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# DRAFT BASIC ASSESSMENT REPORT

FOR THE

## THE PROPOSED CONSTRUCTION OF A MIXED-USE DEVELOPMENT ON ERF 998 AND PORTION 5 OF THE FARM ZANDHOOGTE NO. 139 (PORTION OF RE/139), TERGNIET, MOSSEL BAY LOCAL MUNICIPALITY, WESTERN CAPE

In terms of the National Environmental Management  
Act, 1998 (Act No. 107 of 1998) and the amended (April  
2017) Environmental Impact Assessment Regulations,  
2014

**PREPARED FOR:** 3MP Sales and  
Cnr R102 and Sorgfontein road  
Tergniet Hoogte  
Tergniet

**DATE:** 04 March 2026

**DEADP REF:** 16/3/3/1/D6/35/0008/26

**SES REF NO:** 27/MUD/TN/MB/03/26





**Western Cape  
Government**

Department of Environmental Affairs and  
Development Planning

# **BASIC ASSESSMENT REPORT**

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

**APRIL 2024**



## BASIC ASSESSMENT REPORT

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

**APRIL 2024**

(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)

**PROPOSED CONSTRUCTION OF A MIXED-USE DEVELOPMENT ON ERF 998 AND PORTION 5 OF THE FARM ZANDHOOGTE NO. 139 (PORTION OF RE/139), TERGNIET, MOSSEL BAY LOCAL MUNICIPALITY, WESTERN CAPE**

Sharples Environmental Services.cc have been appointed by 3MP Sales and Educational Services, to undertake the environmental assessment, in accordance with the National Environmental Management Act, 1998 (Act 107 of 1998), in terms of the Environmental Impact Assessment Regulations, 2014 (as amended 2017), for the Proposed Construction of a Business Development and Residential Development (Mix development) on Erf 998 and a portion of Remainder of Farm 139 Zandhoogte, Tergniet, Mossel Bay Local Municipality, Western Cape.



Figure 1: Locality Map

The proposed development site is situated on Erf 998, Tergniet, approximately 22 km's north-east of the Mossel Bay town. The proposed development would entail the rezoning of the Erf 998, as it is currently zoned as Agricultural Zone I, and shows signs of transformation and disturbance, as it is currently the location of Leani Nursery. Further to this there is existing infrastructure, road access, and an artificial dam located on the proposed site.

The proposed development will comprise of the following:

- 2 Business Zone I (BZI) erven with a total size of 2.6040 hectare (Portions 1 and 9),
- 1 Business Zone IV (BZIV) erf with a size of 0.2680 hectare (Portion 5),
- 1 Community Zone III (CZIII) erf with a size of 0.5270 hectare (Portion 2),
- 1 General Residential Zone II (GRZI) erf with a size of 0.6970 hectare to be developed at a density of 60 dwelling units per hectare (Portion 3),
- 1 General Residential Zone III (GRZII) erf with a size of 0.6530 hectare to be developed with flats (Portion 6),
- 1 Mixed Use Zone II (MZII) erf with a size of 0.9020 hectare (Portion 7),
- 2 Open Space Zone II (OSZII) erven with a size of 1.2250 hectare (Portions 4 and 11),
- 2 Transport Zone II (TZII) erven with a size of 1.3600 hectare (Portions 10 and 12), and
- 1 Split zone erf consisting of a portion Business Zone I (BZI) with a size of 1.0 hectare and a portion Open Space Zone II (OSZII) with a size of 1.0 hectare (Portion 8).



Figure 2: Proposed Layout Plan

## Civil Engineering Aspects

### **Potable Water**

Water for the development will be sourced from the Mossel Bay Municipality Water Network, consisting of various raw water sources including the Wolwedans Dam, Klipheuwel Dam, Hartebees Kuil Dam, Ernest Robertson Dam as well as a number of boreholes. Raw water pipelines convey the untreated water from the various sources to seven Water Treatment Plants (WTP's) situated throughout the Municipal area.

Water is supplied to the Tergniet system from the Sandhoogte WTP, which has capacity to supply a total of 5.5 Mℓ per day. The Sandhoogte WTP is fed from the Wolwedans Dam and the Ernest Robertson Dam and supplies potable water to the Tergniet reservoir.

The Tergniet Reservoir supply line passes the property area along a gravity fed Water Reticulation Network which consists of 110mm up to 200mm diameter uPVC pipes. According to the Mossel Bay Municipality's Water Master Plan, the top water level of the reservoir is approximately 150.3m. Assuming that the height of the reservoir is approximately 6m, the outlet level of the reservoir is approximately 144.3m.

The highest proposed Erf for the development is situated at a level of approximately 81m above sea level, located within Business Zone I, based on the topographical contours available. The minimum required residual head for dwelling development is 30m, which implies that the static pressure from the existing elevated storage tank to the proposed development will provide adequate pressure in the water network.

### **Sewer**

Sewerage in the Tergriet area is presently handled by a combination of suction and septic tanks with soakaways (french drains). The closest waterborne sewerage reticulation is in the residential suburb south of the MR344, from where it is pumped via a sewer rising main to the Great Brak Wastewater Treatment Plant (WWTP) to the northeast of the proposed development. The sewer rising main runs through the site under consideration.

### **Stormwater (Existing)**

There are some existing stormwater infrastructures in close proximity to the proposed development. The National Road (N2) along the northern boundary of the proposed development acts as a cut-off drain for any attenuation from the north, the DR1578 (Sorgfontein Road) acts as a cut-off drain for stormwater from the west of the proposed development, and the MR344 acts as a cut-off drain for stormwater from the south of the proposed development.

There is an existing headwall structure and culvert that conveys attenuated stormwater from the north of the MR344, discharging via a headwall structure to the south. There is no information available regarding the spare capacity for the existing stormwater culvert underneath the MR344. Refer to Annexure C (of the Civil Engineering Services Report) for the existing stormwater information.

### **Roads**

The condition of the roads surrounding the proposed development is based on a desktop study. The MR344 along the south of the proposed development falls under the authority of the Western Cape Province. The overall condition of the road can be classified as very good.

The DR1578 (Sorgfontein Road) along the western boundary of the proposed development falls under the authority of the Western Cape Province, and the overall condition of the road can be classified as good.

### **Potable Water**

It is proposed that the water supply to the proposed development be a metered connection, connected to the 200mm diameter main water line running parallel to Sorgfontein Road (DR1578).

- Total Annual Average Daily Demand (TAADD) for the development = 166.664kl/day
- Peak Annual Average Daily Demand (PAADD) for the entire development = 288.9698kl/day = 3.345l/s

### **Fire Water**

The provision of water for firefighting should comply with the requirements as specified in the Neighbourhood Planning and Design Guide, 2019, as well as the SANS 10400 (National Building Codes).

- The proposed development falls within the Moderate risk 1: Industrial, business and high-rise flats category for firefighting requirements.
- Additional capacity of 50l/s will be required for the total fire water demand (Allowing for two hydrants to be operational simultaneously, each delivering 25 l/s).
- Minimum pressure at the fire node of 15m.
- Minimum pressure at the rest of the system of 5m.
- Fire flow must be sustained for a period of at least 4 hours.
- Maximum spacing between hydrants of 180m - The Site Development Plan will therefore require 7 hydrants.

The resultant reservoir capacity required to satisfy the firefighting needs are calculated as follows:

- $50\text{ l/s} = 180\text{ k\ell/h}$
- 4 Hour Storage = 720 kℓ

### **Water storage**

The purpose of storing water is to meet balancing requirements and cater for emergencies e.g. firefighting or planned shutdowns of the water network. The balancing volume is required to cater for peak outflows while a constant (or variable) inlet flow is being received.

Where water is obtained from a Bulk Water Supply Authority, the storage capacity provided should comply with the requirements of the Authority. For domestic water use, a storage capacity of 48 hours of Annual Average Daily Demand is suggested, although there may be situations where 24 hours will suffice.

Since the Annual Average Daily (24 hours) Demand has been estimated as 166.664kℓ, it follows that a reservoir spare capacity of at least 333.328kℓ is required to satisfy the domestic water use requirement.

Combining the domestic (333.328kℓ) and the firefighting requirement (720 kℓ), it follows that a total reservoir spare capacity for the proposed development of approximately 1053.328kℓ will be required. The available capacity in the existing water network will have to be confirmed with the Mossel Bay Municipality.

### **Water saving**

The development is in a water scarce area and the following general water saving practices are proposed:

- Dual flush toilets.
- Low flow shower heads which make use of either aerators or pulse systems to reduce the flow without compromising the quality of the shower. The choice of shower heads is up to the homeowner, but must have a flow of less than 7 liters per minute.
- Low flow faucets. The faucets in the bathrooms should have a peak flow of less than 10 liters per minute.
- Rainwater tanks – all houses should be fitted with rainwater collection tanks for landscaping and washing of vehicles.
- Consideration should be given to provide solar pumps at each rainwater tank in order to more effectively supply the units. The overflow from tanks should be directed into the stormwater system. All water sources situated externally on buildings should be fed from these rainwater tanks.
- Geyser and pip insulation. Homeowners must be required to install geyser and pipe insulation. This must be included in their building guidelines.

### **Sewer**

Sewerage in the Tergniet area is presently handled by a combination of suction and septic tanks with soak-aways (french drains). The closest waterborne sewerage reticulation is the sewer rising main running through the proposed development.

The Mossel Bay Municipality has indicated that the development will not be permitted to tie into the rising main. With the absence of existing sewer infrastructure in close proximity, the proposed development requires one new sewer pump station to the east, which would be required to drain 100% of the effluent of the development. Sufficient emergency storage will be provided at the pump stations in order to mitigate events such as power outages, blockages and breakdowns.

- The Peak Wet Weather Flow (PWWF) for the proposed development = 331.548 kℓ/day = 3.837 ℓ/s

A minimum pipe size of 160mm diameter is proposed for the new development to accommodate the anticipated sewage flows that will be generated.

- The total estimated sewage flow for the proposed development is 3.837 l/s.
- As per the Neighbourhood Planning and Design Guide, the optimum flow velocity is between 0.6 – 2.5m/s. the maximum velocity of 4m/s is acceptable for short pipe lengths.
- For the estimated flow of 3.837 l/s, at a flow velocity of 1.5m/s, a minimum diameter of 60mm is required. However, the minimum pipe diameter for sewer pipes is 160mm by industry guidelines.

The available capacity in the existing network will have to be confirmed with the Mossel Bay Municipality in order to determine the tie-in position.

#### **Solid waste**

It is anticipated that the refuse from the proposed development be collected by the Municipal refuse truck and transported to the local landfill site.

As per the Mossel Bay Municipality Integrated Zoning Scheme by-laws, the Mossel Bay Municipality may require that the developer install a refuse receptacle on the property, which will be located adjacent to a public street or in a position that will provide sufficient access to the refuse collection vehicle. The receptacle will also have to comply with other standard conditions or requirements that the Municipality may impose relating to the access, health, pollution control, recycling, safety or aesthetics thereof.

#### **Development conditions and land rehabilitation**

The general terrain and the underlying geology of this site appears to be suitable for any development. However, it is recommended that a geotechnical investigation be carried out to determine the quality of the in-situ material.

#### **Civil Engineering Report Conclusion**

- The proposed rezoning is in line with the Mossel Bay Municipality's Local Spatial Development Framework.
- It is proposed that the water supply to the proposed development be a metered connection, connected to the 200mm diameter main water line running parallel to Sorgfontein Road (DR1578). A minimum pipe size of 110mm diameter is proposed for the new development to accommodate the potable and the fire water demand. The total demand for the development is 53.354l/s.
- On site water storage for Firefighting purposes may not be required. Capacity within the existing network will need to be confirmed by the Mossel Bay Municipality.
- The proposed development requires one new sewer pump station to the east, which would be required to drain 100% of the effluent of the development. A minimum pipe size of 160mm diameter is proposed for the new development to accommodate the anticipated sewage flows that will be generated.
- Due to the topography of the site, the lack of existing stormwater infrastructure in the area and the environmental benefits, it is proposed that the stormwater generated by the proposed development be managed by a Sustainable Urban Drainage System (SUDS). This will ensure that the stormwater runoff be discharged into natural water courses or soakaways as far as possible.
- The Capital Contributions are to be determined by the various Municipal Directorates involved.
- The access approval for the proposed development is dealt with under a separate report.

#### **Stormwater**

**According to the stormwater management plan -Consolidation rezoning and subdivision of Erf 998 Tergniet and ptn 5 of Zandhoogte no.139, Mossel dated October 2025:**

Due to the topography of the site, the lack of existing stormwater infrastructure in the area and the environmental benefits, it is proposed that the stormwater generated by the proposed development be managed by a Sustainable Urban Drainage System (SUDS) rather than a conventional stormwater system. A conventional stormwater system manages the stormwater by collecting the runoff and channelling it into the nearest stormwater watercourse, whereas the SUDS approach aims to mimic natural hydrological cycles, which prevents erosion of natural channels, siltation of water bodies and pollution, reducing environmental degradation.

SUDS embraces a number of options that are arranged in treatment trains, which helps to improve the efficiency and the resiliency of the system. There are three stages in the treatment train, each having slightly different combinations of SUDS options to control the stormwater:

1. **"Source Controls"** manage stormwater runoff as close to its source as possible, typically on site.

Typical SUDS options include green roofs, rainwater harvesting, permeable pavements and soak aways.

2. **"Local Controls"** manage stormwater runoff in the local area, typically within the road reserves.

Typical SUDS options include bio-retention areas, filter strips, infiltration trenches, sand filters and swales.

3. **"Regional Controls"** manage the combined stormwater runoff from several developments. Typical

SUDS options include constructed wetlands, detention and retention ponds.

The National Road (N2) along the northern boundary of the proposed development acts as a cut-off drain for any runoff from the north, the DR1578 (Sorgfontein Road) acts as a cut-off drain for stormwater from the west of the proposed development, and the MR344 acts as a cut-off drain for stormwater from the south of the proposed development. There is an existing headwall structure and culvert that conveys stormwater from the north of the MR344, discharging via a headwall structure to the south.

The site consists of a catchment area of 102 360 m<sup>2</sup>. A low point is situated close to the eastern border of the site, approximately 140 m to the north of MR344. The northern portion of the site drains in a southeastern direction towards the low point with an average gradient of approximately 6,6%. The southern portion drains in north-northeastern direction towards the low point with an average gradient of approximately 4%. Table 1 summarizes the site characteristics in terms of the pre-development scenario. Based on the available information the site is currently only approximately 1,8 % impervious.

Table 1: Pre development site characteristics

Scenario	Total site area (m <sup>2</sup> )	Impervious area (m <sup>2</sup> )	Impervious %
Pre-development	102 360	1885	1,8

According to the SWMP report, the development area was modelled with the PCSWMM program to determine stormwater runoff for the pre-development scenario for each of the storm events. Stormwater will accumulate at the low point on the eastern border of the site and drain further east. The peak pre development flow and total runoff volume from the catchment area during the various storm events are indicated in Table 2.

Table 2: Pre development stormwater runoff

Recurrence Interval storm event	Pre-development runoff (m <sup>3</sup> /s)	Runoff volume (m <sup>3</sup> )
1:2	0.006	82
1:5	0.082	324
1:10	0.193	695
1:20	0.344	1 210
1:50	0.617	2 120
1:100	0.890	3 000

The development area was modelled with PCSWMM software to determine runoff for the post-development scenario for each of the storm events. It is anticipated that the development portions and roads will roughly follow the existing topographical characteristics of the current site, and the peak flow was measured at the low point on the eastern border of the property to be comparable to the pre-development scenario. The peak post-development flows and total runoff volumes from the site for the various storm events are indicated in Table 3. Stormwater runoff from the site will increase considerably because of the development.

Table 3: Post development Stormwater runoff

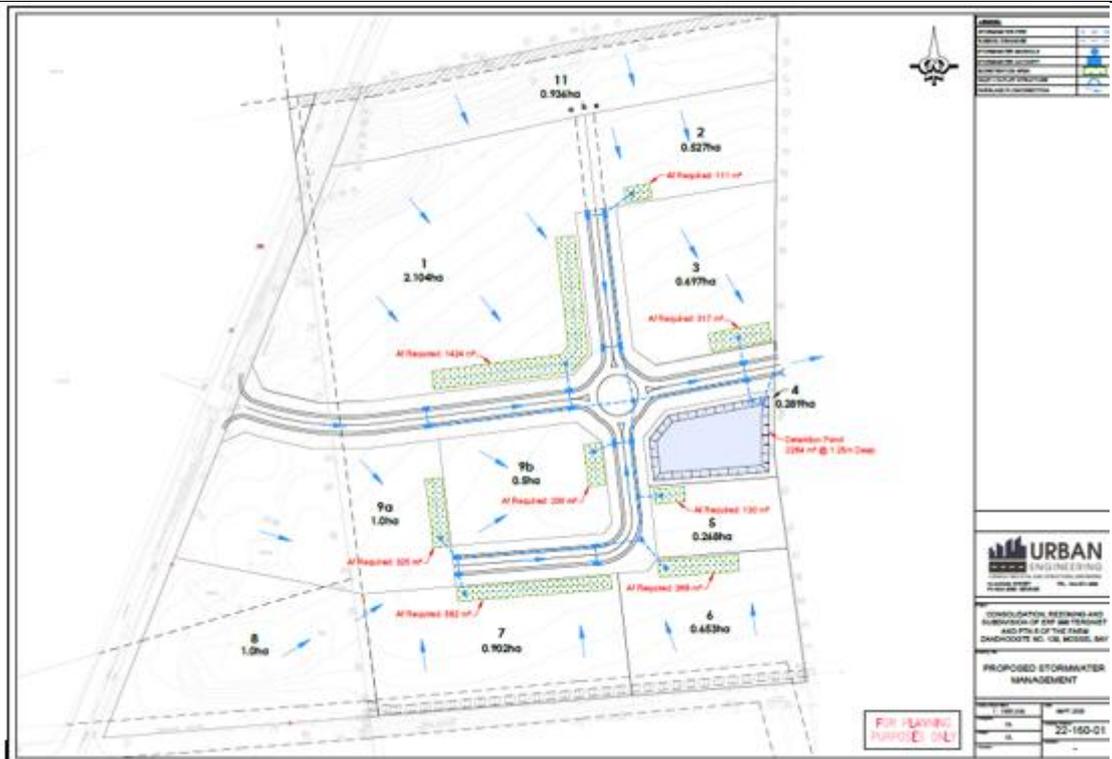
Recurrence interval storm event	Post-development runoff (m <sup>3</sup> /s)	Runoff volume (m <sup>3</sup> )
1:2	0.567	2440
1:5	0.916	3760
1:10	1.212	4830
1:20	1.562	6010
1:50	2.079	7800
1:100	2.483	9350

From the stormwater management plan for the proposed consolidation, rezoning and subdivision of Erf

998 Tergniet and Portion 5 of the Farm Zandhoogte No. 139 Mossel Bay the following can be concluded:

- That on-site water quality control measures including enhanced swales, permeable paving and bio-retention ponds be implemented to provide adequate treatment of stormwater runoff for the ½ year 24-hour storm event;

That the proposed water quality control measures alone will not suffice to attenuate and reduce stormwater runoff from the developed site to that of the pre-developed state, especially for larger storm events. A detention pond near the low point of the site on Portion 4 is therefore proposed.



**Figure 3: Stormwater Management Layout**

**EIA TRIGGERED ACTIVITIES**

According to the National Environmental Management Act, 1998 (Act 107 of 1998), Environmental Impact Assessment Regulations, 2014 (as amended 07th April 2017), Listing Notice 1 of 2014, published under Government Notice No. 983, the following activities are applicable:

**Listing Notice 1:** 27 and 28

**Listing Notice 3:** 4 and 12

## 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, 1998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".
3. *Submission of documentation, reports and other correspondence:*

The Department has adopted a digital format for corresponding with proponents/applicants or the general public. If there is a conflict between this approach and any provision in the legislation, then the provisions in the legislation prevail. If there is any uncertainty about the requirements or arrangements, the relevant Competent Authority must be consulted.

The Directorate: Development Management has created generic e-mail addresses for the respective Regions, to centralise their administration. Please make use of the relevant general administration e-mail address below when submitting documents:

**[DEADPEIAAdmin@westerncape.gov.za](mailto:DEADPEIAAdmin@westerncape.gov.za)**

Directorate: Development Management (Region 1):  
City of Cape Town; West Coast District Municipal area;  
Cape Winelands District Municipal area and Overberg District Municipal area.

**[DEADPEIAAdmin.George@westerncape.gov.za](mailto:DEADPEIAAdmin.George@westerncape.gov.za)**

Directorate: Development Management (Region 3):  
Garden Route District Municipal area and Central Karoo District Municipal area

General queries must be submitted via the general administration e-mail for EIA related queries. Where a case-officer of DEA&DP has been assigned, correspondence may be directed to such official and copied to the relevant general administration e-mail for record purposes.

All correspondence, comments, requests and decisions in terms of applications, will be issued to either the applicant/requester in a digital format via email, with digital signatures, and copied to the Environmental Assessment Practitioner ("EAP") (where applicable).

4. 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.
5. All applicable sections of this BAR must be completed.
6. 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.
7. This BAR is current as of **April 2024**. 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> to check for the latest version of this BAR.

8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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

<b>CAPE TOWN OFFICE:</b> <b>DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 1)</b> (City of Cape Town, West Coast District, Cape Winelands District & Overberg District)	<b>GEORGE REGIONAL OFFICE:</b> <b>DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 3)</b> (Central Karoo District & Garden Route District)
<p>The completed Form must be sent via electronic mail to:  <a href="mailto:DEADPEIAAdmin@westerncape.gov.za">DEADPEIAAdmin@westerncape.gov.za</a></p> <p>Queries should be directed to the Directorate: Development Management (Region 1) at:                      E-mail: <a href="mailto:DEADPEIAAdmin@westerncape.gov.za">DEADPEIAAdmin@westerncape.gov.za</a>                      Tel: (021) 483-5829</p> <p>Western Cape Government                      Department of Environmental Affairs and Development Planning                      Attention: Directorate: Development Management (Region 1)                      Private Bag X 9086                      Cape Town,                      8000</p>	<p>The completed Form must be sent via electronic mail to:  <a href="mailto:DEADPEIAAdmin.George@westerncape.gov.za">DEADPEIAAdmin.George@westerncape.gov.za</a></p> <p>Queries should be directed to the Directorate: Development Management (Region 3) at:                      E-mail: <a href="mailto:DEADPEIAAdmin.George@westerncape.gov.za">DEADPEIAAdmin.George@westerncape.gov.za</a>                      Tel: (044) 814-2006</p> <p>Western Cape Government                      Department of Environmental Affairs and Development Planning                      Attention: Directorate: Development Management (Region 3)                      Private Bag X 6509                      George,                      6530</p>

## 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:	<p>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:</p> <ul style="list-style-type: none"> <li>an accurate indication of the project site position as well as the positions of the alternative sites, if any;</li> <li>road names or numbers of all the major roads as well as the roads that provide access to the site(s)</li> <li>a north arrow;</li> <li>a legend; and</li> <li>a linear scale.</li> </ul> <p>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.</p> <p>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.</p>
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**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:	<p>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:</p> <ul style="list-style-type: none"> <li>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.</li> <li>The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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 <b>must</b> be clearly indicated on the site plan.</li> <li>Servitudes and an indication of the purpose of each servitude must be indicated on the site plan.</li> </ul>
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	<ul style="list-style-type: none"> <li>• Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): <ul style="list-style-type: none"> <li>○ Watercourses / Rivers / Wetlands</li> <li>○ Flood lines (i.e., 1:100 year, 1:50 year and 1:10 year where applicable);</li> <li>○ Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&amp;DP"):</li> <li>○ Ridges;</li> <li>○ Cultural and historical features/landscapes;</li> <li>○ Areas with indigenous vegetation (even if degraded or infested with alien species).</li> </ul> </li> <li>• Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted.</li> <li>• North arrow</li> </ul> <p>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.</p>
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 <b>Appendix C</b> . 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 <b>Appendix D</b> .
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 <b>Appendix A3</b> .

