LORNAY
ENVIRONMENTAL CONSULTING

PRE-APPLICATION
BASIC ASSESSMENT REPORT

PROPOSED RESIDENTIAL DEVELOPMENT ON ERF 1486 VERMONT

May 2024

Consultant:
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Western Cape Government
Environmental Affairs and Development Planning

FORM NO. BAR10/2019

BASIC ASSESSMENT REPORT

THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.

NOVEMBER 2019

(For official use only)	
Pre-application Reference Number (if applicable):	
EIA Application Reference Number:	
NEAS Reference Number:	
Exemption Reference Number (if applicable):	
Date BAR received by Department:	
Date BAR received by Directorate:	
Date BAR received by Case Officer:	

GENERAL PROJECT DESCRIPTION

(This must Include an overview of the project including the Farm name/Portion/Erf number)

RESIDENTIAL DEVELOPMENT, ERF 1486, VERMONT, HERMANUS, CALEDON RD

EXECUTIVE SUMMARY

The development of 9 single residential erven, ranging from 600 m^2 to 350 m^2, 2 private internal roads and private open space of 7964 m^2, is proposed for Erf 1486, Vermont. The Erf is located within the urban area and surrounded by similar development types. The site is partially impacted and contains internal access roads and a large building, however there is a wetland on site and some areas of intact indigenous vegetation.

A Wetland Screening was undertaken at the early stages of the process to inform the proposal and placement of erven on site. Following this screening, a natural Unchanneled Valley-Bottom (UVB) wetland was confirmed and delineated onsite. From this information, the Draft Basic Assessment and the then Preferred Alternative was generated.

A first round of public participation took place in March 2023. Following comments received during the first round of public participation, additional specialist information was sourced, and a full Aquatic Impact Assessment and a Terrestrial Botanical Impact Assessment were under taken to further assist in the evolution of the layout alternatives and application of the mitigation hierarchy.

The wetland was confirmed, and an updated delineation was undertaken during a site assessment by Gericke and van Zyl (Delta Ecology, 2023) on the 30th of May 2023. A full Aquatic Biodiversity Impact Assessment was undertaken as part of the 2023 Aquatic Assessment and is attached under Appendix F of the BAR. The wetland on site is part of a 1.4 km long wetland system that originates within the study area and ends at the Vermont Pan to the southeast. A depression has been excavated towards the centre of the study area, with an overflow pipe that crosses beneath Lynx Road and flows into the wetland on the far side thereby creating a hydrological link between the wetlands within the study site and the greater wetland to the southeast. An additional stormwater outlet is found in the southeast corner of the study area, which discharges runoff from the neighbouring housing development into the wetland. The remainder of the 1.5 ha study area is extensively disturbed and characterised by a mixture of alien and indigenous vegetation.

A Terrestrial Botanical Impact Assessment was conducted by Nick Helme in May 2023. This assessment found that approximately 70 % of the study area supports vegetation that is classified as Hangklip Sand Fynbos vegetation type. About 70 % of the site is also considered to be either seasonal or permanent wetland and at least two bird Species of Conservation Concern (SoCC) may use the site for foraging, and at least one plant SoCC may be present in low numbers. No plant or animal SoCC were recorded on site during the survey. The Cape Dwarf Chameleon (*Bradypodion pumilum*) is listed as Vulnerable and may occur on site.

The mitigation measures and recommendations made by both the Aquatic specialist and Botanist, have been applied to the application and have resulted in the creation and evolution of Alternative 4. Based on this, Alternative 4, is now the preferred layout alternative. Both specialist teams have provided comment on the new Preferred Alternative 4 and have confirmed that it effectively addresses the identified impacts by sufficiently considers the recommendations and mitigation measures in their impact assessment reports. These comments are found within the Aquatic Impact Assessment report and under Appendix F4 as an addendum to the Botanical report. The Botanical report makes comment to both the Fauna and Floral aspects on site and a search and rescue is recommended by the EAP, prior to construction for possible SoCC listed above.

After the first round of public participation, the Service Availability Report, conducted by the Overstrand Municipal Engineering Team, - GLS Consultants, was completed. The report concluded that the developer of the erf, may be liable for the payment of a Development Contribution (as calculated by the Overstrand Municipality) for bulk water and sewer infrastructure as per Council Policy. The findings include:

- → There is sufficient capacity in the existing water reticulation system to accommodate the proposed development and no network upgrades will be required.
- → There is sufficient hydraulic spare capacity in the existing small bore sewer reticulation system downstream of the proposed development to accommodate the proposed development.
- → Accommodation of the development on Erf 1486 on the existing small-bore system is however not supported due to operational problems that are experienced with smaller diameter sewer systems, specifically frequent sewer blockages.
  Action required - T the existing 110 mm diameter small bore sewer system from the proposed development to the existing 200 mm diameter outfall sewer in Malmok Street is upgraded to 160 mm diameter. Mr Ricardo Andrew from the Overstrand Municpality has confirmed that the North-south section of 255 m of the 110 mm diameter existing pipeline will need to be upgraded to a 160 mm diameter pipeline as per the following. This upgrade involves the excavation of existing in installation of new. No new listed activities are applicable to this action.

Way forward

Given the additional information provided by the specialist team, the evolution of a new Preferred alternative (Alternative 4) and the minor upgrade of existing sewer pipeline in Kolgans street, the EAP has provided an additional out of process public participation opportunity on this Draft / Pre-Application Basic Assessment Report. Once this round of additional public participation is complete, the Application form will be submitted to the Competent Authority and the final round of in-process public participation will be conducted. Thereafter, the final Basic Assessment Report will be submitted to the Competent Authority for consideration.

IMPORTANT INFORMATION TO BE READ PRIOR TO COMPLETING THIS BASIC ASSESSMENT REPORT

1. **The purpose** of this template is to provide a format for the Basic Assessment report as set out in Appendix 1 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) in order to ultimately obtain Environmental Authorisation.

2. The Environmental Impact Assessment ("EIA") Regulations is defined in terms of Chapter 5 of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".

3. The required information must be typed within the spaces provided in this Basic Assessment Report ("BAR"). The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided.

4. All applicable sections of this BAR must be completed.

5. Unless protected by law, all information contained in, and attached to this BAR, will become public information on receipt by the Competent Authority. If information is not submitted with this BAR due to such information being protected by law, the applicant and/or Environmental Assessment Practitioner ("EAP") must declare such non-disclosure and provide the reasons for believing that the information is protected.

6. This BAR is current as of **November 2019**. It is the responsibility of the Applicant/ EAP to ascertain whether subsequent versions of the BAR have been released by the Department. Visit this Department's website at http://www.westerncape.gov.za/eadp to check for the latest version of this BAR.

7. This BAR is the standard format, which must be used in all instances when preparing a BAR for Basic Assessment applications for an environmental authorisation in terms of the NEMA EIA Regulations when the Western Cape Government Department of Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority.

8. Unless otherwise indicated by the Department, one hard copy and one electronic copy of this BAR must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this Report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.

9. This BAR must be duly dated and originally signed by the Applicant, EAP (if applicable) and Specialist(s) and must be submitted to the Department at the details provided below.

10. The Department's latest Circulars pertaining to the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must be taken into account when completing this BAR.

11. Should a water use licence application be required in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), the "One Environmental System" is applicable, specifically in terms of the synchronisation of the consideration of the application in terms of the NEMA and the NWA. Refer to this Department's Circular EADP 0028/2014: One Environmental Management System.

12. Where Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") is triggered, a copy of Heritage Western Cape's final comment must be attached to the BAR.

13. The Screening Tool developed by the National Department of Environmental Affairs must be used to generate a screening report. Please use the Screening Tool link https://screening.environment.gov.za/screeningtool to generate the Screening Tool Report. The screening tool report must be attached to this BAR.

14. Where this Department is also identified as the Licencing Authority to decide on applications under the National Environmental Management: Air Quality Act (Act No. 29 of 2004) ('NEM:AQA"), the submission of the Report must also be made as follows, for-
Waste Management Licence Applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management Directorate (Tel: 021-483-2728/2705 and Fax: 021-483-4425) at the same postal address as the Cape Town Office.

Atmospheric Emissions Licence Applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licensing Authority or this Department's Air Quality Management Directorate (Tel: 021 483 2888 and Fax: 021 483 4368) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE: REGION 1 and REGION 2 **(Region 1: City of Cape Town, West Coast District)** **(Region 2: Cape Winelands District & Overberg District)**	**GEORGE OFFICE: REGION 3** **(Central Karoo District & Garden Route District)**
BAR must be sent to the following details: Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1 or 2) Private Bag X 9086 Cape Town, 8000 Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town Queries should be directed to the Directorate: Development Management (Region 1 and 2) at: Tel: (021) 483-5829 Fax (021) 483-4372	BAR must be sent to the following details: Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530 Registry Office 4th Floor, York Park Building 93 York Street George Queries should be directed to the Directorate: Development Management (Region 3) at: Tel: (044) 805-8600 Fax (044) 805 8650

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
Locality Map:	The scale of the locality map must be at least 1:50 000. For linear activities or development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following: • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; and • a linear scale. For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken. Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and Public Works) that will be affected by the proposed development must be included in the Report.

Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following: • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. • On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan. • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development **must** be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): o Watercourses / Rivers / Wetlands o Flood lines (*i.e.,* 1:100 year, 1:50 year and 1:10 year where applicable); o Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"): o Ridges; o Cultural and historical features/landscapes; o Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.
Site photographs	Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as **Appendix C**. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.
Biodiversity Overlay Map:	A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as **Appendix D**.
Linear activities or development and multiple properties	GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system. Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix. For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as **Appendix A3**.

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape
NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference

WCBSP:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

Note: The Appendices must be attached to the BAR as per the list below. Please use a ✓ **(**tick) or a **x** (cross) to indicate whether the Appendix is attached to the BAR.

The following checklist of attachments must be completed.

APPENDIX			**✓ (Tick) or x (cross)**
Appendix A:	**Maps**		
	Appendix A1:	**Locality Map**	**√**
	Appendix A2:	**Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning**	
	Appendix A3:	**Map with the GPS co-ordinates for linear activities**	
Appendix B:	**Appendix B1:**	**Site development plan(s)**	**√**
	Appendix B2	**A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;**	
Appendix C:	**Photographs**		**√**
Appendix D:	**Biodiversity overlay map**		**√**
Appendix :	**Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.**		
	Appendix E:	**Proof of PPP**	
		Copy of comment from Cape Nature	SEE APPENDIX E
		Final Comment from BOCMA	SEE APPENDIX E
		Comment from the DEA: Oceans and Coast	N/A
		Comment from the DAFF	N/A
		Comment from WCG: DHS	N/A
	:	**Comment from WCG: DoH**	N/A

		Comment from DEA&DP: Pollution Management	N/A
		Comment from DEA&DP: Waste Management	N/A
		Comment from DEA&DP: Biodiversity	N/A
		Comment from the local authority	Pending
		Comment from the District Municipality	Pending
	Appendix E21:	**Proof of land use rights**	N/A
	Appendix E22:	**Proof of public participation agreement for linear activities**	N/A
Appendix E:	**Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.**		**√**
Appendix F:	**Specialist Report(s)** **APPENDIX F1: ENVIROSWIFT Freshwater Screening** **APPENDIX F2: Aquatic Biodiversity Impact Assessment** **APPENDIX F3: Botanical Impact Assessment** **APPENDIX F4: Botanical comment for Alternative 4** **APPENDIX F5: Heritage Western Cape Comment** **APPENDIX F6: GLS Service Report**		**√**
Appendix G:	**EMPr**		**√**
Appendix H:	**Screening tool report**		**√**
Appendix J:	**The impact and risk assessment for each alternative**		See BAR below
Appendix K:	**Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline**		√
Appendix…..	**Any other attachments must be included as subsequent appendices**		N/A

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE:		GEORGE OFFICE:
	REGION 1 (City of Cape Town, West Coast District	REGION 2 (Cape Winelands District & Overberg District)	REGION 3 (Central Karoo District & Garden Route District)

Duplicate this section where there is more than one Proponent Name of Applicant/Proponent:	ELEPHANT VENTURES AFRICA CC	
Name of contact person for Applicant/Proponent (if other):	CRAIG SAUNDERS	
Company/ Trading name/State Department/Organ of State:	ELEPHANT VENTURES AFRICA CC	
Company Registration Number:	1999/013536/23	
Postal address:	224 CHERRYWOOD STREET	
	ARABELLA KLEINMOND	Postal code: 7195
Telephone:	083 306 3770	Cell:
E-mail:	babyjumbo@mweb.co.za	Fax: ( )
Company of EAP:	LORNAY ENVIRONMENTAL CONSULTING	
EAP name:	MICHELLE NAYLOR	
Postal address:	PO BOX 1990	
	HERMANUS	Postal code: 7200
Telephone:	083 245 6556	Cell:
E-mail:	michelle@lornay.co.za	Fax: ( )
Qualifications:	Master of Science (Rhodes University)	
EAPASA registration no:	EAPASA. 2019/698,., SACNASP., IAIASA	
Duplicate this section where there is more than one landowner Name of landowner:	N/A	
Name of contact person for landowner (if other):	-	
Postal address:	-	
	-	Postal code:-
Telephone:	-	Cell:-
E-mail:	-	Fax: -
Name of Person in control of the land:	AS ABOVE	
Name of contact person for person in control of the land:	-	
Postal address:	-	
	-	Postal code:-
Telephone:	-	Cell:-
E-mail:	-	Fax: -

Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall:	OVERSTRAND MUNICPALITY
Contact person:	PENELOPE APLON
Postal address:	PO BOX 20

	HERMANUS	Postal code: 7200
Telephone	028 313 8000	Cell:
E-mail:	paplon@overstrand.gov.za	Fax: ( )

SECTION B: CONFIRMATION OF SPECIFIC PROJECT DETAILS AS INLCUDED IN THE APPLICATION FORM

1.	Is the proposed development (please tick):	New	X	Expansion	
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
The site is located within the built-up urban edge and surrounded by the residential complexes and single residential erven. Parts of the site are transformed and impacted. There are existing buildings on site, as well as existing access and internal roads. However, there are also some parts that consist of natural and sensitive vegetation.					
3.	~~**For Linear activities or developments**~~				
3.1.	~~Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:~~				
3.2.	~~Development footprint of the proposed development for all alternatives.~~	~~m²~~			
3.3.	~~Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.~~				
~~3.4.~~	~~Indicate how access to the proposed routes will be obtained for all alternatives.~~				
3.5.	~~SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives~~				
3.6.	~~**Starting point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
	~~**Middle point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
	~~**End point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
~~**Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.**~~					
4.	**Other developments**				
4.1.	Property size(s) of all proposed site(s):	15079.9 M2 (1.5 HA)			
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):	EXISTING BUILDING – 2234.59 M^2 EXISTING ROAD – 216.32 M^2			

4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives: **FINAL PREFERRED ALTERNATIVE (ALTERNATIVE 4):**	

Erf	Zoning	Land Use	% Seasonal Wetland on Residential Erven	Area
1	GR1	Single Residential	30%	600m²
2	GR1	Single Residential	19%	600m²
3	GR1	Single Residential	30%	600m²
4	GR1	Single Residential	30%	600m²
5	GR1	Single Residential	22%	600m²
6	GR1	Single Residential	26%	764m²
7	GR1	Town Housing	30%	450m²
8	GR1	Town Housing	29%	420m²
9	GR1	Town Housing	0%	350m²
10	OS3	Private Road	N/A	607m²
11	OS3	Private Road	N/A	1516m²
12	OS3	Private Open Space	N/A	7964m²
Total			**15%**	**15069m²**

Figure 1

4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).

The creation of 9 residential erven, 2 roads and open space is proposed for the subject property as follows:

Erf	Zoning	Land Use	% Seasonal Wetland on Residential Erven	Area
1	GR1	Single Residential	30%	600m²
2	GR1	Single Residential	19%	600m²
3	GR1	Single Residential	30%	600m²
4	GR1	Single Residential	30%	600m²
5	GR1	Single Residential	22%	600m²
6	GR1	Single Residential	26%	764m²
7	GR1	Town Housing	30%	450m²
8	GR1	Town Housing	29%	420m²
9	GR1	Town Housing	0%	350m²
10	OS3	Private Road	N/A	607m²
11	OS3	Private Road	N/A	1516m²
12	OS3	Private Open Space	N/A	7964m²
Total			**15%**	**15069m²**

Figure 2

The above is the new preferred alternative (Alternative 4). The preferred layout alternative has been informed through freshwater specialist input and botanical input and the preferred alternative has evolved during the impact assessment phase where the mitigation hierarchy has been applied to avoid sensitive areas.

Sewer upgrade

No additional upgrades are needed for the Wastewater Treatment Works (WWTW). However, there's a necessity to upgrade the current, existing sewer pipeline located in Kolgans street. The expansion of the existing approximately 220

m pipeline diameter from 110 mm to 160 mm is required as a bulk contribution, to accommodate this development. The developer will play a role in financing this essential upgrade.

4.5.	Indicate how access to the proposed site(s) will be obtained for all alternatives.

Access is already existing off Lynx Avenue, Vermont, internal access is also mostly in place. Minor changes to internal roads will be applicable to avoid sensitive areas on the site as indicated in the Preferred Alternative – Alternative 4.

The R43, which Lynx Avenue leads off of, can be classified as a class 2 major arterial and Lynx road as a class 4 collector street. The provincial AMG 2020 document indicates a minimum spacing requirement of 115 metres from the last low-volume driveway on a class 4 road on the approach towards an unsignalized full intersection with a class 2 road in a suburban roadside development environment:

Spacing		On the approach towards an intersection with a Class 2 or 3			
From	To	CBD	Intermediate	Suburban	Semi-rural
Last low-volume driveway	Unsignalised full intersection	80	95	115	145
Second last low-volume driveway	Unsignalised full intersection	120	145	180	225

Figure 3

The second last low-volume driveway should be 180 metres from the intersection, as reflected in the preferred alternative.

No further assessment is required to inform the access to the site.

4.6.	SG Digit code(s) of the proposed site(s) for all alternatives:	C	0	1	3	0	0	2	3	0	0	0	0	1	4	8	6	0	0	0	0	0

4.7.	Coordinates of the proposed site(s) for all alternatives:			
	Latitude (S)	34°	24‘	23.42“
	Longitude (E)	19°	8‘	52.57“

SECTION C: LEGISLATION/POLICIES AND/OR GUIDELINES/PROTOCOLS

1. Exemption applied for in terms of the NEMA and the NEMA EIA Regulations

Has exemption been applied for in terms of the NEMA and the NEMA EIA Regulations. If yes, include a copy of the exemption notice in Appendix E18.	YES	NO x

2. Is the following legislation applicable to the proposed activity or development.

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) ("ICMA"). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES	NO x
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA"). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1. A NOTICE OF INTENT HAS BEEN SUBMITTED TO HWC, AND IT WAS CONFIRMED THAT NO FURTHER HERITAGE IMPACT ASSESSMENT IS REQUIRED FOR THE PROPOSED DEVELOPMENT OF ERF 1486 VERMONT. SEE HWC COMMENT ATTACHED UDNER APPENDIX F	YES x	NO
The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the DWS as Appendix E3. Freshwater Specialist was appointed and risk matrix completed also completed	YES x	NO
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	NO X
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	NO X
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES	NO X
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	NO X
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	NO X

3. Other legislation

List any other legislation that is applicable to the proposed activity or development.
-

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.

<u>WESTERN CAPE PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK, 2014 (PSDF)</u>

The objective of the policy is to create an enabling policy environment which prioritises the creation of employment opportunities, social inclusion and improvement of the quality of life of the Western Cape inhabitants. The development principles in the PSDF are informed by other spatial planning policies which are aimed at creating a policy alignment between different spheres of government.

Consistency of the proposal with the policy

- → The policy underscores that the Overstrand is a leisure, lifestyle, holiday and economic centre. The approval and implementation of this proposal will contribute toward enhancing the role of the OM as a leisure, lifestyle, holiday and economic centre which is cited as an integral functionality role;
- → Safeguarding and celebrating the Western Cape's unique cultural, scenic resources, on which the tourism economy depends is cited as critical in the policy
- → The integration of the Province's natural and built environments is cited as being of critical importance to the further development of tourism. This proposal entails a harmonious integration of the natural and built environments and illustrates the critical role in the further development of the tourism industry in the rural area.

<u>OVERSTRAND MUNICIPALITY SPATIAL DEVELOPMENT FRAMEWORK, 2020 (SDF)</u>

The broad policy objectives of the SDF include enhancing the image of the Overstrand as a liveable urban and rural area which provides a range of facilities as activities which tourists and residents can enjoy. Development proposals should also capitalise on the unique sense of place which rural areas in the Overstrand are renown for. The SDF promotes developments which enhance the visual quality and attraction of the built environments while preserving the social and cultural attributes which are valued by inhabitants.

Consistency of the proposal with the policy

- → The promotion of rural tourism development based on the ecological and heritage value of the region is encouraged. The tourist accommodation will be highly dependent on the ecological value of surrounding natural systems as the subject property is located within the popular Hemel and Aarde Valley. Wine tours are very popular to the area
- → The maintenance of the dominance of the natural and agricultural environment is encouraged. This proposal is of a low intensity and will not interfere with the dominance of natural and agricultural environment which is prevalent on the subject farms
- → Infilling within the built-up urban edge

5. Guidelines

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.

NATIONAL ENVIRONMENTAL MANAGEMENT ACT 107 OF 1998, AS AMENDED (NEMA) & THE EIA REGULATIONS (2014) AS AMENDED	ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
OVERSTRAND MUNICIPALITY BY LAW ON MUNICIPAL LAND USE PLANNING, 2015	SDF AND IDP
NATIONAL HERITAGE RESOURCES ACT 25 OF 1999 (NHRA) ACT 25 OF 1999	NID was submitted and comment from HWC suggested no further assessment required.
EIA GUIDELINE AND INFORMATION DOCUMENT SERIES, DATED MARCH 2013: APPLIED TO VARIOUS COMPONENTS IN THE BASIC ASSESSMENT PROCESS.	THE FOLLOWING GUIDELINES WERE CONSIDERED THROUGHOUT THIS BASIC ASSESSMENT PROCESS: • Guideline for the Review of Specialist Input in the EIA process (June 2005); • Guideline for Environmental Management Plans (June 2005) • Guideline on Alternatives (March 2013) • Guideline on Need and Desirability • Guideline on Public Participation Process

6. Protocols

Explain how the proposed activity or development complies with the requirements of the protocols referred to in the NOI and/or application form
Landscape / Visual Impact Assessment: The proposed activity involves the development of the property, to establish a single residential erf within an urban area. The development aligns with the surrounding landscape and development, thereby meeting the requirements of the Landscape / Visual Impact Assessment. No further assessment is required. **Archaeological and Cultural Heritage Impact Assessment**: Low- Although the development is not extensive, potential impacts on archaeological and cultural heritage have been considered. Mitigation measures are available in the EMP for implementation during construction if any finds are uncovered. Confirmation from the Heritage Western Cape (HWC) indicates that no additional heritage assessment is required. No further actions required. **Palaeontology Impact Assessment**: Low **-** Consistent with the Archaeological and Cultural Heritage Impact Assessment, the proposed development's scale does not require additional assessment beyond potential mitigation measures during construction. Confirmation from the Heritage Western Cape (HWC) indicates that no additional heritage assessment is required. No further actions required. **Terrestrial Impact Assessment:** Very High **-** The development occurs in one of the last remaining open erven in Vermont and aligns with surrounding development. The layout includes a central open space to facilitate the movement of fauna and flora. Expert input from a Botanical Specialist has been incorporated, and terrestrial considerations are addressed in both Botanical and Aquatic assessments. **Aquatic Biodiversity Impact Assessment**: Very High- A comprehensive freshwater ecology report, including wetland delineation and mitigation recommendations, has been conducted. The new layout design (Alternative 4) has been influenced by this study to minimize impacts on the wetland, wildlife as well as the environment, meeting the requirements of the Aquatic Biodiversity Impact Assessment. **Plant Species Assessment**: High - A Botanical Impact Assessment has been completed, acknowledging the transformation of parts of the site. This assessment addresses plant species considerations adequately. **Animal Species Assessment**: High Sensitivity - Given the urban location and limited development footprint, the impact on animal species is minimal. The Freshwater and Botanical Impact Assessments provide relevant insights. However, a precautionary search and rescue effort for potential chameleons and frogs is recommended before disturbing any new erven, ensuring compliance with the Animal Species Assessment. The preferred alternative sees a reduction in development fooptprint and increased in conserved areas and exclusion of identified sensitive areas identified on site.

