western Cape Province.

3 TERMS OF REFERENCE

The terms of reference for this study are to fulfill the requirements of the *Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources*, gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) and (H) and 44 of NEMA, 1998).

The terms of reference for an Agricultural Compliance Statement, as copied exactly from the protocol, are listed in the table below, and included, is the place in this report where each is addressed.

Number	Requirement	Where it is addressed
3.	Agricultural Compliance Statement	
3.1.	The compliance statement must be prepared by a soil scientist or agricultural specialist registered with the SACNASP.	Appendix 3
3.2.	The compliance statement must:	
3.2.1.	be applicable to the preferred site and proposed development footprint;	Figure 2
3.2.2.	confirm that the site is of “low” or “medium” sensitivity for agriculture; and	Section 8
3.2.3.	indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site.	Section 9.1
3.3.	The compliance statement must contain, as a minimum, the following information:	
3.3.1.	contact details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the assessment including a curriculum vitae;	Appendix 1
3.3.2.	a signed statement of independence;	Appendix 2
3.3.3.	a map showing the proposed development footprint (including supporting infrastructure) with a 50m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool;	Figure 6
3.3.4.	confirmation from the specialist that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities;	Section 11.1
3.3.5.	a substantiated statement from the soil scientist or agricultural specialist on the acceptability, or not, of the proposed development	Section 12

	and a recommendation on the approval, or not, of the proposed development;	
3.3.6.	any conditions to which the statement is subjected;	Section 12
3.3.7.	in the case of a linear activity, confirmation from the agricultural specialist or soil scientist, that in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase;	Section 11.2
3.3.8.	where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr; and	None required
3.3.9.	a description of the assumptions made as well as any uncertainties or gaps in knowledge or data.	Section 5
3.4.	A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.	

4 METHODOLOGY OF STUDY

The assessment was based on an on-site investigation conducted on 10 February 2025. It was also informed by existing climate, soil, and agricultural potential data for the site (see references). The aim of the on-site assessment was to verify current cropping status, agricultural land use, and agricultural conditions across the site in order to assess and determine the cropping potential across the site. An assessment of soils and long-term agricultural potential is in no way affected by the season in which the assessment is made, and therefore the date on which this assessment was done has no bearing on its results. The level of agricultural assessment is considered entirely adequate for an understanding of on-site agricultural production potential for the purposes of this assessment.

5 ASSUMPTIONS, UNCERTAINTIES OR GAPS IN KNOWLEDGE OR DATA

There are no specific assumptions, uncertainties or gaps in knowledge or data that affect the findings of this study.

6 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

This section identifies all applicable agricultural legislation and permit requirements over and above what is required in terms of NEMA. A primary residence on a farm should not require any agricultural approval.

7 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

The purpose of this section is firstly to present the baseline information that controls the agricultural

production potential of the site and then, most importantly, to assess that potential. Agricultural production potential, and particularly cropping potential, is one of four factors that determines the significance of an agricultural impact, together with magnitude of impact, size of footprint, and duration of impact. (see Section 9). Cropping potential also directly determines the true agricultural sensitivity of the land and therefore informs the site sensitivity verification.

All the important parameters that control the agricultural production potential of the site are given in Table 1. Soil data are given in Appendix 4. A map of the development site is given in Figure 2 and photographs of site conditions are shown in Figures 2 to 5.

Table 1: Parameters that control and/or describe the agricultural production potential of the site.

	Parameter	**Value**
Climate	Köppen-Geiger climate description (Beck *et al*, 2018)	Arid, steppe, cold
	Mean Annual Rainfall (mm) (Schulze, 2009)	480
	Reference Crop Evaporation Annual Total (mm) (Schulze, 2009)	1160
	Climate capability classification (out of 9) (DAFF, 2017)	6 (moderate-high)
Terrain	Terrain type	River flood plain
	Terrain morphological unit	Valley bottom
	Slope gradients (%)	0 to 7
	Altitude (m)	8
	Terrain capability classification (out of 9) (DAFF, 2017)	5 (moderate)
Soil	Geology (DAFF, 2002)	Calcareous sandstone of the Bredasdorp Group overlying shale of the Bokkeveld Group.
	Land type (DAFF, 2002)	Fc16, but site soils are not representative of the land type
	Description of the soils	Deep sandy soils formed in alluvial deposits
	Dominant soil forms	Dundee
	Soil capability classification (out of 9) (DAFF, 2017)	3 (low)
	Soil limitations	Limited water holding capacity
Land use	Agricultural land use in the surrounding area	None
	Agricultural land use on the site	None

	Parameter	Value
General	Long-term grazing capacity (ha/LSU) (DAFF, 2018)	15
	Land capability classification (out of 15) (DAFF, 2017)	5 (low)
	Within Protected Agricultural Area (DALRRD, 2020)	No