## 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:	<b>Maps</b>		
	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	X
	Appendix A3:	Map with the GPS co-ordinates for linear activities	X
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 E:	Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.		
	Appendix E1:	Final comment/ROD from HWC	✓
	Appendix E2:	Copy of comment from Cape Nature	X
	Appendix E3:	Final Comment from the DWS	X
	Appendix E4:	Comment from the DEA: Oceans and Coast	X
	Appendix E5:	Comment from the DAFF	X
	Appendix E6:	Comment from WCG: Transport and Public Works	X
	Appendix E7:	Comment from WCG: DoA	X
	Appendix E8:	Comment from WCG: DHS	X

	<b>Appendix E9:</b>	<b>Comment from WCG: DoH</b>	<b>X</b>
	<b>Appendix E10:</b>	<b>Comment from DEA&amp;DP: Pollution Management</b>	<b>X</b>
	<b>Appendix E11:</b>	<b>Comment from DEA&amp;DP: Waste Management</b>	<b>X</b>
	<b>Appendix E12:</b>	<b>Comment from DEA&amp;DP: Biodiversity</b>	<b>X</b>
	<b>Appendix E13:</b>	<b>Comment from DEA&amp;DP: Air Quality</b>	<b>X</b>
	<b>Appendix E14:</b>	<b>Comment from DEA&amp;DP: Coastal Management</b>	<b>X</b>
	<b>Appendix E15:</b>	<b>Comment from the local authority</b>	<b>X</b>
	<b>Appendix E16:</b>	<b>Confirmation of all services (water, electricity, sewage, solid waste management)</b>	<b>✓</b>
	<b>Appendix E17:</b>	<b>Comment from the District Municipality</b>	<b>X</b>
	<b>Appendix E18:</b>	<b>Copy of an exemption notice</b>	<b>X</b>
	<b>Appendix E19</b>	<b>Pre-approval for the reclamation of land</b>	<b>X</b>
	<b>Appendix E20:</b>	<b>Proof of agreement/TOR of the specialist studies conducted.</b>	<b>X</b>
	<b>Appendix E21:</b>	<b>Proof of land use rights</b>	<b>X</b>
	<b>Appendix E22:</b>	<b>Proof of public participation agreement for linear activities</b>	<b>X</b>
<b>Appendix F:</b>	<b>F1: I&amp;AP register F2: Proof of PPP Notices</b>		<b>✓</b>
<b>Appendix G1:</b>	<b>Freshwater Compliance Statement – Confluent – Dr James Dabrowski</b>		<b>✓</b>
<b>Appendix G2:</b>	<b>Terrestrial Biodiversity Impact Assessment and Plant and Animal species Compliance Statement - Chepri</b>		<b>✓</b>
<b>Appendix G3:</b>	<b>Terrestrial faunal and avifaunal species compliance statement report – Blue Skies Research</b>		<b>✓</b>
<b>Appendix G4:</b>	<b>Botanical Comment – Mark Berry Botanical Surveys</b>		<b>✓</b>
<b>Appendix G5:</b>	<b>Heritage Impact Assessment - ACRM</b>		<b>✓</b>

<b>Appendix G6:</b>	<b>Agricultural Compliance Statement – Johan Lanz</b>	✓
<b>Appendix G7:</b>	<b>Civil Aviation Compliance Statement</b>	✓
<b>Appendix G8:</b>	<b>Visual Impact Assessment – Eco-Thunder</b>	✓
<b>Appendix G9:</b>	<b>Socio-Economic Impact Assessment – Ramp Economics</b>	✓
<b>Appendix H:</b>	<b>EMPr</b>	✓
<b>Appendix I:</b>	<b>Screening tool report</b>	✓
<b>Appendix J1:</b>	<b>Civil Engineering Services Report – Urban Engineering</b>	✓
<b>Appendix J2:</b>	<b>Traffic Impact Assessment – Urban Engineering</b>	✓
<b>Appendix K:</b>	<b>Town Planning Report</b>	✓
<b>Appendix.....</b>	<b>Any other attachments must be included as subsequent appendices</b>	

## SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE: REGION 1		GEORGE OFFICE: REGION 3
	{City of Cape Town, West Coast District}	{Cape Winelands District & Overberg District}	(Central Karoo District & Garden Route District)
<b>Duplicate this section where there is more than one Proponent</b> Name of Applicant/Proponent: Name of contact person for Applicant/Proponent (if other): Company/ Trading name/State Department/Organ of State: Company Registration Number:  Postal address:  Telephone: E-mail:	Jacobus Petrus Pozyn		
	Jacobus Petrus Pozyn		
	3MP Sales and Education Services		
	Reg No 1996/051600/23		
	Cnr R102 and Sorgfontein road		
	Tergniet Hoogte		
	Tergniet		
	Postal code: 6530		
Telephone: ( ) Cell: 082 450 8181			
E-mail: <a href="mailto:kpozyn@gmail.com">kpozyn@gmail.com</a> Fax: ( )			
Company of EAP:  EAP name:  Postal address:  Telephone: E-mail:  Qualifications:  EAP registration no:	Sharples Environmental Services cc		
	Michael Bennett (Registered EAP)		
	Onela Mhobo (Candidate EAP)		
	Mazithi Mangcu (Candidate EAP)		
	PO Box 9087		
	George		
	Postal code: 6530		
	044 874 5953 Cell:		
<a href="mailto:michael@sesc.net">michael@sesc.net</a> Fax:			
BSc Environmental & Geographic Sciences and Ocean and Atmospheric Science			
BSc Environmental Sciences			
2021/3163			
2022/4522			
2023/6497			
<b>Duplicate this section where there is more than one landowner</b> Name of landowner: Name of contact person for landowner (if other):  Postal address:  Telephone: E-mail:	Jacobus Petrus Pozyn		
	Jacobus Petrus Pozyn		
	Cnr R102 and Sorgfontein road		
	Tergniet Hoogte		
	Tergniet		
	TERGNIET		
	Postal code: 6530		
	( ) Cell: 082 450 8181		
<a href="mailto:kpozyn@gmail.com">kpozyn@gmail.com</a> Fax: ( )			
Name of Person in control of the land: Name of contact person for person in control of the land: Postal address:  Telephone: E-mail:	Same as above		
	Postal code:		
	( ) Cell:		
	Fax: ( )		
<b>Duplicate this section where there is more than one Municipal Jurisdiction</b>	Mossel Bay Local Municipality		

Municipality in whose area of jurisdiction the proposed activity will fall:		
Contact person:	Mr S. Naidoo (Municipal manager)	
Postal address:	101 Marsh Street, Mossel Bay	
	Private Bag X29 Mossel Bay	Postal code: 6500
Telephone	(044) 606-5082	Cell:
E-mail:	dnaidoo@mosselbay.gov.za	Fax:

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

1.	Is the proposed development (please tick):	<b>New</b>	<b>X</b>	Expansion	
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
Erf 998 is a brownfield site as there is existing infrastructure and a nursery. Portion 5 of the Farm Zandhoogte is a greenfield site but highly modified as it was previously used for agricultural purposes.					
3.	<b>For Linear activities or developments</b>				
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:	—m <sup>2</sup>			
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.	<b>Starting point co-ordinates for all alternatives</b>				
	Latitude (S)	°	'	″	
	Longitude (E)	°	'	″	
	<b>Middle point co-ordinates for all alternatives</b>				
	Latitude (S)	°	'	″	
	Longitude (E)	°	'	″	
	<b>End point co-ordinates for all alternatives</b>				
	Latitude (S)	°	'	″	
	Longitude (E)	°	'	″	
<b>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.</b>					
4.	<b>Other developments</b>				
4.1.	Property size(s) of all proposed site(s):	Erf 998:18 764.8m <sup>2</sup> Portion 5 of the Farm Zaandhoogte No. 139: 84 987m <sup>2</sup>			
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):	Approximately 9 150m <sup>2</sup>			
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:	Approximately 103 751.8m <sup>2</sup>			
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 proposed development will comprise of the following:					
<ul style="list-style-type: none"> <li>• 2 Business Zone I (BZI) erven with a total size of 2.6040 hectare (Portions 1 and 9),</li> <li>• 1 Business Zone IV (BZIV) erf with a size of 0.2680 hectare (Portion 5),</li> <li>• 1 Community Zone III (CZIII) erf with a size of 0.5270 hectare (Portion 2),</li> </ul>					

- 1 General Residential Zone II (GRZI) erf with a size of 0.6970 hectare to be developed at a density of 60 dwelling units per hectare (Portion 3),
- 1 General Residential Zone III (GRZII) erf with a size of 0.6530 hectare to be developed with flats (Portion 6),
- 1 Mixed Use Zone II (MZII) erf with a size of 0.9020 hectare (Portion 7),
- 2 Open Space Zone II (OSZII) erven with a size of 1.2250 hectare (Portions 4 and 11),
- 2 Transport Zone II (TZII) erven with a size of 1.3600 hectare (Portions 10 and 12), and
- 1 Split zone erf consisting of a portion Business Zone I (BZI) with a size of 1.0 hectare and a portion Open Space Zone II (OSZII) with a size of 1.0 hectare (Portion 8).



Figure 4: Proposed Site Development Plan

### Civil Engineering Aspects

Urban Engineering was appointed to compile the Civil Engineering Services Report, attached as Appendix J1.

### **Potable Water**

Water for the development will be sourced from the Mossel Bay Municipality Water Network, consisting of various raw water sources including the Wolwedans Dam, Klipheuvel Dam, Hartebees Kuil Dam, Ernest Robertson Dam as well as a number of boreholes. Raw water pipelines

convey the untreated water from the various sources to seven Water Treatment Plants (WTP's) situated throughout the Municipal area.

Water is supplied to the Tergniet system from the Sandhoogte WTP, which has capacity to supply a total of 5.5 Mℓ per day. The Sandhoogte WTP is fed from the Wolwedans Dam and the Ernest Robertson Dam and supplies potable water to the Tergniet reservoir.

The Tergniet Reservoir supply line passes the property area along a gravity fed Water Reticulation Network which consists of 110mm up to 200mm diameter uPVC pipes. According to the Mossel Bay Municipality's Water Master Plan, the top water level of the reservoir is approximately 150.3m. Assuming that the height of the reservoir is approximately 6m, the outlet level of the reservoir is approximately 144.3m.

The highest proposed Erf for the development is situated at a level of approximately 81m above sea level, located within Business Zone I, based on the topographical contours available. The minimum required residual head for dwelling development is 30m, which implies that the static pressure from the existing elevated storage tank to the proposed development will provide adequate pressure in the water network.

### **Sewer**

Sewerage in the Tergniet area is presently handled by a combination of suction and septic tanks with soakaways (french drains). The closest waterborne sewerage reticulation is in the residential suburb south of the MR344, from where it is pumped via a sewer rising main to the Great Brak Wastewater Treatment Plant (WWTP) to the northeast of the proposed development. The sewer rising main runs through the site under consideration.

### **Stormwater (Existing)**

There are some existing stormwater infrastructures in close proximity to the proposed development.

The National Road (N2) along the northern boundary of the proposed development acts as a cut-off drain for any attenuation from the north, the DR1578 (Sorgfontein Road) acts as a cut-off drain for stormwater from the west of the proposed development, and the MR344 acts as a cut-off drain for stormwater from the south of the proposed development.

There is an existing headwall structure and culvert that conveys attenuated stormwater from the north of the MR344, discharging via a headwall structure to the south. A stormwater management plan has been compiled.

### **Roads**

The condition of the roads surrounding the proposed development is based on a desktop study. The MR344 along the south of the proposed development falls under the authority of the Western Cape Province. The overall condition of the road can be classified as very good.

The DR1578 (Sorgfontein Road) along the western boundary of the proposed development falls under the authority of the Western Cape Province, and the overall condition of the road can be classified as good.

### **Potable Water**

It is proposed that the water supply to the proposed development be a metered connection, connected to the 200mm diameter main water line running parallel to Sorgfontein Road (DR1578).

- Total Annual Average Daily Demand (TAADD) for the development = 166.664kℓ/day
- Peak Annual Average Daily Demand (PAADD) for the entire development = 288.9698kℓ/day = 3.345ℓ/s

### **Fire Water**

The provision of water for firefighting should comply with the requirements as specified in the Neighbourhood Planning and Design Guide, 2019, as well as the SANS 10400 (National Building Codes).

- The proposed development falls within the Moderate risk 1: Industrial, business and high-rise flats category for firefighting requirements.

- Additional capacity of 50ℓ/s will be required for the total fire water demand (Allowing for two hydrants to be operational simultaneously, each delivering 25 ℓ/s).
- Minimum pressure at the fire node of 15m.
- Minimum pressure at the rest of the system of 5m.
- Fire flow must be sustained for a period of at least 4 hours.
- Maximum spacing between hydrants of 180m - The Site Development Plan will therefore require 7 hydrants.

The resultant reservoir capacity required to satisfy the firefighting needs are calculated as follows:

- 50ℓ/s = 180 kℓ/h
- 4 Hour Storage = 720 kℓ

### **Water storage**

The purpose of storing water is to meet balancing requirements and cater for emergencies e.g. firefighting or planned shutdowns of the water network. The balancing volume is required to cater for peak outflows while a constant (or variable) inlet flow is being received.

Where water is obtained from a Bulk Water Supply Authority, the storage capacity provided should comply with the requirements of the Authority. For domestic water use, a storage capacity of 48 hours of Annual Average Daily Demand is suggested, although there may be situations where 24 hours will suffice.

Since the Annual Average Daily (24 hours) Demand has been estimated as 166.664kℓ, it follows that a reservoir spare capacity of at least 333.328kℓ is required to satisfy the domestic water use requirement.

Combining the domestic (333.328kℓ) and the firefighting requirement (720 kℓ), it follows that a total reservoir spare capacity for the proposed development of approximately 1053.328kℓ will be required. The available capacity in the existing water network will have to be confirmed with the Mossel Bay Municipality.

### **Water saving**

The development is in a water scarce area and the following general water saving practices are proposed:

- Dual flush toilets.
- Low flow shower heads which make use of either aerators or pulse systems to reduce the flow without compromising the quality of the shower. The choice of shower heads is up to the homeowner, but must have a flow of less than 7 liters per minute.
- Low flow faucets. The faucets in the bathrooms should have a peak flow of less than 10 liters per minute.
- Rainwater tanks – all houses should be fitted with rainwater collection tanks for landscaping and washing of vehicles.
- Consideration should be given to provide solar pumps at each rainwater tank in order to more effectively supply the units. The overflow from tanks should be directed into the stormwater system. All water sources situated externally on buildings should be fed from these rainwater tanks.
- Geyser and pip insulation. Homeowners must be required to install geyser and pipe insulation. This must be included in their building guidelines.

### **Sewer**

Sewerage in the Tergniet area is presently handled by a combination of suction and septic tanks with soak-aways (french drains). The closest waterborne sewerage reticulation is the sewer rising main running through the proposed development.

The Mossel Bay Municipality has indicated that the development will not be permitted to tie into the rising main. With the absence of existing sewer infrastructure in close proximity, the proposed development requires one new sewer pump station to the east, which would be required to drain 100% of the effluent of the development. Sufficient emergency storage will be provided at the pump stations in order to mitigate events such as power outages, blockages and breakdowns.

- The Peak Wet Weather Flow (PWWF) for the proposed development = 331.548 kℓ/day = 3.837 ℓ/s

A minimum pipe size of 160mm diameter is proposed for the new development to accommodate the anticipated sewage flows that will be generated.

- The total estimated sewage flow for the proposed development is 3.837 ℓ/s.
- As per the Neighbourhood Planning and Design Guide, the optimum flow velocity is between 0.6 – 2.5m/s. the maximum velocity of 4m/s is acceptable for short pipe lengths.
- For the estimated flow of 3.837 ℓ/s, at a flow velocity of 1.5m/s, a minimum diameter of 60mm is required. However, the minimum pipe diameter for sewer pipes is 160mm by industry guidelines.

The available capacity in the existing network will have to be confirmed with the Mossel Bay Municipality in order to determine the tie-in position.

### **Solid waste**

It is anticipated that the refuse from the proposed development be collected by the Municipal refuse truck and transported to the local landfill site.

As per the Mossel Bay Municipality Integrated Zoning Scheme by-laws, the Mossel Bay Municipality may require that the developer install a refuse receptacle on the property, which will be located adjacent to a public street or in a position that will provide sufficient access to the refuse collection vehicle. The receptacle will also have to comply with other standard conditions or requirements that the Municipality may impose relating to the access, health, pollution control, recycling, safety or aesthetics thereof.

### **Development conditions and land rehabilitation**

The general terrain and the underlying geology of this site appears to be suitable for any development. However, it is recommended that a geotechnical investigation be carried out to determine the quality of the in-situ material.

### **Civil Engineering Report Conclusion**

- The proposed rezoning is in line with the Mossel Bay Municipality's Local Spatial Development Framework.
- It is proposed that the water supply to the proposed development be a metered connection, connected to the 200mm diameter main water line running parallel to Sorgfontein Road (DR1578). A minimum pipe size of 110mm diameter is proposed for the new development to accommodate the potable and the fire water demand. The total demand for the development is 53.354ℓ/s.
- On site water storage for Firefighting purposes may not be required. Capacity within the existing network will need to be confirmed by the Mossel Bay Municipality.
- The proposed development requires one new sewer pump station to the east, which would be required to drain 100% of the effluent of the development. A minimum pipe size of 160mm diameter is proposed for the new development to accommodate the anticipated sewage flows that will be generated.
- Due to the topography of the site, the lack of existing stormwater infrastructure in the area and the environmental benefits, it is proposed that the stormwater generated by the proposed development be managed by a Sustainable Urban Drainage System (SUDS). This will ensure that the stormwater runoff be discharged into natural water courses or soakaways as far as possible.

- The Capital Contributions are to be determined by the various Municipal Directorates involved.
- The access approval for the proposed development is dealt with under a separate report.

## **Stormwater**

### **According to the stormwater management plan -Consolidation rezoning and subdivision of Erf 998 Tergniet and ptn 5 of Zandhoogte no.139, Mossel dated October 2025:**

Due to the topography of the site, the lack of existing stormwater infrastructure in the area and the environmental benefits, it is proposed that the stormwater generated by the proposed development be managed by a Sustainable Urban Drainage System (SUDS) rather than a conventional stormwater system. A conventional stormwater system manages the stormwater by collecting the runoff and channelling it into the nearest stormwater watercourse, whereas the SUDS approach aims to mimic natural hydrological cycles, which prevents erosion of natural channels, siltation of water bodies and pollution, reducing environmental degradation.

SUDS embraces a number of options that are arranged in treatment trains, which helps to improve the efficiency and the resiliency of the system. There are three stages in the treatment train, each having slightly different combinations of SUDS options to control the stormwater:

1. **"Source Controls"** manage stormwater runoff as close to its source as possible, typically on site. Typical SUDS options include green roofs, rainwater harvesting, permeable pavements and soak aways.
2. **"Local Controls"** manage stormwater runoff in the local area, typically within the road reserves. Typical SUDS options include bio-retention areas, filter strips, infiltration trenches, sand filters and swales.
3. **"Regional Controls"** manage the combined stormwater runoff from several developments. Typical SUDS options include constructed wetlands, detention and retention ponds.

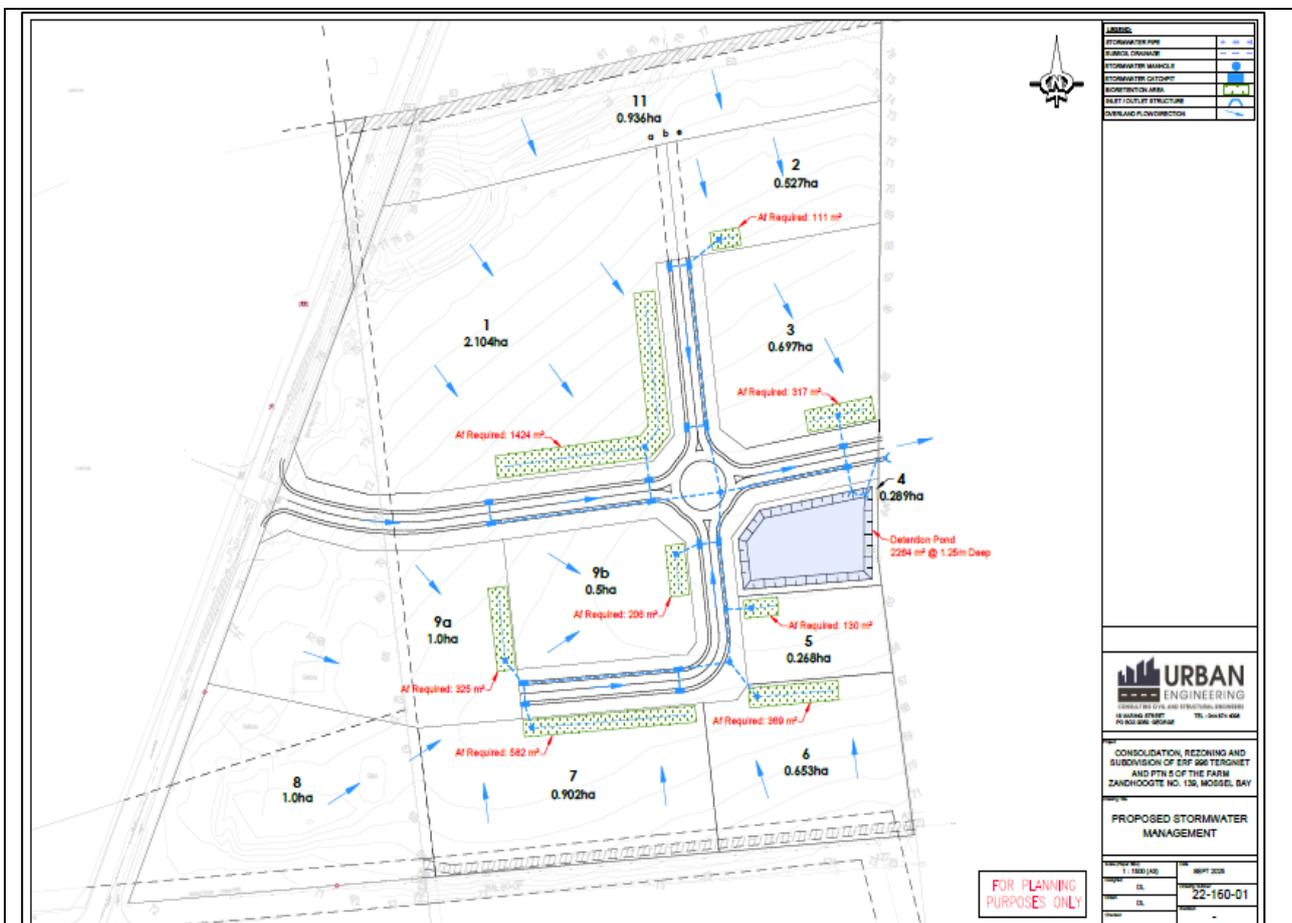


Figure 5: Stormwater layout plan.