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
12	The development of - dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs -(a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse	Some of the proposed erven will fall within the delineated seasonal wetland area (not permanent wetland), access road and service infrastructure may encroach within the 32 metres of the watercourse.
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from (i) a watercourse;	Some of the proposed erven will fall within the delineated seasonal wetland area (not permanent wetland)
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation,	The site is 1. 5 ha in extent. Some natural areas will remain, but this listed activity may be triggered during the construction phase
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
12	The clearance of an area of 300 square metres or more of indigenous vegetation i. 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	More than 300 m^2 of indigenous vegetation (Hangklip Sandstone Fynbos) will be removed to accommodate the development

Note:

- The listed activities specified above must reconcile with activities applied for in the application form. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted.
- Where additional listed activities have been identified, that have not been included in the application form, and amended application form must be submitted to the competent authority.

The proposed replacement of approximately 255 m of sewer pipe in Kolgans street, and increase in diameter of this pipeline from 110 mm to 160 mm will not trigger any listed activities because:

- No upgrade to the WWTW capacity is required.
- Because the upgraded pipe will have a diameter of 0.15m and the peak flow from the development will be approximately 0.13lt/sec.
- Capacity of upgraded 160 mm diameter pipeline will be approximately 16 liter/sec

~~List the applicable waste management listed activities in terms of the NEM:WA~~

~~Activity No(s):~~	~~Provide the relevant **Basic Assessment Activity(ies)** as set out in **Category A**~~	~~Describe the portion of the proposed development to which the applicable listed activity relates.~~

~~List the applicable listed activities in terms of the NEM:AQA~~

~~Activity No(s):~~	~~Provide the relevant **Listed Activity(ies)**~~	~~Describe the portion of the proposed development to which the applicable listed activity relates.~~

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.

The preferred alternative entails the development of residential erven, road, and open space on the subject property situated at the junction of Lynx Avenue and R43 within the residential suburb of Vermont. Access to the property is already established via Lynx Avenue. Currently, parts of the site have been transformed and impacted by existing buildings.

The proposed development aims to create residential erven, establish road infrastructure, and designate open space. Specifically, a Freshwater Screening and Impact Assessment conducted by a Wetland specialist has identified both seasonal and permanent wetlands on the site. The permanent wetland area is scheduled for rehabilitation as an integral part of the development proposal and to encourage the improved link between Vermont Salt Pan and Paddavlei.

The vegetation within the study area exhibits significant disturbance, characterized by a mix of indigenous species such as *Senecio halimifolius* and wetland obligate *Juncus kraussi*, alongside invasive alien species like *Pennisetum clandestinum* (kikuyu grass).

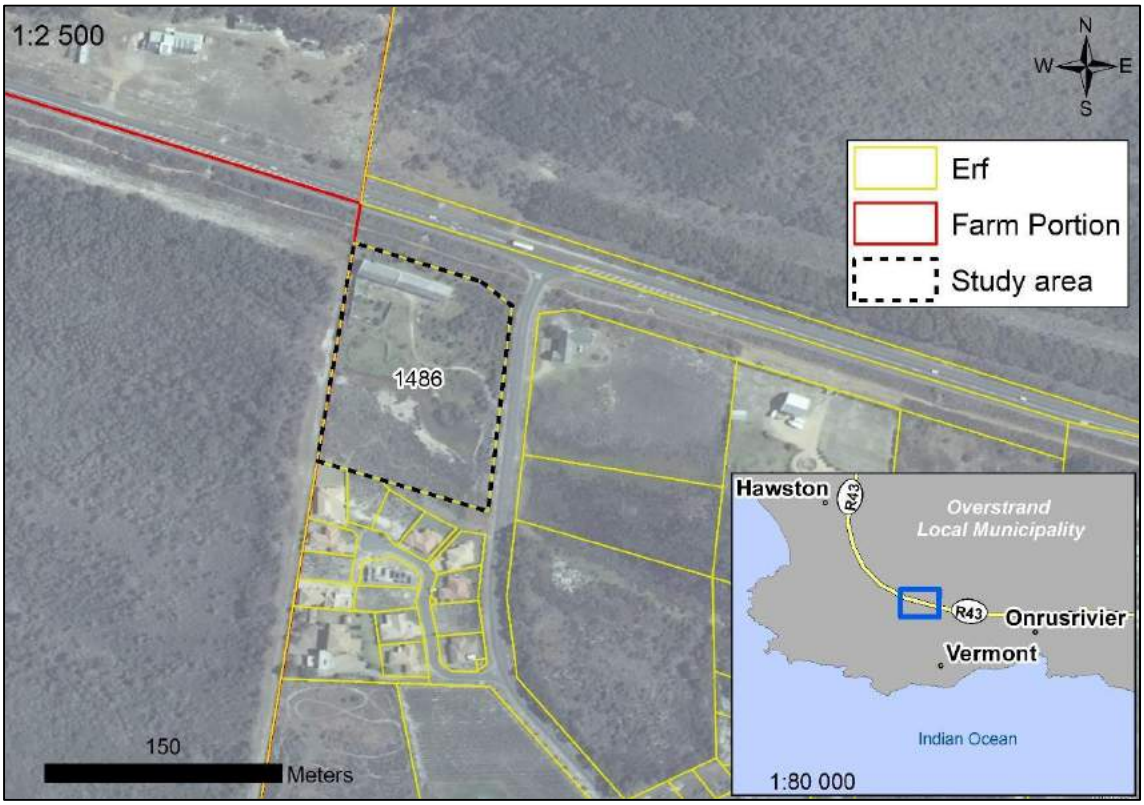

Figure 4

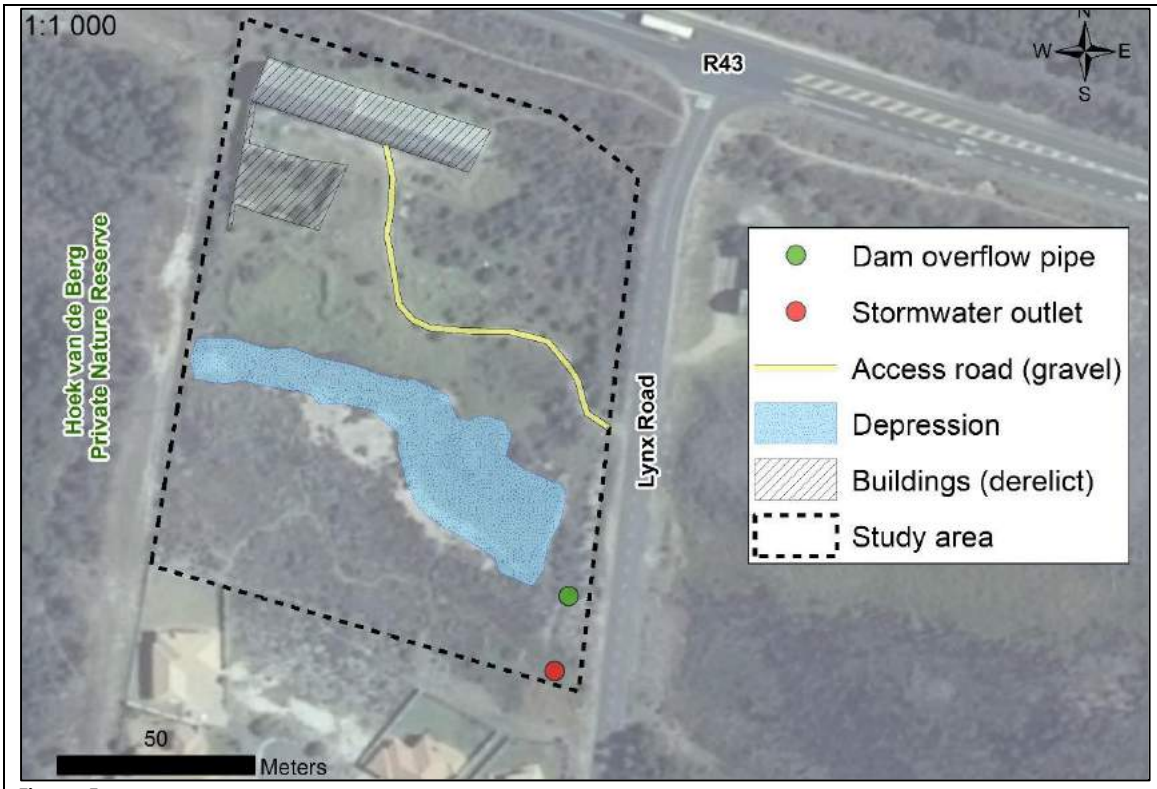

Figure 5

THE CREATION OF RESIDENTIAL ERVEN, ROADS AND OPEN SPACE IS PROPOSED FOR THE SUBJECT PROPERTY AS FOLLOWS:

Erf	Zoning	Land Use	% Seasonal Wetland on Residential Erven	Area
1	GR1	Single Residential	30%	600m²
2	GR1	Single Residential	19%	600m²
3	GR1	Single Residential	30%	600m²
4	GR1	Single Residential	30%	600m²
5	GR1	Single Residential	22%	600m²
6	GR1	Single Residential	26%	764m²
7	GR1	Town Housing	30%	450m²
8	GR1	Town Housing	29%	420m²
9	GR1	Town Housing	0%	350m²
10	OS3	Private Road	N/A	607m²
11	OS3	Private Road	N/A	1516m²
12	OS3	Private Open Space	N/A	7964m²
Total			**15%**	**15069m²**

Figure 6

2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.

The erf is zoned as Residential Zone 1 for Residential use. The site is surrounded by mixed residential uses. The property will be rezoned to accommodate single residential, town housing, open space and roads / transport.

3.	Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.

N/A

4.	Explain how the proposed development will be in line with the following?
4.1	The Provincial Spatial Development Framework.

The Western Cape Spatial Development Framework (WCSDF) emphasizes three spatial themes aimed at ensuring the sustainable use of spatial assets, opening up opportunities in the provincial space-economy, and developing integrated and sustainable settlements. The proposed development supports these objectives by:

- Utilizing existing spatial assets within the built-up residential suburb of Vermont for residential development.
- Creating opportunities for housing and infrastructure development in line with the province's economic and settlement objectives.
- Integrating sustainable development principles by rehabilitating wetland areas and managing vegetation disturbances in accordance with environmental sustainability goals.

The proposed development adheres to the investment strategies articulated in MSDFs by:

- Prioritizing investment in designated Priority Investment Areas within the municipality, such as the proposed development site on Lynx Avenue and R43.
- Addressing upgrading areas by improving infrastructure and urban environments to meet acceptable standards.
- Supporting restructuring or integration zones by promoting residential development and social housing initiatives, contributing to spatial justice and urban cohesion.
- Ensuring consolidation areas are adequately serviced and maintained to fulfill their functions effectively.
- Identifying medium to long-term growth areas for future development potential, aligning with municipal objectives for sustainable expansion.
- Considering spatial planning categories to guide appropriate development and protection measures, especially concerning biodiversity preservation.

4.2	The Integrated Development Plan of the local municipality.

The proposed development closely aligns with the Integrated Development Plan (IDP) of the Overstrand Local Municipality by prioritizing infill development, densification, and the creation of mixed-use nodes within the urban area of Vermont.

The development focuses on establishing the number of housing units per hectare within the built-up urban area of Vermont. By utilizing available land within existing urban boundaries, the project contributes to infill development objectives outlined in the IDP. This strategy helps accommodate population growth without necessitating significant land expansion, thus promoting a more compact and efficient urban form as advocated by the municipality.

By creating residential erven and providing housing opportunities within the built-up urban area, the development directly addresses the municipality's goal of meeting the housing needs of its residents. This aligns with the IDP's emphasis on developing vacant or underutilized land within existing urban areas to enhance housing accessibility and affordability.

The proposed development also supports the IDP's aim of reducing urban sprawl and the need for new infrastructure by concentrating development within established urban areas. By infilling gaps between existing buildings and redeveloping brownfield sites, the project contributes to creating a more compact and efficient urban form, thereby fostering sustainable urban growth.

4.3.	The Spatial Development Framework of the local municipality.

Extracted from Overstrand Municipality Spatial development Framework (2020) "The total projected population of the Greater Hermanus amounted to 62 929 in 2019 based on a 5.2% projected growth per annum (Census 2001-2011). Based on the said projected growth, the town will consist of a population of 155 272 in 2031. The town of Hermanus is for ease of reference and plan legibility, divided in three prominent areas, namely Hermanus West, Hermanus East and Hermanus Central. A survey in terms of the availability of vacant land was undertaken in 2019. A total of 1241 vacant residential erven were identified. A total amount of 92 343 additional people will need to be accommodated from 2019 to 2031, based on the aforementioned population total. Based on an average household size of 2.6 persons per household, this amounts to a total requirement of 35 517 additional dwelling units by 2031. The population figures have been influenced by the drastic population influx of 2018 and provision is made to accommodate similar influx peaks in the future.

Hermanus West (illustrated in Plan 30) is predominantly a residential area in nature with its spatial pattern /urban form dictated by the coastline to the south, the Onrus Mountains and the R43 to the north as well as the Onrus River that centrally bisects the area. The business areas within Hermanus West are typical small business nodes sparsely located within the neighbourhoods. The industrial area to the east of Hermanus and abutting Hermanus Central is prominent (Refer Hermanus Central). The rocky and sandy shoreline, the coastal plateau and the Onrus Mountains have brought about, over time, environmental and heritage landscapes that are of particular quality. These landscapes are integrated along biodiversity corridors which originate in the mountainous areas, include pockets of municipal protected biodiversity rich land, and terminate at the coastline. The land which is included in these corridors is mainly protected by draft EMOZ protecting both public and municipal land.

The central coastline of Hermanus West is also partially protected by the draft HPOZ, due to the presence of local heritage resources. In terms of services infrastructure provisions, the following should be noted:

- The R43 Provincial Road leading through Hermanus functions mostly at an acceptable service standard and has been upgraded in order to accommodate heavier traffic volumes. Internal roads function at acceptable levels of service.

- While the bulk water supply for Hermanus west is sufficient, additional sources are being investigated (i.e. new bore holes with treatment facilities). The water treatment works has relatively recently been upgraded. The water network servicing Onrus and Sandbaai is, however, in need of repair and upgrade. Additional bulk water sources are required in the interim. A recent feasibility study indicated seawater desalination to be the preferred option.
- The wastewater treatment work has sufficient capacity to service the area.
- Stormwater management infrastructure is moderate in terms of sufficiency and needs to be upgraded.
- The existing electricity supply and network adequately services the present demand of Hermanus West.
- Solid waste removal infrastructure and system are sufficiently provided for."

In this context, the proposed development of infill within the built-up suburb area of Vermont contributes to addressing the housing demand in a strategic manner. While the proposed 9 residential erven may represent a fraction of the overall housing demand, it represents a proactive step towards addressing future challenges associated with population growth.

The Spatial Development Framework advocates for environmentally aware development, investment in the area, and the management of remainder land for conservation. The proposed development adheres to

these principles by integrating measures to mitigate environmental impacts, stimulating investment in the local area, and managing land for conservation purposes.

Furthermore, the development aligns with the vision for sustainable urban development by promoting infill development within the built-up urban area. This approach fosters denser, compact communities, maximizing land use efficiency and minimizing urban sprawl. By providing additional residential opportunities within existing urban boundaries, the development contributes to the overall well-being and resilience of the Overstrand region.

4.4.	The Environmental Management Framework applicable to the area.

Figure 7

The proposed development aligns with the Environmental Management Framework applicable to the area, specifically addressing its location and incorporating measures to protect and enhance the natural environment. In accordance with the framework, the development integrates recommendations from reports by a Freshwater Ecologist and Botanical Specialist. These reports provide valuable insights into the ecological significance of the site, particularly within the Urban Conservation EMOZ (Environmental Management Overlay Zone) and Ecological Process Corridor. By incorporating recommendations from these reports, the development ensures that environmental considerations are central to its planning and implementation. Measures to protect and enhance the natural environment, such as rehabilitation of wetland areas and management of vegetation disturbances, are integral components of the proposed development.

5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.

A first round of pre-application public participation was conducted on 23 March 2023.

The comments from these relevant authorities received during the first round of public participation, have significantly influenced the development and evolution of feasible and reasonable layout alternative, in several key aspects:

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING (DEA&DP)

DEA&DP highlighted the lack of details regarding the rehabilitation of the wetland mentioned on page 23 of the draft BAR. Request to update the activity description to include comprehensive information about the planned wetland rehabilitation was included. DEA&DP also stressed the importance of complying with the protocols published on March 20, 2020, specifically regarding reporting on environmental themes. They noted deficiencies in the BAR related to biodiversity reporting and specialist impact assessment. They requested the inclusion of a freshwater impact assessment report, , confirmation of peat presence by an aquatic specialist, and addressing impacts on critically endangered vegetation loss.

CAPE NATURE

Cape Nature provided detailed feedback regarding the proposed residential development, focusing on biodiversity-related impacts. They highlighted the critical status of the Hangklip Sand Fynbos vegetation on the site and presence of wetlands and requested further specialist input. They requested that alternative development layouts to minimize biophysical impacts should be investigated.

WHALE COAST CONSERVATION

- There is emphasis on the need for accurate wetland delineation to comply with legislative requirements and protect biodiversity.
- Requested that the Freshwater Impact Assessment assess the full extent of the wetland and its importance within the larger ecosystem.

- Express concerns about the cumulative impact of the proposed development on the wider environment, including the Vermont Salt Pan and surrounding ecosystems.
- Criticism is directed towards the cursory treatment of climate change impacts in the bar and the potential exacerbation of existing environmental problems.

- Concerns are raised about the potential impact of development on endangered species and critical biodiversity areas.

- Request for comprehensive specialist studies to inform the environmental assessment process accurately.

- Requested review of the significance ratings provided in the BAR
- Request additional mitigation measures address environmental impacts.

VERMONT RENT PAYERS' ASSOCIATION

Vermont Rent payers Association's comments discuss the Site Development Plan for a specific area, emphasizing the importance of conserving the core wetland within it. They propose that the Environmental Management Programme should be integrated into the future Homeowner's Association constitution to ensure compliance with Environmental Authorisation conditions. Key aspects include protecting the wetland from ecological harm, monitoring water quality, implementing environmentally friendly stormwater systems, using specific foundation and paving methods, and controlling pets to safeguard wildlife. Additionally, they suggest the possibility of altering the wetland's structure for ecological benefit, suggesting the need for a Maintenance Management Plan to avoid repeated Environmental Impact Assessments for such measures.

BOCMA

- The email highlighted the absence of a Risk Matrix in the Freshwater screening by Enviro Swift, which hindered BOCMA's ability to provide direction.
- It emphasized the importance of submitting a Risk Matrix for the proposed development to enable BOCMA to offer concise and precise assessment and feedback.
- Additionally, concerns raised by Cape Nature were noted.
- BOCMA emphasized the need for responsible water resource management and reserved the right to revise initial comments based on further information. They encouraged further communication for any queries, referencing the provided information.

Giorgio Lombardi

- Critiques a development proposal, citing discrepancies between the plan and environmental realities.
- Argue that the description of the property's location is misleading, and that the proposed development would encroach significantly on natural areas, particularly wetlands.
- Highlights the absence of necessary studies on vegetation and animal species and assert that the proposal lacks integrity.
- Advocate for rejecting the development entirely, emphasizing the importance of conducting comprehensive environmental assessments before any further consideration is given.

Hoek Van De Berg Nature Reserve

- Expressed full support for concerns raised by Whale Coast Conservation and Vermont Conservation Trust regarding the proposed development.
- Highlights the extensive invasive plant management plan implemented in the neighboring reserve, resulting in increased water table and wetland system.
- Opposes further development on Erf 1486, citing potential negative impacts on the wetland system.
- Notes illegal clearing of natural vegetation on Erf 1486 in June 2017, emphasizing its relevance to the current state of the wetland system.

Dennis Brandjes

- Properties 1 to 7 are situated in the seasonal wetland, which is deemed unacceptable.
- Concerns are raised regarding buildings within the 30m floodline, with only erf 3, 4, 5, 6, and 9 falling outside this line.
- Erven 9 to 13 are below 600sqm in size, which is considered unacceptable.
- Request for the inclusion of a biodiversity report, highlighting potential protected aquatic life forms dependent on the salt pan water mass.

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Request for the inclusion of a biodiversity report, highlighting potential protected aquatic life forms dependent on the salt pan water mass.

CONCLUSION

In response to the above comments, the Aquatic / Freshwater Impact Assessment as well as the Botanical Impact Assessment and Risk Assessment were conducted in order to further inform the evolution of the preferred layout.

6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.

The Botanical Impact Assessment was conducted in terms of the Western Cape Spatial Biodiversity Plan (WCBSP, 2017) in order to determine the conservation areas and sensitive areas of the site to minimise the adverse impacts associated with the development on the site. The WCBSP Map provides a biodiversity-sensitive perspective for assessing the potential impacts of the proposed developments. The WCSBP handbook presents five steps to undertake when making use of the WCSBP Map to determine the biodiversity context of a site to inform the initial project plans.

1. **Prepare for the site visit**.

The assessment began with a thorough desktop study, revealing that the site falls within the mapped Ecological Support Area (ESA) 2, characterized by the Southwest Fynbos bioregion. Additionally, the original natural vegetation, Hangklip Sand Fynbos, is classified as Critically Endangered. This initial step provided crucial context for understanding the biodiversity significance of the site.

2. **Conduct site visit.**

A site visit conducted on 23 May 2023 during the optimal winter-spring flowering season allowed for the identification of perennial plants and assessment of habitat sensitivity. Although seasonal constraints impacted the identification of certain geophytes, the dominance of perennials provided confidence in the accuracy of botanical findings.

3. **Assess impacts on Biodiversity**

The proposed development is located in a built-up area of Vermont. No plant Species of Conservation Concern (SoCC) were recorded during the survey, but at least one may occur on site, based on known occurrence from nearby, similar habitats.

The assessment identified potential impacts on biodiversity, particularly regarding plant species of *Disa hallackii* is Redlisted as Endangered and has been recorded from a nearby erf (undated Hermanus Botanical Society Letter of Objection; CREW database), and there are various records of this species from the Onrus and Vermont area. The species may be most evident in the first few years after a fire and given that the site has not burnt for more than twenty years this mitigates against finding it on site.

Fauna was identified including two species of frogs were heard calling on site, and populations on site are probably viable and significant. *Hyperolius marmoratus* (painted reed frogs) were calling from the standing water, whilst *Strongylopus grayii* (clicking stream frogs) were calling across most of the site. *Cacosternum australis* may also occur here but was not heard.

Additionally, Bradypodion pumilum (Cape Dwarf Chameleon) has been regularly recorded from similar nearby habitat (iNaturalist.org) and is likely to be present on site. This species is Redlisted as Vulnerable (Bates et al 2014). No other Redlisted reptiles are likely to be present. The Southern Adder (Bitis armata; Vulnerable) has been flagged by the Screening Tool for the region but is unlikely in this habitat.