Figure 2. *Proposed site development map (2025)*

Figure 3. *Typical conditions on the site of the proposed main dwelling*

Figure 4. *Typical conditions on the site of the proposed main dwelling*

Figure 5. *Typical site conditions surrounding the proposed main dwelling*

7.1 Assessment of the agricultural production potential

This assessment of the agricultural production potential of the site is based on an integration of the different parameters in Table 1 above. Although there are potential climate, terrain, and soil constraints on the site's agricultural production potential, its potential to practically deliver agricultural produce is primarily constrained by other factors. Cropping potential is predominantly limited by the location of the site, isolated from all other agricultural production land, and by the very small size of the site. It is a totally impractical piece of land to farm and is only suitable for holiday type of accommodation. For these reasons, the site will never be viably utilised for agricultural production and its potential is therefore assessed here as very low.

8 SITE SENSITIVITY VERIFICATION

A specialist agricultural assessment is required to include a verification of the agricultural sensitivity of the development site as per the sensitivity categories used by the web-based environmental screening tool of the Department of Forestry, Fisheries and the Environment (DFFE). The screening tool's classification of sensitivity is merely an initial indication of what the sensitivity of a piece of

land might be, as indicated by the only data that is available. What the screening tool attempts to indicate is whether the land is suitable for crop production (high and very high sensitivity) or unsuitable for crop production (low to medium sensitivity). To do this, the screening tool uses three independent criteria, from three independent data sets, which are all indicators of suitability for crop production but are limited and were not designed for this purpose. The three criteria are:

1. Whether the land is classified as cropland or not on the field crop boundary data set (Crop Estimates Consortium, 2019). All classified cropland is, by definition, either high or very high sensitivity.
2. Its land capability rating as per the Department of Agriculture's updated and refined, country-wide land capability mapping (DAFF, 2017). Land capability is defined as the combination of soil, climate, and terrain suitability factors for supporting rain-fed agricultural production. The direct relationship between land capability rating, agricultural sensitivity, and rain-fed cropping suitability is summarised by this author in Table 2.
3. Whether the land is classified as a protected agricultural area (PAA) or not (DALRRD, 2020). All classified PAAs are, by definition, either high or very high sensitivity.

The limitations for determining cropping suitability based on these data are as follows:

1. The field crop boundary data set used by the screening tool is very outdated
2. Land capability mapping is fairly coarse, modelled data which is not always accurate at site scale.
3. PAAs are demarcated broadly, not at a fine scale, and there is therefore much variation of cropping suitability within a PAA. All land within these demarcated areas is not necessarily of sufficient agricultural potential to be suitable for crop production, due to finer scale terrain, soil, and other constraints.

These three inputs operate independently, and the screening tool's agricultural sensitivity is determined by whichever of these gives the highest sensitivity rating. The agricultural sensitivity of the site, as classified by the screening tool, is shown in Figure 6.

The true agricultural sensitivity of any land is equivalent to its actual suitability for crop production on the ground, rather than being determined by a parameter that serves as a proxy for crop suitability in a dataset. The land's suitability for cropping directly determines how important it is to conserve that land as agricultural production land. To determine suitability for crop production, and hence sensitivity, requires a site-specific assessment, as has been conducted in this assessment.

Table 2: Relationship between land capability, agricultural sensitivity, and rain-fed cropping suitability.

Land capability value	Agricultural sensitivity	Rain-fed cropping suitability	
		Summer rainfall areas	Winter rainfall areas
1 - 5	Low	Unsuitable	Unsuitable
6	Medium		
7			Suitable
8	High	Suitable	
9 - 10			
11 - 15	Very High		

Figure 6. *The assessed area (blue outline) overlaid on agricultural sensitivity, as given by the screening tool (green = low; yellow = medium; red = high; dark red = very high).*

Despite the detail in this section above, the determinants of agricultural sensitivity are actually very straight forward and may be summed up as follows. If land is suitable for viable crop production - that is if it has the capability to deliver an above break-even crop yield on a sustainable basis - then it is of high or very high agricultural sensitivity. If it has limitations that prevent it from being able to deliver an above break-even crop yield on a sustainable basis, then it is of low agricultural sensitivity.

The screening tool classifies the assessed site as high agricultural sensitivity. The high sensitivity classification by the screening tool is due to the land being classified as cropland. However, as shown in Section 7, the site is not at all suitable for viable crop production and its true sensitivity, as

assessed on the ground, is therefore low. This assessment therefore disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because of its assessed cropping potential.