The National Road (N2) along the northern boundary of the proposed development acts as a cut-off drain for any runoff from the north, the DR1578 (Sorgfontein Road) acts as a cut-off drain for stormwater from the west of the proposed development, and the MR344 acts as a cut-off drain for stormwater from the south of the proposed development. There is an existing headwall structure and culvert that conveys stormwater from the north of the MR344, discharging via a headwall structure to the south.

The site consists of a catchment area of 102 360 m<sup>2</sup>. A low point is situated close to the eastern border of the site, approximately 140 m to the north of MR344. The northern portion of the site drains in a southeastern direction towards the low point with an average gradient of approximately 6,6%. The southern portion drains in north-northeastern direction towards the low point with an average gradient of approximately 4%. Table 1 summarizes the site characteristics in terms of the pre-development scenario. Based on the available information the site is currently only approximately 1,8 % impervious.

Table 4: Pre development site characteristics

Scenario	Total site area (m <sup>2</sup> )	Impervious area (m <sup>2</sup> )	Impervious %
Pre-development	102 360	1885	1,8

According to the SWMP report, the development area was modelled with the PCSWMM program to determine stormwater runoff for the pre-development scenario for each of the storm events. Stormwater will accumulate at the low point on the eastern border of the site and drain further east. The peak pre development flow and total runoff volume from the catchment area during the various storm events are indicated in Table 2.

Table 5: Pre development stormwater runoff

Recurrence interval storm event	Pre-development runoff (m <sup>3</sup> /s)	Runoff volume (m <sup>3</sup> )
1:2	0.006	82
1:5	0.082	324
1:10	0.193	695
1:20	0.344	1 210
1:50	0.617	2 120
1:100	0.890	3 000

The development area was modelled with PCSWMM software to determine runoff for the post-development scenario for each of the storm events. It is anticipated that the development portions and roads will roughly follow the existing topographical characteristics of the current site, and the peak flow was measured at the low point on the eastern border of the property to be comparable to the pre-development scenario. The peak post-development flows and total runoff volumes from the site for the various storm events are indicated in Table 3. Stormwater runoff from the site will increase considerably because of the development.

Table 6: Post development stormwater run off

Recurrence interval storm event	Post-development runoff (m <sup>3</sup> /s)	Runoff volume (m <sup>3</sup> )
1:2	0.567	2440
1:5	0.916	3760
1:10	1.212	4830
1:20	1.562	6010
1:50	2.079	7800
1:100	2.483	9350

Water quality control measures:

Due to detailed site development plans for each land use portion not available, exact details regarding layouts, positions, elevations and inlet and outlet structures of quality control measures cannot be prescribed at this time. Several viable measures are however explored in the following sections which include enhanced swales, permeable paving and bioretention ponds.

- 1) Enhanced swales (also called bioswales, vegetated channels, or water quality swales) are engineered open channels designed to convey runoff while also capturing and treating the water quality volume (WQv) from a drainage area. Unlike standard swales, they include design features that improve pollutant removal. They are typically constructed with gentle slopes to slow flows, reduce erosion, and allow sediments to settle. Check dams or berms placed across the swale further encourage settling and infiltration. Enhanced swales are suitable for various developments but are most effective in low- to medium-density residential or institutional areas with limited impervious cover, as well as along roads and highways. Common applications include large-lot housing, small impervious sites such as rooftops and parking areas, and rural road corridors.
- 2) Modular permeable paver systems are load-bearing pavement units with evenly spaced voids filled with pervious materials such as gravel. This design allows stormwater to infiltrate through the surface, reducing runoff volume, improving water quality, and supporting groundwater recharge. By replacing conventional paving, they also decrease a site's impervious area. These systems are typically installed over a stone aggregate base that serves as both structural support and a temporary storage layer. Runoff passes through the paver surface into the gravel base, where it gradually infiltrates into the subsoil. To function effectively, subgrade soils must have sufficient infiltration capacity to drain the captured runoff within 48–72 hours.

- 3) Bioretention ponds are engineered stormwater facilities that capture and treat the water quality volume (WQv) within shallow landscaped basins using soil and vegetation. Runoff enters a treatment zone typically made up of a ponding area, mulch or organic layer, engineered soil, and vegetation. Where soils are permeable, water infiltrates into the ground; where infiltration is poor, treated runoff is collected by an underdrain and discharged to the drainage system. Unlike simple rain gardens, bioretention areas are fully engineered to handle larger drainage areas and often include underdrains to ensure reliable performance.

From the stormwater management plan for the proposed consolidation, rezoning and subdivision of Erf 998 Tergniet and Portion 5 of the Farm Zandhoogte No. 139 Mossel Bay the following can be concluded:

- That on-site water quality control measures including enhanced swales, permeable paving and bio-retention ponds be implemented to provide adequate treatment of stormwater runoff for the ½ year 24-hour storm event;

That the proposed water quality control measures alone will not suffice to attenuate and reduce stormwater runoff from the developed site to that of the pre-developed state, especially for larger storm events. A detention pond near the low point of the site on Portion 4 is therefore proposed

#### **Traffic Impact Assessment Aspects**

Urban Engineering was appointed to compile the Traffic Impact Assessment, attached as Appendix J2. Please refer to the full report for the Traffic Impact aspects, the summary and recommendations of the report are included below;

The various components of this Transportation Investigation can be summarised as follows:

1. It is the intention of 3MP Sales and Services to consolidate, sub-divide and rezone Erf 998 Tergniet and PTN 5 of Farm Zandhoogte No. 139, Mossel Bay in order to create a new mixed-use development. The development is known as the Dolphin Circle Development.
2. The proposed SDP makes provision for various land uses as summarised in table 4 below.

**Table 7: Proposed Site Land uses**

LAND USE DESCRIPTION	ABBREVIATION	SIZE (ha)
Business Zone I	BZI	3.604
Business Zone IV	BZIV	0.268
Community Zone III	CZIII	0.527
Mixed Zone II	MZII	0.902
Open Space II	OSZII	2.225
General Residential Zone II	GRZII	0.697
General Residential Zone III	GRZIII	0.653

3. Site access is proposed directly via DR1578, which also forms the Western Property boundary.
4. The position of the new DR1578 site access is a function of intersection spacing, Shoulder Sight distance and geometric design requirements. The site is constrained by the existing N2 overpass to the north and the existing MR344 intersection to the south. An investigation into the position for the new Site Access Road revealed that the best suited position is approximately 220m north of the existing MR344 intersection.

5. The new Dolphin Circle site access will also have to provide access to the neighbouring erven (PTN115) towards the west of DR1578. To protect mobility along DR1578, the future intersection layout must include dedicated right turn lanes for both DR1578 approaches.
6. Background traffic counts were recorded at both the DR1578/DR1583 and DR1578/MR334 intersection. Counts were recorded over a 12-hour period on Tuesday 14 March 2023. Traffic count data has been attached as ANNEXURE D (to the TIA report). The traffic count revealed relatively large percentages of heavy traffic (8% of AADT at DR1578/MR344 intersection and 16,8% of AADT at DR1578/DR1583 intersection) passing through the intersections.
7. Based on the COTO TMH17 guidelines, the development has the potential to generate up to 571 trips (IN and OUT) during the Weekday AM- and 566 trips during the Weekday PM Peak Hour Periods. Since the exact development particulars are not yet know, no reduction factors were applied to the trip generation rates. The trip distributions are based on the actual traffic count data and has been attached as ANNEXURE E (to the TIA report).
8. Due to the relatively large percentage of heavy vehicles, the SIDRA analysis returned lower than expected LOS specifically for the South Bound approaches to the two intersections.
9. Analysis of the future "No-Go" scenario indicates that at a fairly conservative 3% growth rate, the right turn movement of the South Bound approach to the DR1578/MR344 intersection will reduce to a LOS C even without the proposed Dolphin Circle development.
10. The addition of the newly generated Dolphin Circle traffic reduced the LOS of the Right turn movement at the DR1578/MR344 (South Bound approach) to an unacceptable poor level F (average delay 121s with 28 vehicle queue length) during the Weekday PM peak hour period.
11. Urban Engineering TIA (Report 23-033) indicate that the future development of PTN115 will add an additional 259 trip during the weekday Peak hour periods.
12. Trips from both Dolphin Circle and PTN115 were added to the future traffic volumes, resulting in a further reduction in the LOS of the south bound approach to the DR1578/MR344 intersection. (Average delay reduced from 121s to 799s. Queue length increased from 28 to 154 vehicles).
13. The following mitigation measures at the DR1578/MR344 intersection were analysed:
  - a. Introduction of an additional right turn lane for the DR1578 south bound lane: SIDRA analysis returned a slight improvement, in the overall LOS, but the dedicated right turn lane remained at LOS D.
  - b. Conversion of the DR1578/MR344 intersection to a roundabout: This conversion proved to be the most effective in improving overall LOS of the intersection.

### **TIA RECOMMENDATIONS**

Based on the findings of this report, the proposed consolidation, rezoning and subdivision of Erf 998 Tergniet and PTN 5 of Farm Zandhoogte 139 is supported from a traffic and transportation point of view, subject to the following conditions:

#### **1. NEW DR1578 SITE ACCESS**

- a. The proposed position and design (refer to Section 6) of the DR1578 site access into Dolphin Circle (East) and PTN 115 (West) should be confirmed by the Provincial Road Authority.
- b. The new site access should be constructed in full to provide access to both Dolphin Circle and PTN115.

- c. The cost for the design and construction of the DR1578 Site Access should be divided in a fair and equitable way between the two developers (Dolphin Circle and PTN115) both sides of the DR1578.
- d. Minor Road OP6816 should be closed.

**2. INTERNAL ROAD NETWORK**

- a. No driveway access should be allowed along the new proposed Class 4 Collector (see Figure 7).

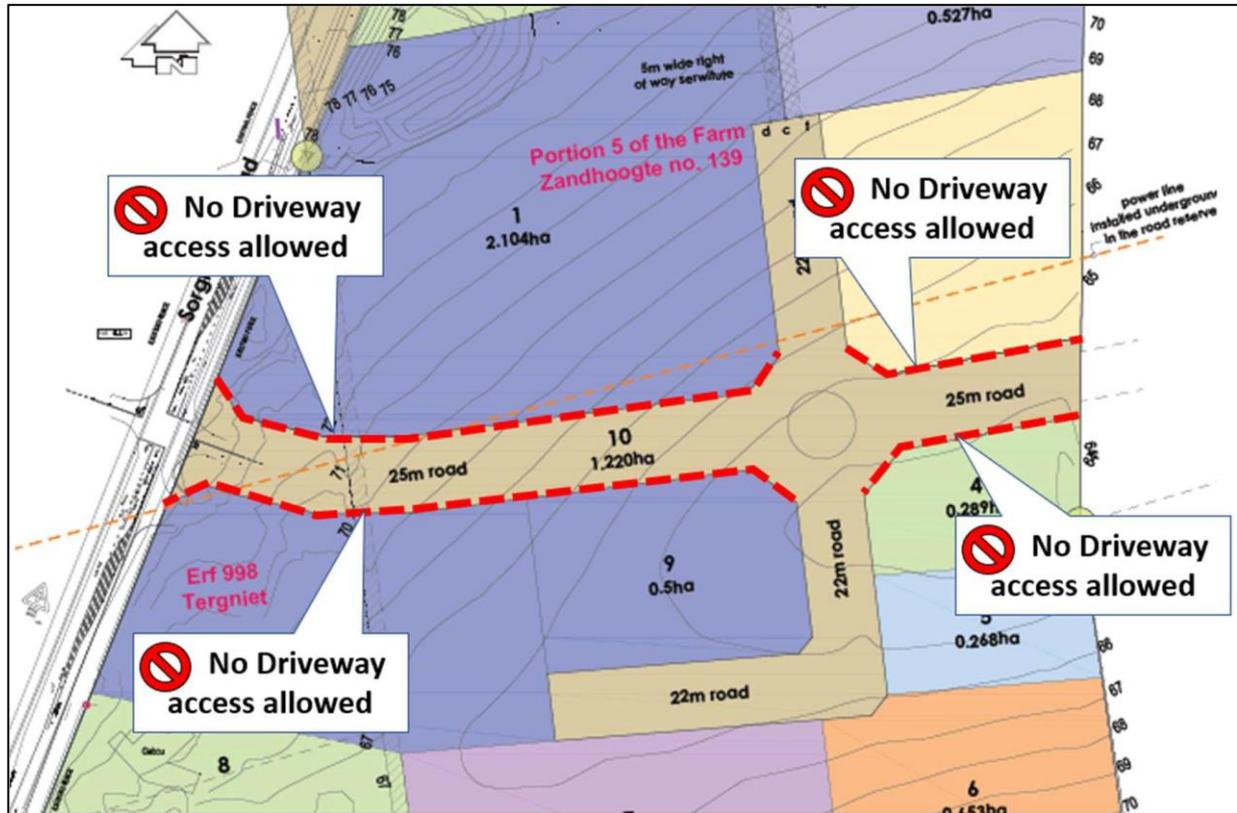


Figure 6: Driveways Management Plan

- b. To comply with the requirements of the TMH 26, the road reserve widths should be as indicated below (refer to Figure 12-1 of the TIA for road classifications):
  - i. Class 4 Road = 25m
  - ii. Class 5a Road = 22m

**3. EXISTING DR1578/MR344 INTERSECTION**

- a. In order to improve the LOS of the South Bound right turn movement for this intersection, it is recommended that the intersection be converted to a traffic circle (roundabout).
- b. A preliminary design of the traffic circle must be undertaken to ensure that there is sufficient road reserve to accommodate the new proposed circle. It is envisaged that this new circle can be based on the design parameters (ICD and lane widths) of the traffic circle recently constructed at the intersection of MR344/TR209/MR348 in Groot Brak River.
- c. The cost for the design and construction of the new proposed traffic circle should be divided in a fair and equitable way between the two developers (Dolphin Circle and PTN115) both sides of the DR1578.

**4. GENERAL**

- a. All Geometric and Pavement designs should be according to the standards and requirements of the Provincial Government of The Western Cape and must be undertaken by a professionally registered Civil Engineer.
- b. Detailed "Site Impact Assessments" must be prepared for the various internal erven. These SIA should check inter alia sweep paths, parking provisions, positions of driveways and sight distances.
- c. All internal road cross sections must make provision for universally accessible pedestrian sidewalks.

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

The proposed site will be accessed directly from Sorgfontein Road (DR 1578).

SG Digit code(s) of the proposed site(s) for all alternatives:

4.6.	A portion of Remainder of Farm 139 Zandhoogte	C	0	5	1	0	0	0	0	0	0	0	0	0	0	1	3	9	0	0	0	0	0
	Erf 998	C	0	5	1	0	0	0	9	0	0	0	0	0	0	9	9	8	0	0	0	0	0

Coordinates of the proposed site(s) for all alternatives:

4.7.	A portion of Remainder of Farm 139 Zandhoogte	34° 3'46.65", 22° 11'24.04"
	Erf 998	34° 3'51.14", 22° 11'17.95"

## 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
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### 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
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.	YES	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.	YES	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
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	NO
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES	NO
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	NO
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

### 3. Other legislation

List any other legislation that is applicable to the proposed activity or development.
<ul style="list-style-type: none"> <li>• Amended By-Law on Municipal Land Use Planning and Amended Integrated Zoning Scheme By-Law, Extraordinary Provincial Gazette 8179, dated 15 November 2019. <ul style="list-style-type: none"> <li>◦ Application is made in terms of Article 15 (2)(e) of the Mossel Bay Municipality Zoning Scheme By-Law, 2021, to consolidate Portion 5 of the Farm Zandhoogte no. 139, 8.4941ha in size and Erf 998, 1.8684ha in size.</li> </ul> </li> <li>• By-Law relating to Public Nuisances Amendment <ul style="list-style-type: none"> <li>◦ Consideration towards this this by-law is to be taken when providing mitigation measures aimed at preventing public nuisances. This includes noise, traffic, dust and odour.</li> </ul> </li> <li>• Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013)(SPLUMA)</li> <li>• Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)</li> <li>• National Heritage Resources Act, 1999 (Act 25 of 1999)</li> <li>• Advertising on Roads and Ribbon Development Act, 1940 (Act 21 of 1940)</li> </ul>

### 4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
<p>According to the Planning Report Compiled by Jan Vrolijk (Town Planner), attached as Appendix K the following policies were taken into account and Section 7.5 of the report highlights the desirability and compatibility of the proposal with the policies, please refer to Section 7.5 of the Planning report for more information.</p> <ul style="list-style-type: none"> <li>• Western Cape Provincial Spatial Development Framework (WC PSDF)</li> <li>• Southern Cape Regional Spatial Implementation Framework, 2019 (RSIF)</li> <li>• Garden Route District Municipality Integrated Development Plan, 2022 (IDP)</li> <li>• Eden District Spatial Development Framework, 2017 (DSDF)</li> <li>• Mossel Bay Integrated Development Plan, 2022 to 2027</li> <li>• Mossel Bay Spatial Development Framework, 2022 (MBSDF)</li> <li>• Mossel Bay Municipality Zoning Scheme By-Law, 2021</li> </ul>

## 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.

Guidelines	Describe how the proposed development complies with and responds:
Guideline on Public Participation (2013)	Guideline considered in the undertaking of the public participation for the proposed development. All relevant provisions contained in the guideline were adhered to in the basic assessment process as appropriate, except where an exemption/ deviation has been granted by the Competent Authority.
Guideline on Alternatives (2013)	Guideline considered when identifying and evaluating possible alternatives for the proposed development. Alternatives that were considered in the impact assessment process are reported on in this Basic Assessment Report
Guideline on Need and Desirability (2013)	Guideline considered during the assessment of the Need and Desirability of the proposed development project.
Guideline on Environmental Management Plans (2005)	Guideline considered in the compilation of the EMP attached to this Basic Assessment Report.
Guideline for the Review of Specialist Input into the EIA Process (2005)	Guideline considered during the review and integration of specialist input into this Basic Assessment Report
Integrated Environmental Management Information Series 5: Impact Significance (2002)	Guideline considering during the identification and evaluation of potential impacts associated with the proposed development, and the reporting thereof in this Basic Assessment Report
Integrated Environmental Management Information Series 7: Cumulative Effects Assessment (2004)	Guideline considering during the assessment of the cumulative effect of the identified impacts.
Circular DEADP 0028/2014: One Environmental Management System	Guideline regulating multiple environmental activities under NEMA, including mining related activities.
Guideline for determining the scope of specialist involvement in EIA processes, June 2005.	Guideline considered when determining the scope of specialist involvement for this assessment.
Guideline for involving biodiversity specialists in the EIA process, June 2005.	Guideline considered to guide biodiversity specialist input in this assessment.
Guideline for involving heritage specialists in the EIA process, June 2005.	Guideline considered to guide the heritage specialist input in this assessment.
Guideline for involving visual and aesthetic specialists in the EIA process, June 2005;	Guideline considered to guide the visual and aesthetic specialists' input in this assessment
Guideline for involving social assessment specialists in the EIA process, February 2007;	Guideline considered to guide the social assessment specialists' input in this assessment

Guideline for involving economists in the EIA process, June 2005;	Guideline considered to guide the economists' specialists' input in this assessment
Western Cape Land Use Planning Guidelines – Rural Areas, March 2019;	Guideline considered to guide the
DEA (2017), Guideline on Need and Desirability, Department of Environmental Affairs (DEA), Pretoria, South Africa (ISBN: 978-0-9802694-4-4); and	Guideline considered during the assessment of the Need and Desirability of the proposed development project

## 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																																																		
<p>Protocols have been promulgated as per the GNR 320, Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(A) And (H) and 44 of the National Environmental Management Act, 1998, When Applying for an EA, 20th March 2020.</p> <p>The following is a summary of the development footprint environmental sensitivities identified by the DEA Screening Tool (see Appendix I).</p> <p style="text-align: center;">Table 8: DEA Screening Tool site sensitivities</p> <table border="1"> <thead> <tr> <th>Theme</th> <th>VERY HIGH SENSITIVITY</th> <th>HIGH SENSITIVITY</th> <th>MEDIUM SENSITIVITY</th> <th>LOW SENSITIVITY</th> </tr> </thead> <tbody> <tr> <td><b>Agriculture Theme.</b></td> <td></td> <td style="text-align: center;"><b>X</b></td> <td></td> <td></td> </tr> <tr> <td><b>Animal Species Theme.</b></td> <td></td> <td style="text-align: center;"><b>X</b></td> <td></td> <td></td> </tr> <tr> <td><b>Aquatic Biodiversity Theme</b></td> <td></td> <td></td> <td></td> <td style="text-align: center;"><b>X</b></td> </tr> <tr> <td><b>Archaeological and Cultural Heritage</b></td> <td></td> <td></td> <td></td> <td style="text-align: center;"><b>X</b></td> </tr> <tr> <td><b>Civil Aviation Theme.</b></td> <td></td> <td></td> <td style="text-align: center;"><b>X</b></td> <td></td> </tr> <tr> <td><b>Palaeontology Theme</b></td> <td style="text-align: center;"><b>X</b></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>Plant Species Theme</b></td> <td></td> <td></td> <td style="text-align: center;"><b>X</b></td> <td></td> </tr> <tr> <td><b>Defence Theme.</b></td> <td></td> <td></td> <td></td> <td style="text-align: center;"><b>X</b></td> </tr> <tr> <td><b>Terrestrial Biodiversity Theme.</b></td> <td style="text-align: center;"><b>X</b></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Based on these results, the screening tool recommended the following specialist assessments be conducted:</p> <ul style="list-style-type: none"> <li>• Landscape/Visual Impact Assessment <ul style="list-style-type: none"> <li>○ <b>Has been</b> conducted. Please refer to Appendix G8.</li> </ul> </li> <li>• Archaeological and Cultural Heritage Theme <ul style="list-style-type: none"> <li>○ A response was received from Heritage Western Cape, indicating that as it is believed that the proposed development will not impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. Please refer to Appendix E1.</li> </ul> </li> <li>• Palaeontology Impact Assessment <ul style="list-style-type: none"> <li>○ A response was received from Heritage Western Cape, indicating that as it is believed that the proposed development will not impact on heritage resources,</li> </ul> </li> </ul>	Theme	VERY HIGH SENSITIVITY	HIGH SENSITIVITY	MEDIUM SENSITIVITY	LOW SENSITIVITY	<b>Agriculture Theme.</b>		<b>X</b>			<b>Animal Species Theme.</b>		<b>X</b>			<b>Aquatic Biodiversity Theme</b>				<b>X</b>	<b>Archaeological and Cultural Heritage</b>				<b>X</b>	<b>Civil Aviation Theme.</b>			<b>X</b>		<b>Palaeontology Theme</b>	<b>X</b>				<b>Plant Species Theme</b>			<b>X</b>		<b>Defence Theme.</b>				<b>X</b>	<b>Terrestrial Biodiversity Theme.</b>	<b>X</b>			
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no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. Please refer to Appendix E1.

