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DRAFT BASIC ASSESSMENT REPORT

For

PROPOSED RESIDENTIAL HOUSING DEVELOPMENT ON ERF 2924, WELBEDAGHT KNYSNA, WESTERN CAPE.

PREPARED FOR:	**Charl van Niekerk**
PREPARED BY:	Eco Route Environmental Practitioners Joclyn Marshall (EAPASA 2022/5006); assisted by Justin Brittion (Can. EAPASA 2023/6648)
DOCUMENT REFERENCE:	2025.02.13 – Draft Basic Assessment (Application Phase)
DEPARTMENT OF FORESTRY, FISHERIES, AND THE ENVIRONMENT REF:	14/12/16/3/3/1/3096
DATE:	2025/02/10
SUBMITTED TO:	**Competent Authority** **I&AP's**

"On 08 December 2014 the Minister of Environmental Affairs promulgated regulations in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), viz, the NEMA Environmental Impact Assessment (EIA) Regulations 2014, (GN R982, R983, R984 and R985 of 04 December 2014) as amended. The NEMA EIA Regulations, 2014 and listing notices, were subsequently amended on 07 April 2017 (refer to GN R324, R325, R327 of 07 April 2017) and is being referred to as NEMA EIA Regulations, 2014, as amended. The same referencing would apply to the listing notice containing the listed activities that would require Environmental Authorisation.

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STATEMENT OF INDEPENDENCE

I, **Joclyn Marshall**, of Eco Route Environmental Consultancy, in terms of section 33 of the NEMA, 1998 (Act No. 107 of 1998), as amended, hereby declare that I provide services as an independent Environmental Assessment Practitioner (**EAPASA Reg: 2022/5006**) and receive remuneration for services rendered for undertaking tasks required in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Environmental Impact Assessment Regulations, 2014 (as amended). I have no financial or other vested interest in the project.

EAP SIGNATURE: 

GENERAL PROJECT DESCRIPTION

This report constitutes the Draft Basic Assessment of the proposed development for a primary dwelling on Erf 2924, Welbedacht, Knysna. It is in alignment with the National Environmental Management Act (NEMA) (Act No. 107 of 1998), and associated regulations. The following activities as per the National Environmental Management Act (Act No. 107 of 1998), Regulations Listing Notice 1 (Government Notice No. 983) and Listing Notice 3 (Government Notice No. 985) require environmental authorisation from the Department of Forestry, Fisheries and the Environment(DFFE), prior to commencement.

- Listing Notice 1; Activity 19A
- Listing Notice 3; Activity 12

Summary of the receiving environment:

The entire property was originally classified as containing Endangered (EN) Garden Route Shale Fynbos and was revised to still include such vegetation. However, botanical specialists from Capensis have ground-truthed the persisting vegetation and found that fynbos does not cover the entire property. Fynbos is present on the upper ridge, northern slope, and southwest-facing cliffs, while the southern part of the property includes Southern Cape Afrotemperate Forest. The fynbos species found on the site (Table 4) include typical fynbos and some thicket species often found along forest margins or in fire-safe areas. Some of these thicket species are resprouting and hardy, possibly becoming more dominant due to Invasive Alien Plants (IAPs). No species of conservation concern (SCC) were identified in this habitat. The ecological functioning is moderately altered, with plant species diversity affected by IAPs, impacting the habitat available for other biota.

Subterranean tunnels typical of the Golden Mole SCC were found on the hilltop areas of the property during the site visit. While it was not possible to identify the species present based on the tunnels alone, the habitat suggests the more likely occurrence of the Fynbos Golden Mole (*A. corriae*) rather than Duthie's Golden Mole (*C. duthieae*, Vulnerable), which is typically associated with more forested habitats. However, the DFFE Environmental Screening Tool Report predicted suitable habitat for Duthie's Golden Mole on the property, so a precautionary approach is followed for this SCC as well. Mole tunnels were found in all vegetation habitats in the hilltop and northern sections of the property, regardless of the level of alien plant invasion. One mole tunnel was also observed crossing beneath the fence of the northwestern neighbouring property, indicating their movement across the entire hilltop landscape (Figure 14).

Specialists confirmed that the proposed development was indicated to occur within CBA 1, but further stated that this classification is questionable as the sites are not intact. It would be more accurate to classify the property as CBA 2 or ESA 2 due to its poor condition.

The site was considered suitable for the proposed development, but there were some moderate geotechnical constraints, including moderate to steep slopes and loose sandy soil, which require consideration by the structural engineer.

The property is buffered by the N2 highway and a steep cliff, providing a significant barrier against direct flooding and tidal surges from the Knysna Estuary. The elevation of the property further reduces its vulnerability to the effects of sea level rise and storm surges. Consequently, while the Knysna Estuary may experience changes in its ecological dynamics due to climate change, the elevated position and natural buffers of the property ensure it remains minimally impacted by these environmental changes, making it a viable option for development with minimal risk.

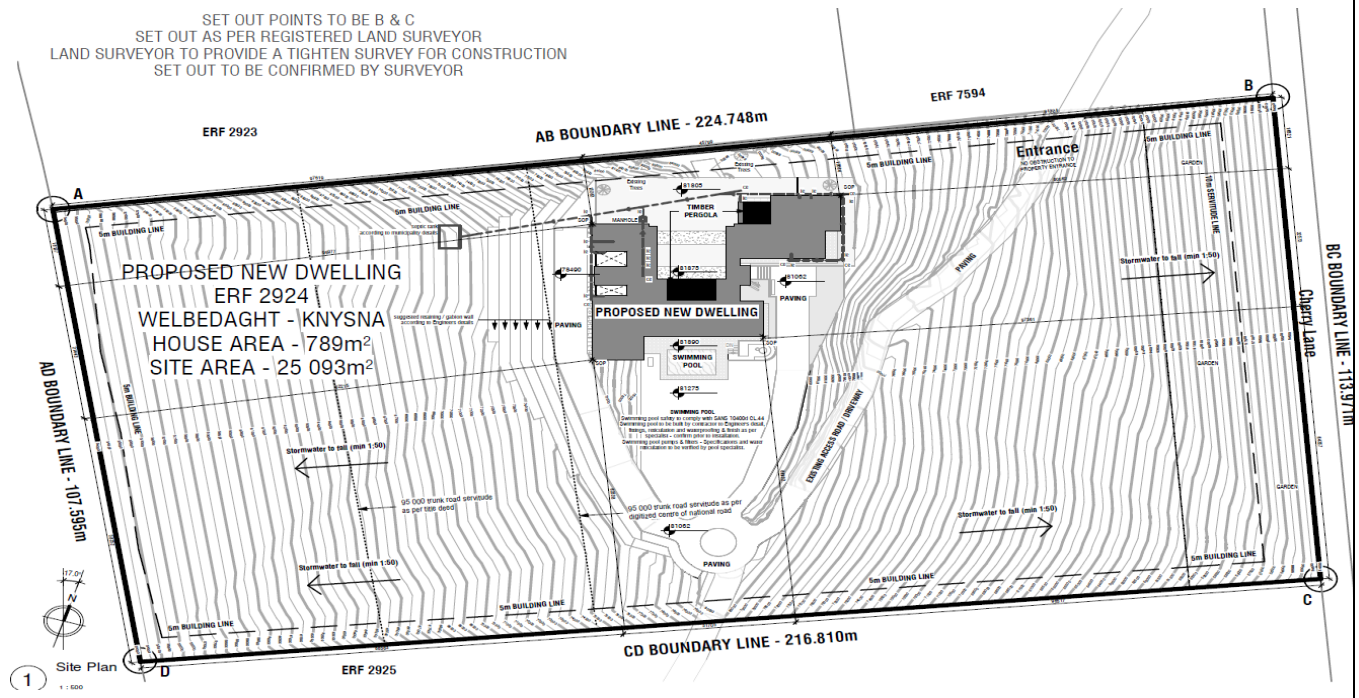
A Notice of Intent to Develop (NID) under Section 38(1) and (8) of the NHR Act was submitted to Heritage Western Cape. Heritage Western Cape determined that the proposed development will have no anticipate impact on heritage resources.

Summary of project scope:

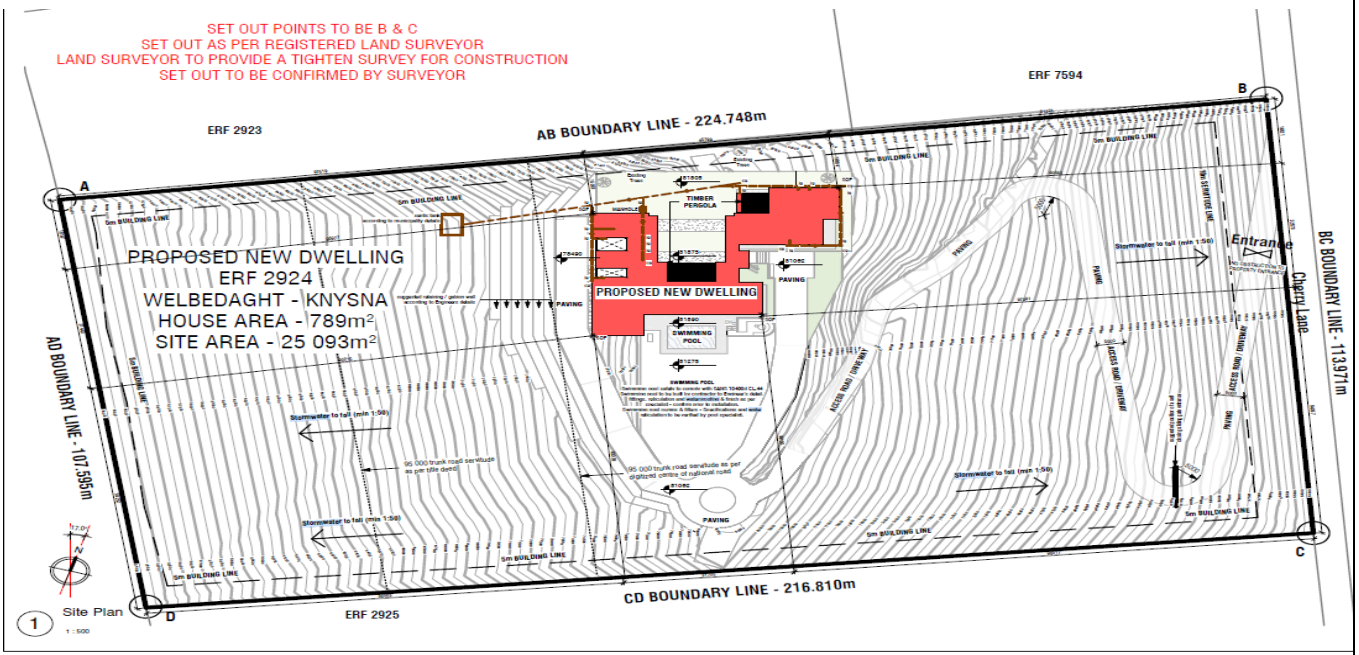
Two alternatives were considered, whereby the preferred alternative refrains from a meandering access road. This road will provide access to residents from Erf 7594, Erf 2924 (this development proposal), and Erf 2925 (family of the proponent).

Table 13 provides comparisons between the two alternatives -

Alternative A (Mathews + associate architects, 2024)



Alternative B (Mathews + associate architects, 2023)



Ultimately it will not be possible to move the location of the primary dwelling (Sectio E), however, based on the recommendations from specialist the footprint was reduces by limiting the construction of a meandering access road.

Impact of proposed development:

The following table will serve as a summary of the impacts of proposed development during the construction phase of alternative A.

Table 1: Summary of impacts of proposed development associated with alternative A - proposed development

Impact	Without Mitigation	With Mitigation
	Significance of Impact	Significance of Impact
Loss of terrestrial biodiversity	**Low – negative (-)**	**Negligible – negative (-)**
Loss of species of conservation concern	**Low – negative (-)**	**Negligible – positive (+)**
Disturbance / loss of faunal habitat	**Medium – negative (-)**	**Low – negative (-)**
Fatality to faunal species	**Low – negative (-)**	**Negligible – negative (-)**
Disturbance / removal of topsoil and subsoil	**Medium - negative (-)**	**Low – negative (-)**
Stormwater runoff and erosion	**Low- negative**	**Negligible – negative (-)**
Waste Pollution	**Low- negative (-)**	**Negligible – negative (-)**
Construction Vehicles Pollution	**Low- negative (-)**	**Negligible – negative (-)**
Noise Pollution	**Low- negative (-)**	**Negligible – negative (-)**
Visual Impact	**Low – negative (-)**	**Negligible – negative (-)**
Employment	**Low – negative (-)**	**Negligible – positive (+)**

The DFFE Environmental Screening Tool Report indicates certain recommended specialist assessments to be done regarding selected classifications (Transformation of land | Indigenous vegetation) and (Infrastructure / Localised infrastructure / Infrastructure in the Sea-Estuary-Littoral Active Zone-Development Setback_100M Inland or coastal public property) with respect to the corelating listed activities.

Site sensitivity verification was done to explain why Terrestrial Biodiversity Impact Assessments, Plant Species Compliance Statement, Aquatic Compliance Statement, Animal Species Assessment, and a Geotechnical Report should be provided. Each report mentions certain mitigation measures to mitigate the impact of certain activities throughout the construction and operational phase.

Summary of Terrestrial Biodiversity Impact mitigations:

- The vegetation from the fynbos habitat that is not developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level.
- The rehabilitation must be undertaken in a phased approach, according to a rehabilitation plan and undertaken by a qualified botanist or restoration ecologist.
- The initial step will require the removal and control of all IAPs on the property and erosion control if necessary. Passive rehabilitation on the parts of the site where no earthworks have taken place can be allowed for one winter season following the removal of IAPs. Thereafter the site must be assessed by the restoration contractor to determine the level of active rehabilitation input. Active rehabilitation will be required for areas where topsoil has been removed.
- Follow-up clearing of all exotic and listed IAPs is required every 6 months for the first three years, and annually thereafter to ensure that the IAPs do not dominate the fynbos.

Best practise mitigation

- Mark off the areas that are not going to be developed prior to undertaking any works and ensure that no unnecessary loss of adjacent vegetation occurs.
- Sites for building material stocks, vehicles, toilets etc must be clearly marked and restricted to the building footprint, exiting roads or existing disturbed areas.

Summary of Aquatic Biodiversity Impact mitigations

- Implement measures to control erosion, with particular focus on the southwestern cliffs.
- Adhere to the principles for best management practice of stormwater management.
- Strategically place rainwater harvesting tanks.
- Use swales and detention ponds to manage stormwater runoff.

Summary of Animal Species Impact mitigations

- Phased Construction: Conduct construction in phases, confining activities to one area at a time. Communicate the construction phase plan to all staff.
- Pre-Construction Checks: Before earthworks, an ECO should walk through the demarcated footprint to check for and remove animals with limited mobility.
- Erosion Control Measures: Implement erosion control measures downslope where vegetation will be cleared.
- Topsoil Management: Treat and store topsoil removed during construction for future rehabilitation purposes.
- Staff Orientation: Regularly conduct staff orientation and information sessions.
- Vehicle Checks: Check construction vehicles daily for leaks and faults.
- Waste Management: Implement proper waste management, storage, and disposal to minimize pollution.
- Ablution Facilities: Provide, clean, and maintain adequate ablution facilities on-site.
- Pollution Prevention: Manage activities involving concrete, cement, plastering, and painting to prevent contamination of the environment.
- Material Storage: Cover stockpiles of building materials and soils with geotextiles or plastic coverings when not in use, and store small items and building materials in containers or designated areas to prevent animal interference.
- Food Waste Disposal: Dispose of food waste in designated bins and remove it from the site daily.
- Construction Hours: Restrict construction to daylight hours to ensure adequate monitoring for fauna and to prevent the use of artificial lighting.
- Speed Limits: Implement and enforce speed limits on all roads, with signs to warn drivers of wildlife.
- Site Cleanup: Regularly clear the site of waste material, rubble, and debris during and at the conclusion of the construction phase.

ASSUMPTIONS & LIMITATIONS

This section provides a brief overview of specific assumptions and limitations having an impact on this environmental application process:

- It is assumed that the information on which this report is based (specialist studies and project information, as well as existing information) is correct, factual and truthful.
- The proposed development is in line with the statutory planning vision for the area (namely the local Spatial Development Plan), and thus it is assumed that issues such as the cumulative impact of development in terms of character of the area and its resources, have been considered during the strategic planning for the area.
- It is assumed that all the relevant mitigation and management measures and agreements specified in this report will be implemented in order to ensure minimal negative impacts and maximum environmental benefits.
- It is assumed that Stakeholders and Interested and Affected Parties notified of the availability of draft reports during the PPP will submit comments within the designated 30-days review and comment period, for consideration in the environmental assessment process.

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ATTACHMENTS

Table 2: Applicable Basic Assessment Report Attachments

Appendix	Description
Appendix A	Locality map of Erf 2924, Welbedacht, Knysna ("the property")
Appendix B1	Site development Plans (Alternative A)
Appendix B2	Site development Plans (Alternative B)
Appendix C	Environmental consideration Maps
Appendix D1	Terrestrial Biodiversity Impact Assessment Report and Plant Species Compliance statement
Appendix D2	Animal Species Impact Assessment
Appendix D3	Aquatic Compliance Statement
Appendix E	Site Sensitivity Verification Report
Appendix F	Draft EMPr – Application Phase
Appendix G1	Screening Tool Report (*Transformation of land | Indigenous vegetation)*.
Appendix G2	Screening Tool Report (*Infrastructure / Localised infrastructure / Infrastructure in the Sea-Estuary-Littoral Active Zone-Development Setback_100M Inland or coastal public property)*.
Appendix H	Joshlyn Marshall CV (EAP - EAPASA 2022/5006)
Appendix H1	Justin Brittion CV (Can. EAPASA 2023/6648)

SCOPE OF ASSESSMENT AND CONTENT OF BASIC ASSESSMENT REPORT

Appendix 1 of Regulation 982 of the 2014 EIA Regulations describes the contents required to complete a basic assessment report. The below table indicates how Appendix 1 requirements were incorporated into the basic assessment report:

Scope of assessment and content of basic assessment reports	Index
(1) A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include -	
(a) Details of – (i) The EAP who prepared the report; and (ii) The expertise of the EAP, including curriculum vitae.	**Appendix H and H1**
(b) The location of the activity, including – (i) The 21 digit surveyor General Code of each cadastral land parcel. (ii) Where available the physical address and farm name. (iii) Where the required information items (i) and (ii) is not available, the co-ordinates of the boundary of the property.	(i) **Section B** (ii) **Section B** (iii) **Section B**
(c) a plan which locates the proposed activity, or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is (i) A linear Activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken.	**Section B** (i) N/A (ii) N/A
(d) a description of the scope of the proposed activity, including – (i) All listed and specified activities triggered and being applied for; and (ii) A description of the activities to be undertaken including associated structures and infrastructure	**Section E** (i) **Section F** (ii) **Section E**
(e) A description of the policy and legislative context within which the development is proposed, including – (i) An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and have been considered in preparation of the report; and (ii) How the proposed activity complies with and responds to the legislation and policy	**Section G** (i) **Section G** (ii) **Section G**

context, plans, guidelines, tools frameworks and instruments.	
(f) A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location.	**Section E**
(g) A motivation for the preferred site, activity and technology alternative	**Section E**
(h) A full description of the process followed to reach the proposed preferred alternative within the site including: (i) Details of all alternatives considered. (ii) Details of the public participation process undertaken in terms of regulation 41 of the regulations, including copies and supporting documents and inputs. (iii) A Summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them. (iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects. (v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts – (aa) can be reversed (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated. (vi) The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives. (vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects. (viii) The possible mitigation measures that could be applied and level residual risk (ix) The outcome of the site selection matrix	(i) **Section E** (ii) **Section J** to be completed in Draft and Final BAR. (iii) **Section J** to be completed in Draft and Final BAR. (iv) **Section E** (v) **Section H** (vi) **Section H** (vii) **Section H** (viii) **Section H** and **Section K** (ix) **Section H**

(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and (xi) A concluding statement indicating the preferred alternatives, including the preferred location of the activity.	(x) N/A (xi) **Section E**
(i) A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including - A description of all environmental issues and risks that were identified during the basic assessment process; and An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures	**Section H**
(j) An assessment of each identified potentially significant impact and risk, including - Cumulative impacts; The nature, significance and consequences of the impact and risk; The extent and duration of the impact and risk; The probability of the impact and risk occurring; The degree to which the impact and risk can be reversed; The degree to which the impact and risk may cause irreplaceable loss of resources; and The degree to which the impact and risk can be mitigated	**Section H**
(k) Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report.	**Section H** and **Section K**
(l) An environmental impact statement which contains: • A summary of the key findings of the environmental impact assessment; • A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and • A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives	**Section C** **Appendix D1, D2, and D3** **Section E** **Section K**
(m) Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr.	To be completed in Draft and Final BAR
(n) Any aspects which were conditional to the findings of the assessment either by the EAP or	To be completed in Draft and Final BAR

specialist which are to be included as conditions of authorisation.	
(o) A description of assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed	To be completed in Draft and Final BAR
(p) A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation.	To be completed in Draft and Final BAR
(q) Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded and the post construction monitoring requirements finalised.	To be completed in Draft and Final BAR
(r) An undertaking under oath or affirmation by the EAP in relation to: The correctness of the information provided in the reports; The inclusion of comments and inputs from stakeholders and I&APs; The inclusion of inputs and recommendations from the specialist reports where relevant; and Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties	To be completed in Draft and Final BAR
(s) Where applicable, details of any financial provisions for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts	**N/A**
(t) Any specific information that may be required by the competent authority.	To be completed in Draft and Final BAR
(u) Any other matters required in terms of section 24(4)(a) and (b) of the Act.	To be completed in Draft and Final BAR

SECTION A – ADMINISTRATIVE DETAILS

Applicant details:

Title	Mr
Name of the Applicant	Charl, Le Roux
Surname of the Applicant	Van Niekerk
Name of contact person for applicant (name and surname) (if other)	Click or tap here to enter text.
Company/ Trading name (if any)	-
Company Registration Number	-
Physical address	6 Lucerne Street Stand 2553 Southdown Estate Irene, Pretoria
Postal address	-
Postal code	0157
Telephone	-
Cell phone	082 669 2594
E-mail	charlvanniekerk7@gmail.com

Landowner details:

Name of the Landowner	Same as above
Surname of the Landowner	-
Postal address	-
Postal code	-
Telephone	-
Cell phone	-
E-mail	-

Provincial Authority details:

Provincial Environmental Authority:	Provincial Environmental Authority:
Name of contact person in Environmental Section (name and surname)	Danie Swanepoel
Postal address	4th Floor, York Park Building, 93 York Street,
Postal code	6529
Telephone	044 814 2002
Cell phone	-
E-mail	Danie.Swanepoel@westerncape.gov.za

Local Municipal details:

Municipality	Knysna Municipality
Name of contact person in Environmental Section (name and surname)	Pam Booth
Postal address	P O Box 21. Knysna
Postal code	6570
Telephone	+27 (0)44 302 6300
Cell phone	060 9986967

E-mail:	pbooth@knysna.gov.za

Environmental Assessment Practitioner details:

Company of Environmental Assessment Practitioner (EAP)	Eco Route
EAP name and surname	Joclyn Marshall (registered EAP - 2022/5006) assisted by Justin Brittion (candidate EAP – 2023/6648)
EAP Qualifications and Professional affiliations	Joclyn Marshall – MSc Environmental Science - EAPASA Justin Brittion – BSc Honors Environmental Science with Environmental Geology – Can. EAPASA
Physical address	46 President Steyn, The Island, Sedgefield
Postal address	PO BOX 1252 Sedgefield
Postal code	6573
Telephone	-
Cell phone	072 126 6393 (Joclyn) 081 208 2170 (Justin)
E-mail	joclyn@ecoroute.co.za / justin@ecoroute.co.za / admin@ecoroute.co.za

SECTION B – DESCRIPTIVE DETAILS

1. LOCATION DESCRIPTION

Erf 2924, Welbedacht, Knysna (referred to as "the property"), borders the N2 Highway, which separates it from the Knysna Estuary. The property extends approximately 2.5 hectares (as per title dead).