9 ASSESSMENT OF THE AGRICULTURAL IMPACT

9.1 Impact identification and assessment

It should be noted that an Agricultural Compliance Statement is not required to formally rate agricultural impacts by way of impact assessment tables.

An agricultural impact must by definition cause a change to the future agricultural production potential of land. If there is no change, there is no impact. Because the site has no current agricultural production potential due to the limitations of its location, the occupation of the site by the development cannot change its agricultural production potential. The development will therefore have zero agricultural impact and is therefore assessed as acceptable.

9.2 Cumulative impact assessment

Specialist assessments for environmental authorisation are required to include an assessment of cumulative impacts. The cumulative impact of a development is the impact that development will have when its impact is added to the incremental impacts of other past, present, or reasonably foreseeable future activities that will affect the same environment. The potential cumulative agricultural impact of importance is a regional loss of future agricultural production potential.

Due to its negligible agricultural impact, the assessed development will not contribute to the cumulative impact. The cumulative agricultural impact of the proposed development is therefore assessed here as being of low significance and therefore as acceptable. The development will not have an unacceptable negative impact on the agricultural production capability of the area, and it is therefore recommended, from a cumulative agricultural impact perspective, that the development be approved.

9.3 Assessment of alternatives

Specialist assessments for environmental authorisation are required to include a comparative assessment of alternatives, including the no-go alternative. Because the site is not viable agricultural production land, the exact positions of all proposed infrastructure within it will make absolutely no difference to agricultural impacts. Any alternative layouts within the same site will have equal agricultural impact and are assessed as equally acceptable.

The no-go alternative considers impacts that will occur to the agricultural environment in the absence of the proposed development. There are no agricultural impacts of the no-go alternative, but this is not significantly different from the very low impact of the development, and so from an agricultural impact perspective, there is no preferred alternative between the no-go and the development.

10 MITIGATION

No mitigation measures are required for the protection of agricultural production potential on the site because the site is not and will not be utilised as agricultural production land.

11 ADDITIONAL ASPECTS REQUIRED IN AN AGRICULTURAL ASSESSMENT

11.1 Micro-siting

The agricultural protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. Because of the uniformly low agricultural potential of the environment, with no cropping, micro-siting will make no material difference to agricultural impacts and disturbance.

11.2 Confirmation of linear activity exclusion

If linear infrastructure has been given exclusion from complying with certain requirements of the agricultural protocol because of its linear nature, the protocol requires confirmation that the land impacted by that linear infrastructure can be returned to the current state within two years of completion of the construction phase. No such exclusion applies to this project.

12 CONCLUSION: AGRICULTURAL COMPLIANCE STATEMENT

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to a negligible loss of future agricultural production potential.

The screening tool classifies the assessed area as being high agricultural sensitivity. This assessment disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because of its assessed lack of cropping potential. Cropping potential is predominantly limited by the location of the site, isolated from all other agricultural production land, and by the very small size of the site.

An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of a development. Due to the

facts that the proposed development will exclude only a very small area of land, which has low agricultural potential, the overall, negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved. The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions.

13 REFERENCES

Beck, H.E., N.E. Zimmermann, T.R. McVicar, N. Vergopolan, A. Berg, E.F. Wood. 2018. Present and future Köppen-Geiger climate classification maps at 1-km resolution, Nature Scientific Data. Available at: https://gis.elsenburg.com/apps/cfm/.

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Department of Agriculture Forestry and Fisheries (DAFF). 2018. Long-term grazing capacity map for South Africa developed in line with the provisions of Regulation 10 of the Conservation of Agricultural Resources Act, Act no 43 of 1983 (CARA), available on Cape Farm Mapper. Available at: https://gis.elsenburg.com/apps/cfm/

Department of Agriculture, Forestry and Fisheries (DAFF). 2017. National land capability evaluation raster data layer, 2017. Pretoria.

Department of Agriculture, Forestry and Fisheries (DAFF). 2002. National land type inventories data set. Pretoria.

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Schulze, R.E. 2009. South African Atlas of Agrohydrology and Climatology, available on Cape Farm Mapper. Available at: https://gis.elsenburg.com/apps/cfm/

Soil Classification Working Group. 2018. Soil Classification: A Natural and Anthropogenic System for South Africa. ARC-Institute for Soil, Climate and Water, Pretoria.

APPENDIX 1: SPECIALIST CURRICULUM VITAE

Johann Lanz
Curriculum Vitae

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I have been registered as a Professional Natural Scientist (Pri.Sci.Nat.) in the field of soil science since 2012 (registration number 400268/12) and am a member of the Soil Science Society of South Africa.