In response to biodiversity and aquatic species concerns raised during public participation, the development layout was revised to minimize impacts on sensitive habitats. Alternative 4, the final development layout, was designed to exclude most high-sensitive areas, mitigating the loss of habitat to approximately 500 m^2.

4. Identify opportunities to conserve biodiversity

The revised development layout (Alternative 4) demonstrates opportunities to conserve biodiversity by reducing the impacts of the proposed development on sensitive habitats and species. This has been achieved through the integration of feedback from public participation and expert assessments. By striving to strike a balance between urban development and biodiversity conservation, the proposed development aligns with the objectives outlined in the Western Cape Biodiversity Spatial Plan.

5. Include biodiversity considerations in the environmental report

Biodiversity considerations, including the presence of sensitive plant and animal species, as well as mitigation measures to minimize impacts, will be included in the environmental report. This ensures that biodiversity concerns are addressed transparently and comprehensively, in accordance with the guidelines outlined in the Western Cape Biodiversity Spatial Plan.

7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.

N/A

8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.

N/A

9.	Explain how the proposed development will optimise vacant land available within an urban area.

The proposed development will optimize vacant land available within the urban area by making efficient use of the available space on the erf in Vermont. As one of the last large erven in the area, the site presents a valuable opportunity to address the high demand for residential offerings in Vermont, Hermanus and the Overberg in general. By developing this vacant land, the proposed development will help meet the housing needs of the community while minimizing the need for further expansion into undeveloped areas. This approach aligns with principles of sustainable urban development by promoting infill development and densification within established urban boundaries. Overall, the proposed development optimizes vacant land within the urban area to provide much-needed housing options in response to high demand.

10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.

The erf is located within the built-up residential area of Vermont, services are already available in the vicinity. The proposal presents a continuation of residential development within the area.

GLS Consulting conducted the capacity analysis for the proposal and concluded the following:

The developer of Erf 1486 in Vermont may be liable for the payment of a Development Contribution (as calculated by the Overstrand Municipality) for bulk water and sewer infrastructure as per Council Policy. There is sufficient capacity in the existing water reticulation system to accommodate the proposed development and no network upgrades will be required. There is sufficient hydraulic spare capacity in the existing small bore sewer reticulation system downstream of the proposed development to accommodate the proposed development.

Accommodation of the development on Erf 1486 on the existing small-bore system is however not supported due to operational problems that are experienced with smaller diameter sewer systems,

specifically frequent sewer blockages. The minimum requirements to accommodate the proposed development in the existing sewer system are therefore link services item 1 and master plan item OHS11.12 to reinforce the existing Onrus Main PS sewer reticulation system. Mr Ricardo Andrew from the Overstrand Municpality has confirmed that the North-south section of the 110 mm diameter existing pipeline will need to be upgraded to a 160 mm diameter pipeline as per the following:

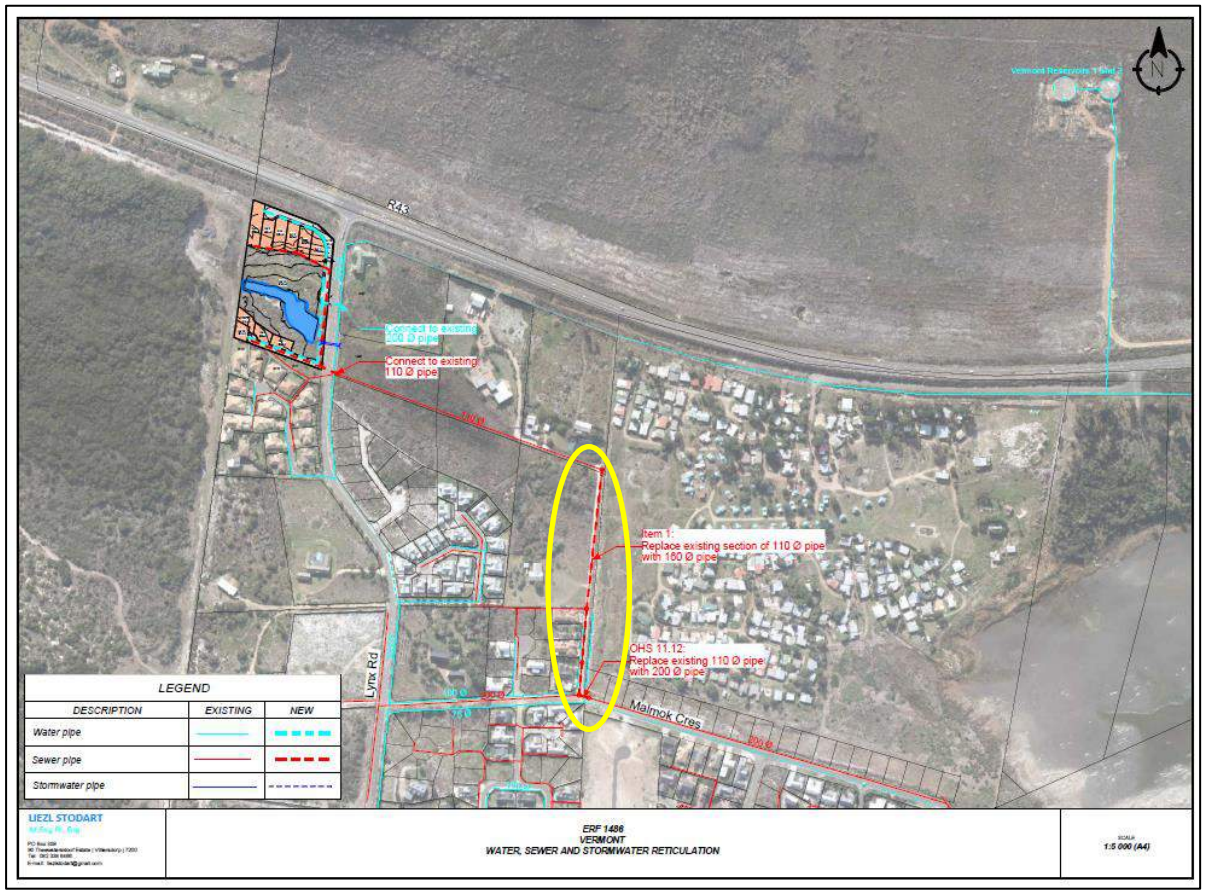


Figure 8 showing upgrade required to accommodate the proposed development.

The upgrade will be done in existing roads and within the path of the existing line as follows:

1. Excavation: Excavation equipment such as backhoes or excavators is used to dig a trench along the path of the existing sewer pipe. Where the pipe is situated in a surfaced road, the surface will need to be cut and broken up and the unsuitable material spoiled. The trench width will be in the order of 800 mm. The depth is not currently known, but typically it's in the order of 1,5 meters. Here is a diagram of a typical sewer pipe trench:

2. Removal of existing pipe: Once the trench is dug, the existing sewer pipe is exposed and removed. This may involve cutting the pipe into manageable sections for removal. To maintain existing sewer flow, it may be necessary to install temporary structures and make use of pumps to bypass existing sewer flow;
3. Installation of new pipe: The new larger 160 mm diameter pipe is installed in the trench on appropriate compacted bedding material and connected to the existing sewer system at existing manholes using appropriate connectors and sealing materials;
4. Backfilling: Once the pipe is installed and connections secured, a bedding material is installed followed by backfill material and compacted. The pipe is tested (pressure and mirror). In the case where the pipe is installed in the road, the road layer works will need to be reinstated as well as the surface (asphalt, paving etc.);

Photos of where the existing line is located and where it needs to be upgraded. These sites are completely transformed and will constitute a normal like for like upgrade to increase the pipe diameter from 110 to 160 mm.

Figure 8.1. Northwards upgrade area


Figure 8.1 B Looking south along Kolgans Street – servitude in road

Figure 8.2 B North wards along Kolgans – upgrade to take place in the road

Figure 8.3 A. Manhole on existing pipeline along Malmok

Figure 8.3 B- Manhole on existing pipeline along Kolgans – upgrade required.

11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix F).

The erf will connect to existing services in the Vermont suburb at the cost of the developer. See the service reports under appendix f.

note that a small section of the existing sewer pipeline from the corner of erf 2570 Vermont to Malmok road in a north south trajectory – the upgrade will involve the following:

1. Excavation: Excavation equipment such as backhoes or excavators is used to dig a trench along the path of the existing sewer pipe. Where the pipe is situated in a surfaced road, the surface will need to be cut and broken up and the unsuitable material spoiled. The trench width will be in the order of 800 mm. The depth is not currently known, but typically it's in the order of 1,5 meters. Here is a diagram of a typical sewer pipe trench:

2. Removal of existing pipe: Once the trench is dug, the existing sewer pipe is exposed and removed. This may involve cutting the pipe into manageable sections for removal. To maintain existing sewer flow, it may be necessary to install temporary structures and make use of pumps to bypass existing sewer flow;
3. Installation of new pipe: The new larger 160 mm diameter pipe is installed in the trench on appropriate compacted bedding material and connected to the existing sewer system at existing manholes using appropriate connectors and sealing materials;
4. Backfilling: Once the pipe is installed and connections secured, a bedding material is installed followed by backfill material and compacted. The pipe is tested (pressure and mirror). In the case where the pipe is installed in the road, the road layer works will need to be reinstated as well as the surface (asphalt, paving etc.);

No vegetation will be disturbed or removed and upgrade involves the upgrade from the existing 110 mm pipe to the 160 mm pipeline.

12.	In addition to the above, explain the need and desirability of the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013) or the DEA's Integrated Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.

In addition to the environmental considerations outlined above, the proposed development aligns with the Department of Environmental Affairs' Integrated Environmental Management Guideline on Need and Desirability, particularly regarding the need and desirability of the project.

Need:

- The proposed development addresses a significant demand for housing in the Hermanus, Vermont area. by creating 9 single residential erven, the project directly responds to the need for additional housing units, thereby alleviating the housing shortage.
- With the urban population of Vermont steadily growing, there is an inherent need for expansion and the provision of housing options to accommodate the increasing number of residents.
- The development is tailored to meet the needs of single families, recognizing the diversity in household structures within the community.
- Construction activities and subsequent habitation of the residential erven stimulate economic growth. Job creation during the construction phase and potential expansion of local businesses due to increased population density contribute to the economic well-being of the community.
- Furthermore, the development will contribute to revitalizing the urban area, enhancing its attractiveness to both current residents and visitors. This enhancement aligns with the need to improve the quality of life in urban areas, ultimately benefiting the community as a whole.

Desirability:

- The proposed development enhances the desirability of the community by providing much-needed housing options, improving the overall quality of life for residents in Vermont.
- By locating the development within an existing urban area, the project promotes urban infill, optimizing the utilization of available land within established communities in a sustainable manner.
- Placing residential units within the existing urban fabric improves access to amenities, public services, and transportation, enhancing the overall desirability of the location.
- Additionally, the creation of residential units fosters social connectivity, contributing to the formation of a cohesive and vibrant community where residents can benefit from shared spaces and community interactions.
- The development also includes the creation of open space, prioritizing the protection of aquatic and terrestrial ecosystems. This further enhances the desirability of the project by preserving valuable natural environments and promoting sustainable land use practices.

SECTION F: PUBLIC PARTICIPATION

The Public Participation Process ("PPP") must fulfil the requirements as outlined in the NEMA EIA Regulations and must be attached as Appendix F. Please note that If the NEM: WA and/or the NEM: AQA is applicable to the proposed development, an advertisement must be placed in at least two newspapers.

1. Exclusively for linear activities: Indicate what PPP was agreed to by the competent authority. Include proof of this agreement in Appendix E22.

N/A

2. Confirm that the PPP as indicated in the application form has been complied with. All the PPP must be included in Appendix F.

Proof of public participation attached hereto, conducted in line with the NEMA requirements.
Note that an additional round of pre-application process public participation is being conducted, prior to moving the project to in process phase.

3. Confirm which of the State Departments and Organs of State indicated in the Notice of Intent/application form were consulted with.

DEA&DP
CAPE NATURE
OVERSTRAND MUNICIPALITY
OVERBERG DISTRICT MUNICIPALITY
BOCMA

4. If any of the State Departments and Organs of State were not consulted, indicate which and why.

N/A

5. if any of the State Departments and Organs of State did not respond, indicate which.

N/A

6. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated into the development proposal.

One round of pre-application public participation has already been conducted on the pre-application Draft BAR. This round of public participation forms part of a voluntary and additional round of public participation on the pre-application draft BAR.

The following comments were received on first round of PPP

Petro Steere owner of Erf 1498 and 1495:

Provided objections in response to the Development that:

- The properties 1-7 should not be acceptable since they are within the seasonal wetland
- He mentioned the 30m floodline that is indicated as a blue line on the diagram that in his understanding there should be no buildings within this line. Only erven 3,4,5,6, and 9 are outside the blue line.
- Erven 9 and 13 are not acceptable because they are below 600 m^2

Hermanus Botanical Society:

Absence of Plant Species Assessment

- The BAR does not include a Plant Species Assessment.
- This omission hinders understanding of indigenous flora and potential risks to rare species.
- It is recommended to address this gap to ensure comprehensive biodiversity evaluation.

Seasonal/Temporary Wetland Areas:

- Proposed development plans intersect with seasonal wetlands.
- Factors such as nearby tree clearance and climate change may lead to the expansion of wetland areas.
- Current mitigation strategies may require enhancement to adequately address potential consequences for residential areas.

Management of the Wetland:

- Long-term management plans for the wetland lacks specificity.
- Clarification is needed regarding responsible parties and rehabilitation approaches.
- Further explanation of rehabilitation opportunities and feasibility would enhance understanding.

Conclusion:
- Addressing the noted limitations in the BAR before EIA acceptance is recommended.
- Supporting additional comments from WCC emphasizes the importance of thorough evaluation and effective mitigation measures in the development process.

DEA&DP

Lawfulness of Existing Buildings:

- Confirmation of legality of existing buildings and roads required prior to Environmental Authorisation application.

Activity Description:

- Lack of detail on wetland rehabilitation in the activity description, requiring updates.

Protocols:

- Non-compliance with reporting criteria for biodiversity and freshwater themes outlined in the Protocols.
- Insufficient information in the Freshwater Report, necessitating a comprehensive Freshwater Impact Assessment Report.

Confirmation Required:

- Presence of peat in watercourse, potential removal due to development, requiring confirmation and inclusion in BAR.

Impacts:

- Loss of critically endangered vegetation not assessed in the draft BAR, necessitating updates.

Additional Requirements:

- Amendments to address various sections of the BAR, including confirmation from relevant authorities and completion of Public Participation Process.
- The BAR indicated National Water Act as not applicable, this needs to be amended because the site is located on a wetland.
- A comment from the HWC must confirm whether that a Landscape/Visual, Archeological, Paleontological and Cultural and Heritage Impact Assessment is required
- Requirement for a Maintenance Management Plan and confirmation of municipal capacity for utilities.
- Confirmation report from the Overstrand Municipality must be obtained to show it has sufficient and capacity to accommodate the development.

Cape Nature

Biodiversity Assessment:

- Web-based screening tool indicates high sensitivity for aquatic and terrestrial biodiversity, as well as plant and animal species.
- Specialist studies motivated by the screening tool's sensitivity ratings, but lack of terrestrial biodiversity assessment.

- Presence of endangered plant species nearby warrants compliance statement regarding terrestrial biodiversity and plant species themes.

Development Proposal:

- Two layout alternatives proposed, with Alternative 2 showing improvement by preserving open space for the permanent wetland.
- Both alternatives encroach upon delineated seasonal wetland, deemed unacceptable.
- Freshwater ecology impact assessment required to assess development impact, with further refinement necessary to avoid wetland encroachment.

Environmental Considerations:

- Lack of details on service provision impacts on biodiversity, particularly sewage provision.
- Road network's impact on water flow needs consideration.
- National Water Act may be applicable despite BAR's indication otherwise, necessitating synchronization of NEMA and National Water Act processes.

Conclusion and Further Steps:

- CN does not support the application in its current form, emphasizing the need for a revised proposal addressing environmental constraints.
- Freshwater impact assessment and terrestrial biodiversity compliance statement recommended.
- CN reserves the right to revise comments based on additional information received.

Vermont Ratepayers Association

- The Site Development Plan allocates 5,552m² of Private Open Space to conserve the core wetland, surrounded by 13 residential plots on a 15,078m² erf.
- It's proposed that the Environmental Management Programme becomes part of the future Homeowner's Association (HoA) constitution, ensuring compliance with Environmental Authorisation (EA) conditions.
- Responsibilities of the HoA include:
    - Protecting the wetland from negative ecological impacts.
    - Regular monitoring of wetland water quality for unnatural pollution detection.
    - Implementing an environmentally friendly stormwater system with vegetated swales and polishing ponds to minimize pollution.
    - Mandating raft foundations for all buildings and permeable paving for uncovered paved areas.
    - Enforcing strict control over domestic pets to prevent endangerment of wetland wildlife.
- The core wetland contains a deep-water area resulting from historical illegal excavation, potentially necessitating alignment and bank alterations for wetland ecology improvement.
- Consideration of a Maintenance Management Plan is advisable to facilitate future rehabilitation measures without requiring additional Environmental Impact Assessments (EIAs).

Dr Pat Miller from Wild Coast Conservation

Provided the following comments in response to the Draft BAR put out for public participation process:
Proposed Subdivision:

- The site plan indicates proportions of various erven differing from those given in the BAR, leading to confusion.
- The description of the development area as being within the built-up residential suburb of Vermont is misleading, as it is adjacent to a nature reserve.

- Concerns raised about gravel road access not reflected in the site plan.

Generation of Alternatives and Wetland Management:

- Alternative 2 of the proposal claims consideration for wetland management but lacks detailed plans for rehabilitation or connection to surrounding ecosystems.
- Predicted impacts of climate change on wetland size not adequately addressed.
- All residential stands are within the seasonal wetland area, raising concerns about the proposed development's environmental impact.

Wetland Area Delineation:

- Issues with the Freshwater Screening Study's delimitation of the wetland area.
- Lack of consideration for surrounding environmental conditions affecting wetland boundaries.
- Potential understatement of wetland boundaries due to nearby invasive vegetation removal efforts.

Applicable Legislation, Policies, and Protocols:

- Misleading statements regarding the site's transformation and impact on biodiversity.
- Inaccurate assertions about legislative applicability contradict findings of previous studies.
- Lack of consideration for critical biodiversity areas and endangered vegetation types.

Impact on the Wider Environment:

- Concerns about the proposed development's impact on the Vermont Pan and surrounding wetland systems.
- Insufficient treatment of climate change implications in the BAR.

Biodiversity:

- Discrepancies between BAR claims of disturbed vegetation and lack of actual vegetation study.
- Neglect of endangered species potentially present in disturbed areas.

Required Specialist Studies:

- Dismissal of the need for further specialist assessments questioned due to potential biases.
- Lack of consideration for the site's critical biodiversity areas and endangered vegetation.

Significance Ratings in the BAR:

- Questionable significance ratings
- Concerns raised about the adequacy of wetland protection measures proposed.

Conclusion and Recommendations:

- Criticism of the BAR's
- Recommendation to reject the BAR and withhold authorization for the proposed development

<u>Hoek Van De Berg Nature Reserve</u>

- Expressed full support for concerns raised by Whale Coast Conservation and Vermont Conservation Trust regarding the proposed development.
- Highlights the extensive invasive plant management plan implemented in the neighboring reserve, resulting in increased water table and wetland system.
- Opposes further development on Erf 1486, citing potential negative impacts on the wetland system.

- Notes illegal clearing of natural vegetation on Erf 1486 in June 2017, emphasizing its relevance to the current state of the wetland system.

Dennis Brandjes

- Properties 1 to 7 are situated in the seasonal wetland, which is deemed unacceptable.
- Concerns are raised regarding buildings within the 30m floodline, with only erf 3, 4, 5, 6, and 9 falling outside this line.
- Erven 9 to 13 are below 600sqm in size, which is considered unacceptable.
- Request for the inclusion of a biodiversity report, highlighting potential protected aquatic life forms dependent on the salt pan water mass.

Ms Barbara Kahn

Oppose the proposed development given the adverse impacts on the wetlands and degradation sensitive areas for wildlife and environment.

Samantha Hogg-Brandjes

Vehemently opposes the proposed project and is entirely against it for the reasons outlined by Denis.

BOCMA

- The email highlighted the absence of a Risk Matrix in the Freshwater screening by Enviro Swift, which hindered BOCMA's ability to provide direction.
- It emphasized the importance of submitting a Risk Matrix for the proposed development to enable BOCMA to offer concise and precise assessment and feedback.
- Additionally, concerns raised by Cape Nature were noted.
- BOCMA emphasized the need for responsible water resource management and reserved the right to revise initial comments based on further information. They encouraged further communication for any queries, referencing the provided information.

Giorgio Lombardi

- Critiques a development proposal, citing discrepancies between the plan and environmental realities.
- Argue that the description of the property's location is misleading, and that the proposed development would encroach significantly on natural areas, particularly wetlands.
- Highlights the absence of necessary studies on vegetation and animal species and assert that the proposal lacks integrity.
- Advocate for rejecting the development entirely, emphasizing the importance of conducting comprehensive environmental assessments before any further consideration is given.

Note:

A register of all the I&AP's notified, including the Organs of State, and all the registered I&APs must be included in Appendix F. The register must be maintained and made available to any person requesting access to the register in writing.

The EAP must notify I&AP's that all information submitted by I&AP's becomes public information.

Your attention is drawn to Regulation 40 (3) of the NEMA EIA Regulations which states that *"Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but **must** be provided with an opportunity to comment on such reports once an application has been submitted to the competent authority."*

All the comments received from I&APs on the pre -application BAR (if applicable and the draft BAR must be recorded, responded to and included in the Comments and Responses Report and must be included in Appendix F.

All information obtained during the PPP (the minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded) and must be included in Appendix F.

Please note that proof of the PPP conducted must be included in Appendix F. In terms of the required "proof" the following is required:

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
  - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
  - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
  - if a facsimile was sent, a copy of the facsimile Report;
  - if an electronic mail was sent, a copy of the electronic mail sent; and
  - if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

1.1.	Was a specialist study conducted?	YES	NO x
1.2.	Provide the name and or company who conducted the specialist study.		
N/A			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
N/A			
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.		
N/A			

2. Surface water

2.1.	Was a specialist study conducted?	YES X	NO
2.2.	Provide the name and/or company who conducted the specialist study.		
Enviroswift and Delta Ecology			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		

Extract from the Aquatic Biodiversity Impact Assessment:

The proposed development has been greatly influenced by the presence of watercourses and wetlands on the property. A thorough Aquatic Biodiversity Impact assessment study meticulously considered the sensitive habitat on-site to minimize potential impacts from development. It is important to note that the wetland within the site does not contain peat as indicated in the specialist report. However, its small size and degraded condition suggest it would not significantly contribute to climate resilience, nor will construction within it release notable carbon into the atmosphere.

Ecological Importance and Sensitivity (EIS) assessment method was used to assess the wetland. The wetland on site obtained a median score of 2.0, placing it in the "Moderate" category. Although it is unknown whether the development area would be further developed in future, it is assumed that the site would remain as is. The No-Go option would result in the continuation of impact to the wetland due to adjacent land uses – and would therefore still result in negative impact to the wetland onsite. Recognizing the ecological importance of the wetland, the new alternative design (Alternative 4) as proposed by the specialist aims to preserve its vital role in supporting biodiversity, regulating water flow, and providing habitat for various plant and animal species found on site. Some of the residential erf will slightly encroach on the seasonal or the temporal zones, not on the permanent wetland, these areas provide a limited diversity of habitat types. The “permanent wetland zone” found on site will remain as a no-go area during the construction and operational phase of the development.