SG Region:	KNYSNA
Erf Nr:	2924
Area (Sqm):	24586.5
SG Code:	C03900050000292400000

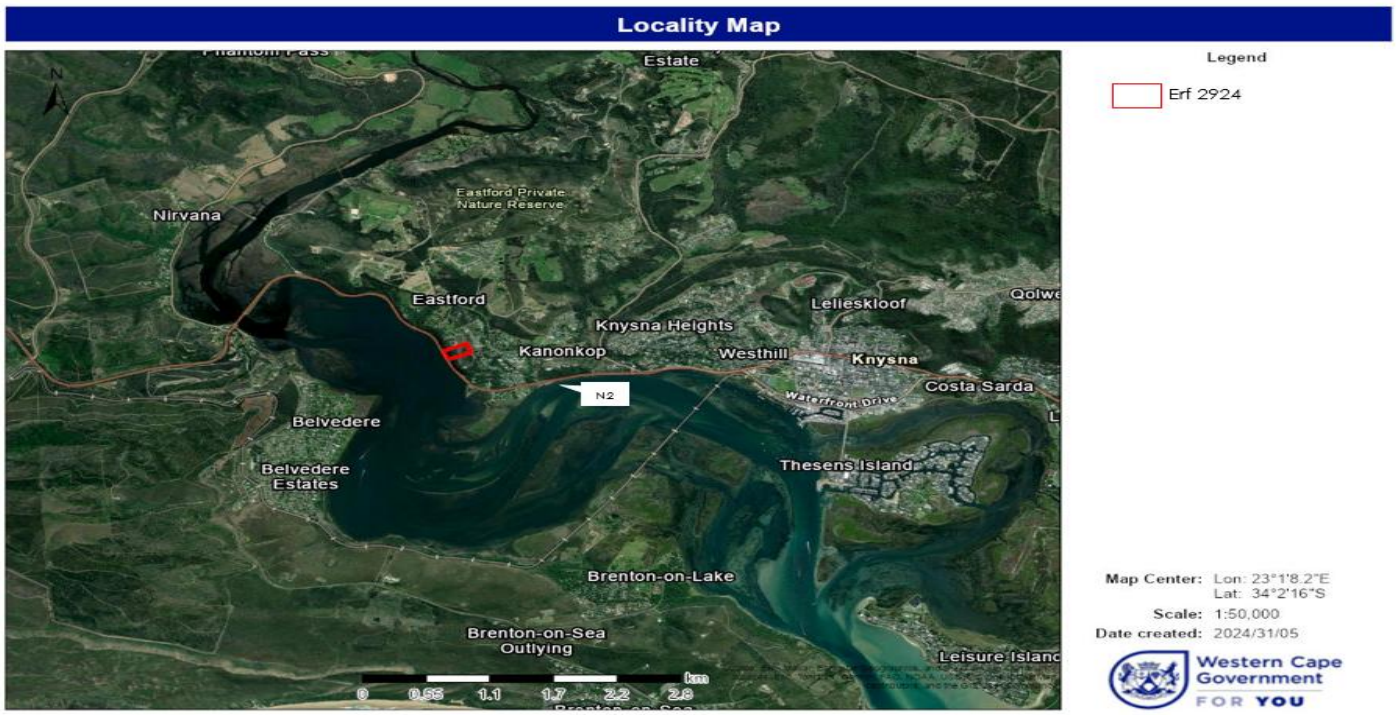


Figure 1: Locality Map of Erf 2924

The property is bordered by Erf 2924 to the north and Erf 2925 to the south. Its eastern boundary ends at Cherry Lane, while its western boundary meets the N2 Highway. Currently, access to the property is via a dirt road extending from Cherry Lane through Erf 7594, which is also owned by the Van Niekerk family.

FEATURE	LATITUDE (S)			LONGITUDE (E)		
	DEG	MIN	SEC	DEG	MIN	SEC
Western Boundary	34°	02'	08.22˝	23°	00'	39.74˝
Southern Boundary	34°	02'	07.07˝	23°	00'	43.81˝
Eastern Boundary	34°	02'	05.64˝	23°	00'	47.44˝
Northern Boundary	34°	02'	03.81˝	23°	00'	42.55˝

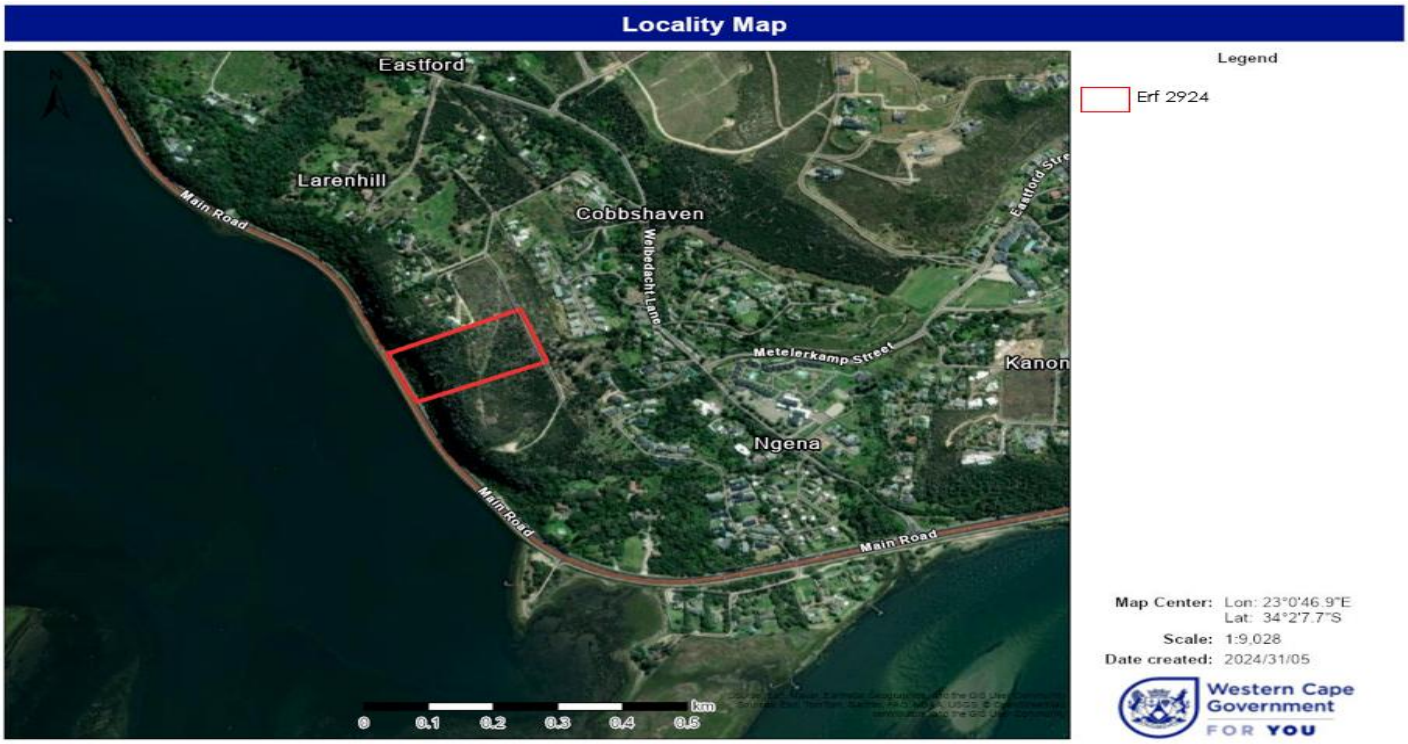


Figure 2: Locality Map of Erf 2924 (smaller extent)

The property is zoned as Single Residential I, as are the properties to the north and south. This implies that the proposed development of a single residential structure will be consistent with the characteristics of the surrounding properties.

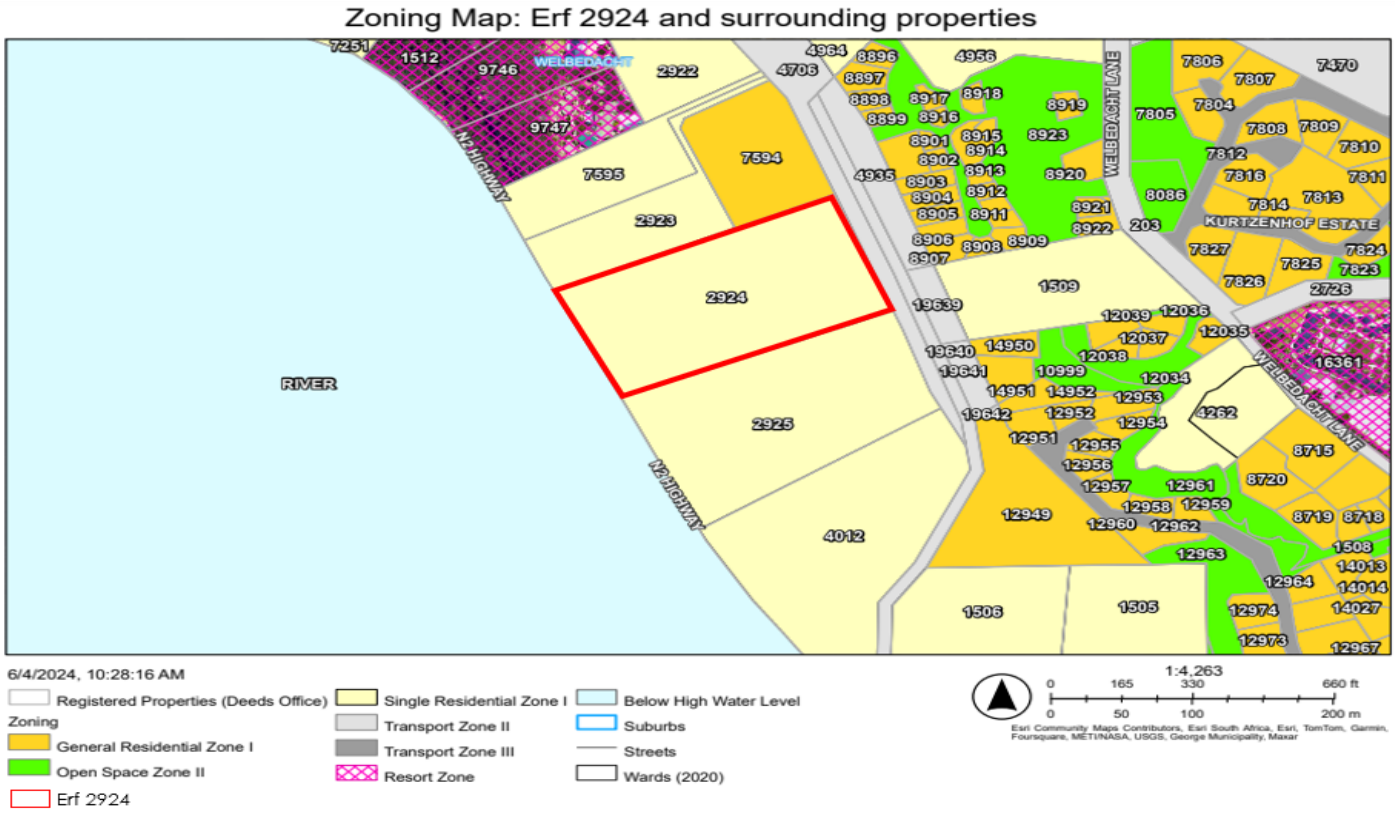


Figure 3: Zoning Map for Erf 2924 and the surrounding properties

2. PROPERTY DESCRIPTION

In 2016, the property was vacant without any previously built structures, and it was overgrown due to a lack of historical fire events. During the 2017 Knysna veld fires, the property burned. In 2022, around the time the applicant acquired the land, the vegetation was distressed. During the time assessment initiation (2024), the property has more vegetation than it did at the time of purchase.

Figure 4: Brief overview of the property between 2016 and 2024 (Google Earth Pro)

The property features moderate to steep slopes (Figure 5). Toward the eastern boundary, the slopes range from 5 to 25 percent, facing east. On the western side, the slopes are steeper, descending toward the Knysna Estuary, with angles between 70- and 80-percent facing west.

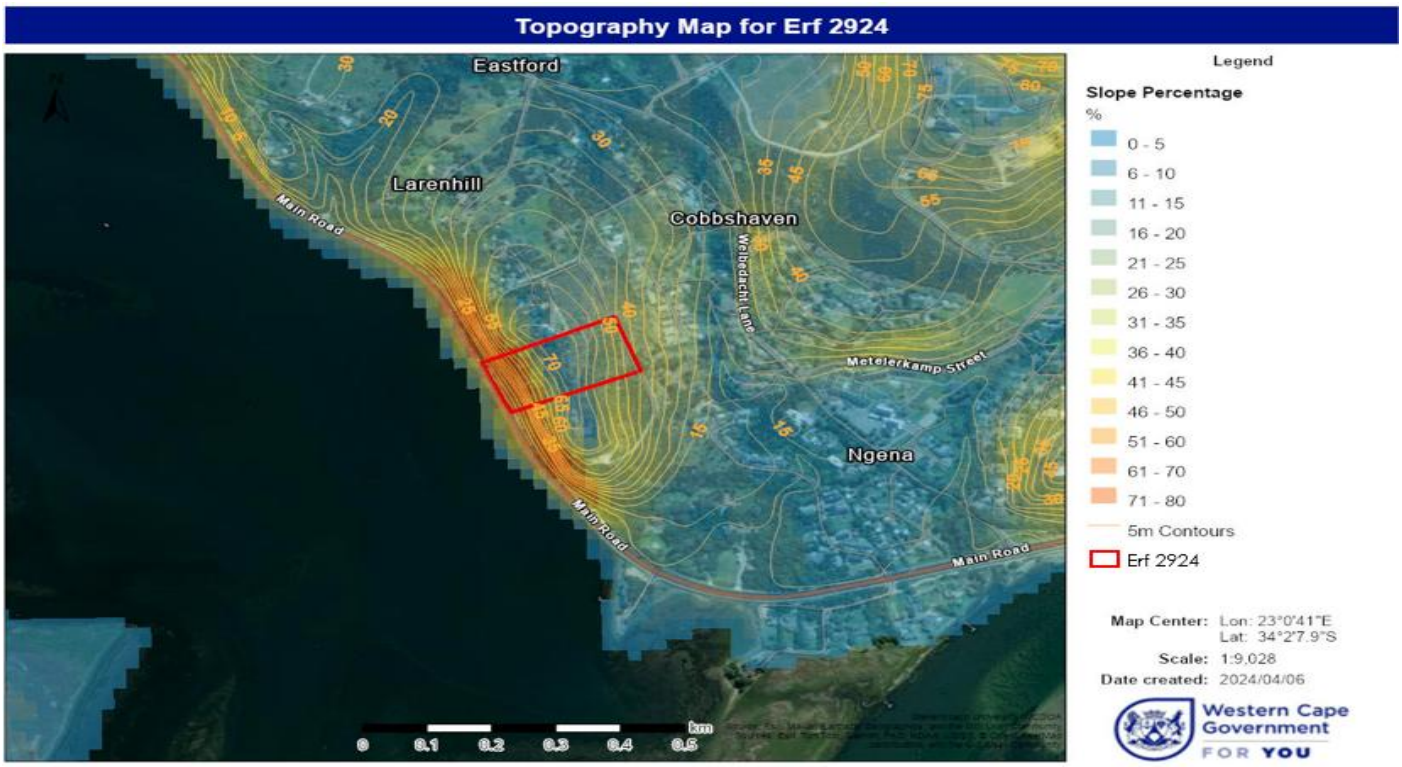


Figure 5: Topography of Erf 2924

SECTION C – RECEIVING ENVRIONMENTAL CONCIDERATIONS

This section considers the available environmental data with specialist input. Where the specialist input is more viable than the desktop data, only the input from the specialists were included. This approach is taken as certain environmental sensitivities identified from desktop data may differ from actual conditions on site.

Please note that the property in reference is Erf 2924. The adjacent properties, Erf 2925 and Erf 7594, are also owned by the proponent's family. While these properties are not part of this assessment, the contracted specialists have conducted investigations on all properties simultaneously to reduce costs.

1. VEGETATION

According to the spatial data layer Vegetation Type (Vegmap 2018) from SANBI, the entire property was mapped as Garden Route Shale Fynbos.

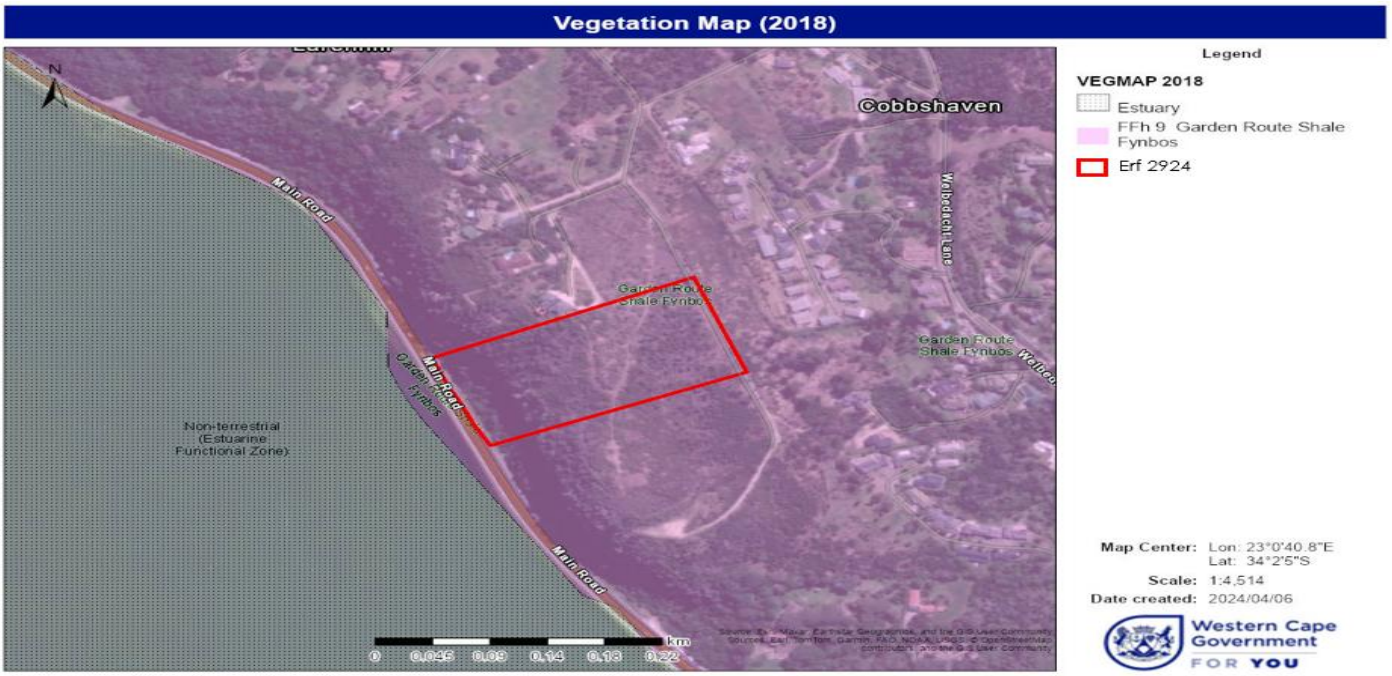


Figure 6: Vegetation Types on Erf 2924 as represented by SANBI (2018)

Further information from SANBI provides details applicable to the mapped Garden Route Shale Fynbos -

Table 3: Important Information Regarding Garden Route Shale Fynbos (SANBI)

FFh 9 Garden Route Shale Fynbos	VT 4 Knysna Forest (58%) (Acocks 1953). Mesic Mountain Fynbos (17%), South Coast Renosterveld (17%), Afro-Montane Forest (16%) (Moll & Bossi 1983). LR 2 Afromontane Forest (46%), LR 64 Mountain Fynbos (27%) (Low & Rebelo 1996). BHU 100 Knysna Afromontane Forest (41%), BHU 28 Blanco Fynbos/Renosterveld Mosaic (21%) (Cowling et al. 1999b, Cowling & Heijnis 2001).

Distribution	Western and Eastern Cape Provinces: Patches along the coastal foothills of the Langeberg at Grootberg (northeast of Heidelberg), the Outeniqua Mountains from Cloete's Pass via the Groot Brak River Valley, Hoekwil, Karatara, Barrington and Knysna to Plettenberg Bay. Patches from the Bloukrans Pass along coastal platform shale bands south of the Tsitsikamma Mountains via Kleinbos and Fynboshoek to south of both Clarkson and the Kareedouw Mountains. Altitude 0–500 m.
Vegetation & Landscape Features	Undulating hills and moderately undulating plains on the coastal forelands. Structurally this is tall, dense proteoid and ericaceous fynbos in wetter areas, and graminoid fynbos (or shrubby grassland) in drier areas. Fynbos appears confined to flatter more extensive landscapes that are exposed to frequent fires—most of the shales are covered with afrotemperate forest. Fairly wide belts of *Virgilia oroboides* occur on the interface between fynbos and forest. Fire-safe habitats nearer the coast have small clumps of thicket, and valley floors have scrub forest (Vlok & Euston-Brown 2002).
Geology & Soils	Acidic, moist clay-loam, prismacutanic and pedocutanic soils derived from Caimans Group and Ecca (in the east) shales. Land types mainly Db and Fa.
Climate	MAP 310–1 120 mm (mean: 700 mm), relatively even throughout the year, but with a slight low in winter. Mean daily maximum and minimum temperatures 27.6°C and 6.5°C for January and July, respectively. Frost incidence 2 or 3 days per year. See also climate diagram for FFh 9 Garden Route Shale Fynbos (Figure 4.68).
Important Taxa	([T]Cape thickets) Tall Shrubs: *Leucadendron eucalyptifolium* (d), *Protea aurea* subsp. *aurea* (d), *P. coronata* (d), *Leucospermum formosum*, *Metalasia densa*, *Passerina corymbosa*, *Protea neriifolia*, *Rhus lucida*[T]. Low Shrubs: *Acmadenia alternifolia*, *A. tetragona*, *Anthospermum aethiopicum*, *Cliffortia ruscifolia*, *Elytropappus rhinocerotis*, *Erica hispidula*, *Helichrysum cymosum*, *Leucadendron salignum*, *Pelargonium cordifolium*, *Phylica axillaris*, *P. pinea*, *Psoralea monophylla*, *Selago corymbosa*. Herb: *Helichrysum felinum*. Geophytic Herbs: *Pteridium aquilinum* (d), *Eriospermum vermiforme*. Succulent Herb: *Crassula orbicularis*. Herbaceous Succulent Climber: *Crassula roggeveldii*. Graminoids: *Ischyrolepis sieberi* (d), *Aristida junciformis* subsp. *galpinii*, *Brachiaria serrata*, *Cymbopogon marginatus*, *Elegia juncea*, *Eragrostis capensis*, *Ischyrolepis gaudichaudiana*, *Restio triticeus*, *Themeda triandra*, *Tristachya leucothrix*.
Endemic Taxa	Geophytic Herbs: *Cyphia georgica*, *Disa newdigateae*, *Gladiolus roseovenosus*.
Conservation	Endangered. Target 23%. Statutorily conserved in the proposed Garden Route National Park (4%) and Boosmansbos Wilderness Area (1%). A further 3% are protected in other (mainly private) conservation areas such as the Robbe Hoek Forest Reserve.

	More than half of the area has already been transformed for cultivation and pine plantations. Much of the remaining veld has been converted to pasture. Remnants are found largely on steep inclines and in areas unsuitable for agriculture. Alien plants such as *Hakea sericea* and various species of *Acacia* locally infest natural remnants. Erosion very low and moderate.
Remarks	This is a poorly studied vegetation type. Rebelo et al. (1991) have incorrectly placed this unit on sandstone in the Riversdale area.

* **References** Taylor (1970b), Drews (1980a, b), Rebelo et al. (1991), Vlok & Euston-Brown (2002).

Although the available desktop data identifies the entire property as Garden Route Shale Fynbos, verified specialists from Capensis have ground-truthed the persisting vegetation and found that fynbos does not cover the entire property. Fynbos is present on the upper ridge, northern slope, and southwest-facing cliffs, while the southern part of the property includes Southern Cape Afrotemperate Forest. A habitat map (Figure 7) was also included as part of their findings to understand the division and state of the vegetation conditions.