Soil & Agricultural Consulting **Self employed** **2002 - present**

Within the 23 years of running my soil and agricultural consulting business, I have completed more than 1000 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, electrical grid infrastructure, urban, and agricultural developments. I was the appointed agricultural specialist for the nation-wide SEAs for wind and solar PV developments, electrical grid infrastructure, and gas pipelines. My regular clients include: Zutari; CSIR; SiVEST; SLR; WSP; SRK; Environamics; Royal Haskoning DHV; ABO; Enertrag; WKN-Windcurrent; JG Afrika; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Agricultural clients for soil resource evaluations and mapping include Cederberg Wines; Western Cape Department of Agriculture; Vogelfontein Citrus; De Grendel Estate; Zewenwacht Wine Estate; and Goedgedacht Olives.In 2018 I completed a ground-breaking case study that measured the agricultural impact of existing wind farms in the Eastern Cape.

Soil Science Consultant **Agricultural Consultors International (Tinie du Preez)** **1998 - 2001**

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist **De Beers Namaqualand Mines** **July 1997 - Jan 1998**

Completed a contract to advise soil rehabilitation and re-vegetation of mined areas.

Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). *Sustainable Stellenbosch: opening dialogues*. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. *South African Fruit Journal*, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. *South African Fruit Journal*, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine.*

I am a reviewing scientist for the *South African Journal of Plant and Soil*.

forestry, fisheries & the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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APPENDIX 2: SPECIALIST DECLARATION FORM AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE: AGRICULTURAL COMPLIANCE STATEMENT FOR A PRIMARY DWELLING ON FARM NUMBER 257/480 NEAR STILL BAY, WESTERN CAPE

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with '*the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020)'*, where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Agricultural Assessment
Specialist Company Name	SoilZA – sole proprietor
Specialist Name	Johann Lanz
Specialist Identity Number	6607045174089
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)
Professional affiliation/registration:	Registered Professional Natural Scientist (Pr.Sci.Nat.) Reg. no. 400268/12 Member of the Soil Science Society of South Africa
Physical address:	1a Wolfe Street, Wynberg, Cape Town, 7800
Postal address:	1a Wolfe Street, Wynberg, Cape Town, 7800
Telephone	Not applicable
Cell phone	+27 82 927 9018
E-mail	johann@soilza.co.za

2. DECLARATION BY THE SPECIALIST

I, **Johann Lanz** declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”) and in Government Notice No. 1150 of 30 October 2020.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing –
  - any decision to be taken with respect to the application by the competent authority; and;
  - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Signature of the Specialist

SoilZA (sole proprietor)

Name of Company:

7 April 2025

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, **Johann Lanz**, swear under oath that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

SoilZA – sole proprietor

Name of Company

7 April 2025

Date

Signature of the Commissioner of Oaths

07/04/2025

Date

I certify that the DEPONENT has acknowledged that he/she knows and understands the content of this affidavit; that he/she does not have any objection to taking the oath, and that he/she considers it to be binding on his/ her conscience, and which was sworn to and signed before me at CONSTANTIA on the 7th day of APRIL 2025 and that the administering oath complied with the regulations contained in Government Gazette No R1258 of 21 July 1972, as amended.

COLIN POULTNEY
COMMISSIONER OF OATHS
BY APPOINTMENT - REPUBLIC OF SA
POSTNET CONSTANTIA, SHOP 6, OLD VILLAGE S/C,
MAIN ROAD, CONSTANTIA, 7806
TEL: 021 794 0447

APPENDIX 3: SACNASP REGISTRATION CERTIFICATE

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Johan Lanz

Registration Number: 400268/12

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Soil Science (Professional Natural Scientist)

Effective **15 August 2012** Expires **31 March 2026**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

APPENDIX 4: SOIL DATA

Table 3: Land type soil data

Land type	Soil series (forms)	Depth (mm)	Clay % A horizon	Clay % B horizon	Depth limiting layer	% of land type
Fc16	Ms	100 - 200	2 - 6		ka	42,5
Fc16	R					24,3
Fc16	Vf	1000 - 1200	0 - 6	6 - 15	U	6,4
Fc16	Cv	500 - 800	0 - 6	0 - 6	R	3,9
Fc16	Ms	100 - 250	2 - 6		R	3,9
Fc16	We, Av	200 - 600	6 - 15	6 - 15	sp	3,9
Fc16	S					3,6
Fc16	Gs	150 - 300	6 - 15	10 - 20	so,R	3,3
Fc16	Oa	> 1200	6 - 15	6 - 15		2,8
Fc16	Du	> 1200	0 - 6			2,7
Fc16	Sw	200 - 400	10 - 20	35 - 55	vp	2,7