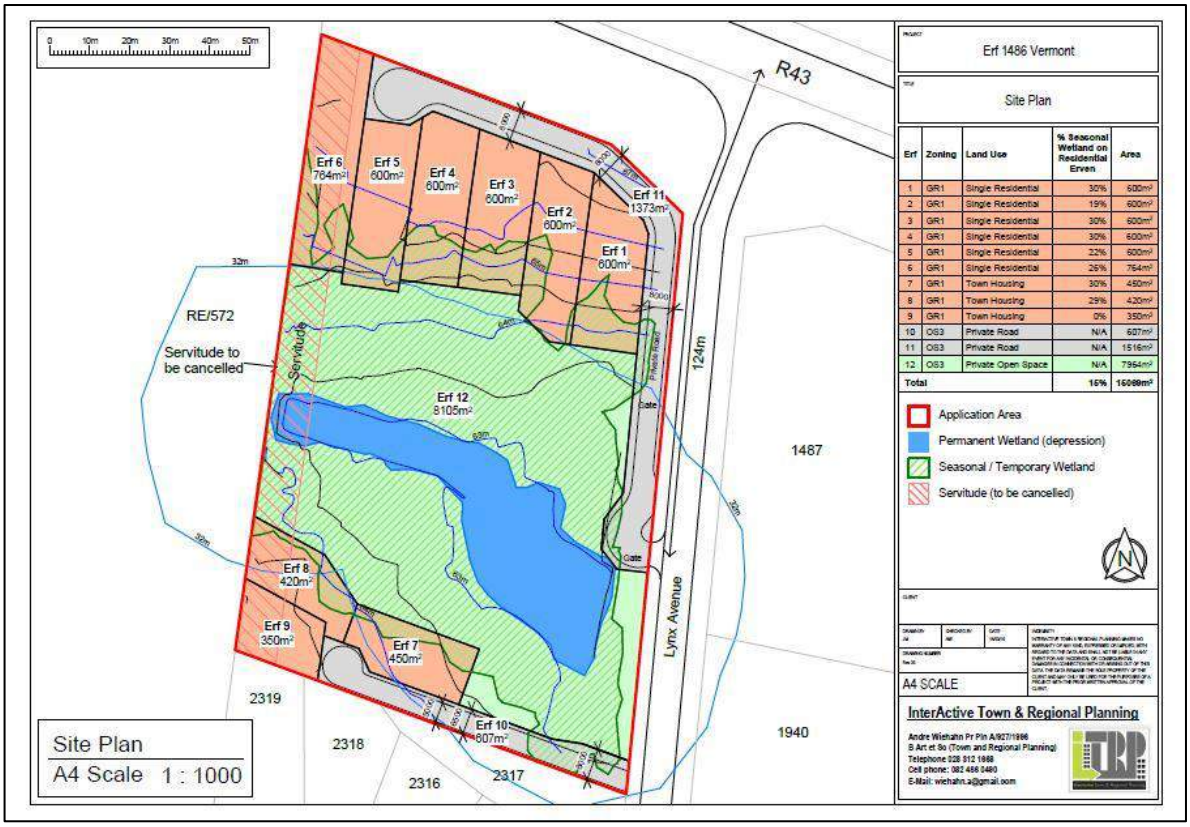
The National Geospatial Information Service (NGI) topo-cadastral map and the NFEPA wetland layer indicated the presence of a significant wetland system extending from the study area, along with non-perennial drainage lines likely associated with this system. In compliance with the National Water Act (NWA), which defines a regulated area of 500 meters around wetlands, minimising encroachment of development within the highly sensitive risk zone were considered. While floodlines were unavailable, desktop resources were utilized to identify all rivers, streams, drainage lines, and wetlands within the 500-meter radius of the study area. The EIS for the wetland with regards to changes in floods achieved the median score of 2, placing it on the moderate category. The assessment reasoned that the wetland could potentially face flooding issues during the flooding events because of the stormwater outlet present on-site, as well as the construction of Lynx Road downstream or along the eastern boundary of the wetland area. Nevertheless, there is an overflow pipe underneath Lynx Road that directs hydrological connection to the downstream Vermont Salt Pan, which is recognized as a wetland area by NFEPA. Additionally, the excavation at the centre of the site to create a dam within the UVBW may play a pivotal role in reducing the effect of flooding.

Despite the property's previous extensive disturbance and transformation, indicators such as hydromorphic soil and hydrophytic vegetation confirm the existence of natural wetland function and habitat within the study area, forming part of the larger wetland system of the Vermont Salt Pan. The delineation of the wetland boundary was facilitated by the presence of wetland obligate species, guiding the design process to ensure compliance with regulatory requirements. The proposed layout has gone through various iterations in order to ensure that the layout overlapping with the delineated wetland area is minimal. Ordinarily, wetland loss would fall within the ‘high’ category, but the limited area of wetland loss (0,22 Ha) and the degraded nature of the wetland has reduced the impact significance. Currently, the proposed development area encompasses roughly 0.22 hectares, which accounts for 24% of the seasonal/temporary zone of the UVBW. The rest of the delineated wetland area will be designated as Private Open Space. Despite being categorized as D (Largely Modified), the UVBW still provides ecosystem services of moderate significance and demonstrates Moderate EIS. The wetland vegetation type is CR, and while the onsite fynbos is aging, there's potential for SoCC.

The only mitigation applicable to wetland loss is reduction of the area of loss. This further highlights that, although the proposed development will result to the loss of wetland area, this impact will be reduced in the new preferred layout alternative 4. It is recommended that the proposed residential areas are positioned within the proposed new Erven so as to avoid the delineated wetland area. Should the proposed residential developments avoid the wetland area entirely, the impact of Wetland Loss, as assessed in this report, will not be applicable. The development plan has been carefully crafted to ensure the preservation and protection

of this sensitive ecosystem. The alternative layout was adjusted to minimize direct impacts on the wetland, with amended Alternative 4 being the final layout chosen to see (Figure 9 below) , which excludes most high-sensitive areas. This approach aims to maintain the integrity of the wetland ecosystem and prevent adverse effects on its ecological functions.

Furthermore, mitigation measures are incorporated into the Environmental Management Plan to enhance the protection of the wetland as well as impacts of flooding to the development. Buffer zones have been established around the wetland perimeter to prevent encroachment and disturbance, while erosion control measures will mitigate sedimentation and runoff into the wetland.



Erf	Zoning	Land Use	% Seasonal Wetland on Residential Erven	Area
1	GR1	Single Residential	30%	600m²
2	GR1	Single Residential	19%	600m²
3	GR1	Single Residential	30%	600m²
4	GR1	Single Residential	30%	600m²
5	GR1	Single Residential	22%	600m²
6	GR1	Single Residential	26%	764m²
7	GR1	Town Housing	30%	480m²
8	GR1	Town Housing	29%	420m²
9	GR1	Town Housing	0%	350m²
10	OS3	Private Road	N/A	607m²
11	OS3	Private Road	N/A	1516m²
12	OS3	Private Open Space	N/A	7954m²
Total			15%	15089m²

Figure 9: Amended layout Alternative 4

3. Coastal Environment

3.1.	Was a specialist study conducted? **NOT APPLICABLE**	YES	NO x
3.2.	Provide the name and/or company who conducted the specialist study.		
N/A			
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		
N/A			
3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.		
	N/A		
3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development. N/A		

4. Biodiversity

4.1.	Were specialist studies conducted?	YES x	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		
Nick Helme Botanical Surveys			

4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.

The summary extracted from the Terrestrial Biodiversity Impact Assessment Report:

The systematic conservation planning, supported by Cape Nature BSP,SA vegetation maps, NFEPA, NSBA, and other biodiversity informants analysed via a desktop study, played a collaborative role in positively shaping the proposed development. Following the guidelines outlined in the Western Cape Biodiversity Spatial Planning, the chosen development site is strategically positioned within the Ecological Support Area (ESA2). While it incorporates this section of the ESA2, it falls outside the Priority Area. The botanical report highlights the significance of the study area within the Southwest Fynbos bioregion, emphasizing its high biodiversity value and the presence of numerous threatened plant species.

The specialist provides that the SA Vegetation Map shows regional extent of the original natural vegetation in the study as Hangklip Sand Fynbos. This vegetation is now gazetted as Critically endangered according to NEM:BA, 2004 (ACT NO. 10 of 2004). Less than 68% of the vegetation extent still remains intact, while less than 18% of its portion is conserved, and the 30% of it is the national conservation target.

Site survey and also with the help of Google Earth imagery assessed the situation on the site vegetation did not appear to be burnt for at least 20 years. The photographs taken on site shows some views of the available vegetation on site with extensive invasion of alien kikuyu grass (*Crenchrus clandestinus*) and there are 5 fairly large, possibly planted milkwods (*Sideroxylon inerme*). From the botanical viewpoint, some evidence of brush cutting on the South side of the wetland and with the use of Google imagery there were first houses built on the southern boundary of the site.

On the assessment of historical imagery, it has been discovered that the southern boundary of the site was disturbed in about 2011, which is supposedly caused by the adjacent housing development. Many of the disturbed areas are dominated by alien invasive kikuyu grass (*Cenchrus clandestinus*; Plate 5), which tends to smother any indigenous seedlings. The southwestern edge of the erf has been gardened (Plate 4) with all manner of non-locally indigenous species planted, including *Pelargonium* hybrids, *Ficus* species, *Searsia pendulina* and *Arctotis stoechadifolia*. At least two bird Species of Conservation Concern (SoCC) may use the site for foraging, and at least one plant SoCC (Disa hallackii) may be present in low numbers, but no plant or animal SoCC were recorded on site during the survey.

The permanent wetland area has clearly become significantly more vegetated in the last five years (compared to photos in the EnviroSwift wetland report of 2018) and is now in good condition. Indigenous plant species include Senecio halimifolius, Juncus kraussii, Orphium frutescens, Typha capensis, Plecostachys serpyllifolia, Schoenoplectus scirpoides, Juncus lomatophyllus, Isolepis striata, Nidorella ivifolia, Nidorella pinnatifida, Fuirena coerulescens, Laurembergia repens and Elegia nuda.

About 50% of the site is made up by what could be considered permanent wetland, but that is not seasonally inundated or flooded (mostly indicated as seasonal wetland in the Freshwater Screening (EnviroSwift 2018). Indigenous species in this area include *Senecio halimifolius, Juncus kraussii, Orphium frutescens, Plecostachys serpyllifolia, Nidorella ivifolia, Nidorella pinnatifida, Fuirena coerulescens, Laurembergia repens, Zantedeschia aethiopica, Stenotaphrum secundatum, Cynodon dactylon, Senecio rigidus, Cyperus sphaerospermus, Pycreus* sp., *Juncus cephalotes* and *Elegia nuda*.
The non-wetland portions of the site that have not been totally disturbed support the following indigenous plant species: *Passerina corymbosa, Thamnochortus insignis, Stenotaphrum secundatum, Seriphium plumosum, Pelargonium capitatum, Searsia lucida, Colpoon compressum, Mesembryanthemum canaliculatum, Struthiola ciliata, Metalasia muricata, Osteospermum moniliferum, Cliffortia stricta, Oxalis dentata, O. pes-caprae, Carpobrotus edulis* and *Athanasia trifurcata*.

Despite challenges, such as disturbance and invasion, the proposed development's layout (Alternative 4) represents a compromise with substantially lower ecological impact compared to previous alternatives. It addresses mitigation requirements by minimizing high sensitivity area loss and increasing conservation space. Consequently, the ecological significance of the project shifted from high to medium negative, deemed acceptable for proceeding without undue ecological impact.

4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.

The objectives and management guidelines of the WCBSP are intended to guide planning and decision-making in terrestrial and Freshwater CBAs and ESAs on land outside the protected area:

These guidelines direct the EAPs or specialist to promote the effective management of the biodiversity. The site is characterised by critically endangered Hangklip Sand Fynbos vegetation and has been identified to fall within he ESA2, based on the BSP these areas play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services. It is important that they should be maintained in a functional, near-natural state. However, some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised. Since about 70% of the site is considered High ecological sensitivity, the proposed development would result into a loss of highly sensitive species if not properly planned accordingly. In consideration of the above and fulfilling the objectives outlined in the NBSP, the layout alternative had evolved and now been reduced from an unacceptable High negative (Alternative 2) to an acceptable Medium negative (Alternative 4) ecological impact.

4.5.	Explain what impact the proposed development will have on the site specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.

Operational phase impacts will take effect as soon as any of the natural vegetation and faunal habitat on the site is lost or disturbed, and will persist in perpetuity, or as long as those areas are not rehabilitated. Operational phase impacts include loss of current levels ecological connectivity across the site (essentially only W-E connectivity), and associated habitat fragmentation. This will affect fauna and flora. The new development may result in (further?) alien Argentine ant introduction, with associated negative ecological impacts on seed dispersal, and is also likely to result in further edge effects (such as alien vegetation expansion, esp. grasses and herbs) intruding into adjacent parts of the remaining natural habitat.

Reduction of the available natural or partly natural faunal habitat on site by about 50% will also presumably result in lower long-term carrying capacity of the habitat for fauna, leading to long term reduction in faunal numbers, and possible reduction on viability of the populations of various species.

The site is a key (essentially the only) ecological linkage between the Hoek van de Berg NR to the west, and the Vermont Salt Pan to the east, as documented in the CapeNature Biodiversity Plan (see Figure 3). Development of 50% of the area, and significantly reducing the width of this wetland corridor, will clearly have a negative impact on the functioning of this corridor.

4.6.	If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.

Not applicable. The development is not within a protected area.

4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

Extracted from the Terrestrial Biodiversity report:
Two species of frogs were heard calling on site, and populations on site are probably viable and significant. *Hyperolius marmoratus* (painted reed frogs) were calling from the standing water, whilst *Strongylopus grayii* (clicking stream frogs) were calling across most of the site. *Cacosternum australis* may also occur here, but was not heard.
Bradypodion pumilum (Cape Dwarf Chameleon) has been regularly recorded from similar nearby habitat (iNaturalist.org) and is likely to be present on site. This species is Redlisted as Vulnerable (Bates *et al* 2014). No other Redlisted reptiles are likely to be present. The Southern Adder (*Bitis armata*; Vulnerable) has been flagged by the Screening Tool for the region but is unlikely in this habitat.

At least two bird Species of Conservation Concern (SoCC) may use the site for foraging, and at least one plant SoCC (*Disa hallackii*) may be present in low numbers, but no plant or animal SoCC were recorded on site during the survey. The Cape Dwarf Chameleon (*Bradypodion pumilum*) is listed as Vulnerable, and may occur on site. At least two Endangered birds may occasionally use the study area to forage (*Circus ranivorus* and *Circus maurus*), and the development would thus have a minor negative impact on these two species, but they do range widely and would never spend much time in such a small area anyway, and especially one so close to other human impacts.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.
the erf is one of the last remaining large erven in Vermont suitable for single residential development.

6. Heritage Resources

6.1.	Was a specialist study conducted? **A Notice of Intent to develop was submitted to Heritage Western Cape. HWC has confirmed that no further Heritage Assessment is required. See Appendix E1**	YES	NO X
6.2.	Provide the name and/or company who conducted the specialist study.		
N/A			
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.		
	N/A		

7. Historical and Cultural Aspects

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.
N/A

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.

The project site falls within the jurisdiction of the Overstrand Municipality and the Overberg District Municipality (ODM). The visual metrics of the ODM's socioeconomic profile (2023) are presented below.

Overstrand Municipality is located along the south-western coastline of the Overberg District Municipal area bordering the City of Cape Town in the west and Cape Agulhas Municipality in the east. Its northern neighbour is Theewaterskloof Municipality. Overstrand is a dynamic unity combining great potential and a beautiful setting. Our task is to bring about growth and development to the benefit of all our people, in their different communities, whilst maintaining a balance with nature. The Municipality covers a land area of approximately 1708 km2, with a projected population of 110 971 people (Western Cape Provincial Treasury, SEP 2022) and covers the areas of Hangklip Kleinmond, Greater Hermanus, Stanford and Greater Gansbaai.

In addition to the endless, pristine beaches dotting the coastline, the Overstrand boasts 5 Blue Flag beaches. Tourism is a major economic driver in the area and its popularity as a holiday destination results in a fourfold increase of its population over the holiday seasons. This influx places a great strain on the existing municipal services and roads infrastructure.

The Overstrand municipality's population increased by 56 721 people over a period of 20 years from 1996 to 2016. Overstrand's population has increased steadily from 80 432 in 2011 to 93 407 in 2016. Between 2011 and 2016 the population growth in Overstrand was 16.1 per cent. The projected population growth for the period 2022-2026 are cited on the Municipal IDP 2023/24. The population increase for the municipality is expected to increase from 110 971 to 124 826 in 2026, making it the most populated municipal area in the Overberg District.

According to the Overstrand IDP 2023/2024, the Overstrand has a growing population that will increase the demand for housing, employment, service delivery and related infrastructure developments. The increased population growth will therefor place increased pressure on the municipal resources to develop new as well as maintain existing infrastructure. The ability to work from home has enabled households to move away from the economic hubs and settle in smaller towns such as Hermanus. This trend can be a valuable injection for the local economy as well as the municipality in terms of income generation, despite the increased demand for services (Source: Western Cape Provincial Treasury, MERO 2021and SEP 2021).

Overstrand's 2023 projected forecast is 0.1 per cent economic growth, which is lower than both the District and Western Cape projection over the same period. In 2020, a total of 33 096 workers were employed in the Overstrand municipal area, contributing 27.4 per cent to Overberg District employment during the year. Between 2016 and 2020, the Overstrand municipal area experienced an average annual decline of 520 jobs. Estimates for 2021 indicate a further deterioration in Overstrand's employment, with a total of 1 475 jobs lost. Overall, the deterioration of the Overberg's labour market conditions in 2020 was due to the COVID-19 pandemic and the implantation of lockdown restrictions to contain its spread. Furthermore, restrictions in domestic and international travel greatly impacted activity in sectors related to tourism (Western Cape Provincial Treasury, MERO, 2022). Furthermore, load shedding in 2022 and 2023 are expected to further deteriorate employment prospects in the Overstrand municipal area. The estimated decline in employment opportunities is likely to result in a decline in household income, which in turn will continue to restrain municipal revenue and increase the demand for free basic services.

Overall, all development and growth in Overstrand must be sensitive to the area's most important asset, that being the natural environment. Sustainable development in Overstrand will be guided by the municipal spatial development framework (SDF) and related sector plans. The SDF identified Kleinmond, Hawston, Hermanus, Stanford and Gansbaai with its suburbs as areas prioritized for further development. This is due to bulk services being available to support densification and developments.

	The proposed site is situated in the Overberg Municipal area, specifically in Vermont, which falls under the urban jurisdiction of Hermanus. The existing social and economic characteristics of the community in the vicinity of the proposed site are influenced by several factors: - Job creation is identified as a critical need in the area, especially for the unskilled labour living in the township. The proposed development is expected to contribute significantly to economic growth by generating employment opportunities. This, in turn, can lead to increased investments in the area, fostering economic prosperity. - The community in the vicinity appears to have a real estate market and rental housing for the new incoming residents coming to Hermanus. The development's focus on creating residential erven aligns with the demand for property in the area. The sale of these properties to new residents is anticipated to contribute to the economic dynamics of the community. - The proposed development is seen as an opportunity for attracting investments. The creation of residential properties may attract investors interested in the real estate market, further stimulating economic activities in the area.
8.2.	Explain the socio-economic value/contribution of the proposed development.

The proposed development holds several socio-economic values and contributions to the community and the broader area:

- One of the significant contributions is the creation of employment opportunities, both directly and indirectly. The proposed development will have both short- and long-term economic impacts on the Overstrand Municipality and the surrounding area. It will create employment opportunities during the construction phase, generate additional rates and taxes, and attract new residents to the region, all of which will contribute positively to the local economy. The development has the potential to generate revenue for the local municipality through property taxes and other associated fees. This additional revenue can be reinvested in community services and infrastructure.
- By attracting investments and stimulating economic activities, the development contributes to the overall economic growth of the area. Increased economic activities will lead to the growth of local businesses and services, benefiting the community.
- The creation of residential erven adds value to the real estate market in the area. The sale of properties to new residents contributes to the local property market, potentially increasing property values and attracting further investments.
- Additionally, the combined development is expected to attract at least 99 new residents to the Hermanus area, based on a calculation ratio of 3 people per dwelling unit. These new residents will contribute to the local economy by spending money on various items such as food, petrol, restaurants, repairs, and other goods and services, thereby boosting the local economy. The development may lead to improvements in local infrastructure. Increased housing demand could necessitate enhancements to utilities, roads, and other essential services, benefiting both existing and new residents

8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.

The development will make a huge contribution towards job creation during the construction phase and operational phase for potential skills development for local laborers residing in the townships and further align with social initiatives aimed at uplifting the community.

8.4.	Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.

It is not likely that the proposed development will have any implications for people's health and well-being, and these considerations are likely to influence the planning and execution of the project.

- Construction activities and increased human presence can contribute to elevated noise levels. This has a relatively small potential to impact the well-being of nearby residents. Measures to minimize construction-related noise and consideration are given to the EMPr to mitigate noise disturbances.
- Construction chemicals and materials may produce odours that could affect the quality of life for residents in the neighbourhood.
- Changes to the visual character of the area, especially if it involves significant alterations to the landscape from natural vegetation to built infrastructure, can influence the sense of place for existing residents, especially those who love nature.
- Changes in the community structure, influx of new residents, or alterations to the neighbourhood's character can impact social cohesion. The development aims to foster a sense of community, potentially through the inclusion of open spaces in the development plan.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

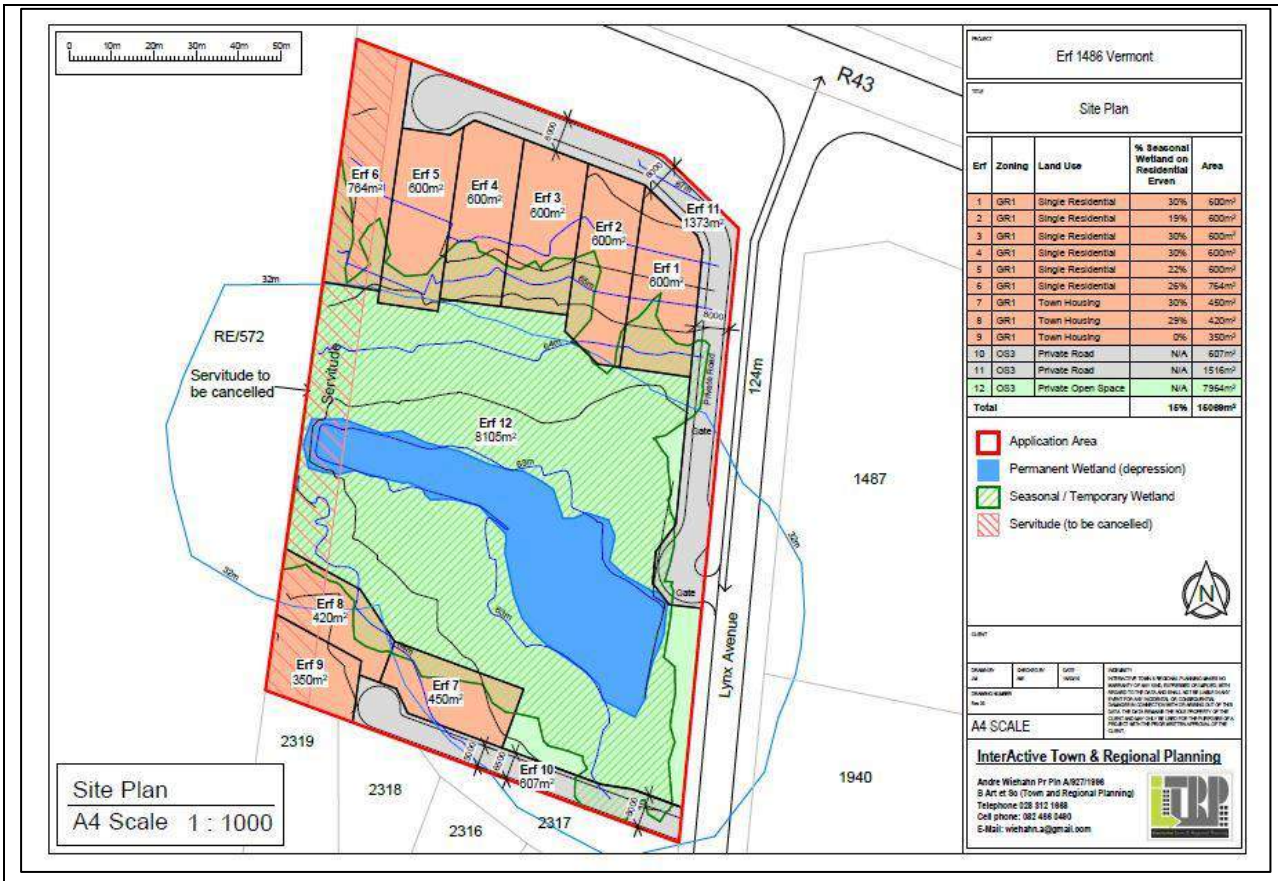
1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred property and site alternative.