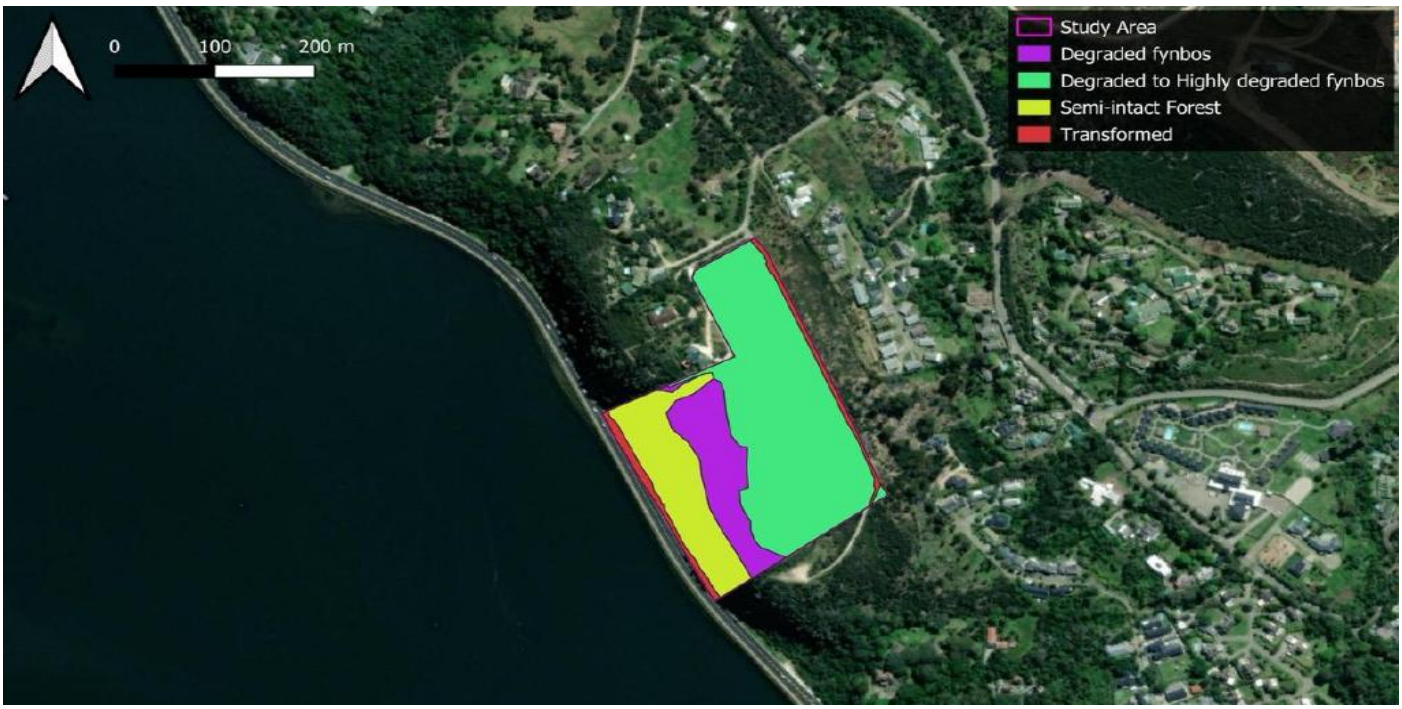


Figure 7: Habitat Map - The habitats identified in the screened areas, overlaid on a Google™ aerial image (Capensis, 2024)

1.1. Degraded fynbos

The fynbos species found on the site are listed in Table 4. These species include typical fynbos species and some thicket species, which often occur along the margins of forest habitats or in fire-safe areas. Some of these thicket elements are resprouting and hardy species that have persisted and possibly become more dominant under the influence of Invasive Alien Plants (IAPs). No species of conservation concern (SCC) were identified in this habitat. The ecological functioning of this habitat is likely moderately altered, with plant species diversity affected by the presence of IAPs, impacting the available habitat for other biota.

Table 4: Plant Species List for Degraded Fynbos Habitat (Capensis, 2024)

Name	Common name	Scientific name	Common name
Anthospermum cf. prostratum	creeping flowerseed	*Lampranthus sp.*	Brightfigs
Anthospermum aethiopicum	common flowerseed	*Leucadendron eucalyptifolium*	Gumleaf Conebush
Agathosma apiculata	Garlic Buchu	*Colchicum eucomoides*	Green men in a boat
Agathosma ovata	False Buchu	*Metalasia cf. trivialis*	Eastern Blombush
Anginon difforme	Common Finkel	*Metalasia pungens*	Stink Blombush
Aspalathus ericifolia	Heathleaf Capegorse	*Metalasia trivialis*	Eastern Blombush
Aspalathus opaca	Shady Capegorse	*Muraltia alopecuroides*	Foxy Purplegorse
Asparagus africanus	Bush Asparagus	*Oedera calycina*	
Centella virgata	Branching Capepurse	*Osteospermum moniliferum*	Bitou
Chaenostoma revolutum	Fineleaf Skunkbush	*Oxalis sp.*	Sorrels
Chironia baccifera	Christmas Berry	*Oxalis imbricata*	Tile Sorrel
Delostemon sp.	Twobract Lobelias	*Phylica cf axillaris*	Hardleaves
Erica discolor	Discolorous Heath	*Restio triflorus*	
Erica peltata	Shield Heath	*Restio triticeus*	Wheat Capereed
Eulophia cochlearis	Spoon Cinderella Orchid	*Rhynchosia leucoscias*	Shiny Snoutbean
Euryops virgineus	Virgin True-Eye	*Schoenus sp.*	Veldrushes
Ficinia lateralis	Side Clubrush	*Selago cf. glomerata*	Eden Bitterbush
Ficinia nigrescens	Black Clubrush	*Selago corymbosa*	Stiff Bitterbush
Helichrysum petiolare	Kooigoed	*Senecio ilicifolius*	Kowanna Ragwort

1.2. Degraded to highly degraded fynbos

The greater part of the site contains Degraded to Highly degraded fynbos. This area has a long history of IAPs (Table 5) and it is likely that the soil chemistry has changed over this time. There are low number of indigenous species under the IAPs. In areas where the IAPs have been cleared, there is a slightly higher diversity of indigenous species, suggesting that there may be some seeds still present in the topsoil in at least parts of the site. The species found in this habitat are the same as the ones listed above in Table 4 , however mostly far less abundant. Many parts of this habitat appear to be devoid of any indigenous species other than the most common and hardy species such as bitou (*Osteospermum moniliferum*), coastal camphor (*Tarchonanthus camphoratus*), and sour fig (*Carpobrotus edulis*). The areas bordering on adjacent developed properties have been impacted by dumping of garden waste, and some plants have established themselves within the study area, presumably from the adjacent cultivated gardens (e.g. *Coleus neochilus* and *Crassula sarmentosa*).

Table 5: Alien Invasive Plants identified on the property (Capensis, 2024)

Scientific name	Common name	NEMBA Category
Acacia baileyana	Baileys Wattle	3
Acacia cyclops	Rooikrans	1b

Acacia mearnsii	Black Wattle	2
Acacia melanoxylon	Blackwood	2
Acacia podalyriifolia	Pearl Wattle	1b
Acacia saligna	Port Jackson Willow	1b
Coleus neochilus	Mosquito Spurflower	N/A
Crassula sarmentosa	Trailing Stonecrop	N/A
Eucalyptus cladocalyx	sugar gum	N/A
Lantana camara	Lantana	1b
Melaleuca linearis	Narrow-leaved Bottlebrush	1b
Pinus radiata	Monterey pine	1b

1.3. Semi-Intact Forest

The forest habitat shows some erosion and low levels of Invasive Alien Plants (IAPs) and experiences edge effects from the road, but it is otherwise in good condition. The species noted in this habitat are a mix of thicket and true forest species, which are listed in Table 4. No species of conservation concern (SCC) were identified in this habitat.

Table 6: Plant Species List for Semi-intact Forest Habitat (Capensis, 2024)

Name	**Common Name**
Clausena anisata	Samandua
Cussonia thyrsiflora	Cape Coast Cabbagetree
Cynanchum ellipticum	Monkeyrope Buckhorn
Delairea odorata	Cape-ivy
Diospyros dichrophylla	
Elaeodendron croceum	Forest saffron
Euclea daphnoides	
Lauridia tetragona	Climbing Saffron
Olea capensis	Black Ironwood
Pterocelastrus tricuspidatus	Candlewood
Scutia myrtina	cat-thorn
Searsia cf. pyroides	Karees
Searsia cf. rehmanniana	Karees
Searsia pterota	Wing Currantrhus
Searsia chirindensis	Forest currant
Sideroxylon inerme	White Milkwood (Protected tree)
Trimeria grandifolia	Wild Mulberry

1.4. Photographic record of vegetation on the property

Table 7: Photographic record of vegetation on the property (Capensis, 2024)

Degraded Fynbos	
	
Degraded to highly degraded Fynbos	
	
Semi intact forest	
	

2. ECOSYSTEM THREAT STATUS

According to SANBI red list of ecosystem status, the property containing Garden Route Shale Fynbos was originally mapped to be ENDANGERED (EN).

Figure 8: SANBI Original Ecosystem Status indicating Garden Route Shale Fynbos

The ecosystem was reviewed to still include the potential for Garden Route Shale Fynbos, which has retained its status, being of ENDANGERED (EN).

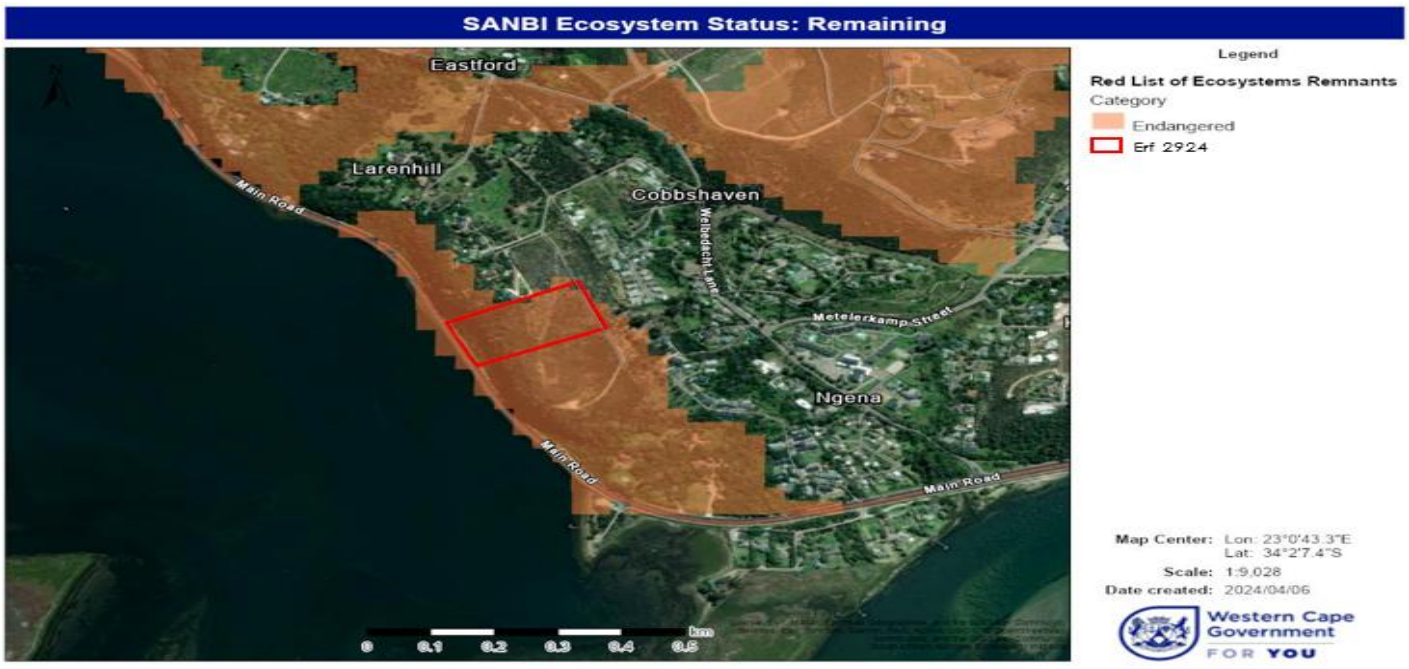


Figure 9: SANBI Remaining Ecosystem Status indicating Garden Route Shale Fynbos

As the vegetation type was found to be highly degraded (Capensis, 2024), no plants listed as Species of Conservation Concern (SCC) have been identified on the property, and therefore a Plant Species Compliance Statement was provided (Appendix D1).

The specialist specifically states that no SCC were identified on the site during the site visit, and none are likely to have been missed. The seasonality of the study was not optimal, however, geophytic plants were still visible from their leaves or dried flowering plants and none of the SCC predicated by the screening tool are likely to be present on the site in its current condition.

3. SENSITIVE AREAS (CBA, ESA, and PA)

The Western Cape Biodiversity Spatial Plan (WCBSP, 2017) designates the property as situated within a Critical Biodiversity Area (CBA:1 – to maintain), divided between aquatic and terrestrial features.

The following applies to both aquatic and terrestrial features -

Definition: Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.

Objective: 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 10: Western Cape Biodiversity Spatial Plan (WCBSP 2017) Sensitive areas

The specialists (Capensis, 2024) confirmed that the proposed development was indicated to occur within CBA 1, however, stated that this classification is questionable as the sites are not intact. It was specified that it would be more accurate to classify the property as CBA 2 or ESA 2 due to the poor condition.

Although no Ecological Support Areas were identified on the property, it is important to note that the Knysna Estuary, located across the N2 road on the western boundary, is part of the Garden Route National Park, a protected area. Part of the protected area layer on Cape Farm Mapper is overlayed onto the property.

Figure 11: Western Cape Biodiversity Spatial Plan (WCBSP 2017) Protected Areas

4. FRESHWATER SENSITIVITIES

There are neither perennial, nor non-perennial rivers indicated on the property. Additionally, no wetlands have been noted on the property.

Figure 12: Freshwater Resources on / and in proximity of Erf 2924

Although no freshwater resources were identified, the adjacent Knysna Estuary adds sensitivity to the proposed development property. Therefore mitigations measures proposed (Section D) by the specialist (Confluent, 2024) must be strictly adhered to.

5. FAUNA

Faunal Specialists (Confluent, 2024) were consulted to provide feedback on the faunal sensitivities relevant to the proposed development property. The GPS tracking gives indication to the extent of a site visit done in April 2024.

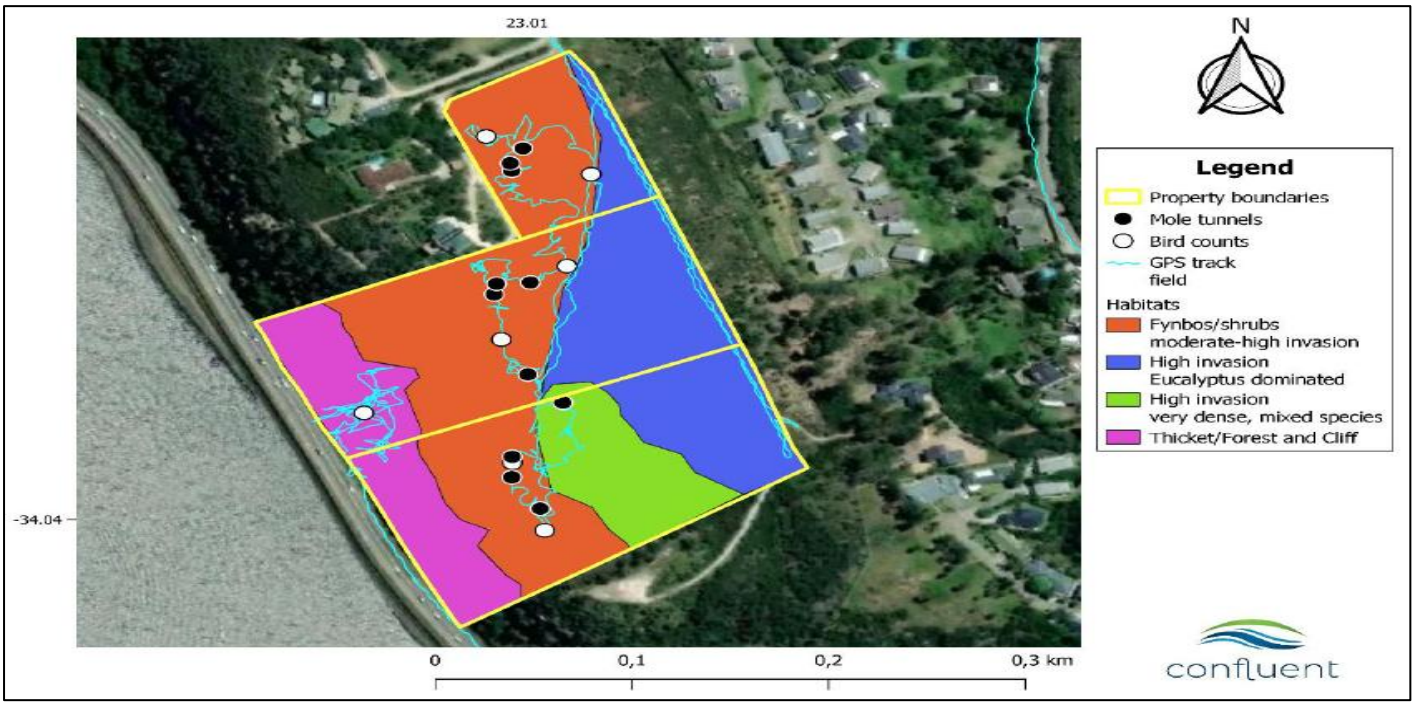


Figure 13: Habitats, GPS track and field work (Confluent, 2024)

5.1. Avifauna

No SCC were encountered during the site visit. Seven bird counts were conducted across the properties, in addition to opportunistic sightings noted throughout the meander and searching for nests/roosting sites in suspected habitat. A total of 10 bird species (Table 8) were identified during the site visit.

Table 8: Avifauna species observed during site visit

Common name	Scientific name
African Firefinch	Lagonosticta rubricata
Cape Robin-Chat	*Cossypha caffra*
Hadada Ibis	*Bostrychia hagedash*
Karoo Prinia	*Prinia maculosa*
Kelp Gull	*Larus dominicanus*
Red-winged Starling	*Onychognathus morio*
Sombre Greenbul	*Andropadus importunus*
Southern Double-collared Sunbird	*Cinnyris chalybeus*
Southern Grey-headed Sparrow	*Passer diffusus*
Speckled Mousebird	*Colius striatus*

5.2. Mammals

Subterranean tunnels typical for the Golden Mole SCC were found on the hilltop areas of the property during the site visit. While not possible to identify the species present based on the tunnels

alone, the habitat suggests the more likely occurrence of the Fynbos Golden Mole (*A. corriae*) rather than Duthie's Golden Mole (*C. duthieae*, Vulnerable) which is typically associated with more forested habitat. However, the DFFE Screening Tool predicted suitable habitat for Duthie's Golden Mole on all three properties and therefore the precautionary approach is followed for this SCC as well. Mole tunnels were found in all vegetation/habitats in the hilltop and northern sections of the properties regardless of the level of alien plant invasion. One mole tunnel was also observed to cross beneath the fence of the north-western neighbouring property, indicating their movement across the entire hilltop landscape (Figure 14).

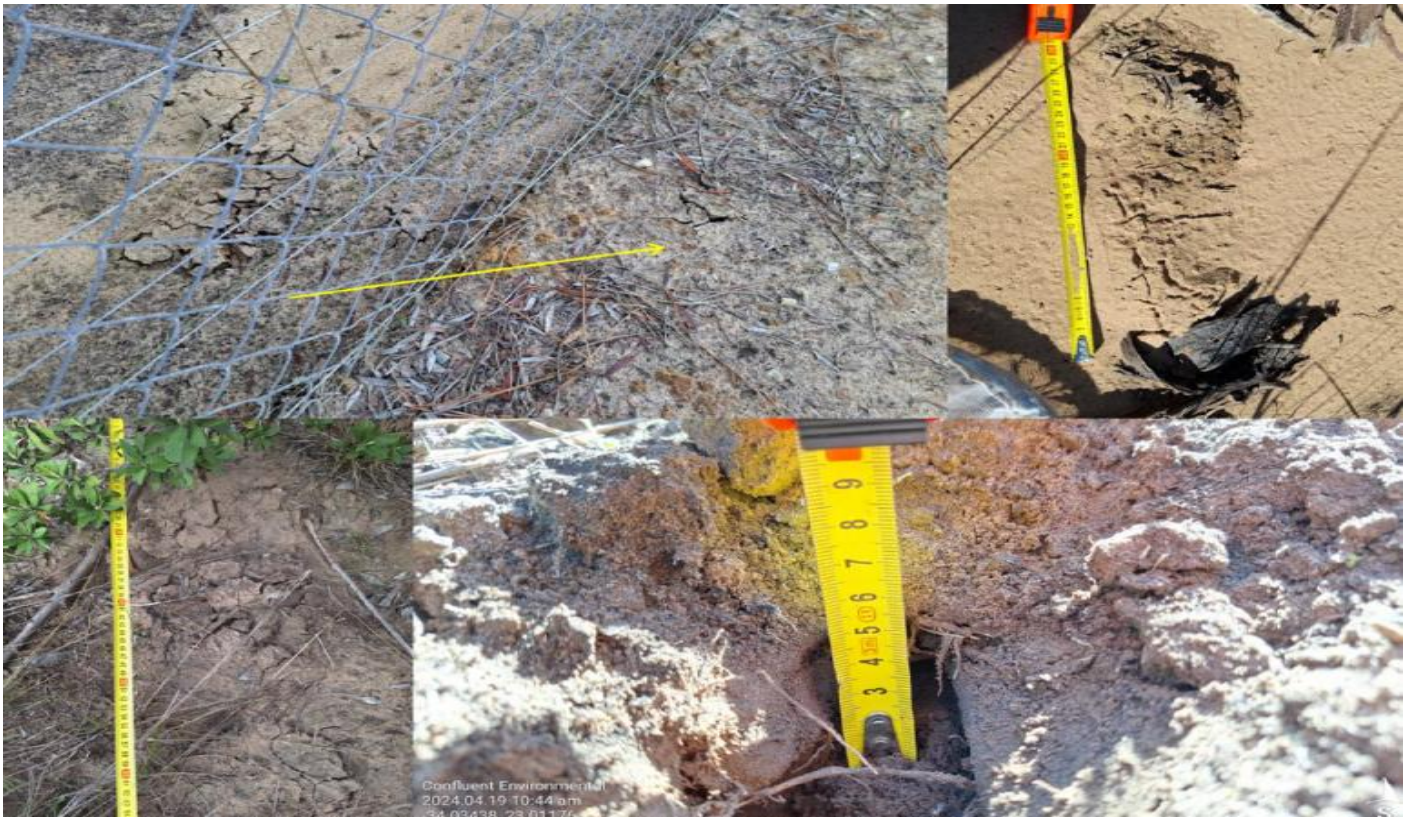


Figure 14: Golden mole tunnels seen on Erven 7594, 2924 and 2925. Top left image shows tunnel crossing a fence line (yellow arrow shows the crossing). Lengths of the tunnels seen are indicated by tape measure, as is the height (size) of one excavated tunnel in the bottom right image.

Antelope dung was found in the thicket section near the N2 highway and Bushbuck are suspected to be using this as a corridor. Some Mole-rat activity was also seen adjacent to the N2 highway along the mowed edges of the roads. Table 9 provides a summary of all mammals observed during the specialist's site visit.

Table 9: Mammal species observed during site visits to erven 7594, 2924, 2925 Knysna

Order	Family	Common Name	Scientific Name	Notes
Afrosoricida	Chrysochloridae	Golden mole	*Amblysomus corriae* OR *Chlorotalpa duthieae*	Typical sub-terranean tunnels seen on all three properties
Artiodactyla	Bovidae	Cape Bushbuck	*Tragelaphus sylvaticus*	Suspected from dung

5.3. Terrestrial invertebrates

No Species of Conservation Concern (SCC) were found during the site inspection. The limited fynbos elements combined with moderate to high levels of alien plant invasion generally reduce the habitat quality and suitability for most invertebrate SCC. However, the site did contain plants in the genus Aspalathus, which is the host plant genus for the Near Threatened butterfly, *Aloeides pallida littoralis*. In total, invertebrates from 6 Families were photographed and identified from site (Table 10).

Table 10: Invertebrate species observed during site visits

Order	Family	Common name	Scientific name
Araneae	Salticidae	Jumping Spider	-
Coleoptera	Lampyridae	Fireflies & Glowworms	-
Hymenoptera	Formicidae	Big-headed Ants	*Pheidole sp.*
Hymenoptera	Formicidae	Sugar Ants	*Camponotus sp.*
Lepidoptera	Nymphalidae	Cape Autumn Widow	*Dira clytus*
Orthoptera	Acrididae	Short-horned Grasshoppers	-
Orthoptera	Acrididae	Bandwing grasshoppers	*Acrotylus subfamily*
Stylommatophora	Achatinidae	Zebra Agate Snail	*Cochlitoma zebra*

6. GEOTECHNICAL

A geotechnical assessment was done by Outeniqua Geotechnical Services (May 2022) to identify potential challenges and mitigate risks before they escalate, ultimately saving time and resources. The following information was brought forward during their assessment of the property –

Site description:

The general terrain of the area was characterised by gentle to moderate slopes along the crest of the hill, becoming steep to the northeast and southwest. The site was accessible via an existing gravel track leading off the main estate road and entering the site on the northern boundary. The natural vegetation consisted of thick fynbos bush and alien saplings. The surface conditions were found to be dry and there were no signs of any significant surface drainage issues, such as springs or marshes, or any major stability problems.