PLAN 1: LOCALITY PLAN

LOCALITY PLAN: Portion 257 Farm Melkhoute Fontein 480

Legend

- Parent Farms
- Farm Portions

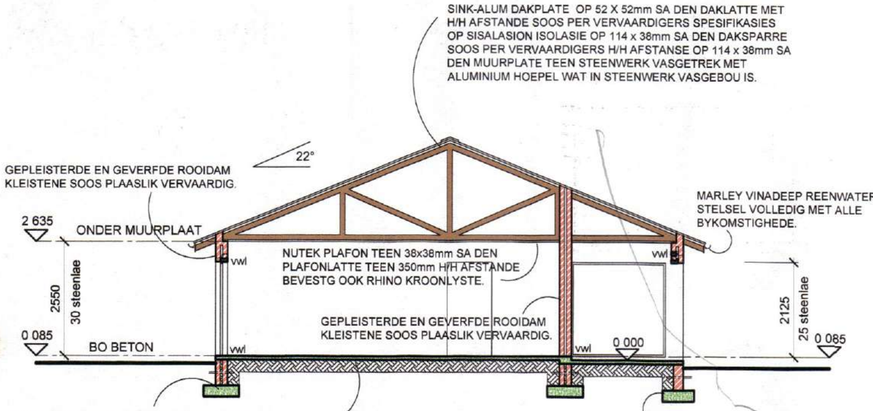
Map Center: Lon: 21°19'41"E
Lat: 34°18'15.1"S

Scale: 1:9,028

Date created: 2025/04/02

Western Cape Government
FOR YOU

PLAN 2: APPROVED BUILDING PLANS OF EXISTING LABOURER'S DWELLING



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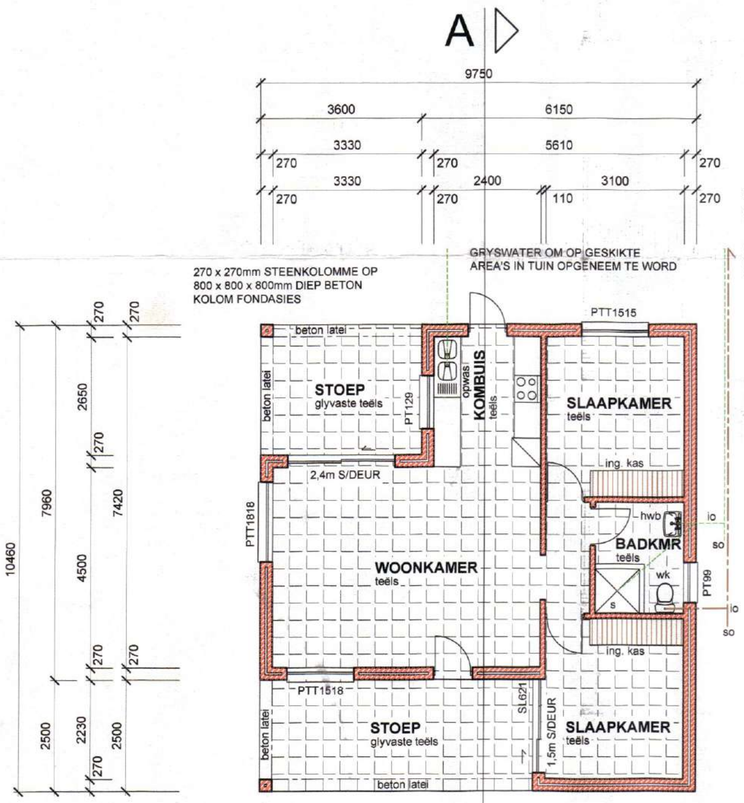

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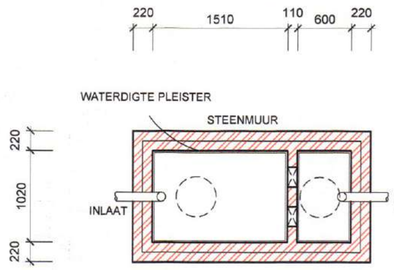
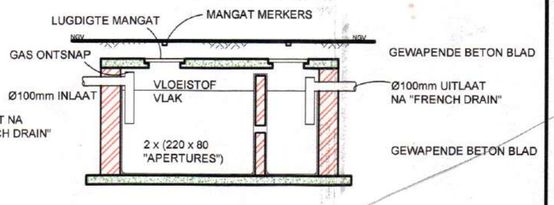
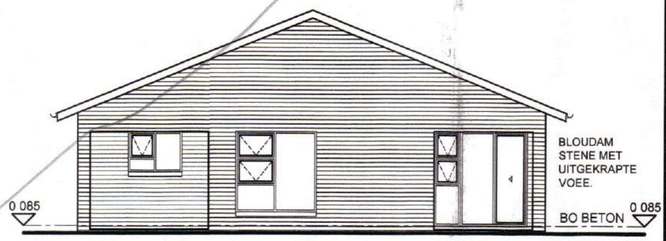
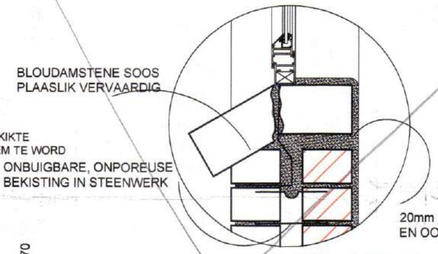