The preferred property and site alternative, situated on Erf 1486 and owned by the applicant, presents a comprehensive development plan that balances residential needs with environmental preservation, particularly as seen in the most recent preferred alternative. The site plan encompasses a total area of 12 Erf, with specific allocations as follows:

- Erven 1-9 are designated for residential use, accommodating both single residential units and townhouses to provide diverse housing options.
- Two private roads are integrated into the layout to ensure accessibility and connectivity within the development, with careful consideration to minimize impact on the adjacent wetland.
- A designated open space is allocated within the site to enhance functioning of the ecological infrastructure within the property, fostering a well-integrated and sustainable living environment.

The site spans an extent of 15,069 square meters, providing ample space for the proposed development while maintaining sensitivity to the surrounding ecological landscape. Various layout alternatives have been explored within the confines of the site, ensuring flexibility in design while adhering to sustainable development principles.



Erf	Zoning	Land Use	% Seasonal Wetland on Residential Erven	Area
1	GR1	Single Residential	30%	600m²
2	GR1	Single Residential	19%	600m²
3	GR1	Single Residential	30%	600m²
4	GR1	Single Residential	30%	600m²
5	GR1	Single Residential	22%	600m²
6	GR1	Single Residential	26%	764m²
7	GR1	Town Housing	30%	450m²
8	GR1	Town Housing	29%	420m²
9	GR1	Town Housing	0%	350m²
10	OS3	Private Road	N/A	607m²
11	OS3	Private Road	N/A	1516m²
12	OS3	Private Open Space	N/A	7964m²
Total			16%	15088m²

Figure 9.1: The preferred site plan of the proposed development on site – Alternative 4

Provide a description of any other property and site alternatives investigated.

N/A

Provide a motivation for the preferred property and site alternative including the outcome of the site selectin matrix.

The applicant's sole ownership of the subject property in Vermont provides an opportunity for development of residential housing for individuals relocating to Hermanus. With no other viable properties for creating residential erven in the area of Hermanus West the site's exclusivity aligns with the applicant's objectives and preferences.

Moreover, the outcome of the site selection matrix, a comprehensive assessment tool, significantly influenced the decision-making process. Various factors were rigorously evaluated, including ecological sensitivity, biodiversity value and mitigation measures. These considerations ensured a thorough examination of the site's suitability for development while minimizing potential negative impacts on the environment.

The selected property and site alternative emerged as the optimal choice, informed by systematic conservation planning and biodiversity assessments. By striking a delicate balance between development objectives and ecological preservation, the chosen site minimizes its ecological footprint, addresses mitigation measures effectively, and maximizes the allocation of conservation space.

Provide a full description of the process followed to reach the preferred alternative within the site.

N/A

Provide a detailed motivation if no property and site alternatives were considered.

Refer to the above

List the positive and negative impacts that the property and site alternatives will have on the environment.

Positive

- The proposed development contributes to addressing housing needs, providing residences for single families.
- Job creation and economic growth are anticipated during the construction phase, fostering local economic development.

Negative

- Loss of ecological connectivity
- Construction activities may contribute to soil erosion, especially in areas where vegetation is removed, necessitating erosion control measures.
- During the construction phase, noise and dust generation may occur, impacting the immediate environment.

1.2.	Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred activity alternative.

N/A

Provide a description of any other activity alternatives investigated.

N/A

Provide a motivation for the preferred activity alternative.

N/A

Provide a detailed motivation if no activity alternatives exist.

N/A

List the positive and negative impacts that the activity alternatives will have on the environment.

N/A

1.3.	Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts

Provide a description of the preferred design or layout alternative.

ALTERNATIVE 4 (FINAL PREFERRED)

The preferred alternative design for the proposed development in Vermont involves the creation of 9 residential erven, 2 road erven, and an open space erf. This selection emerged after a series of iterations considering ecological constraints, particularly sensitive aquatic and terrestrial biodiversity onsite. Adjustments to the layout were made to steer clear of encroaching on the wetland, a highly ecologically sensitive area. These changes, informed by input from botanical specialists, led to the adoption of Alternative 4, which significantly minimizes ecological impact compared to previous alternatives evaluated in the May 2023 report.

The new residential erven are strategically positioned to avoid most high-sensitivity areas, aligning with the initial mitigation goals. Only a minimal portion of high-sensitivity habitat, approximately 500m^2, will be affected. Furthermore, the layout now includes two access roads instead of one, eliminating the need for the private road to traverse the wetland, as mandated by the mitigation requirements. As a result, approximately 58% of the total area will be designated as conservation space (Private Open Space), a notable increase from around 36%. This shift in design reduces the ecological significance of the development phase from an initially deemed "unacceptable High negative" in Alternative 2 to an "acceptable Medium negative" in Alternative 4.

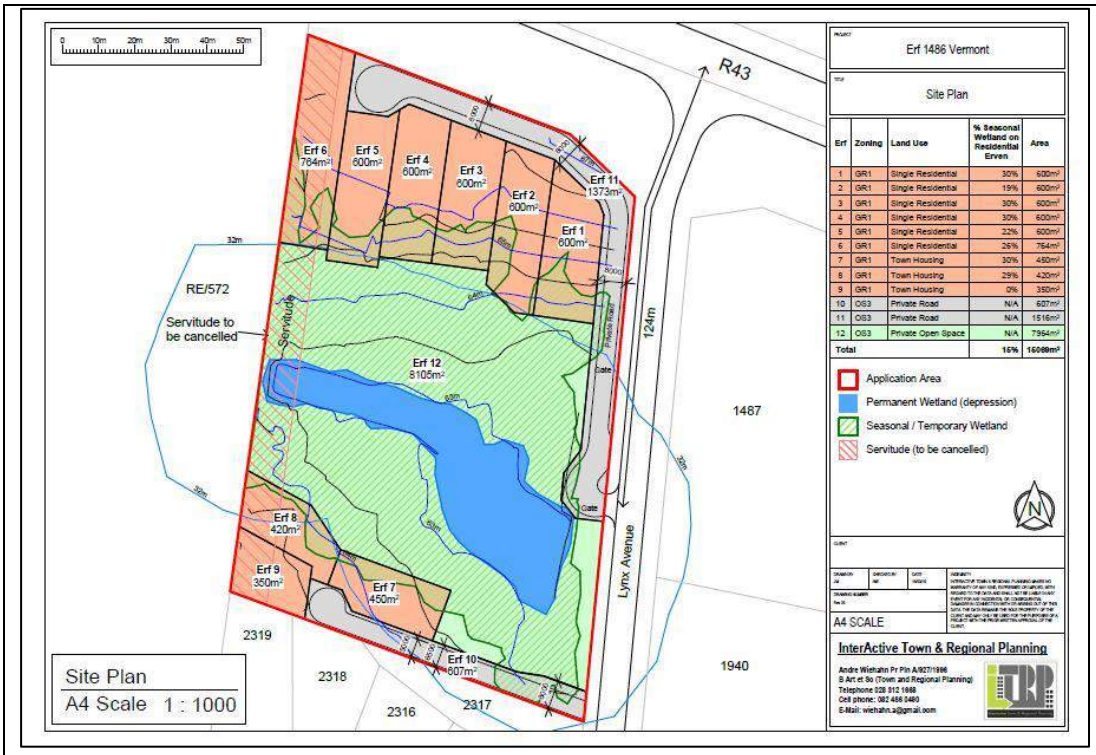
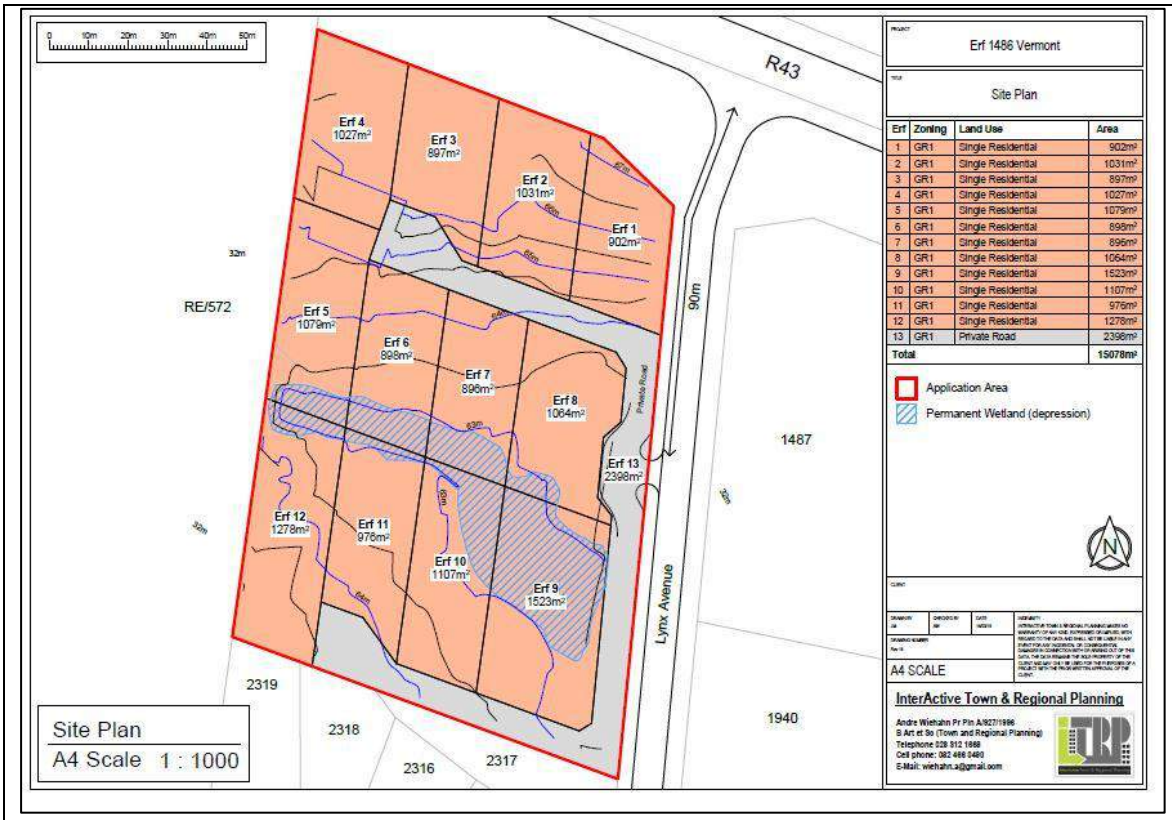


Figure 10: Preferred Layout

Provide a description of any other design or layout alternatives investigated.

ALTERNATIVE 1

Another design alternative explored involves the development of 13 plots on the subject property. This layout proposes the creation of erf that encroach upon the mapped wetland and other highly ecologically sensitive areas onsite. Unlike other alternatives, there is no provision for open space to facilitate ecological corridors. While the plots are larger in size, this amplifies the loss of all-natural vegetation and ecological sensitivity onsite, including the wetland.

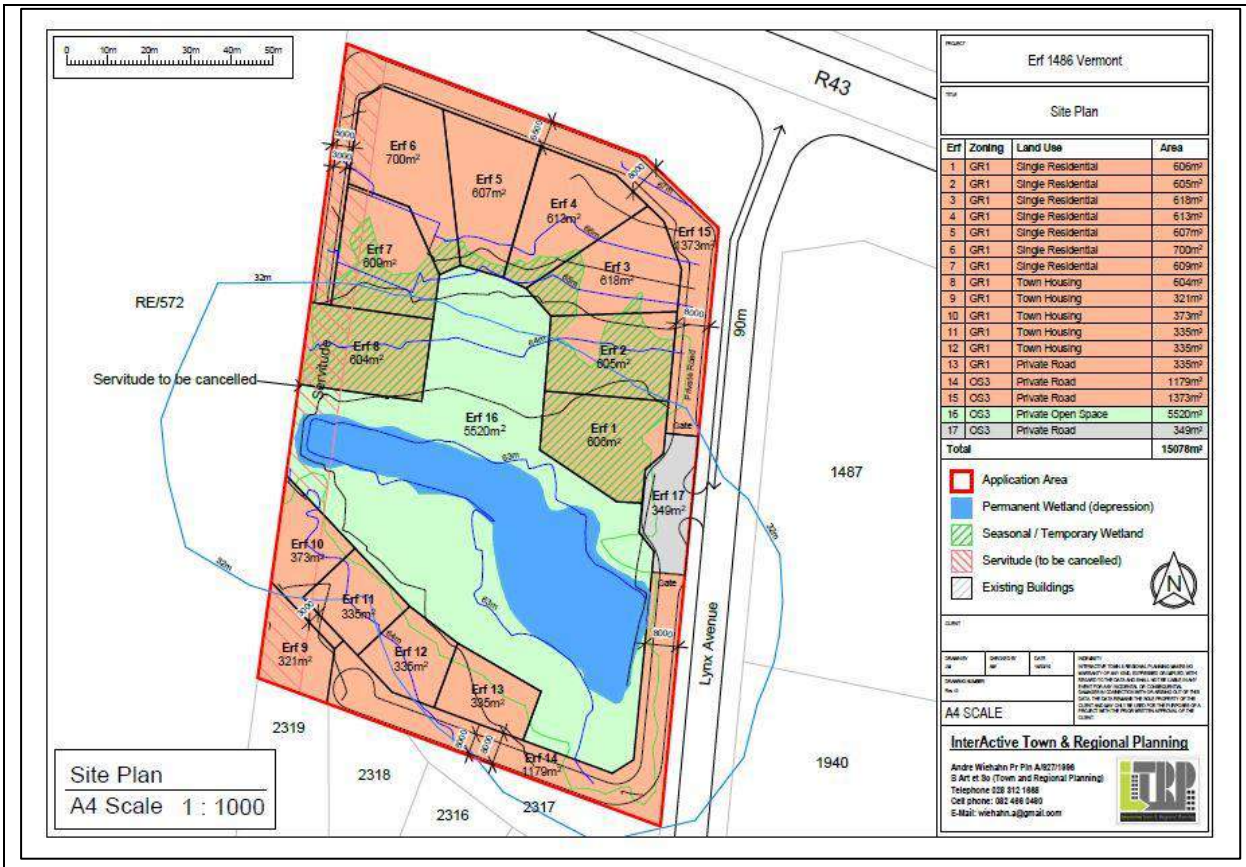


Erf	Zoning	Land Use	Area
1	GR1	Single Residential	902m²
2	GR1	Single Residential	1031m²
3	GR1	Single Residential	897m²
4	GR1	Single Residential	1027m²
5	GR1	Single Residential	1079m²
6	GR1	Single Residential	898m²
7	GR1	Single Residential	896m²
8	GR1	Single Residential	1064m²
9	GR1	Single Residential	1523m²
10	GR1	Single Residential	1107m²
11	GR1	Single Residential	976m²
12	GR1	Single Residential	1278m²
13	GR1	Single Residential	2398m²
13	GR1	Private Road	2398m²
Total			15078m²

Figure 11: Alternative 1 layout

ALTERNATIVE 2:

Initially, this layout was the primary preferred option that went through the first round of public participation. It was guided by the delineation of the wetland by the employed freshwater specialist, who identified both seasonal and permanent wetland edges. The site plan integrates 17 erven on the property. However, a critical issue emerged during evaluation of this alternative layout: the inclusion of this layout would maintain an unacceptable loss of ecologically sensitive areas, resulting in a high to medium level of significance. Notably, the site plan also features a road that encroaches upon the wetland. The terrestrial biodiversity impact assessment proposed that the following erven should be removed from any authorised layout: 1, 2, 7, 8, 10, 11, 12 and 13. The proposed access road (erf 14) should also be largely removed so that it does not cross the wetland and ecological corridor and can instead access erf 9 along the southern boundary.



Erf	Zoning	Land Use	Area
1	GR1	Single Residential	606m²
2	GR1	Single Residential	605m²
3	GR1	Single Residential	618m²
4	GR1	Single Residential	613m²
5	GR1	Single Residential	607m²
6	GR1	Single Residential	700m²
7	GR1	Single Residential	609m²
8	GR1	Town Housing	604m²
9	GR1	Town Housing	321m²
10	GR1	Town Housing	373m²
11	GR1	Town Housing	335m²
12	GR1	Town Housing	335m²
13	GR1	Private Road	335m²
14	OS3	Private Road	1179m²
15	OS3	Private Road	1373m²
16	OS3	Private Open Space	5520m²
17	OS3	Private Road	349m²
Total			15078m²

Figure 12: Alternative 2 Layout

ALTERNATIVE 3 (NO GO)

This option entails maintaining the status quo with no development. The current state remains unchanged, and no new development initiatives are pursued.

ALTERNATIVE 4 (FINAL PREFERRED)

The preferred alternative design for the proposed development in Vermont involves the creation of 9 residential erven, 2 road erven, and an open space erf. This selection emerged after a series of iterations considering ecological constraints, particularly sensitive aquatic and terrestrial biodiversity onsite. Adjustments to the layout were made to steer clear of encroaching on the wetland, a highly ecologically sensitive area. These changes, informed by input from botanical specialists, led to the adoption of Alternative 4, which significantly minimizes ecological impact compared to previous alternatives evaluated in the May 2023 report.

The new residential erven are strategically positioned to avoid most high-sensitivity areas, aligning with the initial mitigation goals. Only a minimal portion of high-sensitivity habitat, approximately 500m^2, will be affected. Furthermore, the layout now includes two access roads instead of one, eliminating the need for the private road to traverse the wetland, as mandated by the mitigation requirements. As a result, approximately 58% of the total area will be designated as conservation space (Private Open Space), a notable increase from around 36%. This shift in design reduces the ecological significance of the development phase from an initially deemed "unacceptable High negative" in Alternative 2 to an "acceptable Medium negative" in Alternative 4.

Provide a motivation for the preferred design or layout alternative.

The motivation for selecting the new preferred layout (Alternative 4) stems from a comprehensive evaluation process considering ecological sensitivity and I&APs feedback. This alternative emerged as the preferred option after meticulous consideration of previous alternatives and their associated ecological impacts. Alternative 4 addresses the concerns raised in earlier layouts by prioritizing the preservation of ecologically sensitive areas, particularly the wetland. Unlike Alternative 2, which faced challenges due to its encroachment on sensitive habitats, Alternative 4 significantly minimizes ecological impact by strategically positioning residential erven away from high-sensitivity areas. Moreover, Alternative 4 incorporates feedback from botanical specialists, ensuring that the layout maintains ecological integrity while accommodating necessary development. By avoiding encroachments on the wetland and incorporating two access roads instead of one.

Provide a detailed motivation if no design or layout alternatives exist.

N/A

List the positive and negative impacts that the design alternatives will have on the environment.

ALTERNATIVE ONE

Positive:

- Supply of residential erven to Vermont and Hermanus in response to large demand for residential opportunities.
- Investment in the area
- Upgrade and / or contribution to service infrastructure in the area
- Job creation

Negative:

- No consideration of the wetland on site
- No opportunity for rehabilitation of the wetland and long-term management thereof to facilitate linkages with the adjacent freshwater systems.
- Loss of high ecological sensitive areas

ALTERNATIVE TWO

Positive:

- Supply of residential erven to Vermont and Hermanus in response to large demand for residential opportunities.
- Investment in the area
- Upgrade and / or contribution to service infrastructure in the area
- Job creation
- Design with the wetland system in consideration
- Opportunity to rehabilitate the wetland and provide long term management as well as facilitate connection with the surrounding freshwater ecosystems
- Management of activities on site and not adhoc use as currently experienced

Negative:

- Loss of highly sensitive areas still takes place
-

ALTERNATIVE THREE (NO GO)

Positive:

- -

Negative:

- No management and rehabilitation of the wetland

- Continuous degrade of the site at the hand of unregulated and uncontrolled activities on site
- No alien vegetation management
- No investment, job creation or infill development with highly developed suburb of Vermont and Hermanus

ALTERNATIVE 4

Positive

- Job opportunities during the construction and operational phase
- Investments
- Provision of housing

Negative

- Loss of high ecological areas will occur but reduced impacts due to layout changes
- Few residential erven

1.4.	Technology alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred technology alternative:

No specific technology alternatives have been explored; however the most recent technological advances will be applied during both construction, design and operations to ensure that the environmental impacts are reduced.

Provide a description of any other technology alternatives investigated.

N/A

Provide a motivation for the preferred technology alternative.

N/A

Provide a detailed motivation if no alternatives exist.

N/A

List the positive and negative impacts that the technology alternatives will have on the environment.

N/A

1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred operational alternative.

N/A

Provide a description of any other operational alternatives investigated.

N/A

Provide a motivation for the preferred operational alternative.

N/A

Provide a detailed motivation if no alternatives exist.

N/A

List the positive and negative impacts that the operational alternatives will have on the environment.

N/A

1.6.	The option of not implementing the activity (the 'No-Go' Option).

Provide an explanation as to why the 'No-Go' Option is not preferred.

The 'No-Go' Option, which entails maintaining the status quo without implementing the proposed development activity, is not preferred due to several factors. Firstly, it fails to address the pressing need for balanced urban development in Vermont. Secondly, it overlooks the opportunity to mitigate ecological impact through thoughtful planning and design, as demonstrated by Alternative 4. Ultimately, by choosing not to proceed with the proposed activity, the potential benefits of responsible development, such as job creation, economic growth, and sustainable land use practices, would be missed, undermining the long-term prosperity and well-being of the community.

1.7.	Provide and explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.

Alternative two was initially a preferred Alternative, however, there were challenges faced due to its encroachment on highly sensitive habitats. The terrestrial biodiversity impact assessment mitigation measures proposed that the following erven should be removed from any authorised layout: 1, 2, 7, 8, 10, 11, 12 and 13. Addition to this, the proposed access road (erf 14) had to be largely removed so that it does not cross the wetland and ecological corridor and can instead access erf 9 along the southern boundary. It was recommended by the aquatic biodiversity specialist that the proposed residential areas should they be positioned within the proposed new Erven this will result to the reduced impact on wetland loss.

Alternative 4, the new preferred layout, stands out as the most suitable development option among the alternatives considered. Its design has been refined from the specialists' inputs and mitigations measures identified to accommodate the site's high ecological sensitivity, effectively minimizing encroachment and reducing negative impacts on these critical areas. The layout now includes two access roads instead of one, eliminating the need for the private road to traverse the wetland, as mandated by the mitigation requirements. The 8 residential erven that were identified to be in highly sensitive areas have been adjusted according to the mitigations measured required by the specialist. As a result, approximately 58% of the total area will be designated as conservation space (Private Open Space), a notable increase from around 36%. Through the implementation of mitigation measures recommended by specialist studies, the potential adverse effects are mitigated and been reduced to a moderate impact significance in the new amended layout alternative.