Geology & Soil profile:

The site was underlain by aeolian (windblown) deposits, known as the Knysna coversands, which were deposited between the Miocene and early Pleistocene epochs (circa 2-20Ma). The coversands consisted of silty fine-grained sands with significant but sporadic alteration of silt particles to clay and the formation of sporadic laterite lenses. The coversands were known to be highly variable in terms of texture and consistency. The coversands were known to be underlain by siltstone, sandstone and conglomerate of the Enon Formation, which occurred at a depth of several meters below the site.

The soil profile exposed in test pits on the site consisted of the following general horizons:

- 0-700mm (ave): Moist, dark reddish brown, loose, silty fine sand with roots (topsoil)
- 700-2800mm: moist, light reddish brown-dark yellow orange, medium to dense, silty fine sand, or clayey fine sand, aeolian coversands

The sandstone and conglomerate of the underlying Enon Formation was not encountered in the test pits and are not expected for 3-5 meters below surface. No groundwater seepage was

encountered in any of the test pits at the time of the investigation, but seepage was expected during or after wet weather periods throughout the profile.

The clay content and PI of the clayey coversands was typically quite variable, but generally not considered expansive. One sample of clayey silty sand was taken from TP1 for Foundation Indicator tests to determine grading and Atterberg limits. The results of the tests indicated that the soil was dominated by fine sand with 100% passing 0.425mm sieve and 24% passing 0.075mm sieve (clay/silt). Plasticity index is slightly plastic. The soil was classified as SM according to the UCS (silty sand with low plasticity, plotting above the A-line). Negligible heave was expected from this or any other soil horizons.

DCP tests and visual observations indicated loose consistency in the upper 0.7m of the profile, improving to medium dense or dense (variable) below that depth. The tests indicated that the soil required compaction/densification to achieve adequate safe bearing capacity, even for light structures. A high risk of differential settlement if foundations was apparent if foundations were not suitably well prepared and compacted during construction.

Conclusions:
The site was considered suitable for the proposed development but there were some moderate geotechnical constraints, including moderate to steep slopes and loose sandy soil which require consideration by the structural engineer.

7. COASTAL ENVIRONMENT

Abbass et al. (2022)[1] describes in short that climate change is a long-lasting change in the weather arrays that include the shift in temperature and rainfall. This will ultimately pose risks to coastal areas stemming from rising sea levels, increased storm intensity, and altered precipitation patterns, which can lead to frequent flooding, erosion, and habitat loss. The influence of this risk on the property has been considered due to the proximity of the Knysna Estuary.

[1] K. Abbass et al. 2022. A review of the global climate change impacts, adaptation, and sustainable mitigation measures. Environmental Science and Pollution Research. 29(42539–42559). https://doi.org/10.1007/s11356-022-19718-6

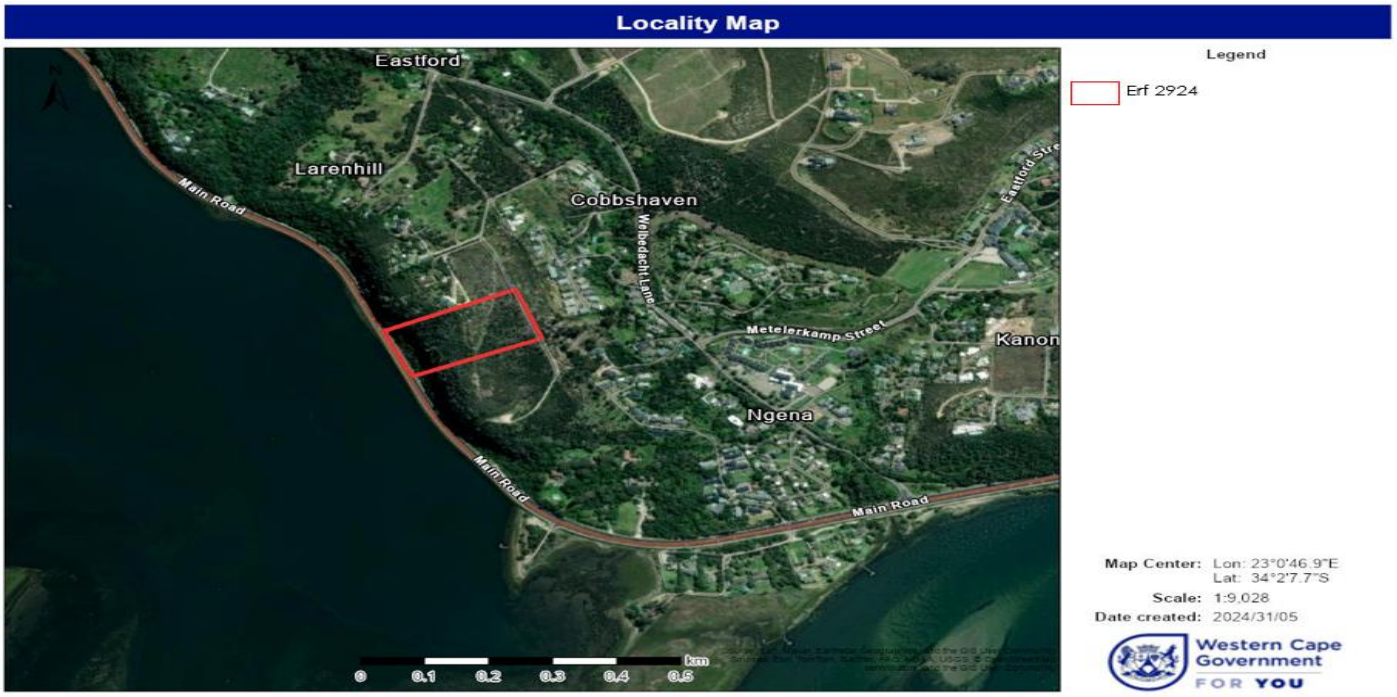


Figure 15: Locality map indicating the proximity of the Knysna Estuary

However, the property is well-protected from these impacts due to its strategic location. The property is buffered by the N2 highway and a steep cliff, providing a significant barrier against direct flooding and tidal surges from the Knysna Estuary. The elevation of the property further reduces its vulnerability to the effects of sea level rise and storm surges (Figure *16*, see also Figure 5).

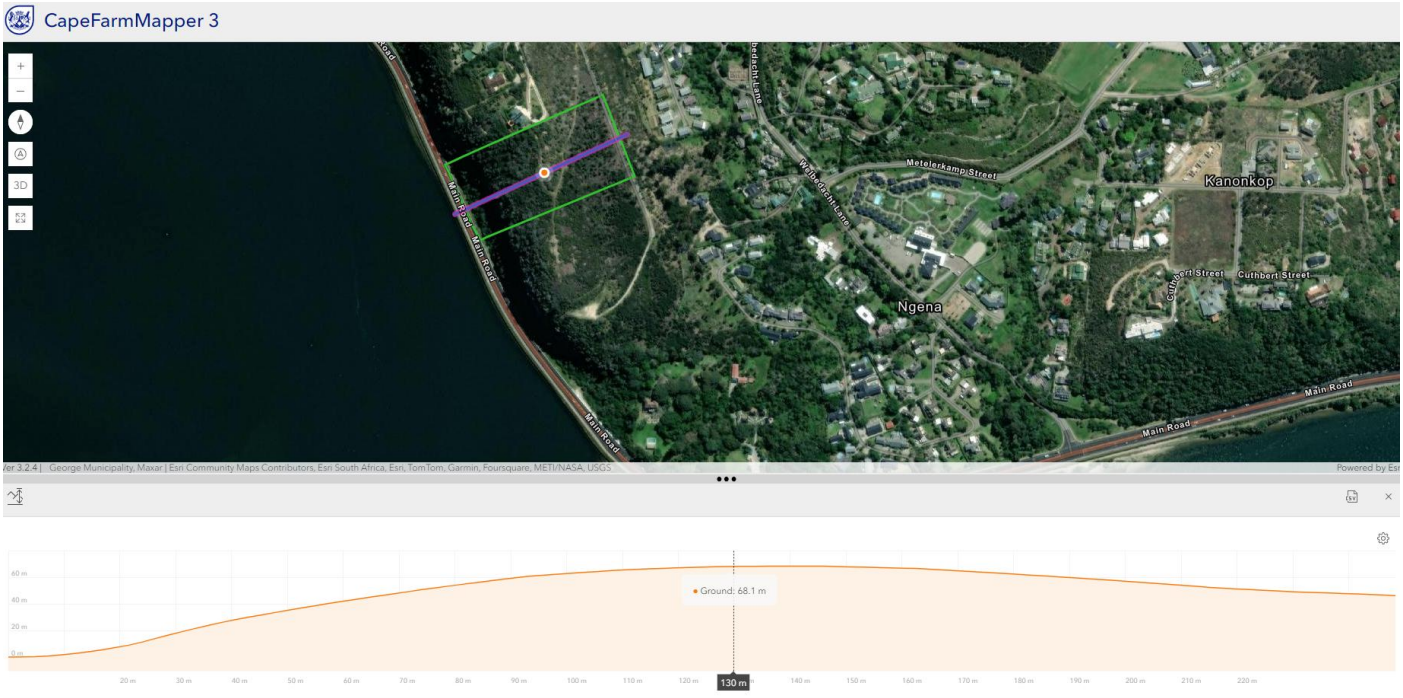


Figure 16: Cross section of Erf 2924 from the southern boundary

Consequently, while the Knysna Estuary may experience changes in its ecological dynamics due to climate change, the elevated position and natural buffers of the property ensure that it remains minimally impacted by these environmental changes, making it a viable option for development with minimal risk.

8. HERITAGE

A Notice of Intent to Develop (NID) under Section 38(1) and (8) of the NHR Act was submitted to Heritage Western Cape. Heritage Western Cape determined that the proposed development would have no anticipate impact on heritage resources (Appendix I).

SECTION D – ENVRIONMENTAL SCREENINING TOOL INPUT

A Department of Forestry, Fisheries, and the Environment (DFFE) national web-based screening tool was generated (05 February 2024) to review the environmental sensitivities for *Transformation of land / Indigenous vegetation*. It was generated once more (20 May 2024) to review the environmental sensitivities for *Infrastructure / Localised infrastructure / Infrastructure in the Sea-Estuary-Littoral Active Zone-Development Setback_100M Inland or coastal public property*
The screening reports both list a variety of specialist studies to be undertaken based on the data informants of the tool at the study area.
The application classifications selected for the screening report was –

- *Transformation of land | Indigenous vegetation.*
- *Infrastructure / Localised infrastructure / Infrastructure in the Sea-Estuary-Littoral Active Zone-Development Setback_100M Inland or coastal public property*

1. ENVIRONMENTAL MANAGEMENT FRAMEWORKS RELEVANT TO THE APPLICATION

The Garden Route Environmental Management Framework is applicable to the proposed development.
(https://screening.environment.gov.za/ScreeningDownloads/EMF/gardenroute_finalreport.pdf)

The Basic Assessment process should consider impacts on biodiversity, water resources, soil stability, air quality, and noise. It must also address socio-economic factors, such as effects on the local community and cultural significance, while ensuring compliance with the National Environmental Management Act (Act 107 of 1998) and local zoning laws. Mitigation measures should include an Environmental Management Plan and continuous monitoring. Public participation is essential to involve and address concerns from stakeholders and the community.

2. RELEVANT DEVELOPMENT INCENTIVES, RESTRICTIONS, EXCLUSIONS OR PROHIBITIONS

The proposed site is within both a South African Conservation Area (SACAD) and a South African Protected Area (SAPAD). Conservation Areas are currently not regulated through national or provincial legislation. However, Protected Areas are.
In consideration of this governance and the proposed development, the property is within the Garden Route National Park, which is declared a Protected Area under Section 9 of the National Environmental Management Protected Areas Act (Act 57 of 2003).
In Section 50(5) it further states that –

- No **development**, construction or farming may be permitted in a national park, nature reserve or world heritage site without the prior written approval of the management authority.

In which case South African National Parks (SANParks) is the management authority.
SANParks will be consulted throughout the environmental assessment process.

3. PROPOSED DEVELOPMENT AREA ENVIRONMENTAL SENSITIVITY

The Screening Tool Report generated for *Transformation of land | Indigenous vegetation* identifies the following summary of environmental sensitivities related to the property, highlighting only the highest sensitivity areas. These identified environmental sensitivities for the proposed development footprint are indicative and have been verified on-site by suitably qualified specialists.

Table 11: Environmental Sensitivities according to the DFFE screening tool report (05 Feb 2024)

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture			X	
Animal Species		X		
Aquatic Biodiversity	X			
Archaeological & Cultural Heritage	X			
Civil Aviation			X	
Defence				X
Palaeontology	X			
Plant Species			X	
Terrestrial Biodiversity	X			

The Screening Tool Report generated for *Infrastructure / Localised infrastructure / Infrastructure in the Sea-Estuary-Littoral Active Zone-Development Setback_100M Inland or coastal public property* identified the environmental sensitivities similar to *Transformation of land | Indigenous vegetation.*

4. IDENTIFIED SPECIALIST INPUT REQUIRED

Based on both the selected classifications (*Transformation of land | Indigenous vegetation*) as well as (*Infrastructure / Localised infrastructure / Infrastructure in the Sea-Estuary-Littoral Active Zone-Development Setback_100M Inland or coastal public property*). Including considerations of the environmental sensitivities of the proposed development footprint). The following specialist assessments have been identified for inclusion in the assessment report.

Before starting a specialist assessment, the current use of the land and the environmental sensitivity of the site, as identified by the national web-based environmental screening tool, must be confirmed or disputed through a site sensitivity verification report. During this verification process (APPENDIX E), the reasons for not conducting certain specialist impact assessments were explained.

Table 12: Combined identified specialist assessments for (Transformation of land | Indigenous vegetation) as well as (Infrastructure / Localised infrastructure / Infrastructure in the Sea-Estuary-Littoral Active Zone-Development Setback_100M Inland or coastal public property).

No:	Specialist Assessment	Assessment Protocol
1	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf

5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
6	Marine Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
7	Avian Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Avifauna_Assessment_Protocols.pdf
8	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
9	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
11	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

SECTION E – PROJECT SCOPE

1. PROPOSED DEVELOPMENT (PREFERED ALTERNATIVE – ALTERNATIVE A)

The preferred alternative involves constructing a primary dwelling and associated infrastructure on Erf 2924, Knysna. The proposed development will be detailed by breaking it down into the following components:

- Primary Dwelling Structure

The primary dwelling structure is the central focus of the proposed development and includes several key features:

- Floor Plan and Layout:

  Basement Plan: Includes a garage, staff bedroom, and a staff bath. The ground floor also features a hobby room and circulation space, which connects to the upper floor of the house.

  Ground Floor Plan: Consist of main living areas, bedrooms, kitchen, and other essential spaces.

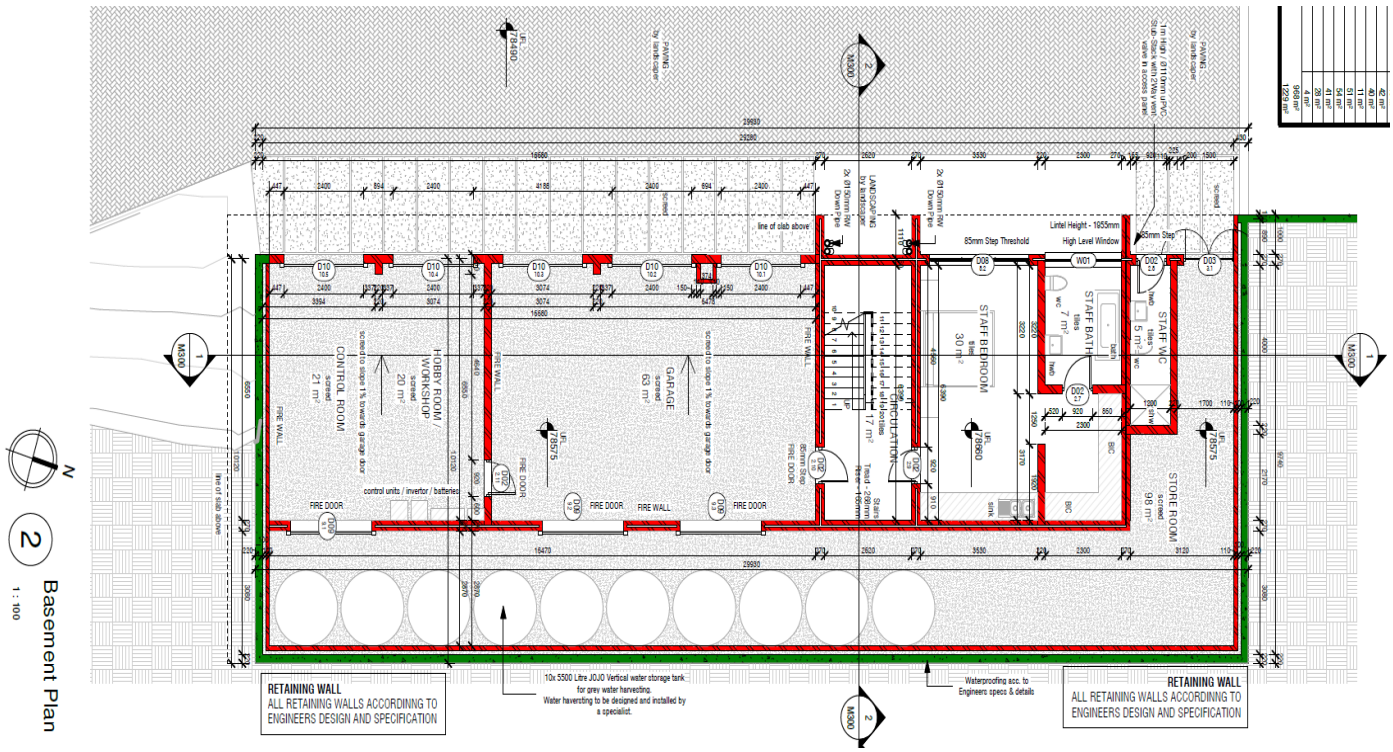


Figure 17: Basement Plan (Mathews + associate architects, 2023)

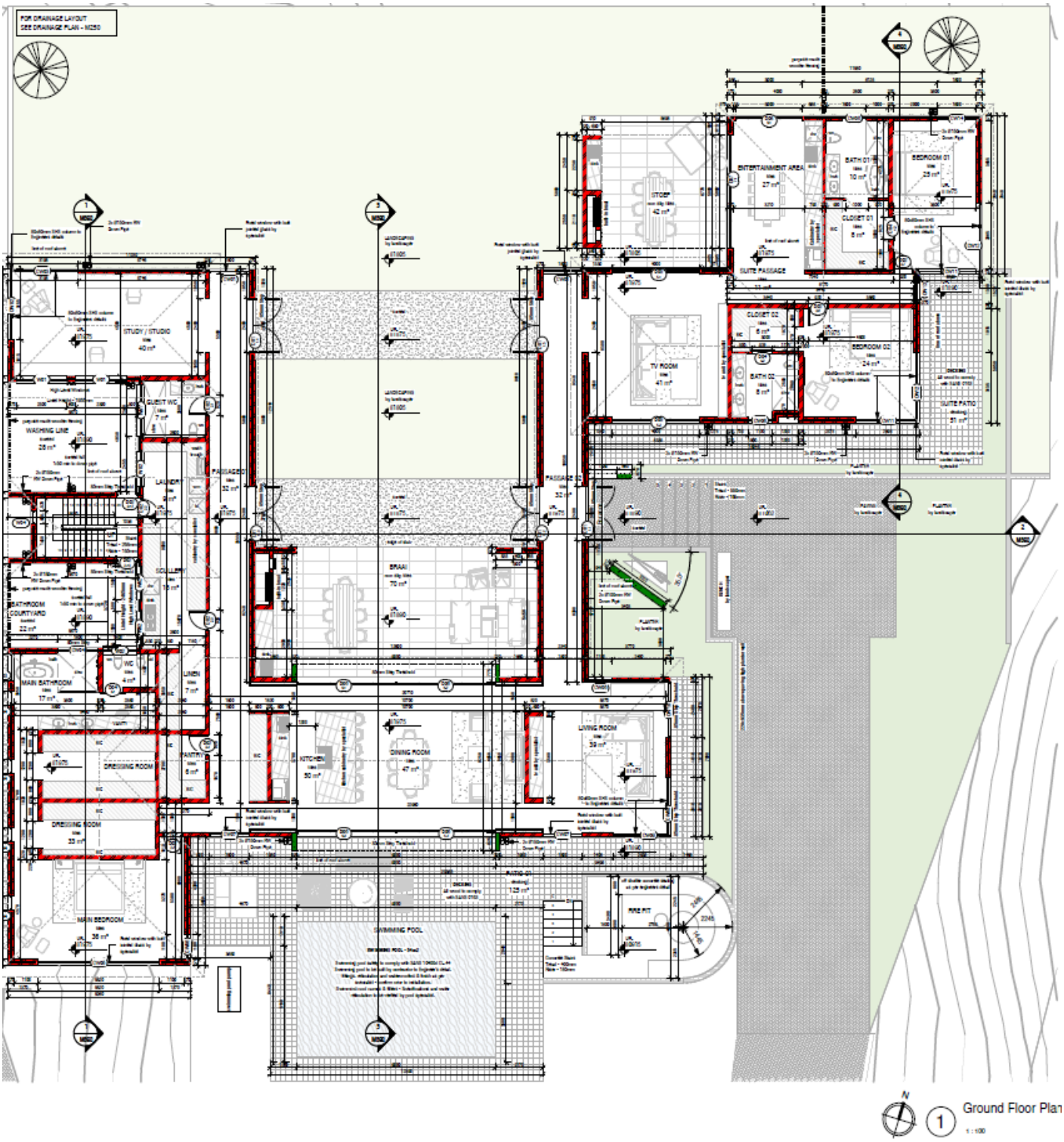


Figure 18: Ground Floor Plan (Mathews + associate architects, 2024)

- Architectural and Design Features

The architectural features of the primary dwelling emphasize both functionality and aesthetic appeal:

- Exterior Design:

  Swimming Pool: Positioned with detailed specifications for safety and construction, the pool area will include necessary fittings and reticulation as per specialist requirements.

Pergola: A timber pergola is included, likely providing a shaded outdoor space that complements the overall landscape design.

- Interior Design:

  Stairs: Measurements for stair treads and risers are provided, ensuring safety and comfort in movement between floors.

  Storage and Utility: The layout includes various utility spaces like a wash trough and storage areas, designed for practicality.

- Site Layout and Landscaping

The site layout integrates the primary dwelling with the surrounding landscape and infrastructure:

- Landscaping:

  Existing Trees: The plan indicates existing trees, which some will be preserved to maintain the natural environment and aesthetic. **No protected trees have been noted.**

  Paving: Detailed paving plans are included in the site development plan, showing easy access to the front entrance on the east side and the garages on the west side of the dwelling infrastructure.

- Boundary and Access:

  Boundary Lines: Clearly marked boundary lines define the extent of the property, whereby all development will be restricted within the boundary lines.

  Fence line: A fence will be erected for security purposes along the eastern boundary of the property

  Access Roads: The layout includes an access road that stems from Erf 7594 and continues towards Erf 2925. **All the property owners have agreed on the construction of the road** (see Appendix X for Landowners Consent). This road will be hard surface area to ensure that optimal stormwater can enter the adjacent catchment system in place to harvest rainwater.