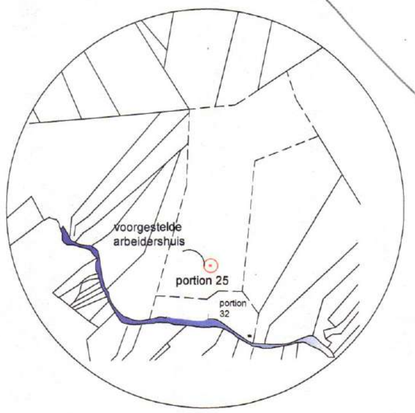
SNIT
SKAAL 1:50



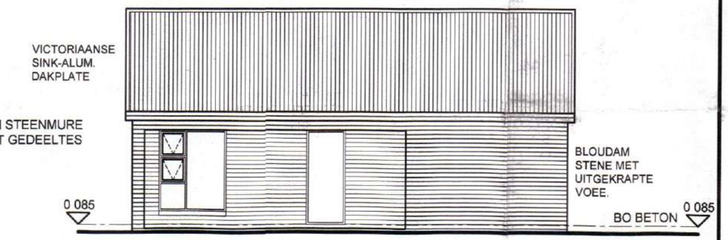
OOS AANSIG
SKAAL 1:100



DETAIL 1
SKAAL 1:10



LIGGINGSPLAN
NVS.



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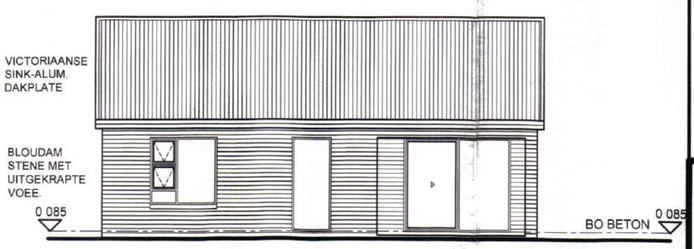

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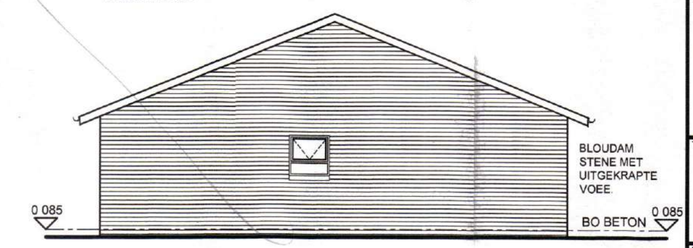