The decision to favour Alternative 4 over other options stems from a thorough evaluation of feasible alternatives. Alternative layouts were likely assessed based on criteria such as impact on ecological sensitivity of the site, wetland loss in the delineated UVBW, altered flow regime and Water Quality impairment of the UVBW which have been identified to be between low and medium impact significant. In addition to this, comments from the I&AP have also informed the decision to amend the layout with reference to the specialist findings. Despite the mitigation measures employed, it is crucial to acknowledge that some level of impact is inevitable given the nature of the project and the site's ecological sensitivity. When exploring alternatives, the goal is not only to avoid negative impacts but also to maximize positive outcomes wherever possible. Alternative 4 likely struck a balance between development objectives and environmental protection, making it the most viable option. While no alternative may entirely eliminate negative impacts, the chosen approach demonstrates a commitment to responsible development practices.

1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.

Conclusively, after thorough evaluation and consideration of various alternatives, Alternative 4 emerges as the preferred option for the development activity. This choice is primarily motivated by its careful design to mitigate negative impacts on the highly sensitive ecological areas of the site while still allowing for necessary development. Alternative 4 strikes a balance between environmental preservation and project objectives, making it the most suitable choice. The preferred location for the activity remains consistent with Alternative 4, ensuring adherence to responsible development practices while meeting project requirements.

2. "No-Go" areas

Explain what "no-go" area(s) have been identified during identification of the alternatives and provide the co-ordinates of the "no-go" area(s).
N/A.

3. Methodology to determine the significance ratings of the potential environmental impacts and risks associated with the alternatives.

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.

An impact is any change to a resource or receptor brought about by a project component or through the execution of a project related activity. The evaluation of baseline data provides information for the process of evaluating and describing how the project could affect the biophysical and socio-economic environment.

Impact is described according to their nature or type, as follows:

Nature/ Type

Nature/ Type of impact	Definition
Positive	An impact that is considered to represent an improvement on the baseline or introduces a positive change.
Negative	An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor.
Direct	Impacts that result from a direct interaction between a planned project activity and the receiving environment/receptors (e.g. between occupation of a site and the pre-existing habitats or between an effluent discharge and receiving water quality).
Indirect	Impacts that result from other activities that are encouraged to happen as a consequence of the Project (e.g. in-migration for employment placing a demand on resources).
Cumulative	Impacts that act together with other impacts (including those from concurrent or planned future third-party activities) to affect the same resources and/or receptors as the Project.

Significance

Impacts are described in terms of significance. Significance is a function of the magnitude of the impact and the likelihood of the impact occurring:

Impact Magnitude	
Extent	**On site** – impacts that are limited to the boundaries of the development site.
	Local – impacts that affect an area in a radius of 20 km around the Development site.
	Regional – impacts that affect regionally important environmental resources or are experienced at a regional scale as determined by administrative boundaries, habitat type/ecosystem.
	National – impacts that affect nationally important environmental resources or affect an area that is nationally important/ or have macro-economic consequences
Duration	**Temporary** – impacts are predicted to be of short duration and intermittent/occasional.
	Short-term – impacts that are predicted to last only for the duration of the construction period.
	Long-term – impacts that will continue for the life of the Project but ceases when the project stops operating
	Permanent – impacts that cause a permanent change in the affected receptor or resource (e.g. removal or destruction of ecological habitat) that endures substantially beyond the project lifetime
	BIOPHYSICAL ENVIRONMENT
	Negligible – the impact on the environment is not detectable.
	Low – the impact affects the environment in such a way that natural functions and processes are not affected.
	Medium – where the affected environment is altered but natural functions and processes continue, albeit in a modified way.
Intensity	**High** – where natural functions or processes are altered to the extent that they will temporarily or permanently cease
	SOCIO-ECONOMIC
	Negligible – there is no perceptible change to people's livelihood
	Low - people/communities are able to adapt with relative ease and maintain pre-impact livelihoods
	Medium – people/communities are able to adapt with some difficulty and maintain pre-impact livelihoods but only with a degree of support
	High - affected people/communities will not be able to adapt to changes or continue to maintain pre-impact livelihoods.

Likelihood- the likelihood that an impact will occur

Likelihood	
Unlikely	The impact is unlikely to occur
Likely	The impact is likely to occur under the most conditions.
Definite	The impact will occur

Once an assessment is made of the magnitude and the likelihood, the impact significance is rated through a matrix process:

Significance				
Magnitude		Unlikely	Likely	Definite
	Negligence	Negligible	Negligible	Minor
	Low	Negligible	Minor	Minor
	Medium	Minor	Moderate	Moderate
	High	Moderate	Major	Major

Definition of significance:

Negligible	An impact of negligible significance (or an insignificant impact) is where a resource or receptor (including people) will not be affected in any way by a particular activity, or the predicted effect is deemed to be 'negligible'.
Minor	An impact of minor significance is one where an effect will be experienced, but the impact magnitude is small (with and without mitigation) and within accepted standards, and/or the receptor is of low sensitivity/value.
Moderate	An impact of moderate significance is one within accepted limits and standards. The emphasis for moderate impacts is on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable. This does not necessarily mean that 'moderate' impacts have to be reduced to 'minor' impacts, but that moderate impacts are managed effectively and efficiently.
Major	An impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued / sensitive resource / receptors. A goal of the EIA process is to get to a position where the Project does not have any major residual impacts.

Significance of an impact is then qualified through a statement of the degree of confidence. Degree of confidence is expressed as low, medium or high.

Significance colour scale (if applicable):

Negative	Positive
Negligible	Negligible
Minor	Minor
Moderate	Moderate
Major	Major

Impact rating colour scale:

Negative	Positive
Negligible	Negligible
Low	Low
Medium	Medium
High	High

4. Assessment of each impact and risk identified for each alternative

Note: The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. The EAP may decide to include this section as Appendix J to this BAR.

SUMMARY OF ALTERNATIVES

ALTERNATIVE ONE

Positive:

- Supply of residential erven to Vermont and Hermanus in response to large demand for residential opportunities.
- Investment in the area
- Upgrade and / or contribution to service infrastructure in the area
- Job creation

Negative:

- No consideration of the wetland on site
- No opportunity for rehabilitation of the wetland and long-term management thereof to facilitate linkages with the adjacent freshwater systems.

ALTERNATIVE TWO

Positive:

- Supply of residential erven to Vermont and Hermanus in response to large demand for residential opportunities.
- Investment in the area
- Upgrade and / or contribution to service infrastructure in the area
- Job creation

- Design with the wetland system in consideration
- Opportunity to rehabilitate the wetland and provide long term management as well as facilitate connection with the surrounding freshwater ecosystems
- Management of activities on site and not adhoc use as currently experienced

Negative:

- All proposed residential erven on the Northern part of the property encroach within the delineated seasonal/ temporal wetland area.
- loss of high ecological sensitive areas.
- One access road crossing the wetland to the residential erven.

ALTERNATIVE THREE (NO GO)

Positive:

- No removal of vegetation and status quo remains

Negative:

- No management and rehabilitation of the wetland
- Continuous degrade of the site at the hand of unregulated and uncontrolled activities on site
- No alien vegetation management
- No investment, job creation or infill development with highly developed suburb of Vermont and Hermanus

ALTERNATIVE 4 (PREFERRED)

Positive:

- Supply of residential erven to Vermont and Hermanus in response to large demand for residential opportunities.
- Investment in the area
- Upgrade and / or contribution to service infrastructure in the area
- Job creation
- Design with the wetland system in consideration
- Opportunity to rehabilitate the wetland and provide long term management as well as facilitate connection with the surrounding freshwater ecosystems
- Management of activities on site and not adhoc use as currently experienced
- Lower ecological impact than the previous alternative assessed.
- Proposed residential erven now exclude most of the High sensitivity areas
- Development includes two private access roads away from the delineated wetland area.

Negative:

- About 500m^2 of high sensitivity habitat will now be lost.
- Loss of sensitive vegetation will occur.

ALTERNATIVE 1

Potential impact and risk:	**1. Socio-economic**
Potential impact	Job creation during the development /construction phase of the Erven
Nature of impact:	Positive
Extent and duration of impact:	local; short-term
Consequence of impact or risk:	Improved livelihoods of the community
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Job creation for local community
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Ensure labour force is sourced locally as far as possible. 2. A gender balance to be considered during employment.
Residual impacts:	1. Improved livelihoods 2. Improvement of local economy, skills transfer, investment in the area
Cumulative impact post mitigation:	Job creation and skills transfer to local community
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Potential impact and risk:	**2. Dust**
Potential impact	Dust generated from site clearing and site preparation
Nature of impact:	Negative
Extent and duration of impact:	Local, short term
Consequence of impact or risk:	Visual impacts Nuisance for residents adjacent to the site
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Potential for reduced visibility, temporary visual impacts to the general area
Cumulative impact prior to mitigation:	Dust may be generated as a result of earthmoving activities required for construction and development
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Maintain ground cover for as long as possible to reduce the total surface area exposed to wind. Do not clear entire plots and rather clear building sites only

	2. Ensure vehicle speed limits on site are kept to a minimum. 3. Delivery vehicles to keep loads covered. 4. Cover fine material stockpiles. 5. Wet dry and dusty surfaces using non-potable water. 6. Staff to wear correct PPE if dust is generated for long periods. 7. Road surfaces to be swept and kept clean of sand and fine materials
Residual impacts:	None
Cumulative impact post mitigation:	Dust generated during construction, mitigation successful
Significance rating of impact after mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	Very-Low Negative
Potential impact and risk:	**3. Noise**
Potential impact	Noise generated from vehicles and machinery during the construction phase.
Nature of impact:	Negative
Extent and duration of impact:	Local, short term
Consequence of impact or risk	Noise disturbance to transient receptors, i.e. motorists, pedestrians, residents.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	No resources will be impacted.
Degree to which the impact can be reversed:	High
Indirect impacts:	None
Cumulative impact prior to mitigation:	Noise generated from construction works
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium – High
Degree to which the impact can be managed:	Medium – High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Limit noise levels (e.g. install and maintain silencers on machinery). 2. Provide protective wear for workers i.e. ear plugs. 3. Ensure that construction vehicles and machinery are maintained regularly to reduce noise generation. 4. Restrict construction to normal working hours
Residual impacts:	None
Cumulative impact post mitigation:	Typical noise impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium High, High, or Very-High)	Low Negative
Potential impact and risk:	**4. Visual**

Potential impact:	Visual impacts of construction site and construction activities.
Nature of impact:	Negative
Extent and duration of impact:	Local, short term
Consequence of impact:	Reduce aesthetic value of the site and surrounds
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	High
Indirect impacts:	None
Cumulative impact prior to mitigation:	Short term visual impacts associated with construction
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Good housekeeping of construction site and working areas. 2. Screen the visual elements of the site camp with netting. 3. Locate the site camp in a transformed area. 4. Site officer to walk the site on a daily basis to check for visual impacts and general site aesthetics, particularly prior to weekends and holidays 5. Officer to ensure that waste and batching areas are correctly screened and secured to prevent spread by wind, rain or animals
Residual impacts	None
Cumulative impact post mitigation:	Typical visual impacts associated with a construction site
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	Low Negative
Potential impact and risk:	**5. Ecological Impact**
Potential impact:	It can safely be assumed that the primary construction phase ecological impact of the proposed subdivision and development would be permanent loss of all of the existing natural and partly natural vegetation and faunal habitat in the development footprints (gazetted as a Critically Endangered vegetation type)
Nature of impact:	Negative
Extent and duration of impact:	Local; Permanent
Consequence of impact:	Vegetation loss, species loss, diversity loss, connectivity loss Exposure of soil and degradation thereof
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	Low
Indirect impacts:	Continued loss of all critically endangered natural vegetation on site
Cumulative impact prior to mitigation:	Loss of natural vegetation and faunal habitat and threatened plant species to ongoing agriculture, urban development and alien plant invasion

Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Low
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	• No erven should intrude significantly into the seasonal wetland portions of the site that support mostly habitat of High ecological sensitivity (as per Figure 4). This means that the following erven should be removed from any authorised layout: 1, 2, 7, 8, 10, 11, 12 and 13. The proposed access road (erf 14) should also be largely removed so that it does not cross the wetland and ecological corridor, and can instead access erf 9 along the southern boundary. • No pipelines, cabling or infrastructure should be installed across the High sensitivity areas or wetlands. • Any boundary fencing used must be permeable to small animals at ground level. • The authorised erf and road boundaries should be surveyed and pegged out and fenced on site prior to any site development. • No areas of natural or partly natural vegetation should be disturbed outside the pegged/fenced out and authorised erven. No vehicular activity or dumping of material may take place outside the authorised erven or roads. • All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens et al 2021).
Residual impacts	Loss of high sensitivity vegetation
Cumulative impact post mitigation:	Loss of high sensitivity vegetation
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	**High negative**
Potential impact and risk:	**6. Wetland Loss in the delineated UVBW**
Potential impact:	During the construction phase there would be loss of all the high ecological sensitive species on site and the wetland. Loss of ecological connectivity as well as hydrological connection from the wetland on site to the Vermont Salt Pan downstream which is an NFEPA designated wetland area.
Nature of impact:	High; Negative

Extent and duration of impact:	Local; Permanent
Consequence of impact:	Loss of wetland habitat, critically endangered fauna and wetland plants.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	Very low
Indirect impacts:	Loss of the entire wetland on site.
Cumulative impact prior to mitigation:	Loss of wetland and habitat for SoCC that could potentially be found on site
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	Very High
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	N/A
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	• The only mitigation applicable to wetland loss is reduction of the area of loss. • It is recommended that the proposed residential areas are positioned within the proposed new Erven so as to avoid the delineated wetland area. • Should the proposed residential developments avoid the wetland area entirely, the impact of Wetland Loss, as assessed in this report, will not be applicable.
Residual impacts:	Wetland loss, impact on adjacent freshwater systems, impact on infrastructure located within permanent wetland area
Cumulative impact post mitigation:	Wetland loss, impact on adjacent freshwater systems, impact on infrastructure located within permanent wetland area
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High negative**

OPERATIONAL PHASE	
Potential impact and risk:	**1. Socioeconomic impacts**
Potential impact	Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Nature of impact:	Positive
Extent and duration of impact:	Local, long-term
Consequence of impact or risk:	Improved livelihoods beneficiaries, influx of people to the area, investment in the area, spending in the area
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A

Cumulative impact prior to mitigation:	Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	-
Residual impacts:	Investment in the area, attraction to the area, spending in the area
Cumulative impact post mitigation:	Investment in the area, attraction to the area, spending in the area Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive
Potential impact and risk:	**2. Visual**
Potential impact:	Typical Visual impacts associated with the operational phase of a residential dwelling or group of residential dwellings that may lead to changes in sense of place of the individual from what was there and to what has now changed.
Nature of impact:	Negative – changes in the visual aesthetics of the area during the operational phase. Positive- infill development within an urban area as opposed to the alienation of new land, contributing to more sustainable land use.
Extent and duration of impact:	Long term, local to regional
Consequence of impact:	Risk – visual impact of operation within landscape and suburb
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	High
Indirect impacts:	Loss of sense of place due to the removal of the natural vegetation that is appealing to nature lovers
Cumulative impact prior to mitigation:	Short term impacts associated with changes of the built infrastructure.
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Low
Degree to which the impact can be mitigated:	High
Proposed mitigation:	

	• Implement landscaping strategies to minimize the visual impact of construction and operational activities. • Incorporate green design principles into the development to enhance aesthetics and mitigate negative visual effects. • Communicate with the community to ensure understanding and acceptance of the changes in the visual character. • Consider the use of native vegetation in landscaping to maintain a natural feel and reduce visual disruptions.
Residual impacts	None
Cumulative impact post mitigation:	Typical visual impacts associated with operational phase
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	Low negative
Potential impact and risk:	**3. Ecological**
Potential impact:	Loss of current moderate levels of ecological connectivity across the site (essentially only W-E connectivity is now available), and associated habitat fragmentation. Loss of ability for natural fires Loss of sensitive botanical areas and vegetation Reduction in natural habitat
Nature of impact:	Negative – ecological impacts Positive – infill development within urban area as opposed to alienation of new land
Extent and duration of impact:	Permanent, local to regional
Consequence of impact:	Loss of all available natural or partly natural faunal habitat on site. Loss of natural spaces, corridors and high ecological species.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	N/A
Indirect impacts:	Loss of moderate current ecological connectivity across the site and associated habitat fragmentation.
Cumulative impact prior to mitigation:	Loss of all natural spaces, corridors and vegetation on site.
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	Very High
Degree to which the impact can be avoided:	
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	• No areas of natural or partly natural vegetation should be disturbed outside the pegged/fenced out and authorised erven. No vehicular activity or dumping of material may take place outside the authorised erven or roads.

	• All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens et al 2021). • The Homeowners Association (HoA, or similar) for the proposed development must ensure that all alien invasive vegetation (as per NEMBA legislation) is removed from the Public Open Space area on an annual basis by qualified contractors, using methodology as prescribed in Martens et al (2021; see below for reference). • The HoA must ensure that there is adequate funding for this every year.
Residual impacts	Loss of sensitive vegetation, open spaces, corridors
Cumulative impact post mitigation:	Loss of natural spaces, loss of ecological connectivity, corridors and vegetation
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	High negative
Potential impact and risk:	**4. Wetland loss within the UVBW**
Potential impact:	Site clearance, infilling and compaction will result in alteration of the flow regime for the onsite wetland and even loss of the entire wetland. Pollutants may enter the onsite wetland via stormwater or sewage leaks (although highly unlikely).
Nature of impact:	Negative
Extent and duration of impact:	Local; permanent
Consequence of impact:	High loss of ecological infrastructure as well as aquatic species
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	Loss of High ecological sensitivity and hydrological connectivity
Cumulative impact prior to mitigation:	High
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	N/A
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	• The significance of this impact can be largely mitigated by demarcating the UVBW as No-Go area during construction.

	• Bunded, impervious areas that are more than 15 m away from the UVBW must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals. • The significance of this impact can be largely mitigated by ensuring that SW generated onsite flows into the wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). • If possible, conduct any rehabilitation activities during summer months (November to March). It is recommended that a suitably qualified aquatic specialist compiles detailed method statements once the final layout of the proposed project has been formalized. • Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.
Residual impacts	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Cumulative impact post mitigation:	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	**High Negative**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	N/A
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	-
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	-
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

ALTERNATIVE 2

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**1. Socio-economic impacts**
Potential impact	Job creation during the development /construction phase of the Erven
Nature of impact:	Positive
Extent and duration of impact:	Local; short term
Consequence of impact or risk:	Improved livelihoods of the community
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Job creation for local community
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Ensure labour force is sourced locally as far as possible. 2. A gender balance to be considered during employment.
Residual impacts:	1. Improved livelihoods 2. Improvement of local economy, skills transfer, investment in the area
Cumulative impact post mitigation:	Job creation and skills transfer to local community
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High Positive**
Potential impact and risk:	**2. Dust**
Potential impact	Dust generated from site clearing and site preparation
Nature of impact:	Negative
Extent and duration of impact:	Local, short term
Consequence of impact or risk:	Visual impacts Nuisance for residents adjacent to the site
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Potential for reduced visibility, temporary visual impacts to the general area
Cumulative impact prior to mitigation:	Dust may be generated as a result of earthmoving activities required for construction and development
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative

Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Maintain ground cover for as long as possible to reduce the total surface area exposed to wind. Do not clear entire plots and rather clear building sites only 2. Ensure vehicle speed limits on site are kept to a minimum. 3. Delivery vehicles to keep loads covered. 4. Cover fine material stockpiles. 5. Wet dry and dusty surfaces using non-potable water. 6. Staff to wear correct PPE if dust is generated for long periods. 7. Road surfaces to be swept and kept clean of sand and fine materials
Residual impacts:	None
Cumulative impact post mitigation:	Dust generated during construction; mitigation successful
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low Negative
Potential impact and risk:	**3. Noise**
Potential impact	Noise generated from vehicles and machinery during the construction phase.
Nature of impact:	Negative
Extent and duration of impact:	Local, short term
Consequence of impact or risk:	Noise disturbance to transient receptors, i.e. motorists, pedestrians, residents.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	No resources will be impacted.
Degree to which the impact can be reversed:	High
Indirect impacts:	None
Cumulative impact prior to mitigation:	Noise generated from construction works
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium – High
Degree to which the impact can be managed:	Medium – High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Limit noise levels (e.g. install and maintain silencers on machinery). 2. Provide protective wear for workers i.e. ear plugs. 3. Ensure that construction vehicles and machinery are maintained regularly to reduce noise generation. 4. Restrict construction to normal working hours
Residual impacts:	None
Cumulative impact post mitigation:	Typical noise impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low Negative**
Potential impact and risk:	**4. Visual**

Potential Impact	Visual impacts of construction site and construction activities.
Nature of impact:	Negative
Extent and duration of impact:	Local, short term
Consequence of impact or risk:	Reduce aesthetic value of the site and surrounds
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	High
Indirect impacts:	None
Cumulative impact prior to mitigation:	Short term visual impacts associated with construction
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Good housekeeping of construction site and working areas. 2. Screen the visual elements of the site camp with netting. 3. Locate the site camp in a transformed area. 4. Site officer to walk the site on a daily basis to check for visual impacts and general site aesthetics, particularly prior to weekends and holidays 5. Officer to ensure that waste and batching areas are correctly screened and secured to prevent spread by wind, rain or animals
Residual impacts:	None
Cumulative impact post mitigation:	Typical visual impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low Negative
Potential impact and risk:	**5. Ecological Impact**
Potential impact:	During the removal of vegetation for the proposed subdivision and development would be permanent loss of all or most of the existing natural and partly natural vegetation and faunal habitat in the development footprints (most of it gazetted as Endangered vegetation type).
Nature of impact:	Negative
Extent and duration of impact:	Local, Regional; Permanent
Consequence of impact:	Vegetation loss, species loss, diversity loss, connectivity loss Exposure of soil and degradation thereof
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Continued loss of Hangklip Sand Fynbos (CR)
Cumulative impact prior to mitigation:	Loss of natural vegetation and faunal habitat and threatened plant species to ongoing agriculture, urban development and alien plant invasion
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High
Degree to which the impact can be avoided:	Low

Degree to which the impact can be managed:	Low
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	1. Maintain the proposed open space throughout development 2. Mark the Open space as a No-Go area during construction 3. Maintain natural areas on the erven as far as possible and do not clear entire plots but rather just the footprints Encourage natural gardens instead of grassed or paved areas Landscaping with locally indigenous vegetation only
Residual impacts	Loss of high sensitivity vegetation
Cumulative impact post mitigation:	Loss of high sensitivity vegetation
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	**High negative**
Potential impact and risk:	**6. Wetland loss within the delineated UVBW**
Potential impact:	Site clearance, infilling and compaction will result in alteration of the flow regime for the onsite wetland and even loss of the entire wetland. Pollutants may enter the onsite wetland via stormwater or sewage leaks (although highly unlikely).
Nature of impact:	Negative
Extent and duration of impact:	Local; permanent
Consequence of impact:	High loss of ecological infrastructure as well as aquatic species
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	Loss of High ecological sensitivity and hydrological connectivity
Cumulative impact prior to mitigation:	High
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	N/A
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	• The significance of this impact can be largely mitigated by demarcating the UVBW as No-Go area during construction. • Bunded, impervious areas that are more than 15 m away from the UVBW must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals.