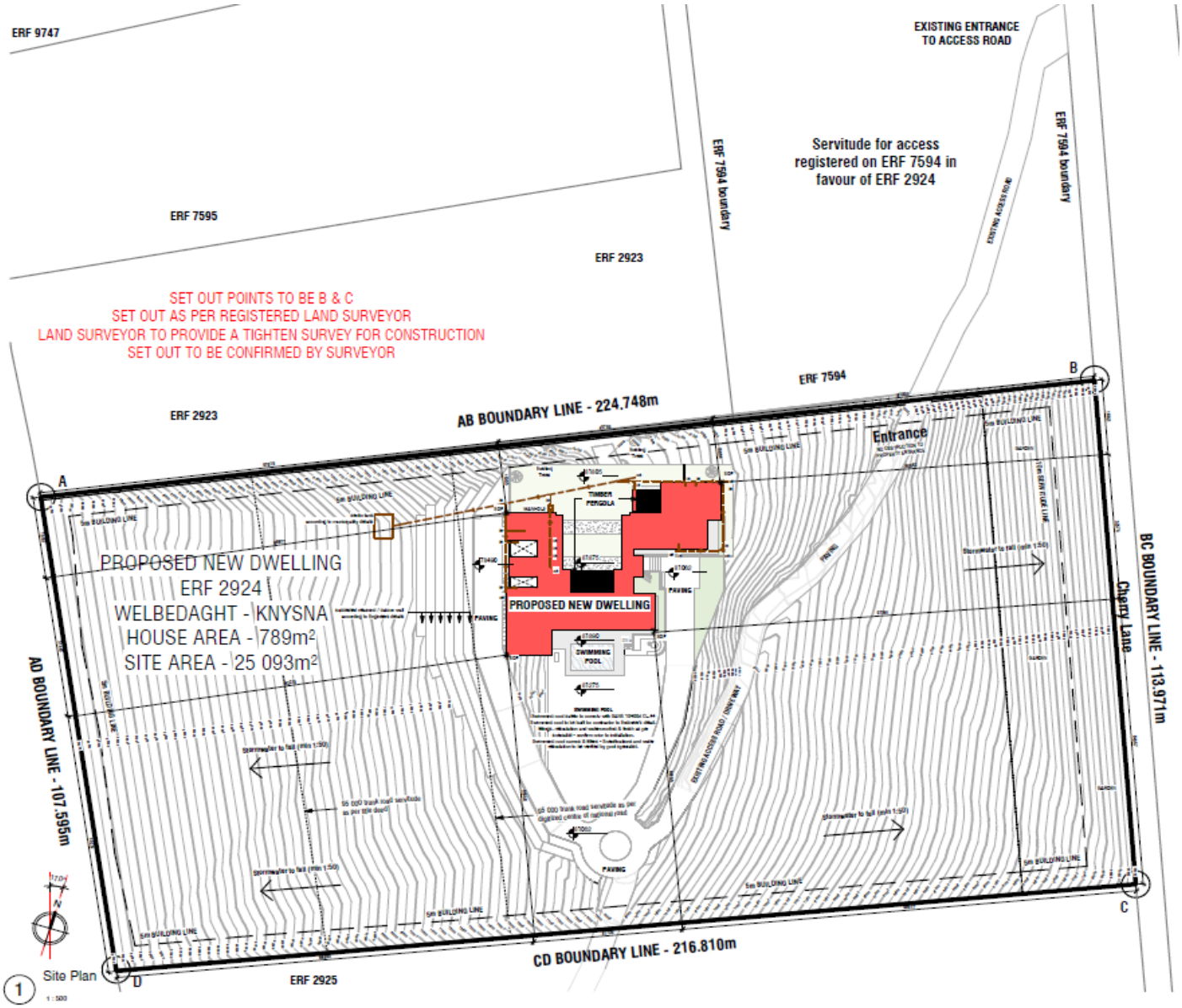


Figure 19: Revised site development plan with access road (Mathews + associate architects, 2024)

Total development (m²) as calculated by the architect:

Description	Total (m²)
Proposed new dwelling	789
Driveway / access road (Property footprint only)	1 500
Swimming pool	54
Conservancy tank	20
Fencing	141
Total	2 504

Site	25 093
Total disturbance	2 504
Percentage disturbed	9 %
Percentage retained	91 %

The development of this property faces topographical limitations, necessitating cut (2054 m³) and fill (3643 m³) to stabilize the construction area. It is proposed to use the cut material for infilling purposes. Figure 19 below shows the predicted cut and fill.

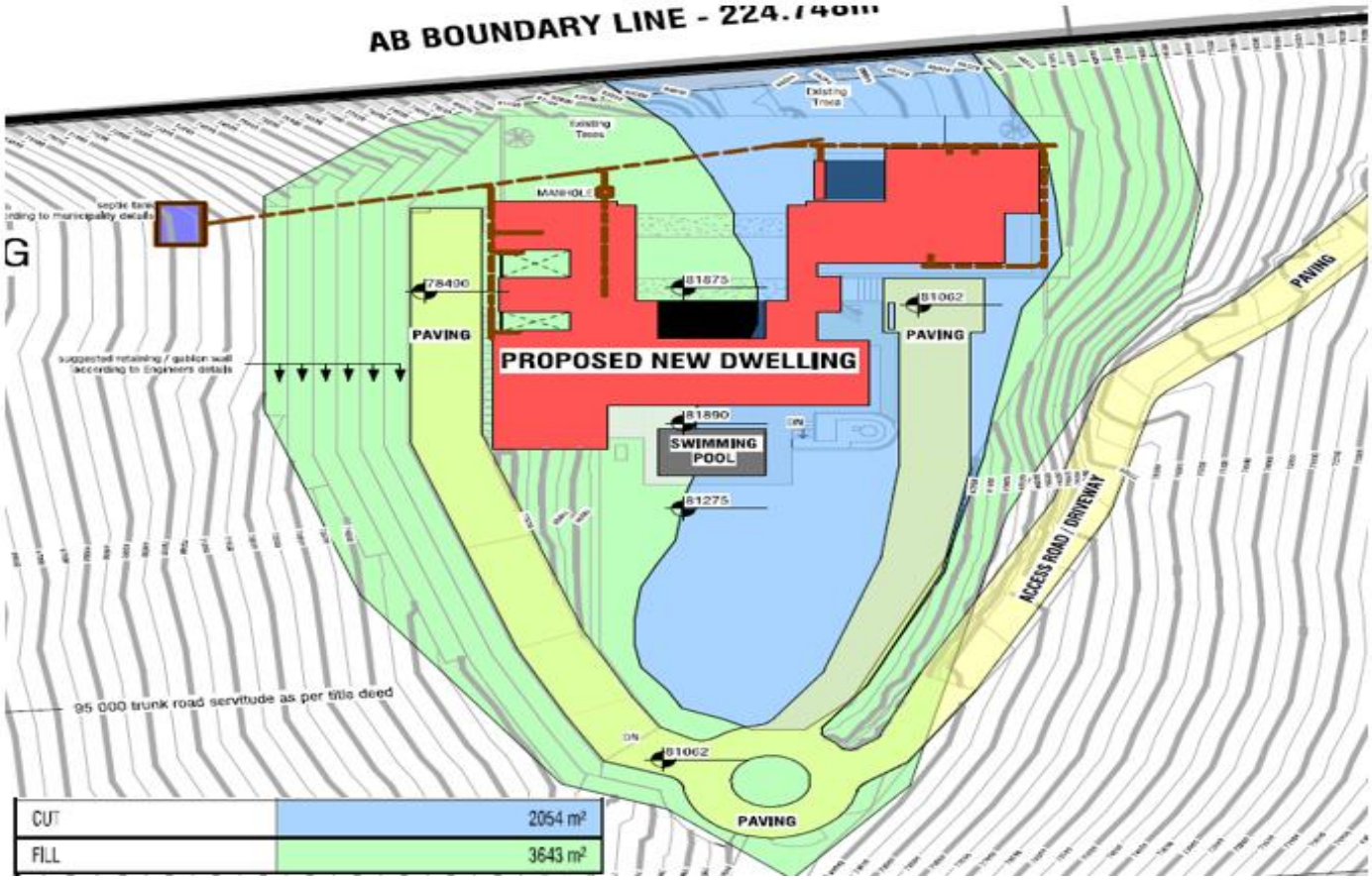


Figure 20: Predicted cut and fill (Mathews + associate architects, 2024)

- Services

The applicant has outlined the provision of municipal services to the property, including water and electricity. However, discussions with the Knysna Municipality have confirmed that there are now sewer connections, and that a conservancy tank will be best suited. These specifications were considered and inserted in the site development plan.

- Sewage

A conservancy tank will be installed and serviced by the Knysna Municipality as confirmed by Mr Nozipho Ntanzi

Sustainable alternatives to mitigate the impact on municipal water and electrical services is proposed.

- Water
  Rainwater harvesting: Involves collecting water from rooftops, which is stored in dedicated tanks. Gutters will be installed along the access road and driveway to maximize collection efficiency. Filters will also be incorporated to ensure the harvested water is suitable for reuse.

- Electricity
  Solar and Gas: To relieve the usage of electricity, solar panels will be installed on the roof at designated points. Geysers will also be fitted with solar driven heating elements. Gas will be utilized for cooking purposes.

2. DETAILS OF DEVELOPMENT ALTERNATIVE(S) (ALTERNATIVE B)

In an alternative design, the access road was planned to curve from the eastern boundary of the property. Initial calculations for this proposal indicated that the access road would encompass 2,329 m^2, including the driveway surrounding the primary dwelling.

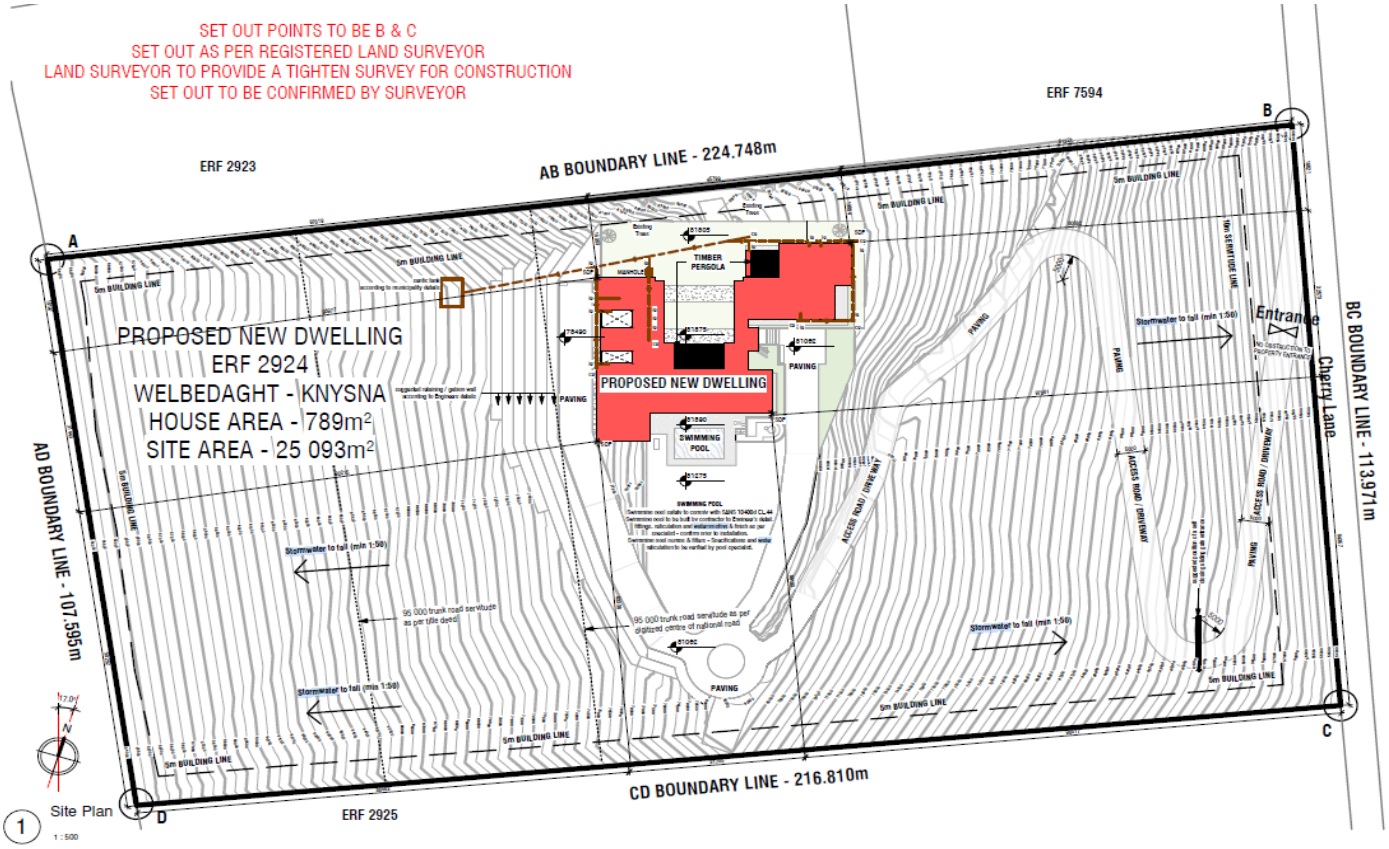


Figure 21: Alternative B (Mathews + associate architects, 2023)

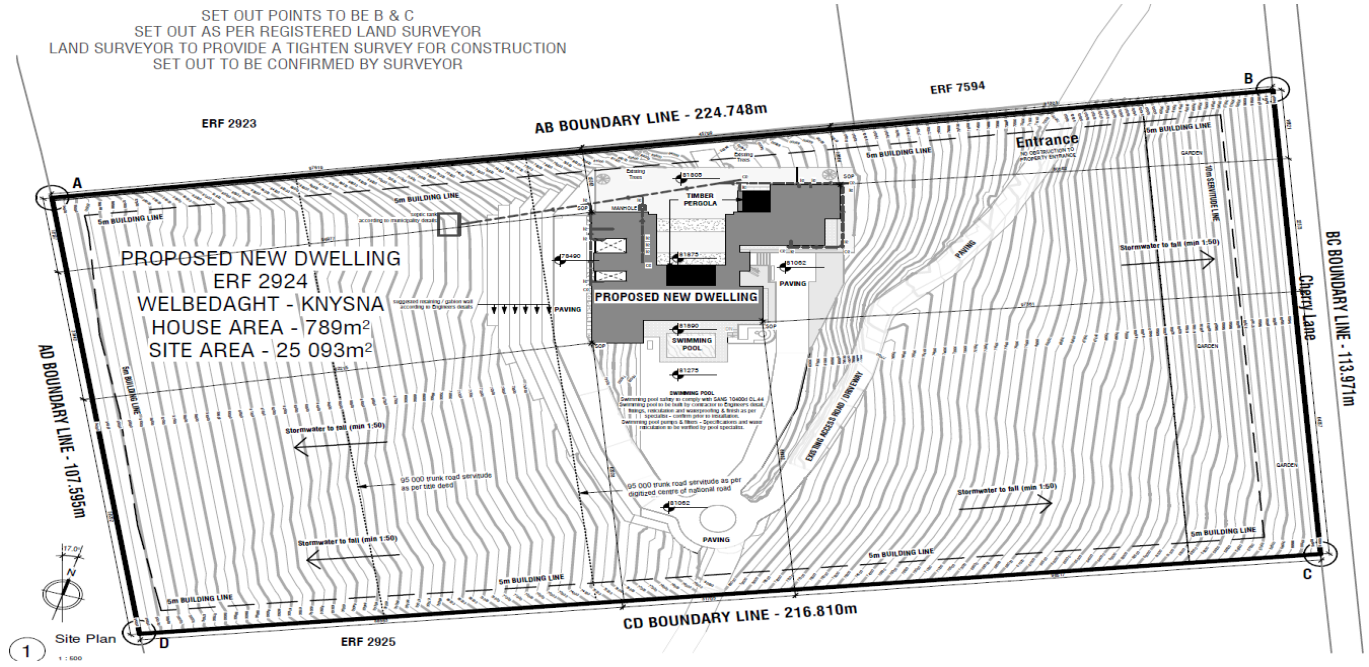
The proposed primary dwelling remains the same for Alternative A and Alternative B, as the applicant has indicated that there are no feasible alternatives for constructing the preferred primary dwelling. The applicant values environmental considerations and based on input from specialist studies it was recommended to modify the access road to serve three adjacent erven (Erf 7594, Erf 2924, and Erf 2925).

3. MOTIVATION FOR PREFERED ALTERNATIVE

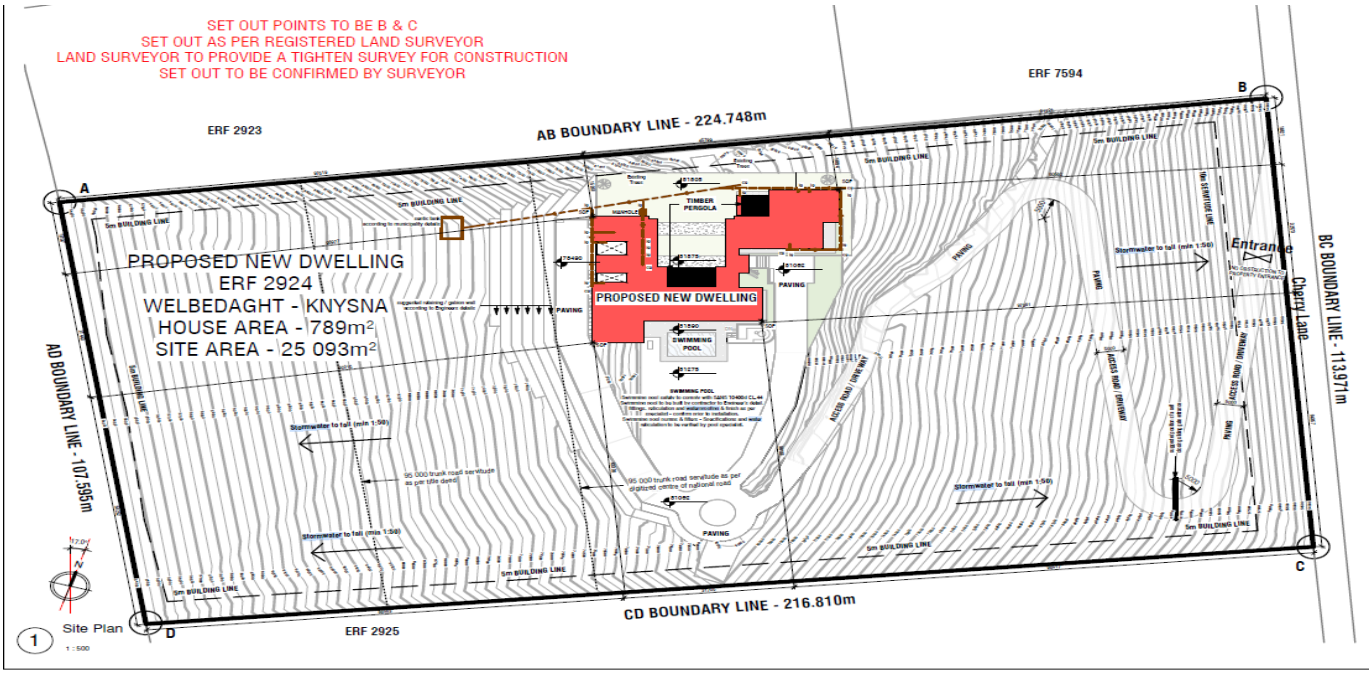
The preferred alternative for the primary dwelling on Erf 2924 Knysna has been planned to minimise environmental impact while adhering to practical and aesthetic considerations. The amended Site Development Plan (Alternative A) eliminates the originally proposed access road, instead utilising the existing road that traverses erven 7594, 2924, and 2925, thereby reducing environmental impacts.

Table 13: Comparison between alternative A and alternative B

Alternative A (Mathews + associate architects, 2024)



Alternative B (Mathews + associate architects, 2023)



The selected location for the house is the only suitable building area on the 25,093 m² erf. This positioning minimises the need for extensive earthworks, further decreasing the environmental footprint. The building coverage is only 3.14% of the erf, significantly below the allowable 35%, ensuring minimal land disturbance. The house design includes a basement for garages and rainwater harvesting tanks, which works harmoniously with the natural slope, reducing the need for ground filling and cutting. The house blends seamlessly into the landscape, maintaining aesthetic integrity. Additionally, the proposed dwelling aligns with the positions of neighbouring properties, ensuring consistency within the development. The erf benefits from available municipal water and electricity connections, with regular payments made to the Knysna Municipality, thereby confirming

building rights and services availability. This comprehensive approach ensures that the development is environmentally sensitive, practical, and in harmony with the surrounding area.

4. NEED AND DESIREABILITY

Based on the Integrated Environmental Management Guideline from the Department of Environmental Affairs (DEA), the development on Erf 2924 in Knysna would need to align with the principles of sustainability and consider the need and desirability as outlined in the Guidelines.
Key points to consider:

Principle	Development Response
Ecological Sustainability	The site development planning has taken into consideration all specialist findings and recommendations.
Justifiable Economic and Social Development	Development of a primary dwelling on Erf 2924 in Knysna will bolster the local economy through job creation in construction and related sectors, thereby stimulating economic activity. Increased property values and generated tax revenue from the development will contribute to the municipality, supporting further community investment and growth.

Furthermore, development on Erf 2924 in Knysna must adhere to the strategic context set by various policies and plans, such as the National Development Plan 2030 (NDP) and comply with statutory requirements. The development should serve the public interest, align with the local Integrated Development Plans (IDP), Spatial Development Frameworks (SDF), and Environmental Management Frameworks (EMF), and reflect the broader community's needs and interests.

Based on these key considerations, several assessment points will be addressed as part of this Basic Assessment Report (Table 14).

Table 14: Assessment of need and desirability

1.	Explain how the proposed development is in line with the existing land use rights of the property?
The property is zoned Single Residential Zone I (dwelling house). The objective of this zone is to provide for residential development where the predominant type of accommodation is a dwelling house for a single family. The proposed dwelling house is in line with the zoning of the property.	
2.	Explain how potential conflict with respect to existing approvals for the proposed site.
There is no conflict of interest.	
3.	Explain how the proposed development will be in line with the following?
3.1.	The Provincial Spatial Development Framework (Western Cape Provincial Spatial Development Framework; WCPSDF).
The WCPSDF aims to restructure the urban and rural landscape of the Western Cape to offer socio-economic opportunities for all. Due to the urban nature of the property and the development proposal, it is not expected to negatively affect any coastal landscapes, agricultural lands, or natural environments. Thus, this application is not found to be in conflict with the WCPSDF.	

3.2.	The Integrated Development Plan of the local municipality.
The District Municipality's IDP is a super-plan for an area that gives an overall framework for development. In the same way the District Municipality's spatial development framework provides guidance to local municipalities for future spatial planning, strategic decision-making, and regional integration. Considering the scale and nature of the proposal under consideration for the subject property, no conflict with the District Municipality's spatial plans were identified.	
3.3.	The Spatial Development Framework of the local municipality.
Erf 2924 Knysna is not addressed specifically in the KMSDF. It is within the urban edge and in a demarcated residential area. The proposed development and the nature thereof is found to be consistent with the Local Municipal SDF as required in terms of Section 19 of the Land Use Planning Act, 2014 (LUPA).	
3.4.	The Environmental Management Framework applicable to the area.
The most recent Environmental Management Framework (EMF) for the Garden Route outlines overarching principles binding all state organs, including local authorities and officials. These principles emphasize the avoidance or minimization and remediation of ecosystem disturbances and biodiversity loss. Specifically, ecosystems like coastal shores, estuaries, and wetlands, which are sensitive or under stress, require careful management and planning consideration. Additionally, the sustainable use of renewable resources must not exceed thresholds that jeopardize ecosystem integrity. In the context of developing Erf 2924 in Knysna, adherence to these principles mandates comprehensive environmental assessments. These assessments, conducted by specialists, analyse environmental sensitivities such as botanical and aquatic aspects, crucial for informing Environmental Authorisation decisions. This process ensures that potential impacts are identified and mitigated through strategies like no-go areas, buffer zones, and ongoing management measures, safeguarding sensitive environments throughout the project's lifecycle. All these identifications and mitigations are highlighted in this report, thus falling in line with the Garden Route Environmental Management Framework.	
4.	Explain how the proposed development will optimise vacant land available within an urban area.
The vacant residential property will be developed with a dwelling house and will create an additional residential opportunity within the urban edge and thereby preventing urban sprawl into the rural landscape.	
6.	Explain how the proposed development will optimise the use of existing resources and infrastructure.
A residential property is connected to the available municipal service system. Developing this vacant property in accordance with its zoning will optimise the available resources to the area and property.	

SECTION F – APPLICABLE LISTED ACTIVITIES

The following activities as per the National Environmental Management Act (Act No. 107 of 1998), Regulations Listing Notice 1 (Government Notice No. 983) and Listing Notice 3 (Government Notice No. 985) require environmental authorisation from the Department of Environmental Affairs (DEA), prior to commencement.

Table 15: Relevant listed activities that require environmental authorisation

Activity	Description	Development applicability
Listing Notice 1 Activity 19A	The **infilling or depositing of any material of more than 5 cubic metres** into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from— (i) the seashore; (ii) the littoral active zone, an estuary or a **distance of 100 metres inland** of the high-water mark of the sea or an **estuary**, whichever distance is the greater; or (iii) the sea; — but excluding where such infilling, depositing , dredging, excavation, removal or moving— (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	The SDP (2024/07/02) indicates that **infilling of more than 5** cubic meters is to occur within **100 meters from the Knysna Estuary**.
Listing Notice 3: Activity 12	**The clearance of an area of 300 square metres or more of indigenous vegetation**	The proposed activities will require the removal of more

	except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. **a. Western Cape** i. **Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA** or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	than 300 m^2 **endangered** Garden Route Shale Fynbos.