WES AANSIG
SKAAL 1:100

NOTAS

- SKRIFTELIKE TOESTEMMING MOET VERKRY WORD VIR ENIGE ESTETIESE EN STRUKTUUR VERANDERINGE VAN VICTOR VISAGIE EN ENIGE INGENEUR AANGESTEL OP PROJEK. KOPIEREG BEHOORT AAN VICTOR VISAGIE
  WRITTEN NOTICE MUST BE OBTAINED FOR ANY AESTHETICAL AND STRUCTURAL CHANGES FROM VICTOR VISAGIE AND THE APPOINTED ENGINEER ON SITE. COPYRIGHT BELONGS TO VICTOR VISAGIE
- DIE ONTWERP VAN HIERDIE TEKENING BLY DIE EIENDOM VAN DIE PLANOPSTELLER.
  THE DESIGN OF THIS DRAWING REMAINS THE PROPERTY OF THE DRAUGHTSPERSON.
- HOOGTES EN AFMETINGS MOET OP TERREIN NAGEGAAN WORD. ENIGE VERSKILLE MOET OPGELOS WORD VOORDAT DAAR MET BOUWERK BEGIN WORD.
  LEVELS AND DIMENSIONS TO BE USED ONLY. ANY DISCREPANCIES ARE TO BE RESOLVED BEFORE BUILDING WORK COMMENCES.
- SLEGS GESKREWE AFMETINGS MAG GEBRUIK WORD. GEEN AFMETINGS MAG GESKAAL WORD NIE.
  WRITTEN DIMENSIONS TO BE USED ONLY. NO DIMENSIONS MAY BE SCALED.
- ALLE WERK MOET OOREENKOMSTIG MET DIE NBR. SPESIFIKASIES GEDOEN WORD.
  ALL WORK TO COMPLY TO THE NBR.
- VERTIKALE VWL. MOET BY ALLE VLAKVERSKILLE BEVESTIG WORD.
  VERTICAL DPC. TO BE FIXED AT CHANGES IN ALL LEVELS
- INSPEKSIE OPENINGE VAN DREINERING EN RIOOL PYPWERK MOET TOEGANKLIK WEES EN GOED GEMERK WEES OP GRONDVLAK.
  INSPECTION EYES TO ALL DRAINAGE AND SEWERAGE PIPE WORK TO BE ACCESSABLE AND TO BE SUITABLE MARKED AT GROUND LEVEL.
- ALLE PYPWERK MOET AAN DIE NBR. SPESIFIKASIES VOLDOEN.
  ALL PIPE WORK TO CONFORM TO THE NBR. SPECIFICATIONS.
- VENTELASIE MOET AAN DIE NBR. SPESIFIKASIES VOLDOEN.
  VENTELATION TO COFORM TO SPECIFICATIONS OF THE NBR.
- DIE KONTOERE IS RELATIEF TOT DIE LANDMETER SE HOOGTES
  THE FALL OF THE SITE IS ACCORDING TO THE SURVEYER.
- BEPAAL FINALE POSISIE VAN MUNISIPALE RIOOL AANSLUITING OP TERREIN
  DETERMINE FINAL POSITION OF MUNICIPALITY SEWAGE CONNECTION ON SITE
- BETON LATEIE OOR ALLE DEURE, VENSTERS EN OPENINGE.
  CONCRETE LINTELS OVER EVERY WINDOW, DOOR AND OPENING
- BEPAAL POSISIE VAN BESTAANDE RIOOL VOORDAT BOUWERK BEGIN
  DETERMINE POSITION OF EXISTING SEWERLINE, BEFORE BUILDING
- VLOERPLANNE WORD GEMY OP 1,8m VANAF GNAFGEWERKTE VLOERVLAK.
  FLOORPLAN SECTION 1,8m FROM UNFINISHED FLOOR LEVEL

OPPERVLAK / AREA	vk.m. / sq.m.
GRONDVLOER	76-19
STOEPE	25-78
TOTAAL	101-97
ERF	NVT.
DEKKING	NVT.

WYSIGINGS	EIENAAR HANDTEKENING

VICTOR VISAGIE
ARGITEKTUUR
NASIONAAL
POSBUS 607
STILBAAI
6674
082 784 7971
028-754 1170

PROJEK
VOORGESTELDE ARBEIDERS WONING VIR "ELLIS FARMING ENTERPRISES cc REMAINDER OF THE FARM MELKHOUTE FONTEIN" NO 25/480 MELKHOUTFONTEIN

TEKENING
LIGGINGSPLAN , SNIT A-A, VLOERPLAN, AANSIGTE EN DETAIL 1

SKAAL	DATUM	GETEKEN	ONTWERP
GETOON	JAN. 12	VICTOR	VICTOR

TEKENING NO.	VEL NO.	SACAP REG. NOMMER
W1282-12-M1	01	ST0670

J I I M E E I I H 2 1

PLAN 3: SITE DEVELOPMENT PLAN

F.J. VAN DER WALT
Professionele Landmeter PLS-0641
RIVERSDAL
Wes-Kaap
Sel 072 789 0830
E-pos bonneevdw@gmail.com

SITE PLAN

PROPOSED NEW DWELLING ON PORTION 257 OF THE FARM MELKHOUTFONTEIN NO.480 STILBAAI for Mr. PHILIP ELLI

Drawn: F.Bosman SACAP Reg.No. T1508
Date: 31 March 2025

Scale 1:250 (A)

MELKHOUTE FONTEIN nr. 480

W N

X+3 797 780m

Gedeelte 132

EXISTING HOUSE ON ADJACENT PROPERTY

Eiendomsgrens

6.0m x 6.0m VEHICLE PARKING BAY

CONSERVANCY TANK
Minimum 6000L
110mm pvc drain pipe invert level 5.03 ffl 5.05..
To comply with SANS 1025-2
Parrot connection for regular emptying
Disposal to comply with Local Authority Regulations