- Terrestrial Biodiversity Impact Assessment
  - According to the recent screening tool, the Terrestrial Biodiversity Theme indicates a very high sensitivity in CBA: Terrestrial and CBA 2: Terrestrial. The Terrestrial Faunal and Avifaunal Species Compliance Statement **has been undertaken**. CapeNature and BGCMA will be included in public participation. Please refer to Appendix G2 and G3.
- Aquatic Biodiversity Impact Assessment
  - A compliance statement has been undertaken by Dr. JM Dabrowski. Please refer to Appendix G1.
- Socio-Economic Assessment
  - **Has been** undertaken, please refer to Appendix G9.
- Plant Species Assessment
  - **Has been** undertaken by an ecological specialist. Please refer to Appendix G3 and G4.
- Animal Species Assessment
  - **Has been** undertaken by an ecological specialist. Please refer to Appendix G2 and G2.

## SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Listing Notice 1</b>	Describe the portion of the proposed development to which the applicable listed activity relates.
24	<p><b>The development of a road—</b>            (i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or  <b>(ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;</b>  <b>but excluding a road—</b>            (a) which is identified and included in activity 27 in Listing Notice 2 of 2014;            (b) where the entire road falls within an urban area;            or  <b>(c) which is 1 kilometre or shorter.</b></p>	<p>The Internal roads are 16m wide however the total length is approximately 600m and as such exclusion "C" applies and this activity is therefore not applicable to the proposal</p>
27	<p><b>The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous</b> vegetation, except where such clearance of indigenous vegetation is required for—            (i) the undertaking of a linear activity; or            (ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>The proposed footprint is approximately 10ha, located on a natural area, that may contain indigenous vegetation.             This activity is therefore applicable to the proposal.</p>

28	<p><b>Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture,</b> game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:</p> <p>(i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or  <b>(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;</b></p> <p>excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.</p>	<p>The site is currently zoned for agriculture and a mixed-use development which includes residential zoning and commercial zoning is proposed that is approximately 10ha in total. This activity is therefore applicable to the proposal.</p>
Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Listing Notice 3</b>	Describe the portion of the proposed development to which the applicable listed activity relates.
4	<p><b>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</b></p> <p><b>i. Western Cape</b>  i. Areas zoned for use as public open space or equivalent zoning;  <b>ii. Areas outside urban areas;</b>  <b>(aa) Areas containing indigenous vegetation;</b>  (bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined; or</p> <p>iii. Inside urban areas:  (aa) Areas zoned for conservation use; or  (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.</p>	<p>The internal roads are 16m wide, the site is located outside of an urban area and the site has some indigenous vegetation.</p> <p>This activity is therefore applicable to the proposal.</p>
12	<p><b>The clearance of an area of 300 square metres or more of indigenous vegetation</b> except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p><b>i. Western Cape</b>  <b>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;</b>  ii. Within critical biodiversity areas identified in bioregional plans;  iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas;  iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or</p>	<p>There will be clearance of at least 300 square metres of vegetation.</p> <p>The northern three quarters of the site is mapped as Groot Brak Dune Strandveld which is Endangered. This activity is therefore applicable to the proposal.</p>

	v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	
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**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.

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

Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Category A</b>	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 <b>Listed Activity(ies)</b>	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.
<p>It is proposed that a business and residential development (mixed development) be constructed on Erf 998 and a portion of Remainder of Farm 139 Zandhoogte in Tergniet, Mossel Bay. The proposed development site is situated approximately 22 km's north-east of the Mossel Bay town. The proposed development would entail the consolidation, rezoning and subdivision of the Erf 998 and a portion of Remainder of Farm 139 Zandhoogte, as it is currently zoned as Agricultural Zone I, and shows signs of transformation and disturbance. Erf 998 is currently the location of Leani Nursery. Further to this there is existing infrastructure, road access, and an artificial dam located on the proposed site.</p> <p>The proposed development will comprise of the following:</p> <ul style="list-style-type: none"> <li>• 2 Business Zone I (BZI) erven with a total size of 2.6040 hectare (Portions 1 and 9),</li> <li>• 1 Business Zone IV (BZIV) erf with a size of 0.2680 hectare (Portion 5),</li> <li>• 1 Community Zone III (CZIII) erf with a size of 0.5270 hectare (Portion 2),</li> <li>• 1 General Residential Zone II (GRZI) erf with a size of 0.6970 hectare to be developed at a density of 60 dwelling units per hectare (Portion 3),</li> <li>• 1 General Residential Zone III (GRZII) erf with a size of 0.6530 hectare to be developed with flats (Portion 6),</li> <li>• 1 Mixed Use Zone II (MZII) erf with a size of 0.9020 hectare (Portion 7),</li> <li>• 2 Open Space Zone II (OSZII) erven with a size of 1.2250 hectare (Portions 4 and 11),</li> <li>• 2 Transport Zone II (TZII) erven with a size of 1.3600 hectare (Portions 10 and 12), and</li> <li>• 1 Split zone erf consisting of a portion Business Zone I (BZI) with a size of 1.0 hectare and a portion Open Space Zone II (OSZII) with a size of 1.0 hectare (Portion 8).</li> </ul>	



Figure 7: Proposed Site Development Plan

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.

A town planning application will be submitted to consolidate Erf 998 Tergniet and the Remainder of Portion 5 of the Farm Zandhoogte 139 and to develop the consolidated erf in accordance with the proposed layout. Application is made in terms of Section 15(2)(a) of the Land Use Planning By-law for Mossel Bay Municipality, 2021 for the rezoning of the consolidated erf from Agricultural Zone I to a Subdivisional Area to allow the following land uses.

The proposed development will comprise of the following:

- 2 Business Zone I (BZI) erven with a total size of 2.6040 hectare (Portions 1 and 9),
- 1 Business Zone IV (BZIV) erf with a size of 0.2680 hectare (Portion 5),
- 1 Community Zone III (CZIII) erf with a size of 0.5270 hectare (Portion 2),
- 1 General Residential Zone II (GRZI) erf with a size of 0.6970 hectare to be developed at a density of 60 dwelling units per hectare (Portion 3),
- 1 General Residential Zone III (GRZII) erf with a size of 0.6530 hectare to be developed with flats (Portion 6),

- 1 Mixed Use Zone II (MZII) erf with a size of 0.9020 hectare (Portion 7),
- 2 Open Space Zone II (OSZII) erven with a size of 1.2250 hectare (Portions 4 and 11),
- 2 Transport Zone II (TZII) erven with a size of 1.3600 hectare (Portions 10 and 12), and
- 1 Split zone erf consisting of a portion Business Zone I (BZI) with a size of 1.0 hectare and a portion Open Space Zone II (OSZII) with a size of 1.0 hectare (Portion 8).

Please refer to the planning report attached as Appendix K for more information.

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.
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No existing approvals are attached to the properties.

4.	Explain how the proposed development will be in line with the following?
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4.1	The Provincial Spatial Development Framework.
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According to the Planning Report Compiled by Jan Vrolijk (Appendix K):

Western Cape Provincial Spatial Development Framework (WC PSDF)

The Western Cape Provincial Spatial Development Framework (WC PSDF) not only provides for a new spatial development pattern for the province but also clearly points out where development may and may not take place. The provisions of the development framework must therefore be considered with any development proposal.

In terms of the framework, mention is made of several principles namely spatial justice, spatial sustainability, spatial resilience, spatial efficiency, accessibility and quality of life and good administration to which spatial planning must comply. The impact of the application on spatial justice, spatial sustainability, spatial resilience, spatial efficiency, has been discussed in point 7.5.2 (of the Planning Report) and it has been shown that the proposed development complies with the mentioned principles.

Several policy statements are also highlighted in terms of the WC PSDF which must specifically correlate with the mentioned principles. Some of the policy statements that are relevant to this town planning application will be addressed in the following points.

Protection of agricultural land

In terms of the WC PSDF, it is indicated that agricultural land must be protected. Although both properties are zoned Agricultural Zone I, the properties are located within the urban edge of Mossel Bay Municipality and earmarked for development in terms of the proposals contained in the Mossel Bay Spatial Development Framework, 2022. The provisions of the Act on the Subdivision of Agricultural Land, 1970 (Act 70 of 1970) therefore do not apply to the application.

An Agricultural Compliance Statement has been prepared by Johan Lanz Soil Scientist (Pr.Sci.Nat.). The complete report dated 13 May 2023 is attached as Appendix G6. The report comes to the following conclusion:

*“The agricultural impact of the proposed development will be the permanent exclusion of potential agricultural production from the land parcel. As has been discussed above the site is not currently utilised for agricultural production, and has very limited future production potential because of the very sandy soils, the small size of the land parcel, which makes agriculture non economically viable, and its location among small parcels of land with non-agricultural land use and cut off from nearby agriculture by the N2 highway.*

*Because the site is not suitable for agricultural production, the proposed development cannot have an unacceptable negative impact on the agricultural production capability of the site. Therefore, from an agricultural impact point of view, it is recommended that the development be approved.*

*The entire site will be excluded from agricultural use. Therefore, the protocol requirement of confirmation that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities, is not relevant in this case. For the same reason, and because there are no off-site agricultural impacts, there are no*

*Environmental Management Programme inputs required for the protection of agricultural potential on the site.*

*The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions. In completing this statement, no assumptions have been made and there are no uncertainties or gaps in knowledge or data that are relevant to it. No further agricultural assessment of any kind is required for this application."*

In terms of the contents of this report there is no reason from an agricultural point of view why this application cannot be supported. This objective of the WC PSDF is therefore not relevant to this application.

#### Self sufficiency

The most important overall guideline which is laid down is that any development should be self-sufficient. It states that "the development needs of the present generations should be met without the ability of future generations to meet their own needs, being compromised." The development as proposed by this application will be self-sufficient and will not place any burden on the future residents of Mossel Bay. The development will in fact make a positive contribution to the improvement of the residents of Mossel Bay's quality of life since it will make a considerable contribution to the property rates structure of the Mossel Bay Municipality and will also create many temporary and permanent job opportunities.

The WC PSDF further states that settlement areas with enough natural resources and the economic development potential to accommodate self-sufficient long-term population growth, should be identified and that development outside the areas should be prevented and rather be channelled towards these settlement areas. Mossel Bay can be classified as a town with a high development potential. Mossel Bay furthermore boasts a diverse well-balanced support basis which can support a development as proposed. Mossel Bay can furthermore be considered a focus point, due to the presence of its schools, sport, shopping and related functions and has already proved to be a town that has the developing potential to be self-sufficient. The proposal will make a positive contribution to Mossel Bay being fortified even further as a self-sufficient town. The proposal can thus be regarded to be in keeping with this specific guideline of the WC PSDF.

#### Urban edge

The WC PSDF provides for a guideline which determines that towns should identify an urban edge and that development should be restricted to areas inside the urban edge. The Mossel Bay Municipality identified an urban edge, and both properties are located within the identified urban edge. As such, the proposed development will not result in "urban sprawl". The proposal therefore meets the requirement of this guideline set out in the WC PSDF.

#### Densification

In terms of the development proposal three of the thirteen portions (Portions 3, 4 and 9) are earmarked for residential development. In terms of the densities proposed on the three portions it will be possible to develop 156 housing units on the three portions.

In terms of the WC PSDF, higher densities and more compact cities must be created. According to the framework, it is recommended that towns should densify to an average density of 25 units per hectare with development densities of 3 to 6 units per hectare on the edge of a town and densities of between 40 to 60 units per hectare in the core of the urban area.

In the framework, it is highlighted that the density was decided upon following studies that were undertaken and which showed "that this is the minimum density at which urban settlements begin to significantly improve their urban performance."

According to the framework, the proposed density creates the following benefits:

- The ability to walk to several different destinations on foot.

- Improve surveillance and security.
- Employment and retail opportunities within easy distance.
- Vibrant and active streetscape.

The framework further states that "the figure of an average gross density of 25 du/ha should be seen as a hurdle below which urban settlements will not perform adequately, and above which a number of positive opportunities begin to be achievable."

According to the framework, increased densities are best applied in towns that are under development pressure and, according to the framework, increased densities is a valuable tool to counter urban sprawl. Although Mossel Bay is not subject to high development pressure and urban sprawl is not a problem at this stage, an application of this nature may contribute to limiting urban sprawl in the future.

According to the framework, the increased density and the combating of urban sprawl can be achieved through various development possibilities. Subdivisions of properties, the development of additional residential units as well as sectional title developments, demolition and redevelopment, high density residential areas, apartment blocks and infill are presented as means by which higher densities can be achieved.

The option of vacant land that is located within the urban edge of a town and that is targeted for residential development in terms of an approved spatial development framework has been identified to achieve the increased density and counteract urban sprawl. This specific proposal involves the development of undeveloped land within the urban edge of Mossel Bay which has inter alia been targeted for residential development in. This development proposal, which will be inter alia allow for residential component of 156 housing units at an average density of approximately 15 units per hectare, will contribute to the fact that the density prescribed by the framework will eventually be achieved and that urban sprawl will be limited/contained.

However, it is important to point out that densification must take place within acceptable areas and that it must not detract from the environment within which the densification is proposed. This development takes place within the urban edge of Mossel Bay as well as in an environment that is targeted for residential development in terms of the Mossel Bay Spatial Development Framework, 2022 The objectives as prescribed in the development framework are therefore achieved with this application.

It is therefore clear that the proposal can indeed be considered compatible with the WC PSDF.

#### 4.2 | The Integrated Development Plan of the local municipality.

According to the Planning Report Compiled by Jan Vrolijk (Appendix K):

##### Mossel Bay Integrated Development Plan, 2022 to 2027

In terms of the Mossel Bay Integrated Development Plan, 2022 to 2027, eight strategies have been formulated to support the spatial planning approach and spatial drivers, in order to direct and manage development in the Greater Mossel Bay urban environment. Each strategy is supported by a set of policies and policy guidelines on which to base decisions and on which actions can be taken and budgeted for.

Strategy 4 deals specifically with urban growth and the restructuring of the urban form to meet the Mossel Bay Community's needs. The strategy applies to this application.

In terms of the strategy, the following policy guidelines are laid down which development applications must comply with, namely:

- "Policy 4A - Future urban form design is to be based on future scenario planning in the SDF"

The development proposed for Erf 998 Tergniet and Portion 5 of the Farm Zandhoogte 139 is located within an area that is targeted for urban development in terms of the Mossel Bay

Spatial Development Framework, 2022. The application is therefore based on the development proposals as contained in the Mossel Bay Spatial Development Framework, 2022. More detail with regards to the compatibility of the development proposal with the Mossel Bay Spatial Development Framework, 2022 (MBSDF) is provided in point 7.5.9 (of the planning report) of this motivation report.

- "Policy 4B - Prioritize efficient urban form"

The development proposal forms a sensible logical development proposal with the layout which has been prepared within the physical and biological constraints of the erf. The development area is furthermore located within the approved urban edge for Mossel Bay which represents the urban boundary/form of Mossel Bay as determined in terms of the MBSDF. The development proposal will thus further contribute to an efficient urban form.

- "Policy 4C - Creation of an Open Space/Conservation network"

In terms of the development proposal a 40-metre-wide open space corridor is provided along the N2-National Road boundary of the consolidated erf (Portion 11). This open space is to be linked to a future open space system which is to be provided along the southern boundary of the N2-National Road. The provision of this open space is a requirement which stems from a report - "Botanical Comment" prepared by MB Botanical Services dated February 2024.

The development proposal will thus contribute to a future open space system to be created along the southern boundary of the N2-National Road.

- Policy 4D - Implementation of biodiversity offsets as a tool for an efficient and sustainable urban form"

The comments made above with regards Policy 4C is also applicable to this policy.

- "Policy 4E - Maintain a compact settlement form to facilitate inclusion and integration and improved service delivery"

Erf 998 Tergniet and Portion 5 of the Farm Zandhoogte 139 is located within the urban edge of Mossel Bay Municipal Area. The proposal will therefore not lead to urban sprawl and will therefore lead to a more compact urban area. The fact that the development proposal will contribute to a more compact urban area will thus also contribute positively towards improved service delivery.

All infrastructure required for the development will be provided by the developer at the cost of the developer in accordance with the details as set out in the Civil Services and Electrical Services Reports attached to this motivation report. In terms of the services reports it will be possible to link the internal services with the external services that are available in the immediate area. It will thus be possible to integrate the proposed services with the existing services that are available in the area. The proposal will thus not result in infrastructure costs to any external parties. The proposal will therefore not place any burden on municipal budget for the provision services infrastructure.

- "Policy 4F - Provide places of residence closer to places of work"

The development proposal allows for a mixed land use development consisting of various business uses and a residential component. A large number of employment opportunities will be created by virtue of the business component of the development. The development proposal also makes provision for 156 housing units which includes group housing units, town housing units and flats. Places of residence will thus be developed adjacent to the employment opportunities. The development proposal will thus comply with this policy guideline.

- "Policy 4G - Direct public investment (public facilities, amenities and services), commercial activity and residential densification towards the urban core and priority nodes"

In terms of the MBSDF a large business node is proposed to the north of the R102, to the south of the N2-National Road and along Sorgfontein Road. The business node is indicated in Figure 9. This business node is furthermore classified as infill development in terms of this framework.

In terms of the MBSDF the following land uses are proposed for this node, i.e. businesses, light industrial uses, mixed-uses and medium density residential development. The development proposal is in keeping with the proposed land uses.

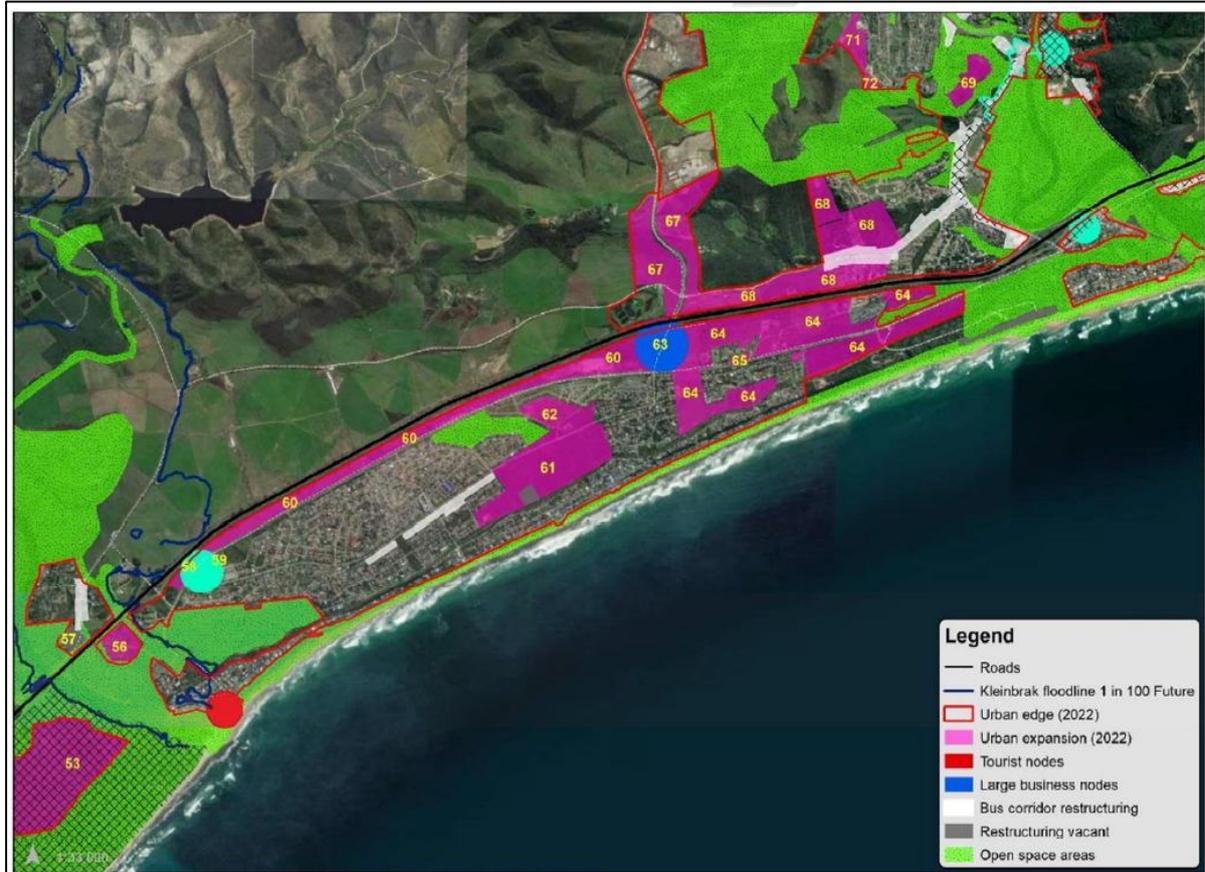


Figure 8: Mossel Bay Integrated Development Plan

From the content of the above paragraphs, it is clear that the development proposal is compatible with the policy guidelines contained in the Mossel Bay Integrated Development Plan for the period 2022 to 2027.

4.3. The Spatial Development Framework of the local municipality.

According to the Planning Report Compiled by Jan Vrolijk (Appendix K):

Erf 998 Tergniet and Portion 5 of the Farm Zandhoogte 139 is located within the study area of the Mossel Bay Spatial Development Framework, 2022 (MBSDF) and the framework therefore applies to this application.

The status quo of Mossel Bay as a town and environment indicates a number of strategic issues which are critical in terms of future growth demands and conservation. The MBSDF recognizes the existing inequalities within the Mossel Bay urban space. It aims to restructure the urban form in such a manner as to optimize and unlock opportunities for the previously disadvantaged communities.