SECTION G – ADDITIONAL POLICIES AND LEGISLATIVE CONTEXT

The applicant is required to comply with all the required legislation and policies for the proposed development. The following table below indicates the legislation, and guidelines of all spheres of government that are applicable to the application as contemplated in the EIA regulations

LEGISLATION	**ADMINISTERING AUTHORITY**	**TYPE** Permit license authorization comment relevant consideration	**DEVELOPMENT APPLICABILITY**
ENVIRONMENTAL CONSERVATION ACT (ACT 73 OF 1989)	Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	~~PERMIT / LICENSE/ AUTHORIZATION / COMMENT/~~ **RELEVANT CONSIDERATION**	The Environment Conservation Act makes provision for the protection of areas which have environmental importance, which are sensitive, or which are under intense pressure from development. In many regions, our coastal zone needs protection for all these reasons. The Proposed development is located within the urban edge of Knysna and will not impose into the adjacent protected area.
NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998) AND THE 2014 EIA REGULATIONS AS AMENDED IN 2017	Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	~~PERMIT / LICENSE/~~ **AUTHORIZATION** / ~~COMMENT/ RELEVANT CONSIDERATION~~	As per the identified listed activities in NEMA EIA Regulations 2014 as amended April 2017 (GN R324, R325, R326, R327). An application will be submitted to DFFE for Environmental Authorization.
NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (ACT NO 10 OF 2004)	Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	~~PERMIT / LICENSE/ AUTHORIZATION~~ / **COMMENT/** ~~RELEVANT CONSIDERATION~~	SANParks and CapeNature will be consulted. The applicant is reminded of his duty to comply with the NEM:BA Act and remove alien vegetation regardless of Environmental

			Authorisation being granted.
NATIONAL ENVIRONMENTAL MANAGEMENT: INTEGRATED COASTAL MANAGEMENT ACT (ACT NO 24 OF 2008)	Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	~~PERMIT / LICENSE/ AUTHORIZATION /~~ **COMMENT**/ ~~RELEVANT CONSIDERATION~~	The ICM Act is a specific environmental management act under the umbrella of NEMA.
NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (ACT 59 OF 2008)	Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	~~PERMIT / LICENSE/ AUTHORIZATION / COMMENT/~~ **RELEVANT CONSIDERATION**	The Waste Hierarchy will be adhered too during the construction and operational phase.
NATIONAL FORESTS ACT (ACT 84 OF 1998)	Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities. *DFFE Jurisdiction*	~~PERMIT / LICENSE/ AUTHORIZATION /~~ **COMMENT/ RELEVANT CONSIDERATION**	No protected trees will be cut, destroyed or damaged.
NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)	Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	~~PERMIT / LICENSE/ AUTHORIZATION /~~ **COMMENT/ RELEVANT CONSIDERATION**	A Notice of Intent to Develop will be sent to Heritage Western Cape to confirm heritage resources are present on site.
NATIONAL HEALTH ACT (ACT 61 OF 2003)	Department of Environmental Affairs,	~~PERMIT / LICENSE/ AUTHORIZATION /~~	In terms of this Act, a Health and Safety Officer

	Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities. *Dept. of Health Jurisdiction*	~~COMMENT/~~ **RELEVANT CONSIDERATION**	and protocol must be implemented during the construction phase.
Outiniqua Sensitive Coastal Area Extension Report (OSCAER)	Department of Environmental Affairs, Republic of South Africa. All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	**PERMIT** ~~/ LICENSE/ AUTHORIZATION / COMMENT/ RELEVANT CONSIDERATION~~	The process of obtaining environmental authorization supersedes the need for an OSCAE permit.

SECTION H – IMPACT ASSESSMENT

According to the DFFE Screening Tool report, potential impacts on the receiving environment were identified (Table 11), along with the necessary specialist input required (Table 12) for assessment. Site sensitivity verification can be found in APPENDIX E, including the specialist input.

1. METHODOLOGY FOR ASSESSMENT OF IMPACTS

To assess the impact of the development on the receiving environment, the environmental considerations of the area were identified. This was followed by a detailed review of the project scope, an evaluation of its need and desirability within the Knysna region. The implications of the National Environmental Management Act (Act 107 of 1998) were accounted for, which necessitated environmental authorization based on the triggered listed activities.

Together with the with specialist input presented in, the impact will be assessed with the mentioned considerations in mind, and according to the following criteria -

Each potential environmental impact and risk identified was assessed according to specific criteria. These included the nature, extent, duration, consequence, probability and frequency of identified impacts, including the degree to which these impacts can be reversed, may cause irreplaceable loss of resources, and can be avoided, managed or mitigated. The criteria are based on the EIA Regulations, published by the Department of Forestry, Fisheries and the Environment (April 1998) in terms of the Environmental Conservation Act No. 73 of 1989. These criteria include:

Nature of the impact

This is an estimation of the type of effect the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected and how.

Mitigation Measures

Ways in which an impact can be avoided, minimised, or managed to reduce its environmental significance.

Extent of the impact - the scale of the impact	
Rating	**Definition of Rating**
Very Limited	Extending only as far as the development site area
Limited	Limited to the site and its immediate surroundings
Local	Extending across the site and to nearby settlements
Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic.
National	National scale or across international borders

Duration of the impact - the lifespan or length of time the impact will last	
Rating	**Definition of Rating**
Brief	Impact will not last longer than 1 year
Short term	Impact will last between 1 and 2 years
Medium Term	Impact will last between 2 and 15 years
Long Term	Impact will last more than 15 years
Permanent	Impact may be permanent, or in excess of 20 years
Very High	Natural and/ or social functions and/ or processes are severely altered

Intensity - the severity of the impact	
Rating	**Definition of Rating**
Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Low	Natural and/or social functions and/or processes are slightly altered
Medium	Natural and/or social functions and/or processes are notably altered
High	Natural and/ or social functions and/ or processes are significantly altered
Very High	Natural and/ or social functions and/ or processes are severely altered

Probability of occurrence - the probability of the impact occurring	
Rating	**Definition of Rating**
Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Possible	Has occurred here or elsewhere and could therefore occur
Probable	It is most likely that the impact will occur
Definite	There are sound scientific reasons to expect that the impact will occur

Reversibility - the ability of the impacted environment to return to its pre-impacted state	
Rating	**Definition of Rating**

Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.
Partly reversible	the impact is reversible but more intense mitigation measures are required
Barely reversible	the impact is unlikely to be reversed even with intense mitigation measures
Irreversible	the impact is irreversible, and no mitigation measures exist

Irreplaceable loss of resources - the degree to which resources will be irreplaceably lost	
Rating	**Definition of Rating**
Negligible	No loss of resources
Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Medium	the resource is damaged irreparably but is represented elsewhere
High	Irreparable damage and is not represented elsewhere

Cumulative effect - An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development.	
Rating	**Definition of Rating**
Negligible	the impact would result in negligible to no cumulative effect
Low	the impact would result in insignificant cumulative effects
Medium	the impact would result in minor cumulative effects
High	the impact would result in significant cumulative effects

Confidence - the level of confidence in the assessment rating	
Low	Judgement is based on intuition
Medium	Determination is based on common sense and general knowledge
High	Substantive supportive data exists to verify the assessment

Significance - Significance of impacts are determined through a synthesis of the assessment criteria		
Rating		**Definition of Rating**
	Very high negative (-)	The impact will have highly significant effects and are unlikely to be able to be mitigated adequately
	High negative (-)	The impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact
	Medium negative (-)	The impact will have moderate negative effects and will require moderate mitigation
	Low negative (-)	The impact will have minimal effects and would require little mitigation
	Negligible	The impact will have negligible effects and would require little or no mitigation
	Low positive (+)	The impact will have minor positive effects
	Medium positive (+)	The impact will have moderate positive effects
	High positive (+)	The impact will have significant positive effects
	Very High positive (+)	The impact will have highly significant positive effects.

2. (ALTERNATIVE A – PREFERRED) IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE

The following impacts may result from the construction phase for Alternative A (preferred). A brief description of potential impact, significance rating of impacts, proposed mitigation, and significance rating of impacts after mitigation will be provided.

Project Phase	**Construction**			
Impact	**Clearance of vegetation for the construction of the dwelling and associated infrastructure**			
Description of impact	Loss of terrestrial biodiversity including vegetation type, ecological processes, indigenous vegetation, ecologically important species, terrestrial habitat and ecological connectivity.			
Potential for mitigation	High	Mitigation exists and will notably reduce significance of impacts. It is predicted that the mitigation measures may enhance the terrestrial biodiversity of the area.		
Potential mitigation	• Mark off the areas that are not going to be developed prior to undertaking any works and ensure that no unnecessary loss of adjacent vegetation occurs. • Sites for building material stocks, vehicles, toilets etc must be clearly marked and restricted to the building footprint, exiting roads or existing disturbed areas. The construction materials storage site should be on the northern side of the property and the Development Control Area must be demarcated as no-go areas to avoid any significant impacts caused by the proposed development. • The vegetation from the fynbos habitat that is not developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level. • The rehabilitation must be undertaken in a phased approach, according to a rehabilitation plan and undertaken by a qualified botanist or restoration ecologist. • The initial step will require the removal and control of all IAPs on the property and erosion control if necessary. Passive rehabilitation on the parts of the site where no earthworks have taken place can be allowed for one winter season following the removal of IAPs. Thereafter the site must be assessed by the restoration contractor to determine the level of active rehabilitation input. Active rehabilitation will be required for areas where topsoil has been removed. • Follow-up clearing of all exotic and listed IAPs is required every 6 months for the first three years,			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Long term	More than 10 years, but impact ceases after the operational phase.	Medium term	Impact will last between 2 and 15 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	High	Natural and/or social functions and/or processes are slightly altered	Medium	Natural and/ or social functions and/ or processes are notably altered.

Probability	Definite	There are sound scientific reasons to expect that the impact will occur.	Probable	It is most likely that the impact will occur result elsewhere
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Irreversible	the impact is irreversible, and no mitigation measures exist	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	Marginal loss - the resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will be negligible and require little to no mitigation. Reducing the size of the access road will have less impact than Alternative B, but the same mitigation measures will apply.			
Cumulative impacts	The impact would result in low cumulative effects.			

Project Phase	**Construction**	
Impact	**Clearance of vegetation for the construction of the dwelling and associated infrastructure**	
Description of impact	Loss of species of conservation concern	
Potential for mitigation	Low	Mitigation exists to protect the vegetation that is still intact, however, the site has been heavily degraded, and no SCC have been identified on site.
Potential mitigation	• Mark off the areas that are not going to be developed prior to undertaking any works and ensure that no unnecessary loss of adjacent vegetation occurs. • Sites for building material stocks, vehicles, toilets etc must be clearly marked and restricted to the building footprint, exiting roads or existing disturbed areas. The vegetation from the fynbos habitat that is not developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level. • The vegetation from the fynbos habitat that is not developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level. • The rehabilitation must be undertaken in a phased approach, according to a rehabilitation plan and undertaken by a qualified botanist or restoration ecologist. • The initial step will require the removal and control of all IAPs on the property and erosion control if necessary. Passive rehabilitation on the parts of the site where no earthworks have taken place can be allowed for one winter season following the removal of IAPs. Thereafter the site must be assessed by the restoration contractor to determine the level of active rehabilitation input. Active rehabilitation will be required for areas where topsoil has been removed.	

	• Follow-up clearing of all exotic and listed IAPs is required every 6 months for the first three years,			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Very low Negative		Very low negative	
Duration	Medium term	Impact will last between 2 and 15 years	Medium term	Impact will last between 2 and 15 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Negligible	Natural and/ or social functions and/ or processes are negligibly altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Possible	Has occurred here or elsewhere and could therefore occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	Marginal loss - the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	**Negligible – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	The impact would result in low cumulative effects.			

Project Phase	**Construction**	
Impact	**Disturbance of faunal habitat**	
Description of impact	Disturbance / loss of faunal habitat within the development footprint for the construction and associated activities of a primary dwelling.	
Potential for mitigation	Medium	Mitigation exists and will reduce significance of impacts. It is predicted that the mitigation measures may retain substantial faunal habitat, however, there will inevitably be some loss of faunal habitat.
Potential mitigation	• Construction netting or fencing must be used to clearly indicate construction areas. Access roads must be clearly marked so there is no confusion as to where the tracks are or how wide the road is. • Clear signs for "no-go" areas for vehicles and personnel should be placed strategically on the site and along access roads. No-go areas are anywhere outside of the direct area of influence of the construction phase. • All vehicles, construction or inspection, must only access the house sites via the planned, single track access roads as per the SDP (no additional roads, tracks to be made in the environment). These access roads are to be clearly marked to prevent drivers getting lost and creating additional tracks or unnecessarily widening the access road. A turning area for	

	construction vehicles should be demarcated within the existing footprint of the house. • The entire footprint area of the house construction site and access roads needs to be assessed for the presence of butterfly larval host plant (*Aspalathus spp*) prior to construction. If located, a botanical specialist needs to oversee the transplanting of these species from the development footprint into an appropriate natural environment (outside the development footprint) closest to where the plant was originally found. By limiting the distance that the plant is moved from its original location, impacts on associated faunal communities and changes to its growing conditions (microclimate, soil texture, soil moisture) are reduced.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Very low negative	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Permanent	Impact may be permanent, or in excess of 20 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	High	Natural and/ or social functions and/ or processes are significantly altered	Medium	Natural and/or social functions and/or processes are notably altered
Probability	Definite	There are sound scientific reasons to expect that the impact will occur	Definite	There are sound scientific reasons to expect that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	**Medium – negative (-)**		**Low – negative (-)**	
Comment on significance	The impact will be low and require little to no mitigation. Reducing the size of the access road will have less impact than Alternative B, but the same mitigation measures will apply.			
Cumulative impacts	The impact would result in low cumulative effects.			

Project Phase	**Construction**	
Impact	**Fatality to faunal species**	
Description of impact	Harm to fauna from earthworks and construction	
Potential for mitigation	High	Mitigation exists and will notably reduce significance of impacts.
Potential mitigation	• Construction should happen in phases, such that construction related activities are confined to one area at a time on the property and can be monitored for faunal impacts appropriately.	

	• Before construction commences for any new earthworks at the start of new phase, an ECO should do a walk-through of the demarcated area and access roads that will be used to look for signs of fauna with limited mobility. These animals should be removed from the demarcated area to an adjacent safe location, and where appropriate a Fauna Specialist contacted for assistance. • At any point during construction, if an animal with limited mobility is observed on site, this should be reported to the ECO and construction temporarily halted. Construction can commence once the ECO is satisfied that all such fauna are removed from the construction area. • Speed limits should be imposed and monitored during construction phase, as collisions with vehicles (roadkill) pose a significant threat to many fauna species. Given the narrow access roads recommended for this development, speed limits should be restricted at the discretion of the ECO to appropriate speeds to allow for driver alertness and ability to avoid collisions with fauna. Recommended speeds include 40 km/hour on main access roads with good visibility into the road verges, and 20 km/hour on smaller access roads with narrow or overgrown verges where visibility is reduced. Signs should be put up along the roads to remind people of speed limits, as well as warnings to look out for small animals on the roads.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	**Low – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	The impact would result in negligible cumulative effects.			

Project Phase	Construction			
Impact	**Disturbance / removal of topsoil and subsoil**			
Description of impact	Loss of topsoil and potential soil erosion, as well as disturbance to the habitat of faunal species found on the property.			
Potential for mitigation	High	Mitigation exists and will considerably reduce the significance of impacts		
Potential mitigation	• Prior to construction, the disturbance footprint of proposed roads and houses should be clearly defined and demarcated to prevent unnecessary additional damage to the surrounding environment. • Areas that are disturbed through building activities (e.g., excavation, cut, and fill) should be suitably rehabilitated without delay. Failure to do so may result in erosion, soil exposure and a loss of the soil micro-organisms that are essential for plant growth. • Organic matter, such as roots, and humus/topsoil should be removed from the footprint of structures and stockpiled separately for landscaping purposes. • The stockpiling of topsoil for use in rehabilitation is required. • Stockpiles must not exceed 1.5m in height, must be covered with shade cloth or similar, to prevent erosion and any invasive alien species that begin to grow within it must be removed. • Soil disturbance during the removal of alien invasive plants must be minimised as much as possible. • The site must be stabilised where necessary using available materials, where possible. It is recommended that exposed soils are covered with wood chips, and tree branches used to create berms on steeper areas. Any cut alien vegetation on site can be utilised for this purpose if it is without seed.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low Negative	
Duration	Short term	Impact will last between 1 and 5 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to specific isolated parts of the site
Intensity	Low	Natural and/or social functions and/or processes are slightly altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measure
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged

				irreparably or is not scarce
Significance	**Medium - negative (-)**		**Low – negative (-)**	
Comment on significance	The impact will have minimal effects and would require little mitigation			
Cumulative impacts	The impact would result in insignificant cumulative effects			

Project Phase	**Construction**			
Impact	**Stormwater runoff and erosion**			
Description of impact	Erosion from exposed surfaces / earthworks for construction associated with the development.			
Potential for mitigation	High	Mitigation exists and will considerably reduce the significance of impacts		
Potential mitigation	• Ensure that construction activities do not cause any preferential flow paths and concentrated surface runoff towards the southwestern cliffs during rainfall events. • Adequate drainage and erosion protection must be provided around the site and where necessary. • Erosion prevention and control measures must be implemented. This may be by the use of mulch bags or silt fences. Attention to this mitigation will be stressed in the EMPr regarding the western slope down towards the N2. • Pipelines to be placed in consultation with and to recommendations of the ECO. • Revegetate all bare areas of soil post-construction with indigenous vegetation.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low Negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are slightly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low- negative**		**Negligible – negative (-)**	

Comment on significance	The impact will have negligible effects and would require little or no mitigation
Cumulative impacts	With mitigation the impact would result in negligible to no cumulative effect

Project Phase	**Construction**			
Impact	**Waste Pollution**			
Description of impact	Pollution caused by waste generated by the construction process.			
Potential for mitigation	High	Mitigation exists and will considerably reduce significance of impacts		
Potential mitigation	• All construction waste generated on-site during construction must be adequately managed. Separation and recycling of different waste materials should be supported. • All construction waste materials must be collected and disposed of at a suitable waste facility. • No dumping of construction material within the site and surrounding areas may take place. • The site must be monitored on a weekly basis to clean-up any waste that may have been blown from the construction site. • Adequate sanitary facilities and ablutions must be provided for all personnel throughout the project area. Use of these facilities must be enforced.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are slightly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low- negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	With mitigation the impact would result in negligible to no cumulative effect			

Project Phase	**Construction**

Impact	Construction Vehicles Pollution			
Description of impact	Pollution caused by the operation of vehicles and heavy machinery.			
Potential for mitigation	High	Mitigation exists and will considerably reduce significance of impacts		
Potential mitigation	• Construction activities must be confined to clearly demarcated areas so as to prevent unnecessary disturbance the surrounding environment. • No vehicles are to park or operate within "no-go" areas. • Excavators and all other machinery and vehicles must be checked for oil and fuel leaks daily. No machinery or vehicles with leaks are permitted to work on site. • Refuelling and fuel storage areas, and areas used for the servicing or parking of vehicles and machinery, must be located on impervious bases and should have bunds around them (sized to contain 110 % of the tank capacity) to contain any possible spills. • The contractors used for the project should have spill kits available to ensure that any fuel or oil spills are clean-up and discarded correctly.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will last between 1 and 2 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to the site and its immediate surroundings
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are notably altered
Probability	Probable	It is most likely that the impact will occur	Possible	It is most likely that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact is reversible but more intense mitigation measures are required
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low- negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	With mitigation the impact would result in negligible to no cumulative effect			

Project Phase	Construction	
Impact	**Noise pollution**	
Description of impact	Noise caused by machinery and staff	
Potential for mitigation	Low	Mitigation does not exist; or mitigation will slightly reduce the significance of impacts
Potential mitigation	• Construction activities must only take place during normal working times between 07:00-17:00 on weekdays.	

	• Machinery may be fitted with silences to dampen noise. • Staff must be reminded that they are working within a residential area and noise levels must be kept low.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will last between 1 and 2 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to the site and its immediate surroundings
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are notably altered
Probability	Probable	It is most likely that the impact will occur	Possible	It is most likely that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact is reversible but more intense mitigation measures are required
Resource irreplaceability	Not relevant		Not relevant	
Significance	**Low- negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	With mitigation the impact would result in negligible to no cumulative effect			

Project Phase	**Construction**			
Impact	**Visual impact**			
Description of impact	Visual & aesthetic consequences of the proposed project			
Potential for mitigation	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	• Architectural design to mitigate visual impact on the landscape such as colours, heights, disturbance areas, maximum footprint, vegetation, etc. must be followed. • The necessary measures be implemented during the construction phase to control the noise, dust and visual intrusion. • Implement external lighting restrictions to mitigate visual impact.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will last between 1 and 2 years

Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to the site and its immediate surroundings
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are notably altered
Probability	Probable	It is most likely that the impact will occur	Possible	It is most likely that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact is reversible but more intense mitigation measures are required
Resource irreplaceability	Not relevant		Not relevant	
Significance	**Low – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The proposal will complement the existing residential character of the area.			
Cumulative impacts	No cumulative impacts exist.			

Project Phase	**Construction**			
Impact	**Employment**			
Description of impact	Empowerment of the local community members living in the area relating to temporary employment opportunities			
Potential for mitigation	Medium	Mitigation only exists to ensure that the positive impact is followed through.		
Potential mitigation	• Use existing social structures and communication channels to ensure social representation. • Use local labour and source local materials as far as possible.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Positive		Positive	
Duration	Short term	Impact will last between 1 and 2 years	Short term	Impact will last between 1 and 2 years
Extent	Local	Extending across the site and to nearby settlements	Local	Extending across the site and to nearby settlements
Intensity	Low	Natural and/or social functions and/or processes are slightly altered	Low	Natural and/or social functions and/or processes are slightly altered
Probability	Probable	It is most likely that the impact will occur	Definite	There are sound scientific reasons to expect that the impact will occur

Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Not relevant		Not relevant	
Resource irreplaceability	Not relevant		Not relevant	
Significance	**Low – negative (-)**		**Negligible – positive (+)**	
Comment on significance	Due to the proposed development being on a small-scale, there is a low difference in impacts between without mitigation and with mitigation. However, as the impact would be positive for the local community to be employed during construction, mitigation is recommended to ensure this occurs.			
Cumulative impacts	Minor upliftment for the local community.			

3. (ALTERNATIVE A - PREFERRED) IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE

Project Phase	**Operational**			
Impact	**Disturbance of faunal habitat**			
Description of impact	Disturbance / loss of faunal habitat as a result of operational activities (e.g., maintenance management and rehabilitation)			
Potential for mitigation	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	• Vegetation clearing along road verges should be minimized and avoided where it poses no risk to vehicles. If essential, clearing should be limited to a maximum width of 1 meter on either side of the road. Cut vegetation should not be piled up beside the road but either removed from the site or spread out within the immediate area to avoid smothering other plants or creating concentrated fire fuel loads. • During routine maintenance of infrastructure on the property, materials should be managed adequately to minimize unnecessary habitat loss. New building materials should be stored within the existing disturbance footprint of the developments to reduce further damage to undisturbed natural areas. Any old or removed building materials and rubble should be promptly removed and disposed of off-site to prevent unnecessary storage in natural habitats, thus reducing additional space loss or damage. • No insect zappers should be allowed on site, nor the general application of insecticides around infrastructure. Ecofriendly repellents are readily available (i.e. citronella oil/lotions) and should be used instead.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered

Probability	Probable	It is most likely that the impact will occur	Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Not relevant	No loss of resources
Significance	**Low – negative (-)**		**Negligible – positive (+)**	
Comment on significance	The impact will have minimal effects and would require little mitigation			
Cumulative impacts	The impact would result in insignificant cumulative effects			

Project Phase	**Operational**			
Impact	**Disturbance to faunal species**			
Description of impact	Site development will alter the disturbance regime of the natural area on the property through changes in noise and artificial lighting levels.			
Potential for mitigation	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	• Light pollution must be reduced and avoided wherever possible during the operational phase of the project. White LED lights have the worst negative effects for the environment, therefore dimmer lights with more natural warm light colours must be used. • Consider the use of motion-sensor lighting for security purposes rather than the use of permanent lighting, especially along permitter walls/fencing. This will reduce the impact on invertebrate fauna attracted to light. • Permanent lighting along roads must be avoided as far as possible. Given the low traffic volumes expected for this development, road-side lighting along the access roads is unnecessary and will cause avoidable impacts on biodiversity, particularly increasing the risk of roadkill.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Very high	Natural and/ or social functions and/ or processes are severely altered	Brief	Impact will not last longer than 1 year

Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Not relevant	No loss of resources
Significance	**Low – negative (-)**		**Negligible – positive (+)**	
Comment on significance	The impact will have minimal effects and would require little mitigation			
Cumulative impacts	The impact would result in insignificant cumulative effects			

Project Phase	**Operation**			
Impact	**Visual / Sense of place**			
Description of impact	Visual impacts of structures / aesthetic consequences due to incorrect or excessive lighting, especially outdoor lighting			
Potential for mitigation	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	• Adhere to the same recommendations made to mitigate the impact of light pollution on faunal species. • Municipal by-laws need to be adhered to. • Adhere to architectural designs to minimise the impact of light pollution.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Very high	Natural and/ or social functions and/ or processes are severely altered	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area

Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures
Resource irreplaceability	Not applicable		Not applicable	
Significance	**Low – negative (-)**		**Negligible – negative (-)**	
Comment on significance	Lighting, specifically outdoor lighting is not only aesthetic, but it provides a level of security to property owners. Therefore, outdoor lighting is essential, but should be implemented in a way which does not cause negative impacts to neighbours. Open spaces and a wide private road are incorporated into the design to enhance the quality of the neighbourhood.			
Cumulative impacts	Without mitigation the development would not be meeting design guidelines enforced by the municipality. Specifically design guidelines for the local area.			