5000L RAINWATER TANK

PROPOSED NEW DWELLING

Stoep

PORTION 257

X+3 797 800m

Serwituut Reg-van-Weg 4,00m

D E F

X+3 797 820m

Hoogwatermerk

Hoogwatermerk

Y-30 480m

Y-30 500m

Y-30 540m

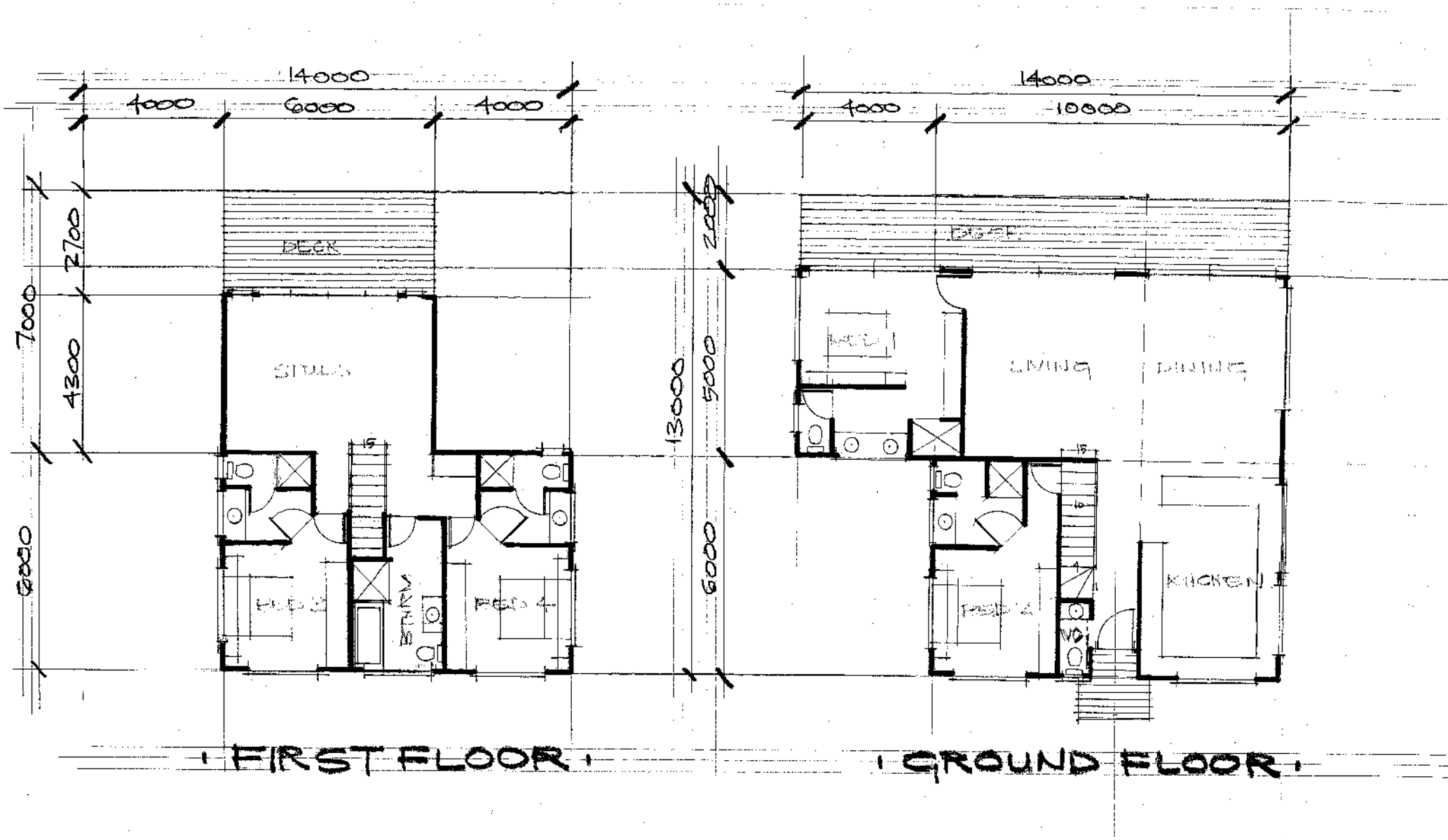
GOUKOURIVIER (Staatsgrond)

NOTA

Die lyn D-E-F stel voor die middellyn van 'n serwituut Reg-van-Weg 4,00m wyd, soos aangetoon. Verwys na diagram L.G. nr. 2099/2024

PLAN 4: FLOOR PLANS AND ELEVATIONS OF PROPOSED DWELLING

PROPOSED NEW DWELLING ON PORTION 275 OF THE FARM MELKHOUTEFONTEIN No. 480 STILBAAI for Mr PHILIP ELLIS
Drawn: F. Bosman SACAP Reg. No. T1508
Date: 31 March 2025



PROPOSED NEW DWELLING ON PORTION 275 OF THE FARM MELKHOUTEFONTEIN No. 480 STILBAAI for Mr PHILIP ELLIS
Drawn: F. Bosman SACAP Reg. No. T1508
Date: 31 March 2025