Seven strategies are formulated to support the spatial planning approach and spatial drivers to direct and manage development in the Greater Mossel Bay area and the urban environment. Each strategy is supported by a set of policies and policy guidelines to base decisions on and on which actions can be taken and budgeted for. The objective of the strategies is to give spatial and practical expression to the optimum utilization and management of the unique attributes of Mossel Bay town and region – the natural environment, the heritage assets, its economic potential – to benefit all its people.

Some of the strategies are aimed towards the resilience of the town in the case of water scarcity, moving away from fuel-based energy sources and the effects of climate change.

The seven strategies can be summarized as follows:

- Strategy 1 – The purpose of this strategy is to conserve and manage the natural environment in balance with the demands from urban growth and agricultural use.

In terms of the development proposal a 40-metre-wide open space corridor is provided along the N2-National Road boundary of the consolidated erf (Portion 11). This open space is to be linked to a future open space system which is to be provided along the southern boundary of the N2-National Road. The provision of this open space is a requirement which stems from a report - "Botanical Comment" prepared by MB Botanical Services dated February 2024.

The development proposal will thus contribute to a future open space system to be created along the southern boundary of the N2-National Road.

- Strategy 2 - Secure sufficient water and food for future demands.

This strategy is not applicable to this specific development proposal.

- Strategy 3 - Facilitate opportunities for utilization of renewable energy.

This strategy is not applicable to this specific development proposal.

- Strategy 4 - Manage urban growth and restructure the urban form to serve the Mossel Bay Community needs.

Erf 998 Tergniet and Portion 5 of the Farm Zandhoogte 139 are located in an area which has been earmarked as a "Large business node" in terms of the MBSDF. The two properties are located within the Mossel Bay urban edge, and it is indicated in the MBSDF that the development of the two properties is regarded to be classified as infill development. The development as proposed can thus be regarded to comply with the urban form of Mossel Bay as envisaged in the MBSDF.

It is the intention that the businesses, medical facility/clinic and mixed-use development envisaged will serve the needs of the residents of the surrounding area. The proposal is thus directly earmarked to serve the community needs. The proposal will thus comply with this strategy.

- Strategy 5 - Provide a safe and secure environment for all residents and visitors

The development will be developed in such a way that it provides a safe and secure business and residential environment for the residents to shop and live in.

- Strategy 6 - Create a local economic base to provide sustainable employment opportunities.

The development will, once completed, be erected at an estimated cost of between R300 and R400 million, which represent a massive economic injection into the municipal area of Mossel Bay. A vast number of temporary and permanent job opportunities will also be created during the construction phase as well as in the operation phase of the development. As such, the development will have a positive effect on the economy of Mossel Bay and will contribute towards the finances of the Mossel Bay Municipality and various suppliers of materials and services generating additional income from the development, income that can be used to the improvement of the quality of life of the various service providers as well as the resident of Mossel Bay in general.

- Strategy 7 - Ensure a municipality that is functioning on a financially sustainable basis.

The development will contribute additional rates and taxes towards the Mossel Bay Municipality and will contribute towards keeping Mossel Bay Municipality financially sustainable.

A large business node is proposed in terms of the MBSDF to the north of the R102, to the south of the N2-National Road and along Sorgfontein Road. The business node is indicated in Figure 9. In terms of the MBSDF the following land uses are proposed for this node, i.e. businesses, light industrial uses, mixed-uses and medium density residential development. The development proposal is thus in keeping with the proposed land uses proposed for the development area in terms of the MBSDF.

4.4. The Environmental Management Framework applicable to the area.

No EMF has been adopted by the municipality for the area.

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

No comments have been received from the relevant biodiversity authorities, as of yet. Once the pre-application public participation has been undertaken, this section will be updated.

Chepri (Pty) Ltd was appointed in August of 2022 to compile a combined Terrestrial Biodiversity Impact Assessment and Plant and Animal species Compliance Statement. The assessment did not identify any Species of Conservation Concern (SCC), and only one protected tree species (*Pittosporum viridiflorum*). The outcome of this assessment was to recommend that an almost 2ha (approximately 80m x 240m) section of the northern side of the property remain undeveloped to maintain a corridor as a mitigation area. The economic impact of the proposed corridor was deemed too high, and an Alternative corridor was presented for assessment (Preferred Alternative A with a 40m corridor). Chepri was however unable/not willing to assess the initial layout without the buffer for the impact tables of this BAR in a comparative assessment of the Alternatives. As the EIA process requires the assessment of Alternatives and Chepri was unresponsive to emails and phone calls, another specialist (Mark Berry) was appointed to complete the botanical aspects of the alternatives presented and Blue Skies Research was appointed to complete the terrestrial faunal and avifaunal species compliance statement report for the proposed alternatives.

The biodiversity specialist (Blue Skies Research) indicates that the whole site is suitable for the proposed development and agreed that no SCC's were present or likely to occur.

The Botanical Specialist indicated that the recommendation for an ecological corridor on the N2 side of the site is supported, which will provide a passage for fauna (pollinators & seed dispersal agents) to migrate across the site. This will theoretically maintain the ecological link between the natural vegetation on the western and eastern sides of the site. The N2 road reserve could serve as an extension to this corridor. The minimum width for such a corridor is difficult to determine but probably depends on what is required from the corridor. In this instance there is probably no need to accommodate significant natural habitat, but more a need to maintain the functioning of the larger biodiversity network. It was suggested that a minimum corridor width of 40 m be implemented in order to minimise undesirable edge influences. A width of 40-50 m is considered suitable for small fauna, such as amphibian movement according to Cotter et al (Cotter, M., Berkhoff, K., Gibreel, T., Ghorbani, A., Golbon, R., Nuppenau, E.-A. & Sauerborn, J. 2014. Designing a sustainable land use scenario based on a combination of ecological assessments and economic optimization. Ecological Indicators, 36, 779– 787)

Therefore, to apply a risk adverse approach to the proposed development a 40m corridor has been incorporated into the layout along the northern boundary of the site, north of the property is the N2 which adds to the corridor resulting in more than a 50m corridor.

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

According to the Terrestrial Faunal and Avifaunal Species Compliance Statement Report:

Critical Biodiversity Areas (CBAs) are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan (Purves and Holmes, 2015).

Currently, the northern margin of the site is mapped as a mix of terrestrial CBA1 and CBA2 (Figure 10). The presence and integrity of these CBAs are discussed in Section 12 (of the Terrestrial report compiled by Blue Skies Research).



Figure 9: Spatial locations of Critical Biodiversity Areas (CBAs) overlapping with the study area (Red polygon = Study area; information sourced from Cape Farm Mapper version 3, Western Cape Department of Agriculture).

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

The site will have no influence in an ICMA zone; therefore, alignment will not be necessary.

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.

The screening tool is still the same as the one submitted with the application form.

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

The site is not regarded as being within an urban area in terms of point 18 of the DEADP NEMA EIA Circular 1 of 2012 (dated 5 March 2012).

The proposed development is consistent with the surrounding land uses and will therefore fit into the urban landscape. There is also a great need for the development to create job opportunities, as is mentioned in the PSDF and MSDF. The location is ideally situated on the outskirts of the residential Tergriet area and is bordered by the provincial DR1578 (western boundary) and located between the N2 and R102.

The range of infrastructure proposed within the development also ensures that multiple industries will benefit from the business development.

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

Erf 998 currently not vacant and being utilised as a nursery with infrastructure accommodating a restaurant.

Developing the site as proposed will benefit the local economy and will lead to the creation of job opportunities within the immediate community and surrounding area, in the short and long term. The development will also provide housing opportunities in a desirable location along the south coast. This will optimise the use of the available space, compared to the current use and drive necessary economic development further, as intended by the PSDF and MSDF.

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 E16).
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Please refer to Appendix E16

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.
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In addition to the above, the Department's guideline on Need and Desirability (March 2013) provides a strong base for the proposed development. The guideline references the New Growth Path (NGP) (2010) when referring to the strategic context for the consideration of need and desirability. It is important to understand how the proposed development falls within the strategic context in order to fully recognise the need and desirability.

The NGP formulated various principles to guide "the transition to an environmentally sustainable low carbon economy, moving from policy, to process, to action", the principles listed below highlight how need and desirability of the proposed development are aligned with the NGP in terms of the Department's guideline on Need and Desirability (March 2013):

- Just, ethical and sustainable: The proposed development recognises South Africa as a developing country, the proposed development will address the need for jobs in the Bitou area within a range of industries and is in line with the municipalities future plans for the economic development.
- Global solidarity: The proposed development aims to justly balance national interests, such as providing job opportunities and allowing for self-upliftment.
- Ecosystem protection: Acknowledgement that human wellbeing is dependent on the health of the planet.
- Full cost accounting: Internalise both environmental and social costs in planning and investment decisions, recognising that the need to secure environmental assets may be weighed against the social benefits accrued from their use.
- Opportunity focused: The proposed development has sought to identify synergies between sustainability, growth, competitiveness and employment creation, in order to attain equality and prosperity. The construction of the proposed development will benefit the local economy in the short to medium term, as well as provide a base for skills transfer while providing job opportunities to the surrounding community, for people of various skills levels, in the long term which will drive socio-economic growth.
- Effective participation of social partners: The environmental assessment will be subject to public participation, that would introduce the opportunity for the dialogue that will result in the identification and acknowledgment of mutual responsibilities, differences, achieve consensus through compromise.
- Accountability and transparency: Undertaking the basic assessment process allows for accountability and transparency of the proposed development in an integrated manner, as the documents will be submitted for public participation, to any interested and affected party, and will be subject to comments, rejections and appeals, if necessary. In the National Framework for Sustainable Development ("NFSD") (2008), it states that "The achievement of sustainable development is not a once-off occurrence, and its objectives cannot be achieved by a single action or decision." As such, it is not expected that this proposed development will single handily achieve sustainable development, but it will contribute towards achieving sustainable development.

"The process to achieve sustainable development is an ongoing process that requires a particular set of values and attitudes in which economic, social and environmental assets that society has at its disposal, are managed in a manner that sustains human well-being without compromising the ability of future generations to meet their own need." The need and

desirability of the proposed development is further emphasized as the proposed development forms part of the aforementioned ongoing process. The proposed development conceptualizes the particular set of values and attitudes in which economic, social and environmental assets are required to be managed in order to sustain human well-being without compromising the ability of future generations to meet their own needs and effectively achieve sustainable development. This is completed by providing job opportunities in the short and long term to the surrounding community, for people of various skills levels. The proposed development seeks to drive economic development and contribute to the overall improvement of socioeconomic profile.

In the South African current state, developmental needs (community needs) must firstly be determined through the planning processes (IDP, SDF and EMF). The need may be at the local, regional or national level. The proposed development is aligned with the planning processes and endeavours to contribute towards efforts aimed at reducing the housing backlog which is facing South Africa on a local, regional and national level. The proposed development will form part of an ongoing process to achieve sustainable development.

The Department's guideline on Need and Desirability (March 2013) states it is necessary to turn to the principles contained in NEMA in order to define "need" that relates to the interests and needs of the broader public.

In this regard the NEMA principles specifically inter alia require that environmental management must:

- Place people and their needs at the forefront of its concern and equitably serve their interests.
- Be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.
- Ensure that decisions take into account the interests, needs and values of all interested and affected parties; and
- Ensure that the environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest, and the environment must be protected as the people's common heritage.

The Need and Desirability of the proposed development in terms of the Department's guideline on Need and Desirability (March 2013) is further emphasised through its alignment with the NEMA principles. The alignment of the proposed development with the principles are evident as the proposed development aims to place people and their needs at the forefront by providing. The proposed development encapsulates the NEMA principles by driving socioeconomic growth through the stimulation of economic growth which services multiple industries, allowing for skills transfer and emphasizing the durability of the development. The creation of job opportunities within the immediate community and surrounding area, in the short and long term, along with the economic drive created by the development will improve the Socioeconomic character of the surrounding areas. Improved economic opportunities allows for income generation, allowing for improved education and health care options. As the specialist reports provide an insight into the environmental elements, provisions have been made for stringent public participation phases in order to take into account the interests, needs and values of all interested and affected parties. NEMA makes it evident that proposed developments must ensure that the environment and its resources must serve the public interest while protecting the environment.

It is explained in the Need and Desirability guideline that the need and desirability of a project is largely linked to time and place. The need in a moment of time and the desirability is linked to the place where development is to take place. In consideration of the business development, it is important to note in terms of the place that the site's location will benefit from the nearby access it has to the N2, as well as to surrounding residential areas. The proposed development will allow for simple access to an economic development within multiple industries.

Section 6.5 of the Socio-Economic Impact Assessment indicates the following in terms of Need and Desirability of the proposal:

**Table 9: Needs and desirability of proposed development (Socio-Economic Impact Assessment)**

<b>NEED</b>	
<b>Aspect</b>	<b>Comment</b>
Is the land use (associated with activity being applied for) considered within the timeframe intended by the existing approved Spatial Development Framework agreed to by the relevant environmental authority?	<p>The site is on privately owned land and is currently unused.</p> <p>The Mossel Bay Local Municipality's SDF (2022) highlights the Tergniet / Fraaiuitsig area for intensive development (both residential and business and residential densification over the coming years. It also identifies the vicinity around the proposed development as a critical high density business node.</p>
Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) occur here at this point in time?	<p>The Mossel Bay Local Municipality's IDP (2022-2027) promotes a more inclusive and integrated development. The IDP also plays emphasis on job creation and investment facilitation. The proposed development would support both outcomes.</p> <p>Additionally, several employment opportunities will be created by the proposed development.</p>
Does the community/area need the activity and the associated land use concerned? (is it a societal priority)	The proposed development will provide employment during the construction and operation phases.
Are the necessary services with appropriate capacity currently available, or must additional capacity be created to cater for the development?	Please refer to relevant specialist studies.
Is the development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement services and opportunity costs)?	Please refer to relevant specialist studies.
Is this project part of a national programme to address an issue of national concern or importance?	The proposed development does not fall part of a national programme however, it would promote economic growth through employment opportunities and poverty alleviation. It could contribute to the growth and development of the area, create an integrated and inclusive

	communities with higher socio-economic returns.
DESIRABILITY	
Aspects	Comment
Is the development best practicable environmental option (BPEO) for this land/site?	Please refer to relevant specialist studies.
Would the approval of this application compromise the integrity of the existing approved municipal IDP and SDF as agreed to by the relevant authorities?	The proposed development is situated in an area demarcated for medium to high density residential development in the SDF. The proposed development concept aligns with this purpose. The IDP promotes investment and job creation both of which would be supported by the proposed development
Would the approval of this application compromise the integrity of the existing environment management priorities for the area, and if so, can it be justified in terms of sustainability considerations?	Please refer to the relevant specialist studies.
Do location factors favour this land use (associated with the activity applied for) at this place? (relates to the contextualisation of the proposed land use on this site within its broader context)	The proposed development site is located within the preexisting residential area and can be readily accessed via Rooikat Road. The development concept aligns to the planned future nature of the area as set out in the SDF and associated precinct plan.
How will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas?	Please refer to relevant specialist studies.
How will the development impact on people's health and wellbeing (e.g. noise, odours, visual character, etc.)?	<u>Social Impacts:</u> The proposed development would benefit the surrounding community by providing employment opportunities both during construction and once the development is fully operational. It would also help to attract new investments into the area. <u>Noise/Visual Impacts:</u> Please refer to relevant specialists. However, during the construction phase there may be possible noise and visual concerns.

Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?	Should the development not occur, the land would remain in its current state. The proposed development would allow for better optimisation of the land and provide a higher level of social and economic benefits than when the site remains undeveloped.
Will the proposed land use result in unacceptable cumulative impacts?	From a socio-economic perspective, the proposed development is not envisioned to result in unacceptable cumulative impacts.

## 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.

This is not a linear activity.

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

This is currently the first round of PPP for this application. Proof will be included in the Appendix F

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

The following State Departments and Organs of State will be included in the Public Participation:

STATE DEPARTMENTS	
AUTHORITIES	NAME
Eskom: Land Development	Mr O Peters,
Western Cape Government: Department of Environmental Affairs and Development Planning - Development Management (Region 3)	Mr G Benjamin
DEA&DP: Pollution Management	Ms. A McClelland
Breede-Gouritz Catchment Management Agency	Mr C Abrahams
DAFF	Ms M Koen
Western Cape Government: Department of Transport and Public Works	Mr J Prodehl
Western Cape Government: Department of Agriculture	Mr C van der Walt
Heritage Western Cape	Ms W Dhansay
Western Cape Government: Department of Infrastructure	Vanessa Stoffels
Department of Health	Nathan Jacobs
ORGANS OF STATE	CONTACT PERSON
CapeNature	Mr C Fordham
	Ms M Simons
South African Civil Aviation Authority	Ms L Stroh
	Ms E Shogola

Garden Route District Municipality Executive Manager: Community Services	Mr C Africa
Garden Route District Municipality Executive Manager: Planning and Economic Development	Mr L Menze
Garden Route District Municipality: Environmental Management, Climate Change and Mitigation	Dr. N Viljoen
Mossel Bay Municipality: Infrastructure services	Mr D Naidoo
Mossel Bay Municipality: Community services	Ms E Nel
Mossel Bay Municipality: Water and Sanitation	Mr. E Louw
Mossel Bay Heritage Association	Ms R De Kock
Ward Councillor - Ward 4	Mr A. Janse van Rensburg
Mossel Bay Municipality	Jaco Roux
Mossel Bay Municipality	Colin Puren

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

Only relevant state departments will be consulted

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

To be included in the final BAR.

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.

To be included in the Final BAR

**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
1.2.	Provide the name and or company who conducted the specialist study.		
No specialist was appointed to undertake a groundwater study.			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
The proposed development is situated above a fractured, minor aquifer. Therefore, this has minimal impact on the proposed development but will be taken into account during the design phase.			
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.		
The depth to groundwater has been recorded as 23.56 mbgl, and is situated above a minor, fractured aquifer, that is indicated to have a medium to high susceptibility and moderate vulnerability, according to CapeFarmMapper, 2026.			
This will have minimal impact on the proposed development, and vice versa, given that the depth is considerable.			

### 2. Surface water

2.1.	Was a specialist study conducted?	YES	NO
2.2.	Provide the name and/or company who conducted the specialist study.		
Dr. James M. Dabrowski of Confluent compiled a Freshwater Compliance Statement.			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		
<p>The site falls within Primary Catchment K (Kromme) area and in quaternary catchment K10F. According to geospatial data sources no freshwater features are indicated to occur within the footprint of the property or within close proximity to the property. No aquatic features have been included in the Western Cape Biodiversity Spatial Plan (WCBSA) covering the property. Furthermore, the site does not fall within a sub-quaternary catchment (SQC) that has been categorised as a Freshwater Ecosystem Priority Area (FEPA) or a Strategic Water Source Area (SWSA).</p> <p>The site visit was conducted on 21 April 2023 by Dr. Dabrowski, during which time the entire extent of the property was traversed by foot. The property slopes gradually inwards from the north and south to form a broad valley. There are however no clear areas of natural drainage on the property and no hydro-geomorphological landscape features (depressions, confined valleys, channels etc.) indicating the presence of a watercourse (i.e., stream, river or wetland) (Figure 11). A small dam is present in the north-western most corner of the property. This dam is clearly artificial and was dry at the time of the visit. The dam does not appear to receive water regularly and the basin of the dam was vegetated with predominantly terrestrial plant species. There were a few small patches of hydrophilic wetland plant species (e.g., Juncus) where water is likely to accumulate following periods of heavy rainfall. The dam is not a natural wetland and provides no ecological function from an aquatic biodiversity perspective. Soil on the site is very sandy and, under wetter seasonal or short-term climatic conditions, is unlikely to retain water for long enough to result in the formation of temporary or seasonal wetland habitat. It can therefore be concluded, with a high degree of confidence, that no freshwater features occur within the footprint of the property.</p> <p>In terms of legislation pertaining to the NWA, the property falls outside of the regulated area of any nearby watercourses (i.e., greater than 100 m and 500 m away from a river/stream and natural wetland, respectively).</p>			



Figure 10: Photographs of the property including view to the north (A), view to the south (B), view to the east (C) the basin of the dam (D) view of the dam from above (E).

**3. Coastal Environment**

3.1.	Was a specialist study conducted?	YES	<b>NO</b>
3.2.	Provide the name and/or company who conducted the specialist study.	No coastal specialist input was required.	
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.	This was not applicable as the proposed site is not within a coastal property.	
3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.		

	This was not applicable as the proposed development will have no impact on an estuary.
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.