Project Phase	**Operation**			
Impact	**Stormwater Management**			
Description of impact	Accelerated erosion / pollution into sub-surface water.			
Potential for mitigation	High	Mitigation exists and will considerably reduce the significance of impacts		
Potential mitigation	• The storm water drainage system must be adhered to, and the system should lead runoff water away from sensitive areas to prevent soil erosion. • Use rainwater collection tanks to serve as a retention vessel in downpours. • Driveways must also be utilised for rainwater harvesting. • Stormwater management should encourage collection and infiltration of water into the soil profile.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low Negative	
Duration	Short term	Impact will last between 1 and 5 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to specific isolated parts of the site
Intensity	Low	Natural and/or social functions and/or	Very low	Natural and/ or social functions and/

		processes are somewhat altered		or processes are slightly altered
Probability	Almost certain	It is most likely that the impact will occur	Rare / improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	High	The affected environmental will be able to recover from the impact
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The stormwater design of the development will make provision for rainwater harvesting via collection from the roof and driveway / access road.			
Cumulative impacts	Without mitigation this impact could result in potential erosion on the site caused by stormwater flow.			

Project Phase	**Operation**			
Impact	**Eradication of Alien Vegetation**			
Description of impact	Alien plant management can have positive impacts for the property as well as the broader surrounding landscape.			
Potential for mitigation	High	Mitigation exists and will considerably reduce significance of impacts		
Potential mitigation	• All invasive alien plants should be completely cleared from the property, and where a tree or bush cover is desired, replaced with suitable indigenous species. • Rehabilitation of disturbed areas, as well as previously invaded areas, should promote establishment of site-appropriate indigenous species. • A suitable planting list of trees and shrubs must be compiled and incorporated into the landscape planning. • Reduce fire hazard on site.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Positive	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Very high	Natural and/ or social functions and/ or processes are severely altered
Extent	Local	Extending across the site and to nearby settlements	Limited	Limited to the site and its immediate surroundings

Intensity	Very high	Natural and/ or social functions and/ or processes are severely altered	Medium	Natural and/or social functions and/or processes are notably altered
Probability	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	High	The affected environmental will be able to recover from the impact	High	The affected environmental will be able to recover from the impact
Resource irreplaceability	Not relevant		Not relevant	
Significance	**Low – negative (-)**		**Low – positive (+)**	
Comment on significance	With mitigation the impact is likely to have more beneficial impact on natural biodiversity.			
Cumulative impacts	Without mitigation this impact could result in the spread of alien invasive plants.			

Project Phase	**Operation**			
Impact	**Formal gardens**			
Description of impact	Habitat loss for terrestrial wildlife, fragmentation of ecological corridor			
Potential for mitigation	Low	Mitigation will slightly reduce the significance of impacts		
Potential mitigation	• Areas that are not required for development purposes should remain natural with indigenous vegetation. • All alien invasive plants must be removed from the site on an on-going basis based on the mitigation measures associated with the mentioned impact. • To promote natural biodiversity, indigenous gardens should be established, or disturbed areas should be fully rehabilitated within the development footprints. It is highly recommended to plant indigenous fire-resistant vegetation around the infrastructure and houses to protect buildings from uncontrolled fires. Some indigenous species can form a fire-proof hedge, with commercially available and locally occurring plant species suggested in Appendix 8. Indigenous gardens should be promoted wherever possible, and gardens should avoid using invasive plant species that could spread into surrounding areas. For lawns, non-invasive grass species like Cynodon dactylon (Cape Royal variety) or Stenotaphrum secundatum (Buffalo grass) should be used.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Positive	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Very high	Natural and/ or social functions and/ or processes are severely altered

Extent	Local	Extending across the site and to nearby settlements	Limited	Limited to the site and its immediate surroundings
Intensity	Very high	Natural and/ or social functions and/ or processes are severely altered	Medium	Natural and/or social functions and/or processes are notably altered
Probability	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Not relevant	
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Not relevant	
Significance	**Low – negative (-)**		**Minor – positive (+)**	
Comment on significance	With mitigation the impact is likely to have more beneficial impact to retaining natural biodiversity, than without mitigation.			
Cumulative impacts	Without mitigation this impact could result in the spread of alien invasive plants and the loss of indigenous vegetation.			

4. (ALTERNATIVE B) IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE

Here follows impacts that may result from the construction phase for Alternative B. A brief description of potential impact, significance rating of impacts, proposed mitigation, and significance rating of impacts after mitigation will be provided.

Project Phase	**Construction**	
Impact	**Clearance of vegetation for the construction of the dwelling and associated infrastructure**	
Description of impact	Loss of terrestrial biodiversity including vegetation type, ecological processes, indigenous vegetation, ecologically important species, terrestrial habitat and ecological connectivity.	
Potential for mitigation	High	Mitigation exists and will notably reduce significance of impacts. It is predicted that the mitigation measures may enhance the terrestrial biodiversity of the area.
Potential mitigation	• Mark off the areas that are not going to be developed prior to undertaking any works and ensure that no unnecessary loss of adjacent vegetation occurs. • Sites for building material stocks, vehicles, toilets etc must be clearly marked and restricted to the building footprint, exiting roads or existing disturbed areas. The vegetation from the fynbos habitat that is not	

	developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level. • The vegetation from the fynbos habitat that is not developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level. • The rehabilitation must be undertaken in a phased approach, according to a rehabilitation plan and undertaken by a qualified botanist or restoration ecologist. • The initial step will require the removal and control of all IAPs on the property and erosion control if necessary. Passive rehabilitation on the parts of the site where no earthworks have taken place can be allowed for one winter season following the removal of IAPs. Thereafter the site must be assessed by the restoration contractor to determine the level of active rehabilitation input. Active rehabilitation will be required for areas where topsoil has been removed. • Follow-up clearing of all exotic and listed IAPs is required every 6 months for the first three years,			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Long term	More than 10 years, but impact ceases after the operational phase.	Medium term	Impact will last between 2 and 15 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	High	Natural and/or social functions and/or processes are slightly altered	Medium	Natural and/ or social functions and/ or processes are notably altered.
Probability	Definite	There are sound scientific reasons to expect that the impact will occur.	Probable	It is most likely that the impact will occur result elsewhere
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Irreversible	the impact is irreversible, and no mitigation measures exist	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	Marginal loss - the resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Medium – negative (-)**		**Low – negative (-)**	
Comment on significance	The impact will have minimal effects and would require little mitigation			
Cumulative impacts	The impact would result in low cumulative effects.			

Project Phase	**Construction**

Impact	Clearance of vegetation for the construction of the dwelling and associated infrastructure			
Description of impact	Loss of species of conservation concern			
Potential for mitigation	Low	Mitigation exists to protect the vegetation that is still intact, however, the site has been heavily degraded, and no SCC have been identified on site.		
Potential mitigation	• Mark off the areas that are not going to be developed prior to undertaking any works and ensure that no unnecessary loss of adjacent vegetation occurs. • Sites for building material stocks, vehicles, toilets etc must be clearly marked and restricted to the building footprint, exiting roads or existing disturbed areas. The vegetation from the fynbos habitat that is not developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level. • The vegetation from the fynbos habitat that is not developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level. • The rehabilitation must be undertaken in a phased approach, according to a rehabilitation plan and undertaken by a qualified botanist or restoration ecologist. • The initial step will require the removal and control of all IAPs on the property and erosion control if necessary. Passive rehabilitation on the parts of the site where no earthworks have taken place can be allowed for one winter season following the removal of IAPs. Thereafter the site must be assessed by the restoration contractor to determine the level of active rehabilitation input. Active rehabilitation will be required for areas where topsoil has been removed. • Follow-up clearing of all exotic and listed IAPs is required every 6 months for the first three years,			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Very low Negative		Very low negative	
Duration	Medium term	Impact will last between 2 and 15 years	Medium term	Impact will last between 2 and 15 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Negligible	Natural and/ or social functions and/ or processes are negligibly altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Possible	Has occurred here or elsewhere and could therefore occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	The impact is reversible but more intense	Completely reversible	The impact can be reversed with the

		mitigation measures are required		implementation of minor mitigation measures.
Resource irreplaceability	Low	Marginal loss - the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	**Negligible – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	The impact would result in low cumulative effects.			

Project Phase	**Construction**			
Impact	**Disturbance of faunal habitat**			
Description of impact	Disturbance / loss of faunal habitat within the development footprint for the construction and associated activities of a primary dwelling.			
Potential for mitigation	Medium	Mitigation exists and will reduce significance of impacts. It is predicted that the mitigation measures may retain substantial faunal habitat, however, there will inevitably be some loss of faunal habitat.		
Potential mitigation	• Construction netting or fencing must be used to clearly indicate construction areas. Access roads must be clearly marked so there is no confusion as to where the tracks are or how wide the road is. • Clear signs for "no-go" areas for vehicles and personnel should be placed strategically on the site and along access roads. No-go areas are anywhere outside of the direct area of influence of the construction phase. • All vehicles, construction or inspection, must only access the house sites via the planned, single track access roads as per the SDP (no additional roads, tracks to be made in the environment). These access roads are to be clearly marked to prevent drivers getting lost and creating additional tracks or unnecessarily widening the access road. A turning area for construction vehicles should be demarcated within the existing footprint of the house. • The entire footprint area of the house construction site and access roads needs to be assessed for the presence of butterfly larval host plant (*Aspalathus spp*) prior to construction. If located, a botanical specialist needs to oversee the transplanting of these species from the development footprint into an appropriate natural environment (outside the development footprint) closest to where the plant was originally found. By limiting the distance that the plant is moved from its original location, impacts on associated faunal communities and changes to its growing conditions (microclimate, soil texture, soil moisture) are reduced.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Very low negative	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Permanent	Impact may be permanent, or in excess of 20 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	High	Natural and/ or social functions and/ or	Medium	Natural and/or social functions and/or

		processes are significantly altered		processes are notably altered
Probability	Definite	There are sound scientific reasons to expect that the impact will occur	Definite	There are sound scientific reasons to expect that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	**Medium – negative (-)**		**Medium – negative (-)**	
Comment on significance	The impact will have moderate negative effects and will require moderate mitigation			
Cumulative impacts	The impact would result in moderate cumulative effects.			

Project Phase	**Construction**	
Impact	**Fatality to faunal species**	
Description of impact	Harm to fauna from earthworks and construction	
Potential for mitigation	High	Mitigation exists and will notably reduce significance of impacts.
Potential mitigation	• Construction should happen in phases, such that construction related activities are confined to one area at a time on the property and can be monitored for faunal impacts appropriately. • Before construction commences for any new earthworks at the start of new phase, an ECO should do a walk-through of the demarcated area and access roads that will be used to look for signs of fauna with limited mobility. These animals should be removed from the demarcated area to an adjacent safe location, and where appropriate a Fauna Specialist contacted for assistance. • At any point during construction, if an animal with limited mobility is observed on site, this should be reported to the ECO and construction temporarily halted. Construction can commence once the ECO is satisfied that all such fauna are removed from the construction area. • Speed limits should be imposed and monitored during construction phase, as collisions with vehicles (roadkill) pose a significant threat to many fauna species. Given the narrow access roads recommended for this development, speed limits should be restricted at the discretion of the ECO to appropriate speeds to allow for driver alertness and ability to avoid collisions with fauna. Recommended speeds include 40 km/hour on main access roads with good visibility into the road verges, and 20 km/hour on smaller access roads with narrow or overgrown verges where visibility is reduced. Signs should be put up along the roads to remind people of speed limits, as well as warnings to look out for small animals on the roads.	
Assessment	**Without mitigation**	**With mitigation**

Nature	Negative		Negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	**Low – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	The impact would result in negligible cumulative effects.			

Project Phase	**Construction**	
Impact	**Disturbance / removal of topsoil and subsoil**	
Description of impact	Loss of topsoil and potential soil erosion, as well as disturbance to the habitat of faunal species found on the property.	
Potential for mitigation	High	Mitigation exists and will considerably reduce the significance of impacts
Potential mitigation	• Prior to construction, the disturbance footprint of proposed roads and houses should be clearly defined and demarcated to prevent unnecessary additional damage to the surrounding environment. • Areas that are disturbed through building activities (e.g., excavation, cut, and fill) should be suitably rehabilitated without delay. Failure to do so may result in erosion, soil exposure and a loss of the soil micro-organisms that are essential for plant growth. • Organic matter, such as roots, and humus/topsoil should be removed from the footprint of structures and stockpiled separately for landscaping purposes. • The stockpiling of topsoil for use in rehabilitation is required. • Stockpiles must not exceed 1.5m in height, must be covered with shade cloth or similar, to prevent erosion and any invasive alien species that begin to grow within it must be removed.	

	• Soil disturbance during the removal of alien invasive plants must be minimised as much as possible. • The site must be stabilised where necessary using available materials, where possible. It is recommended that exposed soils are covered with wood chips, and tree branches used to create berms on steeper areas. Any cut alien vegetation on site can be utilised for this purpose if it is without seed.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low Negative	
Duration	Short term	Impact will last between 1 and 5 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to specific isolated parts of the site
Intensity	Low	Natural and/or social functions and/or processes are slightly altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measure
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	**Medium - negative (-)**		**Low – negative (-)**	
Comment on significance	The impact will have minimal effects and would require little mitigation			
Cumulative impacts	The impact would result in insignificant cumulative effects			

Project Phase	**Construction**	
Impact	**Stormwater runoff and erosion**	
Description of impact	Erosion from exposed surfaces / earthworks for construction associated with the development.	
Potential for mitigation	High	Mitigation exists and will considerably reduce the significance of impacts
Potential mitigation	• Adequate drainage and erosion protection must be provided around the site and where necessary. • Erosion prevention and control measures must be implemented. This may be by the use of mulch bags or silt fences. Attention to this mitigation will be stressed in the EMPr regarding the western slope down towards the N2. • Pipelines to be placed in consultation with and to recommendations of the ECO.	

	• Revegetate all bare areas of soil post-construction with indigenous vegetation.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low Negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are slightly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low- negative**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	With mitigation the impact would result in negligible to no cumulative effect			

Project Phase	**Construction**	
Impact	**Waste Pollution**	
Description of impact	Pollution caused by waste generated by the construction process.	
Potential for mitigation	High	Mitigation exists and will considerably reduce significance of impacts
Potential mitigation	• All construction waste generated on-site during construction must be adequately managed. Separation and recycling of different waste materials should be supported. • All construction waste materials must be collected and disposed of at a suitable waste facility. • No dumping of construction material within the site and surrounding areas may take place. • The site must be monitored on a weekly basis to clean-up any waste that may have been blown from the construction site. • Adequate sanitary facilities and ablutions must be provided for all personnel throughout the project area. Use of these facilities must be enforced.	
Assessment	**Without mitigation**	**With mitigation**

Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are slightly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low- negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	With mitigation the impact would result in negligible to no cumulative effect			

Project Phase	**Construction**			
Impact	**Construction Vehicles**			
Description of impact	Pollution caused by the operation of vehicles and heavy machinery.			
Potential for mitigation	High	Mitigation exists and will considerably reduce significance of impacts		
Potential mitigation	• Construction activities must be confined to clearly demarcated areas so as to prevent unnecessary disturbance the surrounding environment. • No vehicles are to park or operate within "no-go" areas. • Excavators and all other machinery and vehicles must be checked for oil and fuel leaks daily. No machinery or vehicles with leaks are permitted to work on site. • Refuelling and fuel storage areas, and areas used for the servicing or parking of vehicles and machinery, must be located on impervious bases and should have bunds around them (sized to contain 110 % of the tank capacity) to contain any possible spills. • The contractors used for the project should have spill kits available to ensure that any fuel or oil spills are clean-up and discarded correctly.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will last between 1 and 2 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to the site and its immediate surroundings

Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are notably altered
Probability	Probable	It is most likely that the impact will occur	Possible	It is most likely that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact is reversible but more intense mitigation measures are required
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low- negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	With mitigation the impact would result in negligible to no cumulative effect			

Project Phase	**Construction**			
Impact	**Noise pollution**			
Description of impact	Noise caused by machinery and staff			
Potential for mitigation	Low	Mitigation does not exist; or mitigation will slightly reduce the significance of impacts		
Potential mitigation	• Construction activities must only take place during normal working times between 07:00-17:00 on weekdays. • Machinery may be fitted with silences to dampen noise. • Staff must be reminded that they are working within a residential area and noise levels must be kept low.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will last between 1 and 2 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to the site and its immediate surroundings
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are notably altered
Probability	Probable	It is most likely that the impact will occur	Possible	It is most likely that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more	Completely reversible	the impact is reversible but more intense

		intense mitigation measures are required		mitigation measures are required
Resource irreplaceability	Not relevant		Not relevant	
Significance	**Low- negative (-)**		**Negligible – negative (-)**	
Comment on significance	The impact will have negligible effects and would require little or no mitigation			
Cumulative impacts	With mitigation the impact would result in negligible to no cumulative effect			

Project Phase	**Construction**			
Impact	**Visual impact**			
Description of impact	Visual & aesthetic consequences of the proposed project			
Potential for mitigation	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	• Architectural design to mitigate visual impact on the landscape such as colours, heights, disturbance areas, maximum footprint, vegetation, etc. must be followed. • The necessary measures be implemented during the construction phase to control the noise, dust and visual intrusion. • Implement external lighting restrictions to mitigate visual impact.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will last between 1 and 2 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to the site and its immediate surroundings
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are notably altered
Probability	Probable	It is most likely that the impact will occur	Possible	It is most likely that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Partly reversible	the impact is reversible but more intense mitigation measures are required	Completely reversible	the impact is reversible but more intense mitigation measures are required
Resource irreplaceability	Not relevant		Not relevant	
Significance	**Low – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The proposal will complement the existing residential character of the area.			
Cumulative impacts	No cumulative impacts exist.			

Project Phase	Construction			
Impact	**Employment**			
Description of impact	Empowerment of the local community members living in the area relating to temporary employment opportunities			
Potential for mitigation	Medium	Mitigation only exists to ensure that the positive impact is followed through.		
Potential mitigation	• Use existing social structures and communication channels to ensure social representation. • Use local labour and source local materials as far as possible.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Positive		Positive	
Duration	Short term	Impact will last between 1 and 2 years	Short term	Impact will last between 1 and 2 years
Extent	Local	Extending across the site and to nearby settlements	Local	Extending across the site and to nearby settlements
Intensity	Low	Natural and/or social functions and/or processes are slightly altered	Low	Natural and/or social functions and/or processes are slightly altered
Probability	Probable	It is most likely that the impact will occur	Definite	There are sound scientific reasons to expect that the impact will occur
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Not relevant		Not relevant	
Resource irreplaceability	Not relevant		Not relevant	
Significance	**Low – negative (-)**		**Negligible – positive (+)**	
Comment on significance	Due to the proposed development being on a small-scale, there is a low difference in impacts between without mitigation and with mitigation. However, as the impact would be positive for the local community to be employed during construction, mitigation is recommended to ensure this occurs.			
Cumulative impacts	Minor upliftment for the local community.			

5. (ALTERNATIVE B) IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE

Project Phase	Operational	
Impact	**Disturbance of faunal habitat**	
Description of impact	Disturbance / loss of faunal habitat as a result of operational activities (e.g., maintenance management and rehabilitation)	
Potential for mitigation	Medium	Mitigation exists and will notably reduce significance of impacts
Potential mitigation	• Vegetation clearing along road verges should be minimized and avoided where it poses no risk to vehicles. If essential, clearing should be	

	limited to a maximum width of 1 meter on either side of the road. Cut vegetation should not be piled up beside the road but either removed from the site or spread out within the immediate area to avoid smothering other plants or creating concentrated fire fuel loads. • During routine maintenance of infrastructure on the property, materials should be managed adequately to minimize unnecessary habitat loss. New building materials should be stored within the existing disturbance footprint of the developments to reduce further damage to undisturbed natural areas. Any old or removed building materials and rubble should be promptly removed and disposed of off-site to prevent unnecessary storage in natural habitats, thus reducing additional space loss or damage. • No insect zappers should be allowed on site, nor the general application of insecticides around infrastructure. Ecofriendly repellents are readily available (i.e. citronella oil/lotions) and should be used instead.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Not relevant	No loss of resources
Significance	**Low – negative (-)**		**Negligible – positive (+)**	
Comment on significance	The impact will have minimal effects and would require little mitigation			
Cumulative impacts	The impact would result in insignificant cumulative effects			

Project Phase	Operational			
Impact	**Disturbance to faunal species**			
Description of impact	Site development will alter the disturbance regime of the natural area on the property through changes in noise and artificial lighting levels.			
Potential for mitigation	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	• Light pollution must be reduced and avoided wherever possible during the operational phase of the project. White LED lights have the worst negative effects for the environment, therefore dimmer lights with more natural warm light colours must be used. • Consider the use of motion-sensor lighting for security purposes rather than the use of permanent lighting, especially along permitter walls/fencing. This will reduce the impact on invertebrate fauna attracted to light. • Permanent lighting along roads must be avoided as far as possible. Given the low traffic volumes expected for this development, road-side lighting along the access roads is unnecessary and will cause avoidable impacts on biodiversity, particularly increasing the risk of roadkill.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Very high	Natural and/ or social functions and/ or processes are severely altered	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Not relevant	No loss of resources

Significance	Low – negative (-)	Negligible – positive (+)
Comment on significance	The impact will have minimal effects and would require little mitigation	
Cumulative impacts	The impact would result in insignificant cumulative effects	

Project Phase	Operation			
Impact	Visual / Sense of place			
Description of impact	Visual impacts of structures / aesthetic consequences due to incorrect or excessive lighting, especially outdoor lighting			
Potential for mitigation	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	• Adhere to the same recommendations made to mitigate the impact of light pollution on faunal species. • Municipal by-laws need to be adhered to. • Adhere to architectural designs to minimise the impact of light pollution.			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Negative	
Duration	Very high	Natural and/ or social functions and/ or processes are severely altered	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Partly reversible	The impact is reversible but more intense mitigation measures are required	Completely reversible	The impact can be reversed with the implementation of minor mitigation measures
Resource irreplaceability	Not applicable		Not applicable	
Significance	Low – negative (-)		Negligible – negative (-)	
Comment on significance	Lighting, specifically outdoor lighting is not only aesthetic, but it provides a level of security to property owners. Therefore, outdoor lighting is essential, but should be implemented in a way which does not cause negative impacts to neighbours.			

	Open spaces and a wide private road are incorporated into the design to enhance the quality of the neighbourhood.
Cumulative impacts	Without mitigation the development would not be meeting design guidelines enforced by the municipality. Specifically design guidelines for the local area.