	• The significance of this impact can be largely mitigated by ensuring that SW generated onsite flows into the wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). • If possible, conduct any rehabilitation activities during summer months (November to March). It is recommended that a suitably qualified aquatic specialist compiles detailed method statements once the final layout of the proposed project has been formalized. Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.
Residual impacts	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Cumulative impact post mitigation:	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	**High Negative**
OPERATIONAL PHASE	
Potential impact and risk:	**1. Socioeconomic**
Potential Impact	Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Nature of impact:	Positive
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Improved livelihoods beneficiaries, influx of people to the area, investment in the area, spending in the area
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	-

Residual impacts:	Investment in the area, attraction to the area, spending in the area
Cumulative impact post mitigation:	Investment in the area, attraction to the area, spending in the area Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive
Potential impact and risk:	**2. Visual Impact**
Potential Impact	Typical Visual impacts associated with the operational phase of a residential dwelling or group of residential dwellings that may lead to changes in sense of place of the individual from what was there and to what has now changed.
Nature of impact:	Negative – changes in the visual aesthetics of the area during the operational phase. Positive- infill development within an urban area as opposed to the alienation of new land, contributing to more sustainable land use.
Extent and duration of impact:	Long term, local to regional
Consequence of impact or risk:	Risk – visual impact of operation within landscape and suburb
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	High
Indirect impacts:	Loss of sense of place due to the removal of the natural vegetation that is appealing to nature lovers
Cumulative impact prior to mitigation:	Short term impacts associated with changes of the built infrastructure.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Low
Degree to which the impact can be mitigated:	High
Proposed mitigation:	• Implement landscaping strategies to minimize the visual impact of construction and operational activities. • Incorporate green design principles into the development to enhance aesthetics and mitigate negative visual effects. • Communicate with the community to ensure understanding and acceptance of the changes in the visual character. • Consider the use of native vegetation in landscaping to maintain a natural feel and reduce visual disruptions.
Residual impacts:	None

Cumulative impact post mitigation:	Typical visual impacts associated with operational phase
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
Potential impact and risk:	**3. Ecological**
Potential impact:	Loss of current moderate levels of ecological connectivity across the site (essentially only W-E connectivity is now available), and associated habitat fragmentation. Loss of ability for natural fires Loss of sensitive botanical areas and vegetation Reduction in natural habitat
Nature of impact:	Negative – ecological impacts Positive – infill development within urban area as opposed to alienation of new land
Extent and duration of impact:	Permanent, local to regional
Consequence of impact:	Loss of all available natural or partly natural faunal habitat on site. Loss of natural spaces, corridors and high ecological species.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	N/A
Indirect impacts:	Loss of moderate current ecological connectivity across the site and associated habitat fragmentation.
Cumulative impact prior to mitigation:	Loss of all natural spaces, corridors and vegetation on site.
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	Very High
Degree to which the impact can be avoided:	
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	• No areas of natural or partly natural vegetation should be disturbed outside the pegged/fenced out and authorised erven. No vehicular activity or dumping of material may take place outside the authorised erven or roads. • All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens et al 2021). • The Homeowners Association (HoA, or similar) for the proposed development must ensure that all alien invasive vegetation (as per NEMBA legislation) is removed from the Public Open Space area on an annual basis by qualified contractors, using methodology as

	prescribed in Martens et al (2021; see below for reference). • The HoA must ensure that there is adequate funding for this every year.
Residual impacts	Loss of sensitive vegetation, open spaces, corridors
Cumulative impact post mitigation:	Loss of natural spaces, loss of ecological connectivity, corridors and vegetation
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	High negative
Potential impact and risk:	**4. Wetland loss within the delineated UVBW**
Potential impact:	Site clearance, infilling and compaction will result in alteration of the flow regime for the onsite wetland and even loss of the entire wetland. Pollutants may enter the onsite wetland via stormwater or sewage leaks (although highly unlikely).
Nature of impact:	Negative
Extent and duration of impact:	Local; permanent
Consequence of impact:	High loss of ecological infrastructure as well as aquatic species
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	Loss of High ecological sensitivity and hydrological connectivity
Cumulative impact prior to mitigation:	High
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	N/A
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	• The significance of this impact can be largely mitigated by demarcating the UVBW as No-Go area during construction. • Bunded, impervious areas that are more than 15 m away from the UVBW must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals. • The significance of this impact can be largely mitigated by ensuring that SW generated onsite flows into the wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). • If possible, conduct any rehabilitation activities during summer months (November to March). It is recommended that a suitably qualified aquatic

	specialist compiles detailed method statements once the final layout of the proposed project has been formalized. • Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.
Residual impacts	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Cumulative impact post mitigation:	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	**High Negative**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**N/A**
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	-
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	-
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

ALTERNATIVE 3 – NO GO

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**1. Ecological impact**
Potential impact	No development and status quo remain.
Nature of impact:	Positive
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Risk of alien vegetation due to landscaping and poor Management

	Loss of other natural spaces, corridors and vegetation
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Risk of alien vegetation due to landscaping and poor Management Loss of natural spaces, corridors and vegetation
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	by placing biodiversity offsets in areas of high ecological sensitivity during the construction.
Residual impacts:	Loss of other natural vegetation and species
Cumulative impact post mitigation:	Less negative impacts associated with the clearance of sensitive vegetation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**
Potential impact and risk:	**2. Socioeconomic impacts**
Potential impact	No scope of available job creation, skills transfer and investments
Nature of impact:	Negative
Extent and duration of impact:	Local, short-term
Consequence of impact or risk:	No job creation for communities in the area. No opportunities for investment in the area or provision of residential erven for growth of the area.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	High
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	low
Degree to which the impact can be mitigated:	low
Proposed mitigation:	Change layout
Residual impacts:	N/A
Cumulative impact post mitigation:	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative- no development may take place
OPERATIONAL PHASE	
Potential impact and risk:	○ **Socioeconomic impacts**
Potential impact	No access to employment for the community
Nature of impact:	Negative- few people employed

Extent and duration of impact:	Local to provincial, long term
Consequence of impact or risk:	Improved livelihood beneficiaries, low number of people to the area, few investment opportunities,
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	No employment or investments on the site because there will be no development taking place.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	Low
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	
Residual impacts:	N/A
Cumulative impact post mitigation:	No access to jobs, no development and no investments
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High negative**

Potential impact and risk:	○ **Ecological**
Potential impact:	Loss of a significant number of vegetation and species movement across and between the sites. The ability for natural fires Loss of endangered species of botanical and fauna.
Nature of impact:	Neutral – ecological impacts
Extent and duration of impact:	Variable, local to regional
Consequence of impact:	Risk of alien vegetation due to landscaping and poor Management
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Medium-Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Loss of other natural vegetation
Cumulative impact prior to mitigation:	Risk of alien vegetation due to landscaping and poor Management Loss of natural spaces, corridors and vegetation
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	Low negative
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	• No erven should intrude significantly into the seasonal wetland portions of the site that support mostly habitat of High ecological sensitivity (as per Figure 4). This means that the following erven should be removed from any authorised layout: 1, 2, 7, 8, 10, 11, 12 and 13. The proposed access road (erf 14) should also be largely

	removed so that it does not cross the wetland and ecological corridor, and can instead access erf 9 along the southern boundary. • No pipelines, cabling or infrastructure should be installed across the High sensitivity areas or wetlands. • Any boundary fencing used must be permeable to small animals at ground level. • The authorised erf and road boundaries should be surveyed and pegged out and fenced on site prior to any site development. • No areas of natural or partly natural vegetation should be disturbed outside the pegged/fenced out and authorised erven. No vehicular activity or dumping of material may take place outside the authorised erven or roads. • All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team, and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens *et al* 2021).
Residual impacts	Loss of sensitive vegetation, open spaces, corridors
Cumulative impact post mitigation:	Risk of alien vegetation due to landscaping and poor Management Loss of natural spaces such as ecological support areas (ESA), corridors and vegetation
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	High Positive
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	N/A
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	--
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

ALTERNATIVE 4 (PREFERRED)

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**1. Socioeconomic impacts**
Potential impact	Job creation during the development /construction phase of the Erven
Nature of impact:	Positive
Extent and duration of impact:	local; short-term
Consequence of impact or risk:	Improved livelihoods of the community
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Job creation for local community
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Ensure labour force is sourced locally as far as possible. 2. A gender balance to be considered during employment.
Residual impacts:	1. Improved livelihoods 2. Improvement of local economy, skills transfer, investment in the area
Cumulative impact post mitigation:	Job creation and skills transfer to local community
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive
Potential impact and risk:	**2. Dust**
Potential impact	Dust generated from site clearing and site preparation
Nature of impact:	Negative
Extent and duration of impact:	Local, short term
Consequence of impact or risk:	Visual impacts Nuisance for residents adjacent to the site
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Potential for reduced visibility, temporary visual impacts to the general area
Cumulative impact prior to mitigation:	Dust may be generated as a result of earthmoving activities required for construction and development
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High

Proposed mitigation:	1. Maintain ground cover for as long as possible to reduce the total surface area exposed to wind. Do not clear entire plots and rather clear building sites only 2. Ensure vehicle speed limits on site are kept to a minimum. 3. Delivery vehicles to keep loads covered. 4. Cover fine material stockpiles. 5. Wet dry and dusty surfaces using non-potable water. 6. Staff to wear correct PPE if dust is generated for long periods. 7. Road surfaces to be swept and kept clean of sand and fine materials
Residual impacts:	None
Cumulative impact post mitigation:	Dust generated during construction; mitigation successful
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low Negative
Potential impact and risk:	**3. Noise**
Potential impact	Noise generated from vehicles and machinery during the construction phase.
Nature of impact:	Negative
Extent and duration of impact:	Local, short term
Consequence of impact or risk:	Noise disturbance to transient receptors, i.e. motorists, pedestrians, residents.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	No resources will be impacted.
Degree to which the impact can be reversed:	High
Indirect impacts:	None
Cumulative impact prior to mitigation:	Noise generated from construction works
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium – High
Degree to which the impact can be managed:	Medium – High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Limit noise levels (e.g. install and maintain silencers on machinery). 2. Provide protective wear for workers i.e. ear plugs. 3. Ensure that construction vehicles and machinery are maintained regularly to reduce noise generation. 4. Restrict construction to normal working hours
Residual impacts:	None
Cumulative impact post mitigation:	Typical noise impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low Negative**
Potential impact and risk:	**4. Visual**
Potential Impact	Visual impacts of construction site and construction activities.
Nature of impact:	Negative
Extent and duration of impact:	Local, short term

Consequence of impact or risk:	Reduce aesthetic value of the site and surrounds
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	High
Indirect impacts:	None
Cumulative impact prior to mitigation:	Short term visual impacts associated with construction
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Good housekeeping of construction site and working areas. 2. Screen the visual elements of the site camp with netting. 3. Locate the site camp in a transformed area. 4. Site officer to walk the site on a daily basis to check for visual impacts and general site aesthetics, particularly prior to weekends and holidays 5. Officer to ensure that waste and batching areas are correctly screened and secured to prevent spread by wind, rain or animals
Residual impacts:	None
Cumulative impact post mitigation:	Typical visual impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low Negative
Potential impact and risk:	**5. Ecological Impact**
Potential impact:	During the removal of vegetation for the proposed subdivision and development would be permanent loss of all or most of the existing natural and partly natural vegetation and faunal habitat in the development footprints (most of it gazetted as Endangered vegetation type). The proposed residential erven with the new alternative layout now exclude most of the High sensitivity areas (as required in my first bullet point of mitigation), and only about 500m^2 of high sensitivity habitat will now be lost.
Nature of impact:	Negative
Extent and duration of impact:	Local, Regional; Permanent
Consequence of impact:	Vegetation loss, species loss, diversity loss, connectivity loss Exposure of soil and degradation thereof
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Continued loss of Hangklip Sand Fynbos (CR)
Cumulative impact prior to mitigation:	Loss of natural vegetation and faunal habitat and threatened plant species to ongoing agriculture, urban development and alien plant invasion
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	High
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Medium

Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	• No erven should intrude significantly into the seasonal wetland portions of the site that support mostly habitat of High ecological sensitivity. This means that the following erven should be removed from any authorised layout: 1, 2, 7, 8, 10, 11, 12 and 13. The proposed access road (erf 14) should also be largely removed so that it does not cross the wetland and ecological corridor and can instead access erf 9 along the southern boundary. The proposed new layout (Alternative 4) is amended and changed according to the above mitigation measures and thus revolved into an "acceptable" ecological impact rating. • No pipelines, cabling or infrastructure should be installed across the High sensitivity areas or wetlands. • Any boundary fencing used must be permeable to small animals at ground level. • The authorised erf and road boundaries should be surveyed and pegged out and fenced on site prior to any site development. • No areas of natural or partly natural vegetation should be disturbed outside the pegged/fenced out and authorised erven. No vehicular activity or dumping of material may take place outside the authorised erven or roads. • All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens *et al* 2021). • The Homeowners Association (HoA, or similar) for the proposed development must ensure that all alien invasive vegetation (as per NEMBA legislation) is removed from the Public Open Space area on an annual basis by qualified contractors, using methodology as prescribed in Martens *et al* (2021; see below for reference). The HoA must ensure that there is adequate funding for this every year.
Residual impacts	Loss of high sensitivity vegetation
Cumulative impact post mitigation:	Loss of high sensitivity vegetation

Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	**Medium negative**
Potential impact and risk:	**6. Wetland loss within the UVBW**
Potential impact:	Site clearance, infilling and compaction will result in alteration of the flow regime for the onsite wetland and even loss of the entire wetland. Pollutants may enter the onsite wetland via stormwater or sewage leaks (although highly unlikely).
Nature of impact:	Negative
Extent and duration of impact:	Local; permanent
Consequence of impact:	loss of ecological infrastructure as well as aquatic species is moderate.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Loss of High ecological sensitivity and hydrological connectivity
Cumulative impact prior to mitigation:	Medium
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	Medum High
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	• The only mitigation applicable to wetland loss is reduction of the area of loss. It is recommended that the proposed residential areas / houses are positioned within the proposed new Erven so as to avoid the delineated wetland area. Should the proposed residential developments avoid the wetland area entirely, the impact of Wetland Loss, as assessed in this report, will not be applicable. It is however noted that this may not be possible for proposed new Erven 1 & 8. The proposed new layout (Alternative 4) has gone through various iterations in order to ensure that the footprint within the delineated wetland area is minimal. Ordinarily, wetland loss would fall within the 'high' category, but the limited area of wetland loss (0,22 Ha) and the degraded nature of the wetland has reduced the impact significance. • The significance of this impact can be largely mitigated by demarcating the UVBW as No-Go area during construction. • Bunded, impervious areas that are more than 15 m away from the UVBW must be designated by an Environmental Control Officer for temporary toilets,

	vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals. • Repair all sewage leaks as soon as reasonably possible after detection. Inspection of all sewage pipes should be conducted by a plumber once every 10 years. The positive aspect of rehabilitation will likely compensate for any negative water quality impacts to the wetland area. • The significance of this impact can be largely mitigated by ensuring that SW generated onsite flows into the wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). • If possible, conduct any rehabilitation activities during summer months (November to March). It is recommended that a suitably qualified aquatic specialist compiles detailed method statements once the final layout of the proposed project has been formalized. • Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.
Residual impacts	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Cumulative impact post mitigation:	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Significance rating of impact after mitigation e.g. Low, Medium, Medium High, High, or Very-High)	**Medium negative**
OPERATIONAL PHASE	
Potential impact and risk:	**1. Socioeconomic**
Potential Impact	Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Nature of impact:	Positive
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Improved livelihoods beneficiaries, influx of people to the area, investment in the area, spending in the area
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	-
Residual impacts:	Investment in the area, attraction to the area, spending in the area
Cumulative impact post mitigation:	Investment in the area, attraction to the area, spending in the area Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive
Potential impact and risk:	**2. Visual Impact**
Potential Impact	Typical Visual impacts associated with the operational phase of a residential dwelling or group of residential dwellings that may lead to changes in sense of place of the individual from what was there and to what has now changed.
Nature of impact:	Negative – changes in the visual aesthetics of the area during the operational phase. Positive- infill development within an urban area as opposed to the alienation of new land, contributing to more sustainable land use.
Extent and duration of impact:	Long term, local to regional
Consequence of impact or risk:	Risk – visual impact of operation within landscape and suburb
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	High
Indirect impacts:	Loss of sense of place due to the removal of the natural vegetation that is appealing to nature lovers
Cumulative impact prior to mitigation:	Short term impacts associated with changes of the built infrastructure.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Low
Degree to which the impact can be mitigated:	High
Proposed mitigation:	• Implement landscaping strategies to minimize the visual impact of construction and operational activities. • Incorporate green design principles into the development to enhance aesthetics and mitigate negative visual effects. • Communicate with the community to ensure understanding and acceptance of the changes in the visual character.

	• Consider the use of native vegetation in landscaping to maintain a natural feel and reduce visual disruptions.
Residual impacts:	None
Cumulative impact post mitigation:	Typical visual impacts associated with operational phase
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
Potential impact and risk:	**3. Ecological**
Potential impact:	Loss of current moderate levels of ecological connectivity across the site (essentially only W-E connectivity is now available), and associated habitat fragmentation. Loss of ability for natural fires Loss of sensitive botanical areas and vegetation Reduction in natural habitat
Nature of impact:	Negative – ecological impacts Positive – infill development within urban area as opposed to alienation of new land
Extent and duration of impact:	Permanent, local to regional
Consequence of impact:	Loss of all available natural or partly natural faunal habitat on site. Loss of natural spaces, corridors and high ecological species.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	N/A
Indirect impacts:	Loss of moderate current ecological connectivity across the site and associated habitat fragmentation.
Cumulative impact prior to mitigation:	Loss of all natural spaces, corridors and vegetation on site.
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	• No areas of natural or partly natural vegetation should be disturbed outside the pegged/fenced out and authorised erven. No vehicular activity or dumping of material may take place outside the authorised erven or roads. • All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens et al 2021).

	• The Homeowners Association (HoA, or similar) for the proposed development must ensure that all alien invasive vegetation (as per NEMBA legislation) is removed from the Public Open Space area on an annual basis by qualified contractors, using methodology as prescribed in Martens et al (2021; see below for reference). • The HoA must ensure that there is adequate funding for this every year.
Residual impacts	Loss of sensitive vegetation, open spaces, corridors
Cumulative impact post mitigation:	Loss of natural spaces, loss of ecological connectivity, corridors and vegetation
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	Medium negative
Potential impact and risk:	**4. Wetland loss within the delineated UVBW**
Potential impact:	Site clearance, infilling and compaction will result in alteration of the flow regime for the onsite wetland and even loss of the entire wetland. Pollutants may enter the onsite wetland via stormwater or sewage leaks (although highly unlikely).
Nature of impact:	Negative
Extent and duration of impact:	Local; permanent
Consequence of impact:	loss of ecological infrastructure as well as aquatic species
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	Loss of High ecological sensitivity and hydrological connectivity
Cumulative impact prior to mitigation:	High
Significance rating of impact prior to mitigation (e.g. Low, Medium, MediumHigh, High, or Very-High)	Medium- high
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	• The significance of this impact can be largely mitigated by demarcating the UVBW as No-Go area during construction. • Bunded, impervious areas that are more than 15 m away from the UVBW must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals. • The significance of this impact can be largely mitigated by ensuring that SW generated onsite flows into the

	wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). • If possible, conduct any rehabilitation activities during summer months (November to March). It is recommended that a suitably qualified aquatic specialist compiles detailed method statements once the final layout of the proposed project has been formalized. Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.
Residual impacts	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Cumulative impact post mitigation:	Loss of wetland and ecological connectivity as well as the hydrological connectivity.
Significance rating of impact after mitigation e.g. Low, Medium, MediumHigh, High, or Very-High)	**Medium Negative**
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	N/A
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	--
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

1.	Provide a summary of the findings and impact management measures identified by all Specialist and an indication of how these findings and recommendations have influenced the proposed development.

Terrestrial Biodiversity Impact Assessment Summary:

The study area's original vegetation is Hangklip Sand Fynbos, a type now classified as Critically Endangered nationally. This vegetation is crucial for numerous threatened and endemic plant species and relies on periodic fires for optimal health. However, there's been no recorded fire in the area for at least two decades, leading to aging vegetation and a decline in biodiversity. The site includes both wetland and non-wetland vegetation, with

indigenous species like buffalo grass and Juncus kraussii, alongside invasive species like pampas grass that require removal for conservation efforts.

The southwest corner of the erf shows gardening efforts by neighbours, mainly with non-native species not typical of Fynbos systems. The southeast corner displays extensive invasion of alien kikuyu grass, likely due to prior disturbances from housing development. Large alien invasives are present but at low density, partly due to regular removal efforts. The wetland area has significantly increased vegetation in the past five years, now in good condition with various indigenous species. About half of the site consists of permanent wetland, hosting a mix of indigenous species. Non-wetland areas with minimal disturbance support several indigenous plant species, including Pelargonium capitatum, Searsia lucida, and Oxalis pes-caprae.

During the survey, no plant Species of Conservation Concern (SoCC) were recorded, but it's possible that Disa hallackii, classified as Endangered and known to occur nearby, might be present. However, its presence is less likely due to the lack of recent fires on the site. Other Redlisted plant species are unlikely to be present given the habitat. Two species of frogs, including Hyperolius marmoratus and Strongylopus grayii, were heard calling on site, indicating viable populations. Bradypodion pumilum (Cape Dwarf Chameleon), listed as Vulnerable, is likely present based on similar nearby habitats. Threatened bird species like the African Marsh Harrier and Black Harrier may occasionally visit, while other species like Blue Cranes and flamingos are unlikely due to the size of the water body. Threatened butterflies are not expected, but indigenous dune snails were observed.

The construction phase of the proposed subdivision and development would lead to the permanent loss of existing natural and partly natural vegetation, including faunal habitats. While no Species of Conservation Concern were recorded within proposed footprints, Disa hallackii, an Endangered plant species, may be present. Additionally, at least two Endangered bird species may occasionally forage in the area. The Cape Dwarf Chameleon, listed as Vulnerable, may also be present. Some proposed erven fall within Seasonal Wetland areas and High ecological sensitivity zones, resulting in direct loss of habitat for various species, including frogs, dune snails, and fossorial animals. Mitigation measures, including avoidance of high sensitivity areas, could reduce the impact to a medium negative level. The "No Go" alternative would have a lower ecological impact and is preferred. The impacts are deemed local, regional, and national due to the significance of vegetation types and threatened species.

During the operational phase, impacts on vegetation and fauna will occur immediately upon the loss or disturbance of natural habitat, persisting indefinitely unless rehabilitated. Loss of ecological connectivity, particularly east-west connections, and habitat fragmentation will negatively affect both flora and fauna. There's a risk of introducing alien Argentine ants, leading to further ecological disruptions. Reduction of faunal habitat by 50% may diminish long-term carrying capacity and population viability. The site serves as a crucial ecological link between two natural reserves, and development could severely impair this function. Mitigation measures, such as layout reduction, could alleviate some negative impacts, but the "No Go" alternative would have significantly lower ecological impacts. Proper invasive alien vegetation management could yield minor positive ecological effects.

The "No Go" alternative, maintaining the status quo, is strongly favored from an ecological standpoint, as it would result in lower negative impacts compared to development. Cumulative ecological impacts regionally, including loss of natural vegetation and faunal habitat, are significant, driven by ongoing agriculture, urban development, and alien plant invasion. At the local scale, development would have a high ecological impact, primarily due to its critical role as a wetland and ecological link. No significant positive ecological impacts are expected from the proposed development, but ongoing invasive alien plant removal could have minor positive effects. Mitigation measures for the proposed development include avoiding intrusion into seasonal wetland areas, protecting sensitive habitats, using permeable fencing, and removing alien invasive vegetation before development.