#### 4. Biodiversity

4.1.	Were specialist studies conducted?	<b>YES</b>	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		
	Chepri (Pty) Ltd - Dr. ML van der Vyver – Please note that Chepri was initially appointed to undertake the site assessment however were unable/not willing to assess the alternatives presented to them, Alternatives are required for the EIA process and as such Blue Skies Research (Dr Jacobus H. Visser) was appointed to complete the assessment of the alternatives.		
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.		
	<p>The Western Cape Biodiversity Spatial Plan (WCBS), VEGMAP SANBI 2018, IUCN. 2021. The IUCN Red List of Threatened Species. Version 2021-3, National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004): Publication of lists of critically endangered, endangered, vulnerable and protected species, Government Notice No. 2007 (Gazetted 14 December 2007). Some of the systematic conservation planning and biodiversity informants used when compiling their reports at the desktop level.</p> <p>According to the report by Blue Skies Research:  The Western Cape Biodiversity Spatial Plan (WCBS), 2017 (Pool-Stanvliet et al. 2017) and the National Vegetation Map (Dayaram et al. 2019) identifies the vegetation types in the larger northern part of the site as Groot Brak Dune Strandveld with a small southern section harbouring Canca Limestone Fynbos. Currently, these vegetation types are listed as “Endangered” ecosystem and “Least Threatened ecosystem types respectively (Figure 12) according to The Revised National List of Ecosystems that are Threatened and in Need of Protection (Government Notice No. 2747 of 18 November 2022). In the 2018 beta Vegetation Map, however, the vegetation on the entire site has been mapped as Hartenbos Dune Thicket (VegMap, 2018; Figure 13). Even so, only small remnants of natural vegetation remain on the site.</p>		

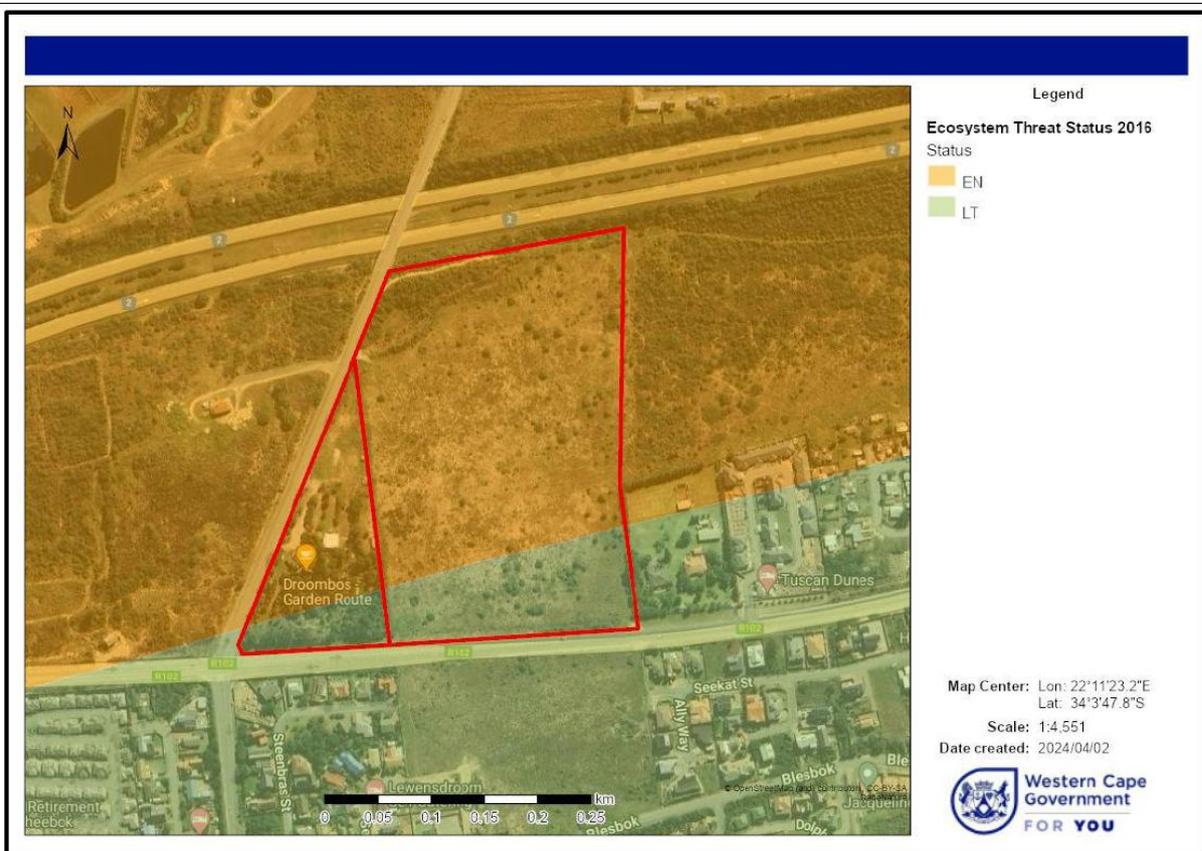


Figure 11: Spatial location of ecosystems and their threat statuses according to The Revised National List of Ecosystems that are Threatened and in Need of Protection (Government Notice No. 2747 of 18 November 2022, overlapping with the study area (Red polygon = Study area; information sourced from Cape Farm Mapper version 3, Western Cape Department of Agriculture).



Figure 12: Vegetation type across the study area (VEGMAP, SANBI 2018; Red polygon = Study area; map generated in Cape Farm Mapper version 3, Western Cape Department of Agriculture).

Land cover within the study area comprises commercial annual crops rain-fed / dryland over the larger part with smallholdings (trees) in the south-western portion and a mosaic of low shrubland (fynbos) and dense forest & woodland along the northern margin (Land Cover 73-class, Department of Environmental Affairs, 2020; Figure 14). Overall, these designations of land cover were found to accurately reflect the habitat conditions on the site.

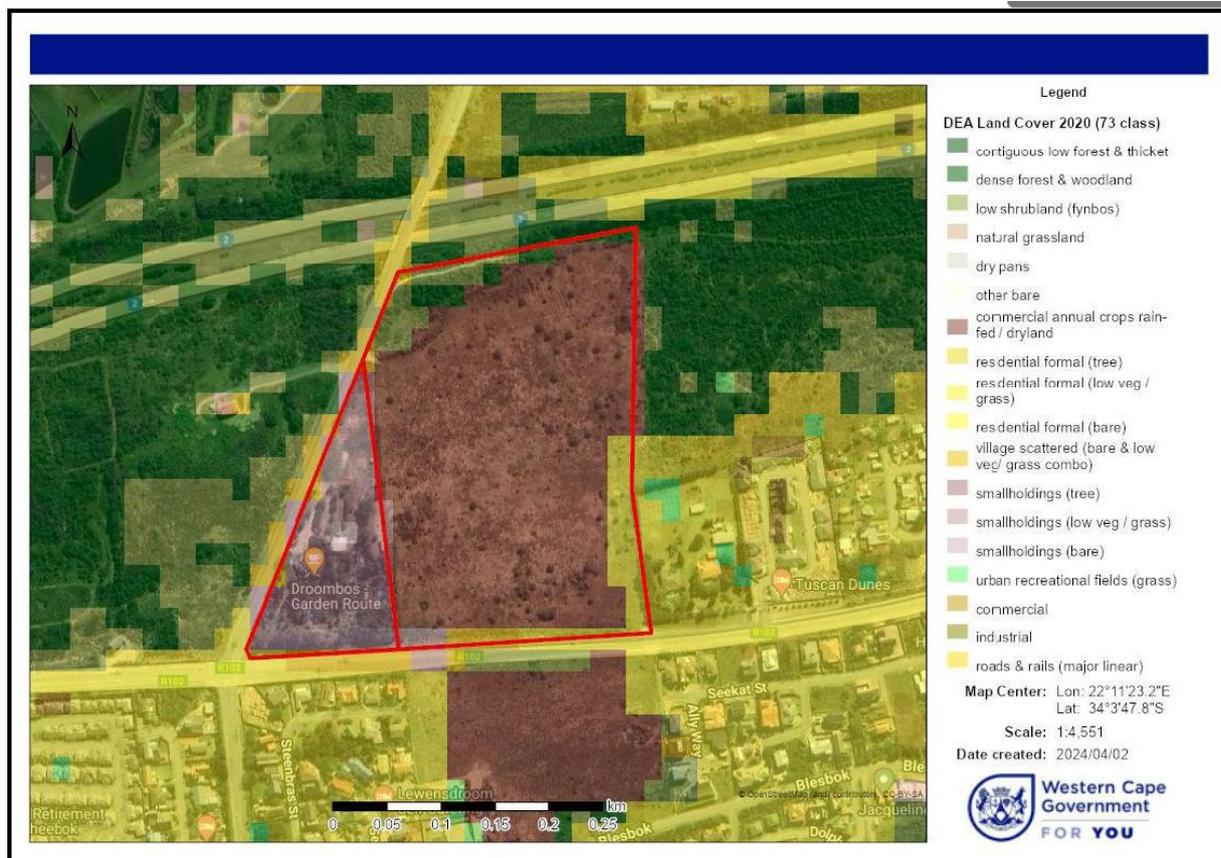


Figure 13: Land cover (Land Cover 73-class, Department of Environmental Affairs, 2020) within the study area (Red polygon = Study area; information sourced from Cape Farm Mapper version 3, Western Cape Department of Agriculture).

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.

According to the Terrestrial Faunal and Avifaunal Species Compliance Statement (compiled by Blue Skies research):

Critical Biodiversity Areas (CBAs) are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan (Purves and Holmes, 2015). Currently, the northern margin of the site is mapped as a mix of terrestrial CBA1 and CBA2 (Figure 15). The presence and integrity of these CBAs are discussed in Section 12.



Figure 14: Spatial locations of Critical Biodiversity Areas (CBAs) overlapping with the study area (Red polygon = Study area; information sourced from Cape Farm Mapper version 3, Western Cape Department of Agriculture).

#### Overlap with Critical Biodiversity Areas (CBAs)

Following the ground-truthing phase, the following conclusions may be drawn:

- The site harbours degraded habitats retrieved as having a "Very low" SEI.
- The site harbours an impaired terrestrial faunal and avifaunal diversity.
- The site displays compromised biodiversity and ecological characteristics and ecosystem dynamics.
- The site does not serve as an important or highly functional ecological corridor in the broader study area landscape.

Although the northern margin of the site is mapped as a mix of terrestrial CBA 1 and CBA 2, the study area therefore fails to meet the criteria of these categories defined as:

CBA 1: "Areas in a natural condition that are required to meet biodiversity targets for species, ecosystems, or ecological processes and infrastructure."

and

CBA 2: "Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure."

Taken together, the study area is of little value in meeting biodiversity targets and offering ecosystem services or supporting ecological processes. To this end, this further indicates that the site is of a lower sensitivity and is therefore developable from a faunal sensitivity perspective.

Even though Blue Skies has indicated that the whole site is suitable for the proposed development, a 40m ecological corridor has been incorporated within the northern section of the site. With the N2 road reserve bordering the site the whole corridor is just over 50m wide to maintain connectivity.

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.
<p>Current impacts within the study area include the following:</p> <ul style="list-style-type: none"> <li>• The study area has been subjected to radical past vegetation clearance, thereby degrading the habitat structure to a predominantly grassland phase.</li> <li>• The northern-western part of the site harbours thick stands of alien and invasive vegetation.</li> <li>• The study area is fenced over its entirety.</li> <li>• The property is situated next to very busy roads (including a national highway, a provincial road and a municipal road) on its northern, western and southern borders, densely populated residential area next to its south and south-eastern border and developed agricultural farmlands to its north thereby isolating the site and limiting its functionality as a corridor for faunal movement.</li> <li>• The south-western corner of the site comprises a fenced off area which is currently used as a nursery and restaurant which include a parking lot, a building and footpaths.</li> <li>• A non-perennial man-made dam is situated on the north-western corner of the property.</li> <li>• The site does not harbour suitable habitat for any of the faunal SCC considered.</li> </ul> <p>Currently, these impacts appear severe to the point where the ecological integrity of the site has been compromised to such a degree that only a low number of common terrestrial faunal and avifaunal species are present.</p> <p>Anticipated project impacts: Planned development activities for the proposed development footprint will include the clearing of vegetation, soil preparation, installation of roads and services and construction of building and infrastructure. Impacts from these activities during the construction phase will include:</p> <ul style="list-style-type: none"> <li>• Destruction of habitat,</li> <li>• direct mortality of fauna, and</li> <li>• vibration and noise (from machinery and people).</li> </ul> <p>The placement of the proposed project footprint currently overlaps a relatively small area (10.6 hectares) of degraded habitat which harbours a low faunal diversity, is retrieved as having a "Very low" SEI and does not serve as an important ecological link in the broader landscape. To this end, impacts from the proposed development are expected to lead to the loss of only a relatively small area of degraded habitats and small subpopulations of burrowing species of "Least Concern" during the construction phase. From a broader conservation perspective, this loss of habitat and species is acceptable given that this should not compromise biodiversity targets on either a local, regional or national scale.</p> <p>During the operational phase the entire study area will be developed for business and residential purposes. Impacts to the surrounding environment will therefore include:</p> <ul style="list-style-type: none"> <li>• Possible pollution of the surrounding environment,</li> <li>• predation by domestic pets (cats and dogs),</li> <li>• collision of fauna with vehicles, and</li> <li>• vibration and noise (from vehicles and people).</li> </ul> <p>Considering the spatial location of the study area along with existing impacts these impacts will not be a novel feature to the surrounding receiving environment and are not expected to drastically affect biodiversity and ecological patterns in the broader study area landscape.</p>	
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	
4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

According to the Terrestrial Faunal and Avifaunal Species Compliance Statement (Blue Skies Research):

Overall, terrestrial faunal and avifaunal diversity and abundances appear relatively low and is comprised of relatively common species of "Least Concern" (IUCN, 2021). This impaired faunal diversity is likely a result of the degraded and isolated nature of the site. For instance, the larger part of the site exists in a degraded and open state from radical clearing practices that took place before 2004 (20 years ago), with the north-western corner characterised by alien and invasive plant species and the south-western part comprising a built-up area. Furthermore, the site is situated next to busy roads (national highway, provincial and municipal roads from where daily noise and vibration is evident), a densely populated residential area to the south and south-east border and developed agricultural farmlands to the north which isolates the site from surrounding natural areas in the landscape.

Taken together, there appears to be very few intact predator-prey dynamics on the site, with ecosystem dynamics appearing highly compromised. To this end, the study area does not appear to function as an important ecological link and faunal dispersal corridor in the study area landscape, rendering it of a lower sensitivity in a biodiversity and ecological context.

## 5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.

The geography of the site influenced the designs of the layout and the services layout. The site is relatively flat with the lowest point being near the centre of the site and sloping east as seen in Figure 16. The service infrastructure was therefore designed taking this into account.

According to the Civil Engineering Services Report:

The topography across the site is the steepest at approximately 8.6% from the southwestern portion of the site, falling towards the natural drainage line, which passes through the site, draining in an easterly direction. The site flattens out on both banks of the floodplain and gently ascends on the northern banks of the site.



Figure 15: Site Contours

### Stormwater

According to the stormwater management plan - Consolidation rezoning and subdivision of Erf 998 Tergniet and ptn 5 of Zandhoogte no.139, Mossel dated October 2025:

Due to the topography of the site, the lack of existing stormwater infrastructure in the area and the environmental benefits, it is proposed that the stormwater generated by the proposed development be managed by a Sustainable Urban Drainage System (SUDS) rather than a conventional stormwater system. A conventional stormwater system manages the stormwater by collecting the runoff and channelling it into the nearest stormwater watercourse, whereas the SUDS approach aims to mimic natural hydrological cycles, which prevents erosion of natural channels, siltation of water bodies and pollution, reducing environmental degradation. SUDS embraces a number of options that are arranged in treatment trains, which helps to improve the efficiency and the resiliency of the system. There are three stages in the treatment train, each having slightly different combinations of SUDS options to control the stormwater:

1. **"Source Controls"** manage stormwater runoff as close to its source as possible, typically on site.

Typical SUDS options include green roofs, rainwater harvesting, permeable pavements and soak aways.

2. **"Local Controls"** manage stormwater runoff in the local area, typically within the road reserves.

Typical SUDS options include bio-retention areas, filter strips, infiltration trenches, sand filters and swales.

3. **"Regional Controls"** manage the combined stormwater runoff from several developments. Typical

SUDS options include constructed wetlands, detention and retention ponds.

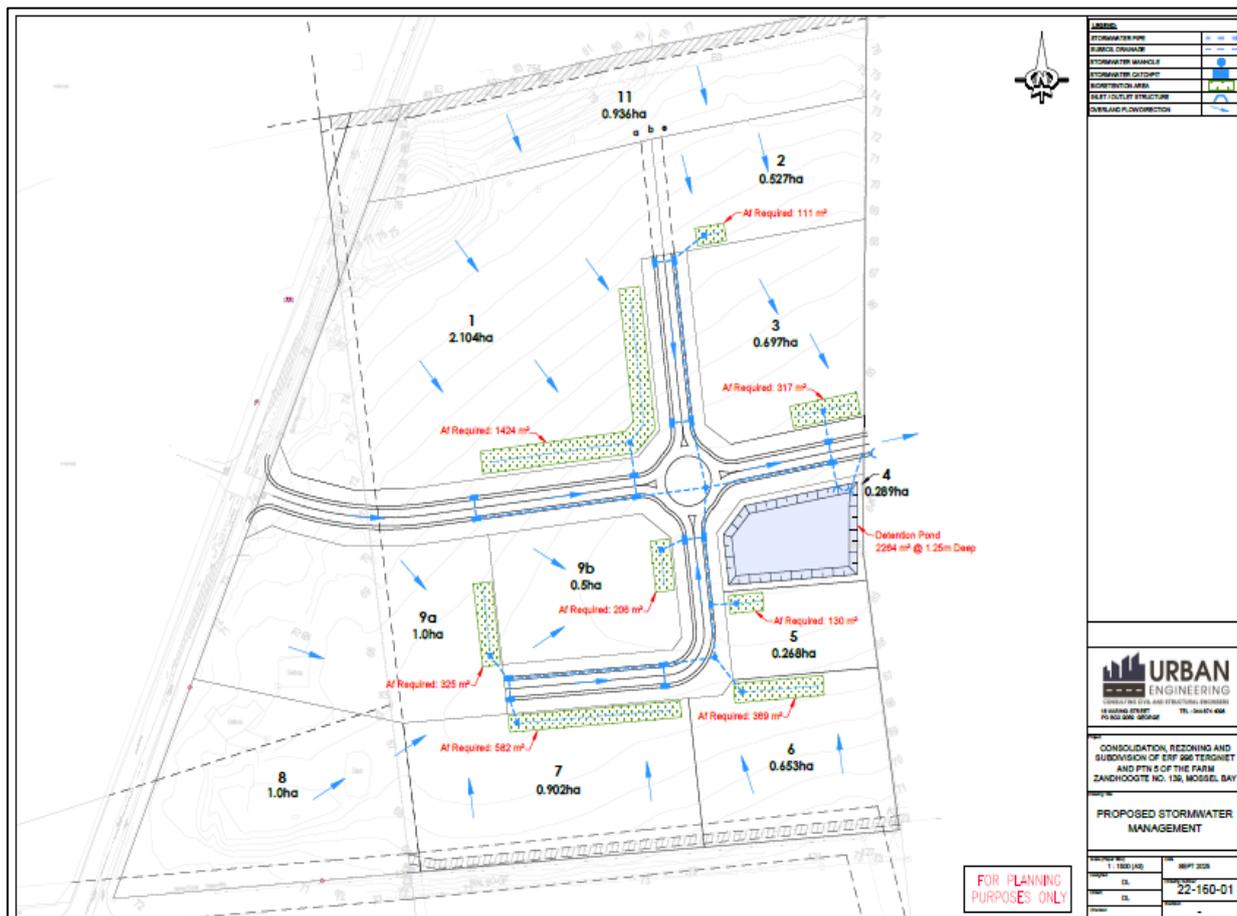


Figure 16: Stormwater layout Plan

The National Road (N2) along the northern boundary of the proposed development acts as a cut-off drain for any runoff from the north, the DR1578 (Sorgfontein Road) acts as a cut-off drain for stormwater from the west of the proposed development, and the MR344 acts as a cut-off drain for stormwater from the south of the proposed development. There is an existing headwall structure and culvert that conveys stormwater from the north of the MR344, discharging via a headwall structure to the south.

The site consists of a catchment area of 102 360 m<sup>2</sup>. A low point is situated close to the eastern border of the site, approximately 140 m to the north of MR344. The northern portion of the site drains in a southeastern direction towards the low point with an average gradient of approximately 6,6%. The southern portion drains in north-northeastern direction towards the low point with an average gradient of approximately 4%. Table 1 summarizes the site characteristics in terms of the pre-development scenario. Based on the available information the site is currently only approximately 1,8 % impervious.

*Table 10: Pre development site characteristics*

Scenario	Total site area (m <sup>2</sup> )	Impervious area (m <sup>2</sup> )	Impervious %
Pre-development	102 360	1885	1,8

According to the SWMP report, the development area was modelled with the PCSWMM program to determine stormwater runoff for the pre-development scenario for each of the storm events. Stormwater will accumulate at the low point on the eastern border of the site and drain further east. The peak pre development flow and total runoff volume from the catchment area during the various storm events are indicated in Table 2.

*Table 11: Pre development stormater runoff*

Recurrence Interval storm event	Pre-development runoff (m <sup>3</sup> /s)	Runoff volume (m <sup>3</sup> )
1:2	0.006	82
1:5	0.082	324
1:10	0.193	695
1:20	0.344	1 210
1:50	0.617	2 120
1:100	0.890	3 000

The development area was modelled with PCSWMM software to determine runoff for the post-development scenario for each of the storm events. It is anticipated that the development portions and roads will roughly follow the existing topographical characteristics of the current site, and the peak flow was measured at the low point on the eastern border of the property to be comparable to the pre-development scenario. The peak post-development flows and total runoff volumes from the site for the various storm events are indicated in Table 3. Stormwater runoff from the site will increase considerably because of the development.

*Table 12: Post development stormwater run off*

Recurrence interval storm event	Post-development runoff (m <sup>3</sup> /s)	Runoff volume (m <sup>3</sup> )
1:2	0.567	2440
1:5	0.916	3760
1:10	1.212	4830
1:20	1.562	6010
1:50	2.079	7800
1:100	2.483	9350

Water quality control measures:

Due to detailed site development plans for each land use portion not available, exact details regarding layouts, positions, elevations and inlet and outlet structures of quality control measures cannot be prescribed at this time. Several viable measures are however explored in the following sections which include enhanced swales, permeable paving and bioretention ponds.

- 4) Enhanced swales (also called bioswales, vegetated channels, or water quality swales) are engineered open channels designed to convey runoff while also capturing and treating the water quality volume (WQv) from a drainage area. Unlike standard swales, they include design features that improve pollutant removal. They are typically constructed with gentle slopes to slow flows, reduce erosion, and allow sediments to settle. Check dams or berms placed across the swale further encourage settling and infiltration.

Enhanced swales are suitable for various developments but are most effective in low- to medium-density residential or institutional areas with limited impervious cover, as well as along roads and highways. Common applications include large-lot housing, small impervious sites such as rooftops and parking areas, and rural road corridors.

- 5) Modular permeable paver systems are load-bearing pavement units with evenly spaced voids filled with pervious materials such as gravel. This design allows stormwater to infiltrate through the surface, reducing runoff volume, improving water quality, and supporting groundwater recharge. By replacing conventional paving, they also decrease a site's impervious area. These systems are typically installed over a stone aggregate base that serves as both structural support and a temporary storage layer. Runoff passes through the paver surface into the gravel base, where it gradually infiltrates into the subsoil. To function effectively, subgrade soils must have sufficient infiltration capacity to drain the captured runoff within 48–72 hours.
- 6) Bioretention ponds are engineered stormwater facilities that capture and treat the water quality volume (WQv) within shallow landscaped basins using soil and vegetation. Runoff enters a treatment zone typically made up of a ponding area, mulch or organic layer, engineered soil, and vegetation. Where soils are permeable, water infiltrates into the ground; where infiltration is poor, treated runoff is collected by an underdrain and discharged to the drainage system. Unlike simple rain gardens, bioretention areas are fully engineered to handle larger drainage areas and often include underdrains to ensure reliable performance.

From the stormwater management plan for the proposed consolidation, rezoning and subdivision of Erf

998 Tergniet and Portion 5 of the Farm Zandhoogte No. 139 Mossel Bay the following can be concluded:

- That on-site water quality control measures including enhanced swales, permeable paving and bio-retention ponds be implemented to provide adequate treatment of stormwater runoff for the ½ year 24-hour storm event;
- That the proposed water quality control measures alone will not suffice to attenuate and reduce stormwater runoff from the developed site to that of the pre-developed state, especially for larger storm events. A detention pond near the low point of the site on Portion 4 is therefore proposed.