Project Phase	**Operation**			
Impact	**Stormwater Management**			
Description of impact	Accelerated erosion / pollution into sub-surface water.			
Potential for mitigation	High	Mitigation exists and will considerably reduce the significance of impacts		
Potential mitigation	• The storm water drainage system must be adhered to, and the system should lead runoff water away from sensitive areas to prevent soil erosion. • Use rainwater collection tanks to serve as a retention vessel in downpours. • Driveways must also be utilised for rainwater harvesting. • Stormwater management should encourage collection and infiltration of water into the soil profile.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Low Negative	
Duration	Short term	Impact will last between 1 and 5 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to specific isolated parts of the site
Intensity	Low	Natural and/or social functions and/or processes are somewhat altered	Very low	Natural and/ or social functions and/ or processes are slightly altered
Probability	Almost certain	It is most likely that the impact will occur	Rare / improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	High	The affected environmental will be able to recover from the impact
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	**Low – negative (-)**		**Negligible – negative (-)**	
Comment on significance	The stormwater design of the development will make provision for rainwater harvesting via collection from the roof and driveway / access road.			
Cumulative impacts	Without mitigation this impact could result in potential erosion on the site caused by stormwater flow.			

Project Phase	Operation			
Impact	**Eradication of Alien Vegetation**			
Description of impact	Alien plant management can have positive impacts for the property as well as the broader surrounding landscape.			
Potential for mitigation	High	Mitigation exists and will considerably reduce significance of impacts		
Potential mitigation	• All invasive alien plants should be completely cleared from the property, and where a tree or bush cover is desired, replaced with suitable indigenous species. • Rehabilitation of disturbed areas, as well as previously invaded areas, should promote establishment of site-appropriate indigenous species. • A suitable planting list of trees and shrubs must be compiled and incorporated into the landscape planning. • Reduce fire hazard on site.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Positive	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Very high	Natural and/ or social functions and/ or processes are severely altered
Extent	Local	Extending across the site and to nearby settlements	Limited	Limited to the site and its immediate surroundings
Intensity	Very high	Natural and/ or social functions and/ or processes are severely altered	Medium	Natural and/or social functions and/or processes are notably altered
Probability	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	High	The affected environmental will be able to recover from the impact	High	The affected environmental will be able to recover from the impact
Resource irreplaceability	Not relevant		Not relevant	
Significance	**Low – negative (-)**		**Low – positive (+)**	
Comment on significance	With mitigation the impact is likely to have more beneficial impact on natural biodiversity.			
Cumulative impacts	Without mitigation this impact could result in the spread of alien invasive plants.			

Project Phase	Operation
Impact	**Formal gardens**
Description of impact	Habitat loss for terrestrial wildlife, fragmentation of ecological corridor

Potential for mitigation	Low	Mitigation will slightly reduce the significance of impacts		
Potential mitigation	• Areas that are not required for development purposes should remain natural with indigenous vegetation. • All alien invasive plants must be removed from the site on an on-going basis based on the mitigation measures associated with the mentioned impact. • To promote natural biodiversity, indigenous gardens should be established, or disturbed areas should be fully rehabilitated within the development footprints. It is highly recommended to plant indigenous fire-resistant vegetation around the infrastructure and houses to protect buildings from uncontrolled fires. Some indigenous species can form a fire-proof hedge, with commercially available and locally occurring plant species suggested in Appendix 8. Indigenous gardens should be promoted wherever possible, and gardens should avoid using invasive plant species that could spread into surrounding areas. For lawns, non-invasive grass species like Cynodon dactylon (Cape Royal variety) or Stenotaphrum secundatum (Buffalo grass) should be used.			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Positive	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Very high	Natural and/ or social functions and/ or processes are severely altered
Extent	Local	Extending across the site and to nearby settlements	Limited	Limited to the site and its immediate surroundings
Intensity	Very high	Natural and/ or social functions and/ or processes are severely altered	Medium	Natural and/or social functions and/or processes are notably altered
Probability	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Not relevant	
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Not relevant	
Significance	**Low – negative (-)**		**Minor – positive (+)**	
Comment on significance	With mitigation the impact is likely to have more beneficial impact to retaining natural biodiversity, than without mitigation.			
Cumulative impacts	Without mitigation this impact could result in the spread of alien invasive plants and the loss of indigenous vegetation.			

6. NO GO' OR NO DEVELOPMENT SCENARIO

The 'No Go' or no development scenario takes into consideration the impacts associated with the no construction option. It is a prediction of the future state of the affected area in the event of no construction activities taking place and is based on the current and/or anticipated future land use. If no construction were to take place and the status quo would remain the same, the site would continue to be invaded by IAP into the parts of the site with some representative indigenous vegetation. The indigenous seed bank would be further reduced in the next fire event reducing the chance of positive restoration of the site. In the medium term, the impact of the No-Go scenario is **Low to Medium Negative** as it would likely result in the complete loss of fynbos on the site (Capensis, 2024)

SECTION I – CONSIDERATIONS REGARDING OFFSETS

The DFFE guidelines on offsets, published in Government Gazette 48841 (Notice No. 3569), outline in section 6 when biodiversity offsets are required. It is state that biodiversity offsets need to be considered if the proposed listed or specified activities are likely to have residual negative impacts on biodiversity of medium or high significance. This requirement is visually demonstrated by the mitigation hierarchy in the WCBSP (2017) (Figure 22).

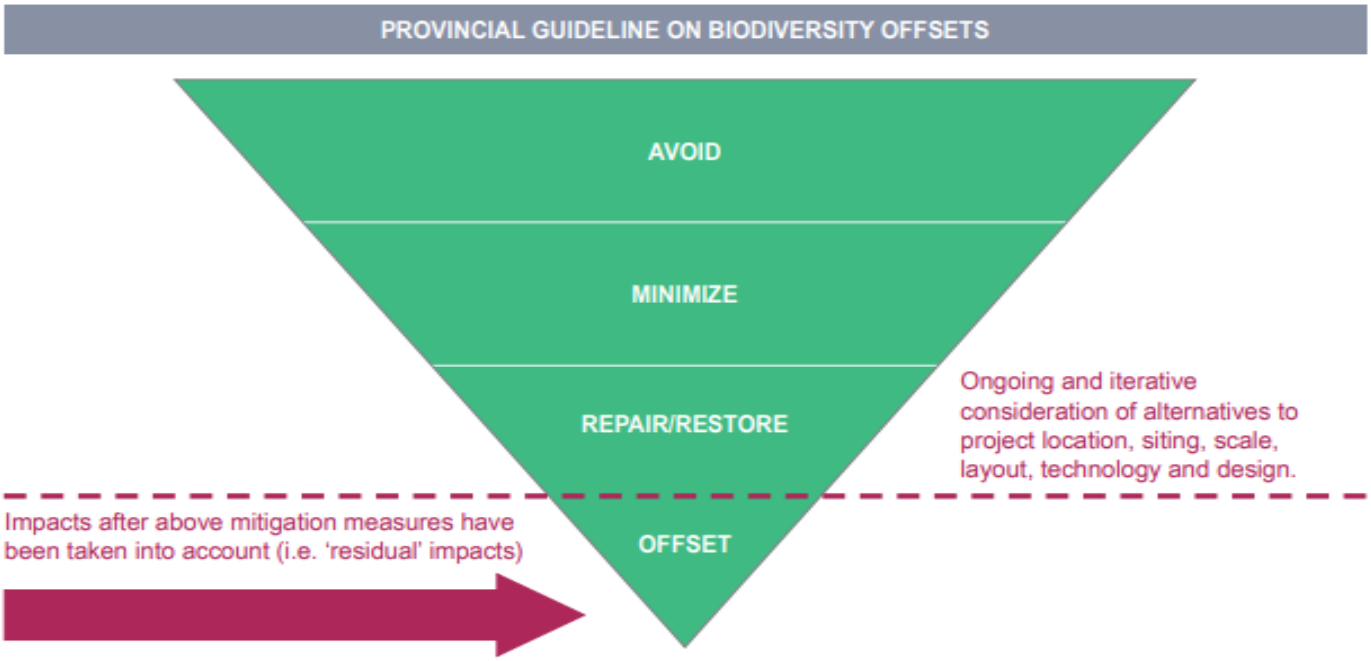


Figure 22: The mitigation hierarchy (WCBSP, 2017)

The proposed development will include constructing a primary dwelling with associated infrastructure on the selected property. Biodiversity specialists (Capensis, 2024) assessed the impact of various activities related to the proposed development and found that the impact on biodiversity would be medium negative prior to mitigation. However, following the mitigation hierarchy numerous mitigation measures have been proposed to minimize this impact, resulting in a residual impact that will be low negative.

Therefore, no biodiversity offsets are required.

SECTION J – DETAILS OF THE PUBLIC PARTICIPATION PROCESS

Public Participation forms an integral part of the Basic Assessment Process. It is for this reason that the Environmental Impact Assessment Regulations, 2014 (GN 982, 08 December 2014, as amended) highlight the public participation process that needs to be adhered to. Full compliance with this will be detailed in the Final Basic Assessment Report. In the interim, see Appendix J for details regarding the Pre-Application Basic Assessment Public Participation Process.

The following table (Table 16) serves as a summary of comments received during this public participation process: **08 August 2024 – 09 September 2024**

Table 16: Details of comments received during pre-application public participation

AUTHORITIES / STAKEHOLDERS / AND RELEVANT I&APS	DATE OF COMMENT
State Departments	
Department of Forestry, Fisheries, and the Environment (DFFE) (Coastal Unit)	10/09/2024
Department of Environmental Affairs and Development Planning (DEA&DP) – Biodiversity & Coastal Management	06/09/2024
Organs of state	
South African Civil Aviation Authority (SACAA)	12/08/2024
Cape Nature	12/09/2024
Breede-Olifants Catchment Management Agency (BOCMA)	09/09/2024
Relevant I&APs	
No Comment.	

There will be a second round Public Participation following the submission of the Application form. This Public Participaction Process will be conducted between **13 February 2025 and 14 March 2025**. All details of this Public Participation will be included in the final Basic Assessment Report and updated in the comments and response. Take note that the current comments and responses are preliminary (Appendix J) and will be updated upon completion of the second round Public Participation.

SECTION K – CONCLUSION AND RECOMMENDATIONS

This report constitutes the basic impact assessment of the proposed development for a primary dwelling on Erf 2924, Welbedacht, Knysna. It is in alignment with the National Environmental Management Act (NEMA) (Act No. 107 of 1998), and associated regulations. The following activities as per the National Environmental Management Act (Act No. 107 of 1998), Regulations Listing Notice 1 (Government Notice No. 983) and Listing Notice 3 (Government Notice No. 985) require environmental authorisation from the Department of Environmental Affairs (DEA), prior to commencement.

- Listing Notice 1; Activity 19A
- Listing Notice 3; Activity 12

Summary of the receiving environment:

The entire property was originally classified as containing Endangered (EN) Garden Route Shale Fynbos and was revised to still include such vegetation. However, verified specialists from Capensis have ground-truthed the persisting vegetation and found that fynbos does not cover the entire property. Fynbos is present on the upper ridge, northern slope, and southwest-facing cliffs, while the southern part of the property includes Southern Cape Afrotemperate Forest. The fynbos species found on the site (Table 4) include typical fynbos and some thicket species often found along forest margins or in fire-safe areas. Some of these thicket species are resprouting and hardy, possibly becoming more dominant due to Invasive Alien Plants (IAPs). No species of conservation concern (SCC) were identified in this habitat. The ecological functioning is moderately altered, with plant species diversity affected by IAPs, impacting the habitat available for other biota.

Subterranean tunnels typical of the Golden Mole SCC were found on the hilltop areas of the property during the site visit. While it was not possible to identify the species present based on the tunnels alone, the habitat suggests the more likely occurrence of the Fynbos Golden Mole (A. corriae) rather than Duthie's Golden Mole (C. duthieae, Vulnerable), which is typically associated with more forested habitats. However, the DFFE Screening Tool predicted suitable habitat for Duthie's Golden Mole on the property, so a precautionary approach is followed for this SCC as well. Mole tunnels were found in all vegetation habitats in the hilltop and northern sections of the propertyy, regardless of the level of alien plant invasion. One mole tunnel was also observed crossing beneath the fence of the northwestern neighbouring property, indicating their movement across the entire hilltop landscape (Figure 14).

Specialists confirmed that the proposed development was indicated to occur within CBA 1, but they stated that this classification is questionable as the sites are not intact. It would be more accurate to classify the property as CBA 2 or ESA 2 due to its poor condition

The site was considered suitable for the proposed development, but there were some moderate geotechnical constraints, including moderate to steep slopes and loose sandy soil, which require consideration by the structural engineer.

The property is buffered by the N2 highway and a steep cliff, providing a significant barrier against direct flooding and tidal surges from the Knysna Estuary. The elevation of the property further reduces its vulnerability to the effects of sea level rise and storm surges. Consequently, while the Knysna Estuary may experience changes in its ecological dynamics due to climate change, the

elevated position and natural buffers of the property ensure it remains minimally impacted by these environmental changes, making it a viable option for development with minimal risk.

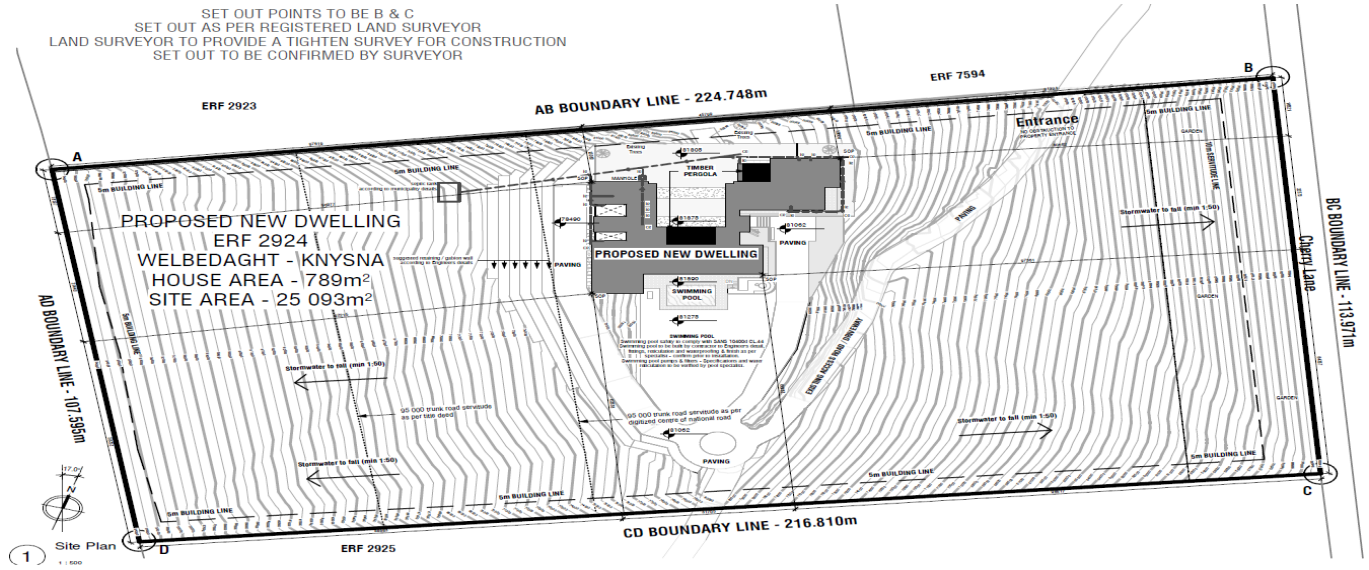
A Notice of Intent to Develop (NID) under Section 38(1) and (8) of the NHR Act will be submitted to Heritage Western Cape. Heritage Western Cape will determine whether the proposed development might have an impact on heritage resources. Comments will be included in this section of the final Basic Assessment Report.

Summary of project scope:

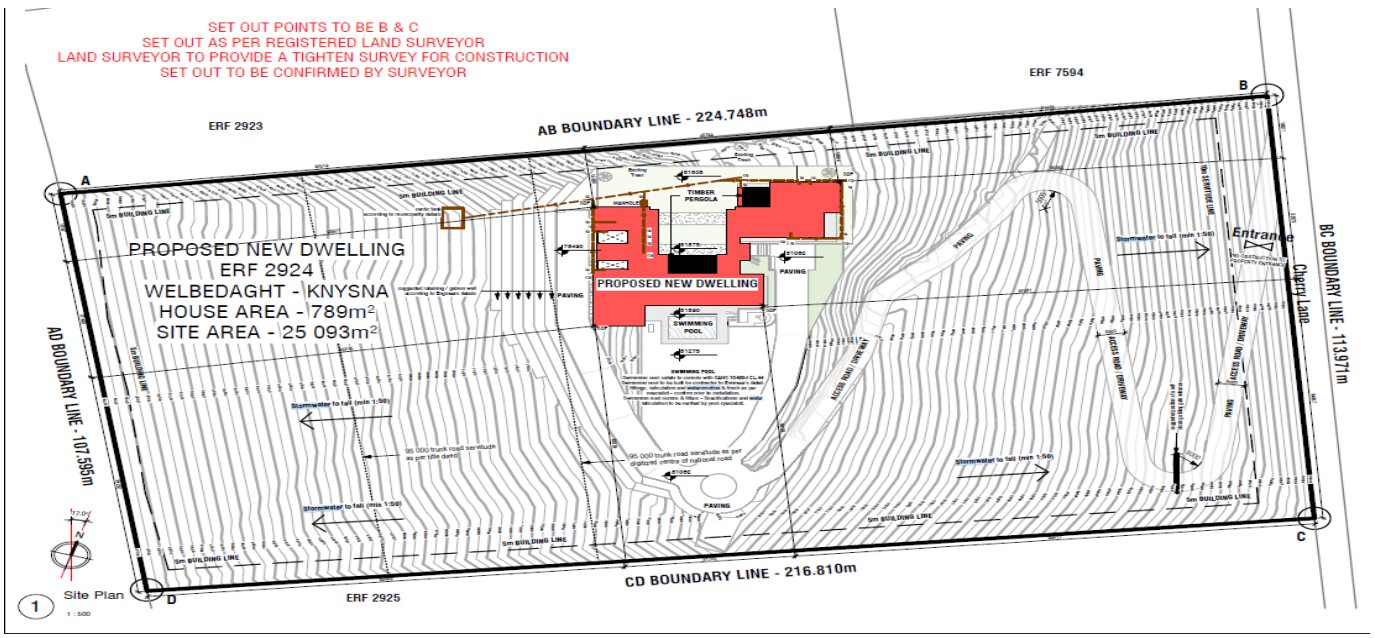
Two alternatives were considered during this basic assessment, whereby the preferred alternative refrains from a meandering access road. This access road will provide access to residents from Erf 7594, Erf 2924 (this development proposal), and Erf 2925 (family of the proponent).

Table 13 provides comparisons between the two alternatives -

Alternative A (Mathews + associate architects, 2024)



Alternative B (Mathews + associate architects, 2023)



Ultimately it will not be possible to move the location of the primary dwelling, however, based on the recommendations from specialist the footprint was reduces by limiting the construction of a meandering access road.

Impact of proposed development:

The following table will serve as a summary of the impacts of proposed development during the construction phase of alternative A.

Table 17: Summary of impacts of proposed development associated with alternative A - proposed development

Impact	Without Mitigation	With Mitigation
	Significance of Impact	Significance of Impact
Loss of terrestrial biodiversity	**Low – negative (-)**	**Negligible – negative (-)**
Loss of species of conservation concern	**Low – negative (-)**	**Negligible – positive (+)**
Disturbance / loss of faunal habitat	**Medium – negative (-)**	**Low – negative (-)**
Fatality to faunal species	**Low – negative (-)**	**Negligible – negative (-)**
Disturbance / removal of topsoil and subsoil	**Medium - negative (-)**	**Low – negative (-)**
Stormwater runoff and erosion	**Low- negative**	**Negligible – negative (-)**
Waste Pollution	**Low- negative (-)**	**Negligible – negative (-)**
Construction Vehicles Pollution	**Low- negative (-)**	**Negligible – negative (-)**
Noise Pollution	**Low- negative (-)**	**Negligible – negative (-)**
Visual Impact	**Low – negative (-)**	**Negligible – negative (-)**
Employment	**Low – negative (-)**	**Negligible – positive (+)**

1. RECOMMENDATIONS FROM SPECIALIST INPUT

The DFFE screening tool report indicates certain recommended specialist assessments to be done regarding selected classifications (Transformation of land | Indigenous vegetation) and (Infrastructure / Localised infrastructure / Infrastructure in the Sea-Estuary-Littoral Active Zone-Development Setback_100M Inland or coastal public property) with respect to the corelating listed activities.

Site sensitivity verification was done to explain why Terrestrial Biodiversity Impact Assessments, Plant Species Compliance Statement, Aquatic Compliance Statement, Animal Species Assessment, and a Geotechnical Report should be provided. Each report mentions certain mitigation measures to mitigate the impact of certain activities throughout the construction and operational phase.

Summary of Terrestrial Biodiversity Impact mitigations:

- The vegetation from the fynbos habitat that is not developed must be rehabilitated to a state where it is at least partially representative of the original fynbos ecosystem and supports ecological functioning to a moderate or high level.
- The rehabilitation must be undertaken in a phased approach, according to a rehabilitation plan and undertaken by a qualified botanist or restoration ecologist.
- The initial step will require the removal and control of all IAPs on the property and erosion control if necessary. Passive rehabilitation on the parts of the site where no earthworks have taken place can be allowed for one winter season following the removal of IAPs. Thereafter the site must be assessed by the restoration contractor to determine the level of active rehabilitation input. Active rehabilitation will be required for areas where topsoil has been removed.
- Follow-up clearing of all exotic and listed IAPs is required every 6 months for the first three years, and annually thereafter to ensure that the IAPs do not dominate the fynbos.

Best practise mitigation

- Mark off the areas that are not going to be developed prior to undertaking any works and ensure that no unnecessary loss of adjacent vegetation occurs.
- Sites for building material stocks, vehicles, toilets etc must be clearly marked and restricted to the building footprint, exiting roads or existing disturbed areas.

Summary of Aquatic Biodiversity Impact mitigations

- Implement measures to control erosion, with particular focus on the southwestern cliffs.
- Adhere to the principles for best management practice of stormwater management.
- Strategically place rainwater harvesting tanks.
- Use swales and detention ponds to manage stormwater runoff.

Summary of Animal Species Impact mitigations

- Phased Construction: Conduct construction in phases, confining activities to one area at a time. Communicate the construction phase plan to all staff.

- Pre-Construction Checks: Before earthworks, an ECO should walk through the demarcated footprint to check for and remove animals with limited mobility.
- Erosion Control Measures: Implement erosion control measures downslope where vegetation will be cleared.
- Topsoil Management: Treat and store topsoil removed during construction for future rehabilitation purposes.
- Staff Orientation: Regularly conduct staff orientation and information sessions.
- Vehicle Checks: Check construction vehicles daily for leaks and faults.
- Waste Management: Implement proper waste management, storage, and disposal to minimize pollution.
- Ablution Facilities: Provide, clean, and maintain adequate ablution facilities on-site.
- Pollution Prevention: Manage activities involving concrete, cement, plastering, and painting to prevent contamination of the environment.
- Material Storage: Cover stockpiles of building materials and soils with geotextiles or plastic coverings when not in use, and store small items and building materials in containers or designated areas to prevent animal interference.
- Food Waste Disposal: Dispose of food waste in designated bins and remove it from the site daily.
- Construction Hours: Restrict construction to daylight hours to ensure adequate monitoring for fauna and to prevent the use of artificial lighting.
- Speed Limits: Implement and enforce speed limits on all roads, with signs to warn drivers of wildlife.
- Site Cleanup: Regularly clear the site of waste material, rubble, and debris during and at the conclusion of the construction phase.

2. RECOMMENDATIONS FROM THE EAP

Based on the information provided and specialist findings it is the opinion of the EAP that no fatal flaws have been identified regarding the proposed construction of the residential dwelling and associated infrastructure. It is the EAP's opinion that the Preferred Alternative can be considered for Environmental Authorisation for the following reasons:

- The proposed development will have a low to negligible impact on the receiving environment.
- Additional to the low initial impact, the operational phase will aid in restoration and rehabilitation that will in turn benefit the receiving environment.
- According to the zoning of the property It is the primary right of the applicant to implement the proposed development.

Recommended conditions to be considered:

- ❖ The EMPr provides detail of mitigation measures concerning the development and must be strictly adhered to.

- ❖ Any recommendations made by specialists in a particular field of expertise must be adhered to so that a concerted effort is made to protect it and mitigate for environmental impacts.
- ❖ NFA Licenses must be obtained prior to removal/trimming/cutting of any protected trees on the property.
- ❖ An ECO must be appointed to monitor the site in compliance with the Environmental Authorisation and approved EMPr.
- ❖ The environmental integrity (including visual impacts) of the site is of importance and where alien vegetation has been removed, the rehabilitation / re-planting with suitable indigenous vegetation must take place.

A full description of recommendations from the EAP will be included in the Draft BAR following Public Participation.