Aquatic Biodiversity Impact Assessment:

The wetland in the study area has been altered by construction activities, including buildings, a dam/depression, and an access road. However, signs of natural wetland function and habitat persist, as indicated by hydromorphic soil and hydrophytic vegetation. This wetland is part of the larger Vermont Salt Pan system. The proposed development is expected to affect hydrology, water quality, and wetland vegetation. Encroachment of the development into the wetland area will alter its geomorphology.

The proposed site and its regulated area are characterized by a significant wetland system, primarily identified as a Channelled Valley-Bottom (CVB) wetland in the NFEPA layer. However, assessments by Job and Ratcliff (2006), EnviroSwift (2018), and the current evaluation suggest that it's a natural UVB wetland system. Additionally, the NGI topo-cadastral map indicates two non-perennial drainage lines within proximity, likely connected to the identified wetland system.

Within the proposed site, the Western Cape Biodiversity Spatial Plan (WCBSP) identifies an aquatic Ecological Support Area 2 (ESA 2) for restoration, linked to the CVB wetland as per the National Freshwater Ecosystem Priority Areas (NFEPA) dataset. Additionally, the WCBSP identifies various aquatic and terrestrial Critical Biodiversity Areas 1 (CBAs) and Ecological Support Areas 2 (ESAs) within the regulated 500-meter area. Adjacent to the western boundary lies the Hoek van de Berg Private Nature Reserve.

The wetland lacks peat but contains high levels of carbon in its soils. However, due to its small size and degraded state, it's unlikely to significantly contribute to climate change resilience. Construction within the wetland is not expected to release a substantial amount of carbon into the atmosphere. Therefore, further assessment of potential climate impact is deemed unnecessary.

Onsite hydrology was observed, with runoff from the neighbouring housing estate's stormwater system visible. Terrestrial soils are dark grey, sandy, and well-drained. Soils near the depression appear darker with higher organic content but lack expected mottling and gleying. Isolated patches of mottling were found on the southern periphery, likely due to historical infilling. The wetland boundary was delineated at the outer boundary of the temporary zone based on saturated, high carbon soils and hydrophytic vegetation presence. The excavated depression represents the permanent zone.

The ecological state of the UVB wetland was evaluated using the Macfarlane et al. (2020) WET-Health Version 2.0 method, which considers hydrology, geomorphology, water quality, and vegetation. The assessment resulted in an overall Present Ecological State (PES) score categorized as D, indicating a largely modified condition of the wetland at the time of evaluation. These were the findings:

Hydrology:

- The natural flow regime has been altered due to various disturbances, including excavation, vegetation clearing, and catchment hardening.
- Urban residential land use has further impacted hydrology, leading to flow diversion and increased runoff.
- Stormwater discharge from neighbouring developments also affects the wetland.

Vegetation:

- While indigenous hydrophytic species were observed, vegetation disturbance occurred due to excavation, brushcutting, construction, and dumping.
- Both alien and indigenous species are present, with notable invasive species like Kikuyu grass and pampas grass.

Geomorphology:

- Extensive modification, including excavation and vegetation clearing, has altered the wetland's natural geomorphic state.
- Construction activities like road building have further impacted the wetland's geomorphology.

Water Quality:

- Disturbances such as infilling and compaction have affected water quality, leading to leaching of toxicants and nutrients.
- Runoff from adjacent residential areas and stormwater outlets introduces pollutants like hydroxyl ions, nitrates, and contaminants from roads.

The proposed development area encompasses approximately 24% of the seasonal/temporary zone of the UVBW (Upper Verlorenvlei Buffer Wetland). During the construction phase, potential impacts will include reduced loss of UVBW areas due to road and housing construction, alteration of flow regimes, and water quality impairment from sediment input and runoff contamination. In the operational phase, impacts may persist, including altered flow regimes and water quality impairment from stormwater runoff.

The proposed layout has been revised multiple times to minimize overlap with the delineated wetland area. While wetland loss would typically be considered high impact, the small area affected (0.22 hectares) and the degraded state of the wetland lessen the significance of this impact. The "no go" scenario was evaluated and found to have low impact significance, as it would maintain existing impacts on the wetland due to on-site disturbance and adjacent land uses, with no noted indirect impacts.

The study area's original vegetation is Hangklip Sand Fynbos, a type now classified as Critically Endangered nationally. This vegetation is crucial for numerous threatened and endemic plant species and relies on periodic fires for optimal health. However, there's been no recorded fire in the area for at least two decades, leading to aging vegetation and a decline in biodiversity. The site includes both wetland and non-wetland vegetation, with indigenous species like buffalo grass and Juncus kraussii, alongside invasive species like pampas grass that require removal for conservation efforts.

The survey did not record any Species of Conservation Concern (SoCC) on site, but one such species, Disa hallackii, may potentially occur based on nearby habitats. However, its presence is unlikely due to the absence of recent fires, which are conducive to its growth. Other Redlisted plant species are not expected on site given the habitat. Two frog species, including the painted reed frog and the clicking stream frog, were observed, likely indicating viable populations. The Cape Dwarf Chameleon is expected to be present, along with various mammals like porcupines and mongooses. Threatened bird species like the African Marsh Harrier and Black Harrier may occasionally visit, while other species like Blue Cranes and flamingos are unlikely due to the size of the water body. Threatened butterflies are not expected, but indigenous dune snails were observed.

During the operational phase, impacts on vegetation and fauna will occur immediately upon the loss or disturbance of natural habitat, persisting indefinitely unless rehabilitated. Loss of ecological connectivity, particularly east-west connections, and habitat fragmentation will negatively affect both flora and fauna. There's a risk of introducing alien Argentine ants, leading to further ecological disruptions. Reduction of faunal habitat by 50% may diminish long-term carrying capacity and population viability. The site serves as a crucial ecological link between two natural reserves, and development could severely impair this function. Mitigation measures, such as layout reduction, could alleviate some negative impacts, but the "No Go" alternative would have significantly lower ecological impacts. Proper invasive alien vegetation management could yield minor positive ecological effects.

The Risk Assessment Matrix applied to the proposed project yielded the following outcomes:

- Impact 1, concerning wetland loss, was categorized as Moderate to High Risk. The delineated UVBW (Upper Reaches of a Vergelegen Basin Wetland) scored in the "Largely Modified" category with high Ecosystem Impact Scores (EIS) and moderately high ecosystem services. The historical wetland vegetation type is CR (Cape Flats Sand Fynbos), and there is a hydrological connection to downstream wetland areas, such as the Vermont Salt Pan.

- Impacts 2-5 were all classified as Low Risk. These impacts relate to a limited extent of a natural UVBW that has been historically impacted and is considered largely modified. With the implementation of appropriate mitigation and management measures, the risks associated with these impacts can be significantly reduced onsite.

2.	List the impact management measures that were identified by all Specialist that will be included in the EMPr

Terrestrial Biodiversity Impact Assessment:

- No erven should intrude significantly into the seasonal wetland portions of the site that support mostly habitat of High ecological sensitivity (as per Figure 4). This means that the following erven should be removed from any authorised layout: 1, 2, 7, 8, 10, 11, 12 and 13. The proposed access road (erf 14) should also be largely removed so that it does not cross the wetland and ecological corridor, and can instead access erf 9 along the southern boundary.
- No pipelines, cabling or infrastructure should be installed across the High sensitivity areas or wetlands.
- Any boundary fencing used must be permeable to small animals at ground level.
- The authorised erf and road boundaries should be surveyed and pegged out and fenced on site prior to any site development.
- No areas of natural or partly natural vegetation should be disturbed outside the pegged/fenced out and authorised erven. No vehicular activity or dumping of material may take place outside the authorised erven or roads.
- All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens *et al* 2021).
- Note that the above recommendations were used in the evolution of Alternative 4 – the new preferred alternative

Aquatic Biodiversity Impact Assessment:

- The only mitigation applicable to wetland loss is reduction of the area of loss. It is recommended that the proposed residential areas are positioned within the proposed new Erven so as to avoid the delineated wetland area. Should the proposed residential developments avoid the wetland area entirely, the impact of Wetland Loss, as assessed in this report, will not be applicable. It is however noted that this may not be possible for proposed new Erven 1 and 8.

- The significance of this impact can be largely mitigated by demarcating the UVBW wetland area as a No-Go area during construction, conducting rehabilitation within this wetland area; and by ensuring that SW generated onsite flows into the wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). If possible, conduct construction activities of dwellings, associated stormwater infrastructure and any rehabilitation activities during summer months (November to March). The alien invasive vegetation present within the wetland area must be removed and replanted with indigenous wetland vegetation. It is recommended that a suitably qualified aquatic specialist compiles detailed method statements once the final layout of the proposed project has been formalized. Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.

- The significance of this impact can be largely mitigated by demarcating the UVBW as No-Go area during construction. Bunded, impervious areas that are more than 15 m away from the UVBW must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals.

- The significance of this impact can be largely mitigated by ensuring that SW generated onsite flows into the wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). If possible, conduct any rehabilitation activities during summer months (November to March). It is recommended that a suitably qualified aquatic specialist compiles detailed method statements once the final layout of the proposed project has been formalized. Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.

- Repair all sewage leaks as soon as reasonably possible after detection. Inspection of all sewage pipes should be conducted by a plumber once every 10 years. The positive aspect of rehabilitation will likely compensate for any negative water quality impacts to the wetland area.

3.	List the specialist investigations and the impact management measures that will **not** be implemented and provide an explanation as to why these measures will not be implemented.

N/A

4.	Explain how the proposed development will impact the surrounding communities.

The proposed development will impact the surrounding community by

- Providing housing for new residents as well to accommodate the demand to housing need in the area.
- Job provision to people in the surrounding communities, including unskilled labour
- Investment opportunities.

5.	Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.

Extract from the aquatic biodiversity impact assessment "The wetland in question does not contain peat, however the soils present do contain high amounts of carbon. However, the wetland is small and degraded in nature. The wetland is therefore unlikely to contribute significantly towards climatic-change resilience and construction within the wetland is unlikely to lead to a significant release of carbon into the atmosphere. No further assessment of potential climate impact is necessary."

6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.

N/A

7.	Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.

Refer to Summary of Key findings of this section.

8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.

According to the Environmental Impact Assessment and Management Strategy for South Africa (2014), Impact Mitigation Hierarchy is a tool used throughout a project lifecycle to limit negative environmental impacts. The first tier considers how to avoid the impact entirely and is considered early in the project to allow for alternatives to be considered.

The impacts that cannot be avoided, should be minimised. Effective minimisation can eliminate some impacts and reduce others, allowing sustainability targets to be met. Where the targets cannot be met, the application should be declined. The next consideration is restoration, where minimisation efforts have failed to reach the required target.

Figure 13: Mitigation Hierarchy (HOLCIM.COM 2024)

The first aspect on this development is to include the specialist input into the report. The screening of the development site indicated the presence of ESA2 on the site. The main goal is to develop residential erven on the subject property. The Alternatives were considered for the proposed development and the screening tool required assessment from the Terrestrial Biodiversity and Aquatic Biodiversity Impact Assessment. The site was identified with high ecological sensitivity and this resulted to Alternative 2 having unacceptable high negative ecological impact. The Freshwater ecologist delineated the wetland and risk assessment matrix were done to identify the impacts of the development to the site sensitive areas in order to avoid these impacts. The impacts included loss of wetland on site, altered flow, water quality impairment as well as sensitive vegetation onsite. The development itself inherently cannot "avoid" some ecological impacts as it involves construction for the development of housing.

The site development plan has undergone various amendments to accommodate environmental constraints, ultimately resulting in the preferred Layout (Alternative 4). A wetland delineation was undertaken to inform alternative 3. In response to comments received during the first round of public participation, a full Freshwater Impact Assessment and Botanical Impact Assessment were undertaken. These reports identified sensitive areas on site which should be removed from the development areas and provided mitigation measures to address impacts and concerns. This proposed allow for the evolution of the new preferred alternative, Alternative 4.

SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.

The proposed development entails the construction of residential erven, roads and an open space on the Erf 1486 in Vermont. The site is characterised by Hangklip Sand Fynbos which is gazetted as critically endangered. There is a wetland onsite that was delineated by the Freshwater ecologist and identified part of the wetland on the excavated area as a permanent zone and seasonal/temporal zones. About 70% of the site is considered to be High ecological sensitivity.

Alternative 2 layout was the previous preferred alternative in the first round of the public participation, because of the high ecological sensitivity onsite as well as encroachment of erf 1,2,7,8,10,11,12 and 13 close to the permanent zone of the wetland as well as erf 14 (road) this led to the development being opposed. The

ecological significance was unacceptable high negative. The mitigation measures suggested that the above erven should be removed and that the road does not cross the wetland then the impact will be reduced to an acceptable impact significance. The delineation of the wetland as well as the risk assessment matrix were part of the assessment from the Freshwater specialist, the impact rating ranged medium to high for wetland loss if Alternative two were to be considered.

However, changes on the layout which is now Alternative 4 (preferred) was informed by the Freshwater and Terrestrial Biodiversity findings. The proposed layout has gone through various iterations in order to ensure that the layout overlapping with the delineated wetland area is minimal, according to the aquatic specialist. Ordinarily, wetland loss would fall within the 'high' category, but the limited area of wetland loss (0,22 Ha) and the degraded nature of the wetland has reduced the impact significance. The proposed residential erven now exclude most of the High sensitivity areas, and only about 500m^2 of high sensitivity habitat will now be lost from an unacceptable High negative (Alternative 2) to an acceptable (Alternative 4). The private access road now does not need to cross the wetland, as there will now be two access roads instead of one. The remaining delineated wetland area will be set aside for Private open space.

1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)
	See Appendix D
1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.

ALTERNATIVE ONE

Positive:

- Supply of residential erven to Vermont and Hermanus in response to large demand for residential opportunities.
- Investment in the area
- Upgrade and / or contribution to service infrastructure in the area
- Job creation

Negative:

- No consideration of the wetland on site
- No opportunity for rehabilitation of the wetland and long-term management thereof to facilitate linkages with the adjacent freshwater systems.

ALTERNATIVE TWO

Positive:

- Supply of residential erven to Vermont and Hermanus in response to large demand for residential opportunities.
- Investment in the area
- Upgrade and / or contribution to service infrastructure in the area
- Job creation
- Opportunity to rehabilitate the wetland and provide long term management as well as facilitate connection with the surrounding freshwater ecosystems
- Management of activities on site and not adhoc use as currently experienced

Negative:

- Encroaching to seasonal/temporal zone
- Private road crossing the wetland and will impact the flow and the impact is high.
- Disrupting hydrological connection to the Vermont Salt Pan downstream which is an NFEPA designated wetland area.

ALTERNATIVE THREE (NO GO)

Positive:

- -

Negative:

- No management and rehabilitation of the wetland
- Continuous degrade of the site at the hand of unregulated and uncontrolled activities on site
- No alien vegetation management
- No investment, job creation or infill development with highly developed suburb of Vermont and Hermanus
- About 36% of the total erf will be conserved.

ALTERNATIVE FOUR (PREFERRED)

Positive:

- Provision of housing for new residents
- Investment opportunities
- Job creation
- New layout excludes the high ecological sensitive areas
- Upgrades to the sewer system from 110 mm to 160 mm diameter pipeline to accommodate the development.
- 58% of the total erf will be conserved are (Private Open Space)

Negative:

- Minimal loss of the wetland area
- Loss of about 500m^2 of high sensitivity habitat, which is less in extent compared to Alternative two.

2. Recommendation of the Environmental Assessment Practitioner ("EAP")

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMPr

Mitigation measures identified by the Terrestrial Biodiversity Specialist:

- No erven should intrude significantly into the seasonal wetland portions of the site that support mostly habitat of High ecological sensitivity (as per Figure 4). This means that the following erven should be removed from any authorised layout: 1, 2, 7, 8, 10, 11, 12 and 13. The proposed access road (erf 14) should also be largely removed so that it does not cross the wetland and ecological corridor and can instead access erf 9 along the southern boundary.
- No pipelines, cabling or infrastructure should be installed across the High sensitivity areas or wetlands.
- Any boundary fencing used must be permeable to small animals at ground level.
- The authorised erf and road boundaries should be surveyed and pegged out and fenced on site prior to any site development.

- No areas of natural or partly natural vegetation should be disturbed outside the pegged/fenced out and authorised erven. No vehicular activity or dumping of material may take place outside the authorised erven or roads.
- All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team, and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens et al 2021).
- The Homeowners Association (HoA, or similar) for the proposed development must ensure that all alien invasive vegetation (as per NEMBA legislation) is removed from the Public Open Space area on an annual basis by qualified contractors, using methodology as prescribed in Martens *et al* (2021; see below for reference). The HoA must ensure that there is adequate funding for this every year.

Mitigation measures identified by the Aquatic Biodiversity Impact Assessment:

- The only mitigation applicable to wetland loss is reduction of the area of loss. It is recommended that the proposed residential areas / houses are positioned within the proposed new Erven so as to avoid the delineated wetland area. Should the proposed residential developments avoid the wetland area entirely, the impact of Wetland Loss, as assessed in this report, will not be applicable. It is however noted that this may not be possible for proposed new Erven 1 & 8. The proposed layout has gone through various iterations in order to ensure that the footprint within the delineated wetland area is minimal. Ordinarily, wetland loss would fall within the 'high' category, but the limited area of wetland loss (0,22 Ha) and the degraded nature of the wetland has reduced the impact significance.
- The significance of this impact can be largely mitigated by demarcating the UVBW wetland area as a No-Go area during construction, conducting rehabilitation within this wetland area; and by ensuring that SW generated onsite flows into the wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). If possible, conduct construction activities of dwellings, associated stormwater infrastructure and any rehabilitation activities during summer months (November to March). The alien invasive vegetation present within the wetland area must be removed and replanted with indigenous wetland vegetation. It is recommended that a suitably qualified aquatic specialist compiles detailed method statements once the final layout of the proposed project has been formalized. Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.
- The significance of this impact can be largely mitigated by demarcating the UVBW as No-Go area during construction. Bunded, impervious areas that are more than 15 m away from the UVBW must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals.
- The significance of this impact can be largely mitigated by ensuring that SW generated onsite flows into the wetland through an appropriately designed broad, vegetated earth swale (to avoid erosion). If possible, conduct any rehabilitation activities during summer months (November to March). It is recommended that a suitably qualified aquatic specialist compiles detailed method statements once the final layout of the proposed project has been formalized. Additionally, a suitable Rehabilitation and Management Plan should be drafted for the wetland area onsite.
- Repair all sewage leaks as soon as reasonably possible after detection. Inspection of all sewage pipes should be conducted by a plumber once every 10 years. The positive aspect of rehabilitation will likely compensate for any negative water quality impacts to the wetland area.

Additional considerations include:

- Conditions of EMP to be adhered to
- Appropriately designed raft foundations may significantly reduce the impact on subsurface flow and therefore reduce risk
- Rainwater harvesting schemes that may reduce runoff intensity and thereby mitigate the impact of catchment hardening
- Stormwater polishing infrastructure such as artificial wetlands that may mitigate water quality impacts.
- Search and Rescue for possible faunal and floral species of conservation concern (SOCC) as indicated in the Terrestrial / botanical report, should be implemented prior to groundbreaking.

2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.

N/A

2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.

It is recommended that the preferred alternative, Layout Alternative 4,should be authorised. The proposed activity is in line with current and surrounding land uses and in line with municipal and provincial policy. The preferred alternative has evolved in response to input provided by the specialist impact assessments and authority input.

Additional considerations include:

- Conditions of EMP to be adhered to
- Appropriately designed raft foundations may significantly reduce the impact on subsurface flow and therefore reduce risk
- Rainwater harvesting schemes that may reduce runoff intensity and thereby mitigate the impact of catchment hardening
- Stormwater polishing infrastructure such as artificial wetlands that may mitigate water quality impacts.
- Search and Rescue for possible faunal and floral species of conservation concern (SOCC) as indicated in the Terrestrial / botanical report, should be implemented prior to ground breaking.

2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.
	N/A

2.5.	The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.

The holder must commence the listed activities on site within a period of five (5) years from the date of issue of this Environmental Authorization.
The development must be concluded within ten (10) years from the date of commencement of the first listed activity.

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.

The proposal will connect to the municipal network reticulation system which is already existing. Alternative 4 allows for rehabilitation and long-term preservation of the wetland on site. Design

measures for the reduction of water demand on site should be considered at the design stage. Water collection and reuse should also be included in the design as far as possible.

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.
On site separation, reduction and reuse should be encouraged in the construction and operational phases with the aim to reduce waste to landfill.

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.

Alternative energy:

- Installation of gas geysers for hot water heating is encouraged.
- Solar geysers are permitted with a max of 2 panels per erf.
- The solar panels for hot water heating must be indicated on the drawings.
- The water reservoir may not be mounted on the roof surface and must be concealed within the roof space.
- The position and extent of any solar panels for alternative energy supply must be indicated on the drawings and approved by the HOA and were deemed necessary by any adjoining effected property owner.
- Distinctions must be made between solar panels for hot water supply and alternative energy supply.

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

Note: Duplicate this section where there is more than one Applicant.

I **CRAIG SAUNDERS OF ELEPHANT VENTURES** AFRICA CC ID number **1999/013536/23** in my personal capacity or duly authorised thereto hereby declare/affirm that all the information submitted or to be submitted as part of this application form is true and correct, and that:

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, and any relevant Specific Environmental Management Act and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware of my general duty of care in terms of Section 28 of the NEMA;

- I am aware that it is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;

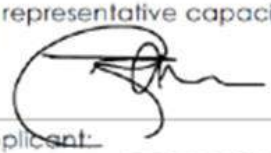
- I appointed the Environmental Assessment Practitioner ("EAP") (if not exempted from this requirement) which:
  - meets all the requirements in terms of Regulation 13 of the NEMA EIA Regulations; or
  - meets all the requirements other than the requirement to be independent in terms of Regulation 13 of the NEMA EIA Regulations, but a review EAP has been appointed who does meet all the requirements of Regulation 13 of the NEMA EIA Regulations;

- I will provide the EAP and any specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;

- I will be responsible for the costs incurred in complying with the NEMA EIA Regulations and other environmental legislation including but not limited to –
  - costs incurred for the appointment of the EAP or any legitimately person contracted by the EAP;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the NEMA EIA Regulations;
  - Legitimate costs in respect of specialist(s) reviews; and
  - the provision of security to ensure compliance with applicable management and mitigation measures;

- I am responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority, hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which I or the EAP is responsible in terms of the NEMA EIA Regulations and any Specific Environmental Management Act.

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.



Signature of the applicant:

ELEPHANT VENTURES AFRICA CC

Name of company:

17/03/2023

Date:

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I **MICHELLE NAYLOR** EAPASA Registration number **2019/698** as the appointed EAP hereby declare/affirm the correctness of the:

- Information provided in this BAR and any other documents/reports submitted in support of this BAR;
- 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, and that:
- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another EAP that meets the general requirements set out in Regulation 13 of NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

16 March 2023

Signature of the EAP: Date:

LORNAY ENVIRONMENTAL CONSULTING

Name of company (if applicable):

DECLARATION OF THE REVIEW EAP

I ……, EAPASA Registration number …….. as the appointed Review EAP hereby declare/affirm that:

- I have reviewed all the work produced by the EAP;
- I have reviewed the correctness of the information provided as part of this Report;
- I meet all of the general requirements of EAPs as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the specialist (if any), the review specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I ……, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or

  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);

- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;

- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and

- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE REVIEW SPECIALIST

I ……., as the appointed Review Specialist hereby declare/affirm that:

- I have reviewed all the work produced by the Specialist(s):
- I have reviewed the correctness of the specialist information provided as part of this Report;
- I meet all of the general requirements of specialists as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the review EAP (if applicable), the Specialist(s), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):