**6. Heritage Resources**

6.1.	Was a specialist study conducted?	<b>YES</b>	NO
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6.2.	Provide the name and/or company who conducted the specialist study.
Jonathan Kaplan (Agency for Cultural Resource Management)	
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.
	<p>A NID was compiled by Jonathan Kaplan of Agency for Cultural Resource Management and issued to Heritage Western Cape. On the 30<sup>th</sup> of July 2021, it was confirmed via the Case Officer, Ms S Barnardt, that the case number: 21062910SB0709E, was discussed at the Heritage Officers meeting held on 19 July 2021.</p> <p>It was concluded that since there is no reason to believe that the proposed mixed-use development on Erf 998 and a portion of RE/139 Zandhoogte, Tergniet, Mossel Bay will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.</p> <p>However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay. The Heritage Western Cape Fossil finds procedure to be included in environmental authorization.</p> <p>Therefore, the area doesn't contain any sensitive heritage resources, that could have an influence on the development.</p>

## 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.	
	<p>A NID was compiled by Jonathan Kaplan of Agency for Cultural Resource Management and issued to Heritage Western Cape. On the 30<sup>th</sup> of July 2021, it was confirmed via the Case Officer, Ms S Barnardt, that the case number: 21062910SB0709E, was discussed at the Heritage Officers meeting held on 19 July 2021.</p> <p>It was concluded that since there is no reason to believe that the proposed mixed-use development on Erf 998, Tergniet, Mossel Bay will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.</p> <p>However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay. The Heritage Western Cape Fossil finds procedure to be included in environmental authorization.</p> <p>Therefore, the area doesn't contain any sensitive heritage resources, that could have an influence on the development.</p>

## 8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.
	<p>The proposed development is located within the region of Groot Brakrivier, the MSDF (2018) describes this area as an old establishment in which development has grown in the past 20 years. Unlike many of the coastal settlements in the municipality, Groot Brakriviers population is over 90% permanent, reflecting its origins as an economic centre rather than a holiday destination. The settlement has a very distinctive urban quality ranging from buildings set around the fringe of the floodplain to pockets of development dispersed upon the heavily vegetated hills within the area. Large economic nodes are identified to be located at Groot-Brak station, Long Street/R102 intersection and the historic CBD. The community and surrounding area are within the proposed developments direct vicinity includes a mix of residential and commercial land uses, with</p>

the N2 situated within close proximity of the proposed development. A quarry exists to the West, within close proximity to the development. Groot Brakrivier has total population of approximately 9 157 and 2 505 households exist within the area. Four Educational and three cultural facilities are present within the community, as well as two health care facilities.

The Mossel Bay IDP (2017) notes that the Commercial services sector contributed more than 50% towards the Municipalities GDP in 2015 and has grown at a steady pace of 4.4% per year between 2005 and 2015, faster than the municipal average of 3.2%. This sector employed 50,7 per cent of the Municipality's workforce (making it the largest employer). A large proportion (27,6%) of the industry's workforce are classified as Semi-skilled, while 10,8 per cent are classified as low-skilled and 22,0% are classified as skilled.

8.2. Explain the socio-economic value/contribution of the proposed development.

Ramp Economics was appointed to compile the Socio-Economic Impact Assessment for the proposal (Appendix G9).

According to the Report:

**Assessment of Base Scenario (Alternative A)**

This section discusses the economic impacts of the construction and operation of the development according to the preferred Alternative A.

**Capital Expenditure (CAPEX) - Base Case (Alternative A)**

This section demonstrates the potential economic impact of the construction phase of the proposed development. It must be noted that these impacts are temporary and will only last for the duration of the construction period. This phase will utilise a combination of both intensive labour and machinery to construct the development.

Table 10 presents the estimated development costs during the construction phase of the development. It should be noted that the values presented in the Table represent the total costs associated with the full development of the site including the construction of all top structures. The proposed development is likely to be phased. As such, the costs and impacts presented in the section could vary based on the final number of structures built and the phasing thereof.

**Table 13: Estimated full development costs, 2024**

Property Description	Development Cost
Intermediate Business	R 88,200,000.00
Institution	R 29,400,000.00
Town Housing	R 49,200,000.00
Private Open Space	R 270,000.00
High Intensity Business	R 25,200,000.00
Low Rise Apartments	R 46,800,000.00
Mixed Zone	R 49,500,000.00
Private Open Space	R 4,500,000.00
Intermediate Business	R 42,000,000.00
Internal Roads	R 10,000,000.00
Bulk Electrical	R 19,952,000.00
Water & Sewerage	R 5,000,000.00
Other / General Civil Works	R 7,000,000.00
Professional Fees (10%)	R 37,702,200.00
<b>Total</b>	<b>R 414,724,200.00</b>

The total cost of the land development phase is estimated at approximately R 415 million.

### **CAPEX Impact Assessment Results**

Table 11 shows the impact modelling results that are likely to arise during the construction phase of the proposed development.

**Table 14: Construction phase economic impacts**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Production (R' millions)	R414.7	R547.3	R157.3	R1,119.3
GDP (R' millions)	R81.4	R173.3	R59.6	R314.3
Employment	177	884	264	1,328
Income (R' millions)	R43.5	R69.9	R22.6	R136.1

The table depicts that the construction of the proposed development will generate approximately R 1.1 billion in additional new business sales or additional production. Approximately R 415 million of this amount will be created through direct effects and R 704 million through indirect and induced effects.

The positive impact on production due to the capital expenditure incurred during the construction phase of the development contributed to a total positive estimated impact on GDP of R 314.3 million. Direct and indirect impacts contributed to R 81.4 million and R 173 million, respectively, together with an additional R 59.6 million of induced impacts.

The model suggests that 1328 direct, indirect, and induced jobs will be created during the construction of the estate, which in turn will increase household incomes by R 136 million.

### **Operational Expenditure (OPEX) - Base Case (Alternative A)**

After the completion of the construction phase of the proposed development, there will be further economic impact and impact on the study area through the ongoing annual operational functions of the development.

The following table (Table 12) shows the projected operational expenditure for the broader development. This is for the operation of the development itself and does not consider the operational expenditure of the various tenants of the development.

**Table 15: Operating Expenditure**

<b>Operating Budget</b>	<b>Value</b>
Accounting & Legal Fees	R 4,393
Advertising and Marketing	R 25,840
Bank Charges	R 3,618
Insurance	R 594,329
Office Supplies & Printing Costs	R 284,244
Rent	R 25,840
Repairs and Maintenance	R 439,287
Salaries & Wages	R 180,883
Security	R 38,761
Telecom & Travel	R 19,380
Utilities	R 67,185
<b>Total</b>	<b>R 1,683,760</b>

### **OPEX impact assessment results**

Table 13 shows the impact modelling results that are likely to arise during the operational phase of the proposed development, looking specifically at the operational activities involved in the upkeep and operation of the development itself i.e. not including tenants activities.

**Table 16: Operational phase economic impacts – Property management**

	Direct	Indirect	Induced	Total
Production (R' millions)	R 1.7	R 1.3	R 0.8	R 3.9
GDP (R' millions)	R 0.9	R 0.6	R 0.3	R 1.8
Employment	2	2	1	6
Income (R' millions)	R 0.2	R 0.1	R 0.1	R 0.3

During the operational phase of the proposed development a total of R 3.9 million in additional production will be generated on an annual basis through direct, indirect, and induced effects. The increase in production will impact on GDP which will be rise by an estimated R 1.8 million in total. The modelling suggests that a total of 6 additional employment opportunities will be created across the regional and national economy during the operation phase, increasing household income by just over R 300 000 per annum.

### **Tenant Operations**

The table below (Table 14) shows the calculated operational economic impacts arising from tenant activities at the development, i.e. the economic impacts resulting from tenants operating their businesses and includes the impacts of employment.

These figures are informed by information received from the client on the expected tenants and the operational profile of each tenant and regional data on trading densities for establishments within similar settings.

**Table 17: Operational phase economic impacts - Tenants**

	Direct	Indirect	Induced	Total
Production (R' millions)	R82.0	R48.8	R54.0	R184.9
GDP (R' millions)	R43.0	R21.9	R21.8	R86.7
Employment	60	59	68	188
Income (R' millions)	R10.6	R8.6	R8.8	R28.0

Here it is seen that tenant operations will lead to increases in production of R185 million per year resulting in a net gain to local GDP of R 87 million per year. It is estimated that tenants will employ 60 persons directly with a further 128 jobs created across the economy. This will have the effect of generating R10.6 million in increased wage income directly to employees at the development per annum, with a total wage income impact of R28 million per year.

### **Total Operations**

In total it is calculated that on average, using 2024 prices, the development will create a total impact on local GDP of R88.5 million per year and result in the sustainable employment of 194 individuals.

**Table 18: Operational phase economic impacts - Total**

	Direct	Indirect	Induced	Total
Production (R' millions)	R 83.7	R 50.2	R 54.8	R 188.7
GDP (R' millions)	R 43.9	R 22.5	R 22.1	R 88.5
Employment	62.5	61.6	69.7	193.9
Income (R' millions)	R 10.8	R 8.7	R 8.9	R 28.3

**Assessment of Alternate Scenario**

This section discusses the economic impacts of the alternate scenario in which the buffer to the North of the property to the main roadway is increased from 40m to 80m, thus reducing the size of the development.

**Table 19: Construction phase impacts – Alternate scenario**

	Direct	Indirect	Induced	Total
Production (R' millions)	R364.2	R480.5	R138.1	R982.8
GDP (R' millions)	R71.4	R152.2	R52.3	R276.0
Employment	155	777	232	1,166
Income (R' millions)	R38.2	R61.4	R19.8	R119.5

Due to the reduction in developable area, total construction expenditure is reduced which naturally leads to a smaller economic impact. In the alternate scenario, the total construction cost is estimated to contract to R364 million with the total impact on production calculated at R983 million. The total impact on GDP is calculated to be R276 million. Employment during construction is calculated to be 155 directly on site with a further 1008 jobs created during the construction phase. In total the impact on wage income will be R38 million through direct employment with a further R81 million generated through indirect and induced impacts.

**Table 20: Operational phase impacts – Alternate scenario**

	Direct	Indirect	Induced	Total
Production (R' millions)	R 63.8	R 38.0	R 42.0	R 143.8
GDP (R' millions)	R 33.5	R 17.0	R 17.0	R 67.5
Employment	45.0	44.3	50.9	140.3
Income (R' millions)	R 7.9	R 6.4	R 6.6	R 20.9

As the development will be smaller in size, the number and scale of potential tenants will be affected resulting in a reduction in the impacts of operational impacts. In the alternate scenario, the direct impact on production / business sales is expected to be R63.8 million. Including the indirect and induced impacts this rises to R143.8 million. This business activity will stimulate R67.5 million in GDP contribution across direct, indirect, and induced impacts. Direct employment is estimated to be 45 under this scenario, with total sustainable employment created across the economy calculated at 140. The impact on wage income is calculated at R20.9 million across all impact categories.

**Impact of Alternate Development**

Comparing the figures of the base case scenario and the alternate scenario shows the potential impact of imposing the 80m buffer. Through the construction phase, developing according to the alternate layout schema will result in a loss of R136.5 in production to the local economy (combining direct, indirect, and induced impact types). This will lead to a net loss to the local GDP of R38.3 million.

Construction phase employment will be reduced by 22 jobs directly on site, and a further 140 jobs through indirect and induced impacts for a total opportunity cost of 162 jobs. The lost wage income during the construction phase is calculated at R16.6 million.

**Table 21: Construction phase impacts – Net Loss**

	Direct	Indirect	Induced	Total
Production (R' millions)	- R50.6	- R66.7	- R19.2	- R136.5
GDP (R' millions)	- R9.9	- R21.1	- R7.3	- R38.3
Employment	- R21.6	- R107.8	- R32.2	- R161.9
Income (R' millions)	- R5.3	- R8.5	- R2.8	- R16.6

In terms of operations, the alternate development case will result in a direct loss of R18.2 million in business per annum and a total of R41 million in lost business across the economy. This will yield a net loss of GDP of R19.3 million per annum across all impact categories.

Direct employment is reduced by 15 jobs, with a further 33 jobs lost through indirect and induced impacts for a total of 48. The impact on wage income is calculated at R7.1 million per annum.

**Table 22: Operational phase impacts – Net Loss**

	Direct	Indirect	Induced	Total
Production (R' millions)	- R 18.2	- R 10.8	- R 12.0	- R 41.0
GDP (R' millions)	- R 9.6	- R 4.9	- R 4.8	- R 19.3
Employment	- 15.4	- 15.2	- 17.4	- 48.0
Income (R' millions)	- R 2.7	- R 2.2	- R 2.2	- R 7.1

**Impact of No Development (No-Go Alternative)**

The impact of no development occurring on the site will result in opportunity cost. Opportunity cost refers to what is lost or what is given up when a “no go” alternative decision is made. It is an economic concept, representing a trade-off in any decision-making process. The impact of no development on the site means that the socio-economic impacts shown in the impact modelling will be lost.

The figure below illustrates the total opportunity cost during the construction and operation phase of the proposed development.

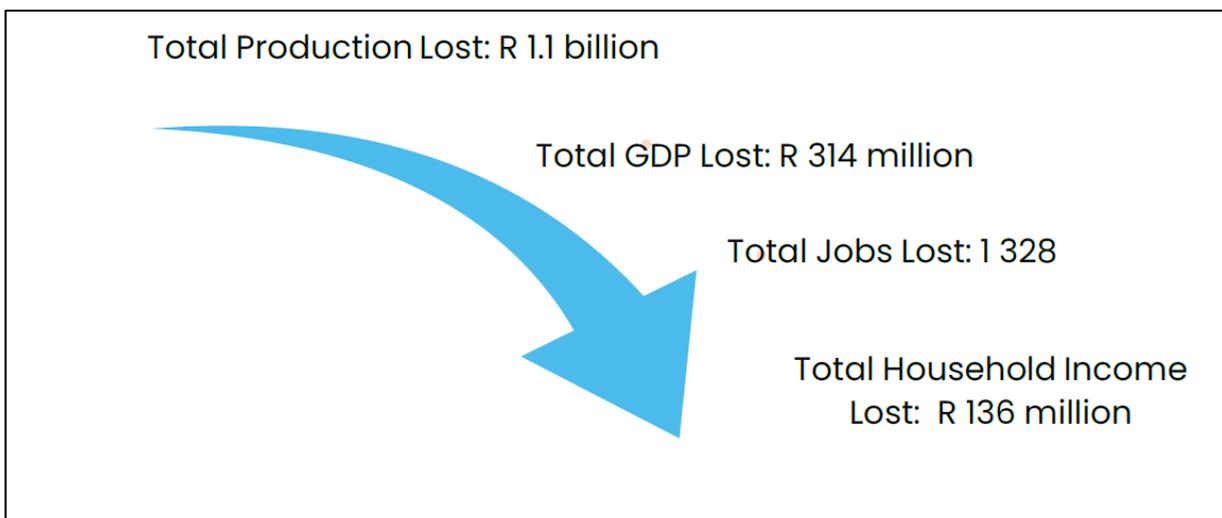


Figure 17: Total opportunity cost for the proposed development

During the construction phase of the proposed development the opportunity cost will result in a R 1.1 billion potential loss in production revenue and a potential opportunity cost of R 314 million towards GDP. This will further result in an opportunity cost of 1 328 jobs and R 136 million in household income. The impact of no development during the operational phase means an opportunity cost of R 3.9 million of potential production and R 1.8 million towards GDP per annum. The opportunity cost of no development will be the potential loss of R0.3 million in household income per annum and 6 jobs.

Since the site is vacant and generates no revenue currently, the opportunity cost of no development on the site will impact the local community, as the proposed development will help improve the standard of living of local communities.

8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.
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The applicant will employ individuals from historically disadvantaged backgrounds, employees will also be trained when working at the facility, this will allow for skills transfer and growth of knowledge. The proposed development also seeks to extend the economic support generated by employment within the community. The benefit that an income brings to an unemployed household is allows families to uplift themselves.

Additionally, the development will serve the surrounding area through the mixed-use developments that will result from the implementing the proposal.

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.
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The proposed development is directly aligned with Section 26(1) of the Constitution which states that "Everyone shall have the right of access to adequate housing", as it has been identified that there is a high demand for housing, particularly those specifically designed to support the elderly.

During the construction phase, this project will impact upon the surrounding community, by creating various impacts, including, but not limited to dust, noise, visual impacts, and alteration of sense of place. Mitigation exists where possible, and has been discussed in this document, as well as in the EMPr (see Appendix H). It is pertinent to note that these impacts will be somewhat temporary, and those that may linger (i.e., visual and alteration to sense of place), may change permanently, but can have a positive impact thereafter.

It will further affect the health and well-being of potential employees within the complex, and for the people involved in current or future local businesses, as the development will provide long-term employment opportunities for people of various skill levels, which will impact upon, and improve the health and well-being of their families, as an income is created within many households.

Eco-Thunder Consulting was appointed to compile a Visual Impact Assessment (VIA) for the proposal, Attached as Appendix G8. Please refer to the assessment of impacts for the potential impacts and their significance ratings as identified in the VIA.

According to the VIA environmental impact statement and conclusion:

The VIA for the proposed Tergniet Mixed-Use Development has been conducted with a comprehensive analysis of the potential visual impacts across all phases of the project, including construction, operation, and decommissioning. This assessment considers the project's visibility from key viewpoints, the potential impact on residents and scenic corridors, and the effectiveness of proposed mitigation measures.

Based on the findings, the project site demonstrates a moderate capacity to absorb the visual changes due to the existing semi-urban and agricultural landscape, as well as its proximity to transport routes like the N2 and R102. The operational phase introduces new structures and activities that will alter the landscape and potentially affect the sense of place for nearby residents. However, with the implementation of key mitigation measures—such as vegetative

screening, landscape integration, and lighting management—the visual impacts can be reduced to an acceptable level.

The visual impact of the development is not anticipated to result in significant or irreversible visual disruption. Furthermore, the mitigation strategies outlined align with industry best practices and are deemed practical and achievable within the project's scope. The overall landscape character, which consists of mixed residential, agricultural, and open spaces, can accommodate the proposed development without compromising the visual integrity of the area.

In addition to site-specific impacts, cumulative visual impacts were evaluated considering other developments along the N2 and R102 corridors. The introduction of the Tergniet Mixed-Use Development will contribute to the evolving landscape character, but it aligns with the region's broader development trends. Given the existing infrastructure and semi-urban context, the project is unlikely to result in significant cumulative visual disruption. However, continued collaboration with local authorities and neighbouring developments is recommended to maintain visual coherence in the area.

The VIA concludes that the proposed Tergniet Mixed-Use Development does not present any fatal flaws from a visual perspective. The project is supported from a visual perspective and can be authorised, provided that the recommended mitigation measures are implemented and maintained throughout the construction and operational phases. Continuous monitoring and adaptive management are advised to address any unforeseen visual impacts that may arise.

## 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 site spans across two properties: Erf 998 and a portion of the Remainder of Farm 139 Zandhoogte in Tergniet, Great Brak River. The proponent owns Erf 998 and recently bought the portion of RE/139 (Portion 5 of Farm 139) directly adjacent to Erf 998 to add it to the proposed development footprint. The two properties together (the site) are approx. 10.5 ha in extent.	



Figure 18: The site

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

No site or property alternatives

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

Not Applicable

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

Not Applicable

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

The Applicant would like to develop his properties in accordance with the proposed layout.

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

Positive impacts on the environment:

- Mixed business node for surrounding residential areas
- Provision of housing aspects in the proposal
- Development of highly disturbed land
- Development within the urban area
- No rivers on or near site

Negative impacts on the environment:

- Loss of vegetation
- Loss of fauna habitat
- Development of disturbed greenfield site

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

Provide a description of the preferred activity alternative.

Provide a description of any other activity alternatives investigated.

Provide a motivation for the preferred activity alternative.

Provide a detailed motivation if no activity alternatives exist.

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

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.	
Provide a description of any other design or layout alternatives investigated.	
Provide a motivation for the preferred design or layout alternative.	
Provide a detailed motivation if no design or layout alternatives exist.	
List the positive and negative impacts that the design alternatives will have on the environment.	
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:	
Provide a description of any other technology alternatives investigated.	
Provide a motivation for the preferred technology alternative.	
Provide a detailed motivation if no alternatives exist.	
List the positive and negative impacts that the technology alternatives will have on the environment.	
1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred operational alternative.	
Provide a description of any other operational alternatives investigated.	
Provide a motivation for the preferred operational alternative.	
Provide a detailed motivation if no alternatives exist.	
List the positive and negative impacts that the operational alternatives will have on the environment.	
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 will indicate that the status quo will persist. The site will remain an agricultural zone, with the existing nursery, ornamental garden and café on Erf 998. Many of the socio-economic benefits that would accompany the proposed development, including multiple temporary and permanent employment opportunities, convenience of various shops, a medical centre and housing in Tergniet,	
1.7.	Provide an 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.
1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.

## 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).

No "No-Go" areas have been identified by the specialists. However, all areas outside of the working corridor and development footprint will be considered "No-Go" areas. Additionally, the northern biodiversity corridor will be regarded as a development No-Go Area apart from open space related activities.



Figure 19: No-Go Map

**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.

The assessment criteria utilized in this environmental impact assessment is based on, and adapted from, the *Guideline on Impact Significance, Integrated Environmental Management Information Series 5* (Department of Environmental Affairs and Tourism (DEAT), 2002) and the *Guideline 5: Assessment of Alternatives and Impacts in Support of the Environmental Impact Assessment Regulations* (DEAT, 2006).

**Determination of Extent (Scale):**

<b>Site specific</b>	On site or within 100 m of the site boundary.
<b>Local</b>	The impacted area includes the whole or a measurable portion of the site, but could affect the area surrounding the development, including the neighbouring properties and wider municipal area.
<b>Regional</b>	The impact would affect the broader region (e.g. neighbouring towns) beyond the boundaries of the adjacent properties.
<b>National</b>	The impact would affect the whole country (if applicable).

**Determination of Duration:**

<b>Temporary</b>	The impact will be limited to the construction phase.
<b>Short term</b>	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than 2 years.
<b>Medium term</b>	The impact will last up to the end of the construction phase, where after it will be entirely negated.

<b>Long term</b>	The impact will continue for the entire operational lifetime of the development but will be mitigated by direct human action or by natural processes thereafter.
<b>Permanent</b>	This is the only class of impact that will be non-transitory. Such impacts are regarded to be irreversible, irrespective of what mitigation is applied.

**Determination of Probability:**

<b>Improbable</b>	The possibility of the impact occurring is very low, due either to the circumstances, design or experience.
<b>Probable</b>	There is a possibility that the impact will occur to the extent that provisions must therefore be made.
<b>Highly probable</b>	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up to mitigate the activity before the activity commences.
<b>Definite</b>	The impact will take place regardless of any prevention plans.

**Determination of Significance (without mitigation):**

<b>No significance</b>	The impact is not substantial and does not require any mitigation action.
<b>Low</b>	The impact is of little importance but may require limited mitigation.
<b>Medium</b>	The impact is of sufficient importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
<b>Medium-High</b>	The impact is of high importance and is therefore considered to have a negative impact. Mitigation is required to manage the negative impacts to acceptable levels.
<b>High</b>	The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.
<b>Very High</b>	The impact is critical. Mitigation measures cannot reduce the impact to acceptable levels. As such the impact renders the proposal unacceptable.

**Determination of Significance (with mitigation):**

<b>No significance</b>	The impact will be mitigated to the point where it is regarded to be insubstantial.
<b>Low</b>	The impact will be mitigated to the point where it is of limited importance.
<b>Medium</b>	Notwithstanding the successful implementation of the mitigation measures, the impact will remain of significance. However, taken within the overall context of the project, such a persistent impact does not constitute a fatal flaw.
<b>High</b>	Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and taken within the overall context of the project, is considered to be a fatal flaw in the project proposal.

**Determination of Reversibility:**

<b>Completely Reversible</b>	The impact is reversible with implementation of minor mitigation measures
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<b>Partly Reversible</b>	The impact is partly reversible but more intense mitigation measures
<b>Barely Reversible</b>	The impact is unlikely to be reversed even with intense mitigation measures
<b>Irreversible</b>	The impact is irreversible and no mitigation measures exist

**Determination of Degree to which an Impact can be Mitigated:**

<b>Can be mitigated</b>	The impact is reversible with implementation of minor mitigation measures
<b>Can be partly mitigated</b>	The impact is partly reversible but more intense mitigation measures
<b>Can be barely mitigated</b>	The impact is unlikely to be reversed even with intense mitigation measures
<b>Not able to mitigate</b>	The impact is irreversible and no mitigation measures exist

**Determination of Loss of Resources:**

<b>No loss of resource</b>	The impact will not result in the loss of any resources
<b>Marginal loss of resource</b>	The impact will result in marginal loss of resources
<b>Significant loss of resources</b>	The impact will result in significant loss of resources
<b>Complete loss of resources</b>	The impact will result in a complete loss of all resources

**Determination of Degree to which an Impact can be avoided:**

<b>High</b>	The impact is completely avoidable
<b>Medium</b>	The impact is avoidable with moderate mitigation
<b>Low</b>	The impact is difficult to avoid and will require significant mitigation
<b>Unavoidable</b>	The impact cannot be avoided

**Determination of Degree to which an Impact can be managed:**

<b>High</b>	The impact is completely manageable
<b>Medium</b>	The impact is manageable with moderate mitigation
<b>Low</b>	The impact is difficult to manage and will require significant mitigation
<b>Unmanageable</b>	The impact cannot be managed

**Determination of Cumulative Impact:**

<b>Negligible</b>	The impact would result in negligible to no cumulative effects
<b>Low</b>	The impact would result in insignificant cumulative effects
<b>Medium</b>	The impact would result in minor cumulative effects
<b>High</b>	The impact would result in significant cumulative effects

Please note for the first two impact tables which include 4 impacts identified by Chepri:

- Loss of an endangered ecosystem type
- Loss of ecosystem services
- Loss of ecosystem function, pattern and process
- Loss of distinct biodiversity features

The following impact methodology was used to determine the impact significance:

The Impact Assessment (IA) was adapted and performed according to the Department of Environmental Affairs and Tourism (DEAT 2002, 2002b, 2004) guidelines, and takes into account:

1. Impact nature (direct, indirect and cumulative);
2. Impact status (positive, negative or neutral);
3. Impact spatial extent;
4. Impact duration;
5. Potential impact intensity;
6. Impact reversibility (high, moderate, low or irreversible);
7. Irreplaceability of the impacted resource (high, moderate, low or replaceable);
8. Impact probability;
9. Confidence in the ratings (high, moderate or low);

Overall impact significance (IS) is calculated as:

$$IS = IM \times IP$$

where IM and IP are Impact magnitude and Impact probability respectively.

Impact magnitude (IM) is calculated as:

$$IM = II + ID + IE$$

where II is impact intensity, ID is impact duration, and IE is impact extent.

The overall impact significance categories are explained in Table 24.

Table 23: Impact extent categories

Extent description	Score
Site specific	1
Local (< 2 km from site)	2
Regional (within 30 km of site)	3
National	4
Global	5

Table 24: Impact intensity categories

Description	Effect rating score
Potential to severely impact human health, or lead to loss of species	Negative Fatal flaw 16
Potential to reduce fauna/flora population or to lead to severe reduction/alteration of natural process, loss of livelihoods, quality of life and economic loss	Negative High 8
Potential to reduce environmental quality - air, soil, water. Potential loss of habitat, loss of heritage, reduced amenity	Negative Medium 4
Nuisance	Negative Medium-Low 2
Negative change - no other consequence.	Negative Low 1
Potential net improvement	Positive High 8
Potential to improve environmental quality - air, soil, water, improved livelihoods, improved ecosystem function and connectivity	Positive Medium 4
Potential to lead to economic development	Positive Medium-Low 2
Potential positive change - with no other consequence	Positive Low 1

Table 25: Impact duration categories

Extent description	Score
Temporary (< 2 yrs) or duration of construction period. This impact is reversible	1
Short term (2-5 yrs). Impact is reversible	2
Medium term (5-15 yrs) The impact is reversible with appropriate mitigation and management	3
Long term (> 15 yrs but where the impact will cease with the operational life of the activity). The impact is reversible with the implementation of appropriate mitigation and management action	4
Permanent (i.e., mitigation will not occur in such a way or in such a timespan that the impact can be considered transient). The impact is irreversible.	5

Table 26: Impact probability categories

Extent description	Score
Improbably (little to no chance of occurring)	0.10
Low probability (10-25% chance of occurring)	0.25
Probable (25-50% chance of occurring)	0.50
Highly probable (50-90% chance of occurring)	0.75
Definite (> 90% chance of occurring)	1.00

Table 27: Impact significance categories

Score	Rating	Description
18-26	Fatally flawed	The project cannot be authorised unless major changes to the design is carried out to reduce the significance rating
10-17	High	The impacts will result in major alteration to the environment even with the implementation of the appropriate mitigation measures and will have an influence on decision-making
5-9	Medium	The impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an impact on decision-making if not mitigated
<5	Low	The impact may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making

#### 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.

### **Alternative A (preferred layout)**

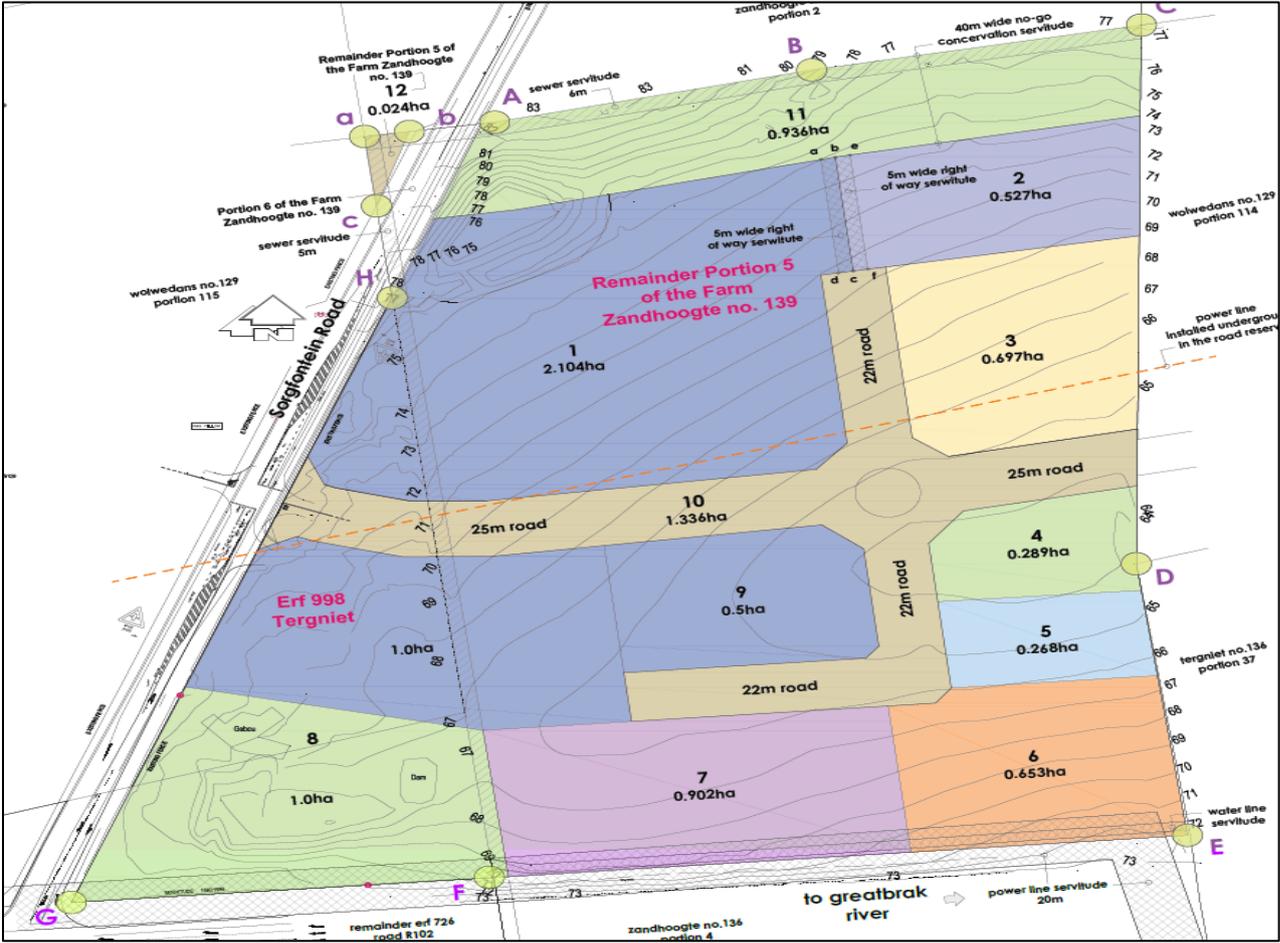


Figure 20: Alternative A (Preferred Alternative)

**Alternative B**

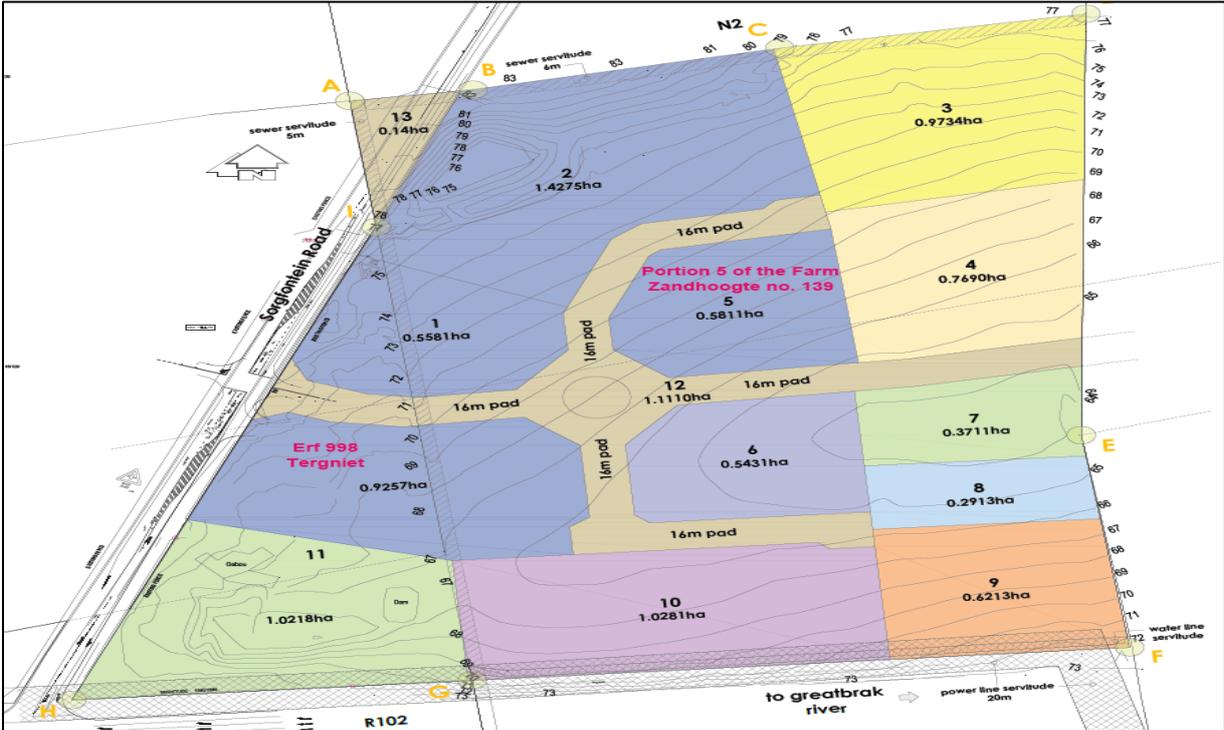


Figure 21: Alternative B

**Alternative C – no layout**

Please note that Chepri recommends as a mitigation measure to Alternative B that an 80m corridor be incorporated on the northern boundary of the site. Due to the economic impact of not developing 2 ha of the site an alternative layout (Alternative A) was presented to Chepri however they refuse to assess Alternative A and adjust their impact tables to suit the requirements of the BAR. As mentioned previously in this BAR, Chepri has become unresponsive to emails. As such Mark Berry Botanical Surveys was appointed to provide comment on the proposal and the Preferred Alternative A and it was confirmed in the Botanical comment that the corridor can still serve the purpose if it were 40m wide. As such, due to the fact that Chepri has gone awol and taking the botanical comment into account that states that the 40m corridor will serve the same purpose of maintaining connectivity, in addition the supplementary Terrestrial faunal and avifaunal compliance statement compiled by Blue Skies Research indicates that the “degraded nature of the on-site habitat which offers little in the way of faunal habitats, does not provide a functional link in providing ecosystem services and which does not represent suitable habitat for any faunal or avifaunal SCC”.

Ramp Economics was appointed to compile the Socio-Economic Impact Assessment for the proposal and was also requested to highlight the socio-economic impacts associated with the recommended mitigation measure from Chepri (80m ecological buffer).

### **Impact of Proposed Alternative C**

Comparing the figures of Alternative A (40m buffer) and Alternative C (80m buffer recommended by Chepri) shows the potential impact of imposing the 80m buffer. Through the construction phase, developing according to the alternate layout schema will result in a loss of R136.5 in production to the local economy (combining direct, indirect, and induced impact types). This will lead to a net loss to the local GDP of R38.3 million.

Construction phase employment will be reduced by 22 jobs directly on site, and a further 140 jobs through indirect and induced impacts for a total opportunity cost of 162 jobs. The lost wage income during the construction phase is calculated at R16.6 million.

Table 28: Construction phase impacts – Net Loss

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Production (R' millions)	- R50.6	- R66.7	- R19.2	- R136.5
GDP (R' millions)	- R9.9	- R21.1	- R7.3	- R38.3
Employment	- R21.6	- R107.8	- R32.2	- R161.9
Income (R' millions)	- R5.3	- R8.5	- R2.8	- R16.6

In terms of operations, the alternate development case will result in a direct loss of R18.2 million in business per annum and a total of R41 million in lost business across the economy. This will yield a net loss of GDP of R19.3 million per annum across all impact categories.

Direct employment is reduced by 15 jobs, with a further 33 jobs lost through indirect and induced impacts for a total of 48. The impact on wage income is calculated at R7.1 million per annum.

Table 29: Operational phase impacts – Net Loss

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Production (R' millions)	- R 18.2	- R 10.8	- R 12.0	- R 41.0
GDP (R' millions)	- R 9.6	- R 4.9	- R 4.8	- R 19.3
Employment	- 15.4	- 15.2	- 17.4	- 48.0
Income (R' millions)	- R 2.7	- R 2.2	- R 2.2	- R 7.1

## Chepri Impact tables

Table 30: Chepri Impact tables without mitigation (Alternative B)

Impacted category	Extent	Duration	Intensity	Probability	Score	Significance
Loss of endangered ecosystem type	1	5	4	0.75	7.5	Medium
Loss of ecosystem services	1	5	4	0.75	7.5	Medium
Loss of ecosystem function, pattern and process	2	5	8	0.75	11.3	High
Loss of distinct biodiversity features	2	5	4	0.50	5.5	Medium

Table 31: Chepri Impact tables with recommended mitigation (Alternative C – no layout compiled)

Impacted category	Mitigation	Extent	Duration	Intensity	Probability	Score	Significance
Loss of an endangered ecosystem type	Mitigation area; Active indigenous plant species planting in gardens; Alien clearing.	1	2	1	0.50	2	Low
Loss of ecosystem services		1	1	2	0.50	2	Low
Loss of ecosystem function, pattern and process		2	1	2	0.50	2.5	Low
Loss of distinct biodiversity features		1	1	2	0.50	2	Low

## Blue Skies Research Impact tables

Table 32: Blue Skies Research Terrestrial Impacts

Alternative:	Alternative A (preferred)	Alternative B	No-Go
<b>PLANNING, DESIGN AND DEVELOPMENT PHASE</b>			
<b>Potential impact and risk:</b>	<b>Terrestrial Biodiversity</b> <ul style="list-style-type: none"> <li>• Destruction of habitat</li> <li>• Direct mortality of fauna</li> <li>• Vibration and noise (machinery and people)</li> </ul>		
Nature of impact:	Negative		No Impact
Extent and duration of impact:	Local and Permanent		
Consequence of impact or risk:	Loss of degraded habitat which harbours a low faunal diversity		
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:		
Cumulative impact prior to mitigation:	Impacts from the proposed development during the construction phase are expected to lead to the loss of only a relatively small area of degraded habitats and small subpopulations of burrowing species of "Least Concern", with this loss being acceptable given that it should not compromise biodiversity targets on either a local, regional or national scale	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	
Degree to which the impact can be avoided:	Low	
Degree to which the impact can be managed:	High	
Degree to which the impact can be mitigated:	Low	
Proposed mitigation:	<p>Considering the compromised biodiversity and ecological characteristics and ecosystem dynamics of the site, its isolated nature, the degraded state of habitats and their retrieval as having a "Very low" SEI, this renders the entire site is developable from a faunal perspective. To this end, any of the three development layouts may be considered for the study area without restoration activities being required.</p> <p>It is, however, recommend that the newly developed area be fenced off so as to curb the potential predation by domestic pets and collision of fauna with vehicles. Furthermore, it is recommended that the development footprint be kept at the provided minimum to minimise disturbance of surrounding natural habitats. Furthermore, every effort should be made to save and relocate any mammal, reptile, amphibian, bird, or invertebrate that cannot flee of its own accord, encountered during site preparation (i.e., to avoid and minimise the direct mortality of faunal species). These animals should be relocated to a suitable habitat area immediately outside the project footprint, but under no circumstance to an area further away.</p>	
Residual impacts:	loss of only a relatively small area of degraded habitats and small subpopulations of burrowing species of "Least Concern", with this loss being acceptable given that it should not compromise biodiversity targets on either a local, regional or national scale	

Cumulative impact post mitigation:	Impacts from the proposed development during the construction phase are expected to lead to the loss of only a relatively small area of degraded habitats and small subpopulations of burrowing species of "Least Concern", with this loss being acceptable given that it should not compromise biodiversity targets on either a local, regional or national scale	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	No Impact

## Ramp Economics Impact Tables

### Impact on Production and the Local Economy – Construction Phase

It is estimated that the proposed development will increase the country's production by R416.7 million, which will translate into an additional R117.9 million of GDP. These effects will take place over the course of the construction period.

The greatest effects on production and GDP stimulated during construction activities will be created through the multiplier effects, specifically through a combination of production and consumption induced effects. Production induced effects are those that result from an increase in the demand for goods and services from those businesses that are likely to provide inputs (i.e. cement, steel, etc.) to the construction company(ies) responsible for building the proposed development. Consumption induced effects are those that arise from increased spending on goods and services by those individuals employed during the construction phase of the development.

Besides the value added that could be generated by the local construction businesses through sub-contracting agreements and employment of free-lancers, the sectors that are expected to benefit the most from the production and consumption induced effects are secondary sectors such as manufacturing tertiary sectors such as building and construction, real estate, and business services.

Table 33: Impact on production and local economy during the construction phase

Assessment			
	Preferred Alternative		No Go Alternative
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Regional	Regional	N/A
<b>Intensity</b>	High	High	N/A
<b>Duration</b>	Short-term	Short-term	N/A
<b>Consequence</b>	Increase in production (R1.1 billion) and GDP (R314 million) due to project capital expenditure	Increase in production and GDP due to project capital expenditure	Opportunity cost of R1.1 billion, opportunity cost of GDP contribution of R314 million.
<b>Probability</b>	Highly Probable	Highly Probable	N/A
<b>Significance</b>	Moderate	High	N/A

<b>Cumulative impacts</b>	Positive High	Positive High	N/A
<b>Avoidance</b>	Unavoidable	Unavoidable	N/A
<b>Residual Impact</b>	Improved local & regional economy	Improved local & regional economy	No impact on GDP & local economy
<b>Mitigated</b>	Moderate	Moderate	N/A

Proposed mitigation:

Developer should encourage contractor to procure local goods & services and employ local people from the communities as far as is feasible to do so.

**Impact on Production and the Local Economy – Operational Phase**

The total impact on production in the country as a result of the development's ongoing operations will equate to R 3.9 million in per annum. Aside from the trade sector, industries that will experience the greatest stimulus from the development will include financial and business services, insurance, and transport service.

Due to the annual spending on labour and procurement of local goods and services required to maintain the development, almost all of these new business sales will be generated on an annual basis in the Mossel Bay Local Municipality through the multiplier effects. Only a very small proportion of the annual production resulting from the proposed development operations will be accounted for in other parts of the country.

It is estimated that the project will directly generate R 1.7 million of value add per annum. Through indirect and induced effects, an additional R2.1 million of production will be generated per annum, which means that the total impact of the project on the national production will equate to R 3.9 million per annum. This will translate into a R 1.8 million annual increase in national GDP.

Table 34: Impact on production and local economy during the operational phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Regional	Regional	N/A
<b>Intensity</b>	High	High	N/A
<b>Duration</b>	Long-term	Long-term	N/A
<b>Consequence</b>	Increase in production (R 3.9 million) and GDP (R 1.8million)	Increase in production and GDP	Opportunity cost of R3.9 million for production and R1.8 million for GDP contribution
<b>Probability</b>	Highly probable	Highly Probable	N/A
<b>Significance</b>	High	High	N/A
<b>Cumulative impacts</b>	Medium	Medium	N/A

<b>Avoidance</b>	Unavoidable	Unavoidable	N/A
<b>Residual Impact</b>	Improved local & regional economy	Improved local & regional economy	No impact on local economy
<b>Mitigated</b>	Moderate	Moderate	N/A

Proposed mitigation:

Operator should procure materials, goods, products required for operation from local suppliers to increase the positive impact on the local economy.

**Impact on Employment – Construction Phase**

The construction of the proposed development will result in several jobs being created on site which includes bricklayers, foreman, painters, tilers, plumbers, engineers, construction vehicle drivers, electricians, architects, and planners, etc. Additionally, indirect jobs will also be created due to the multiplier effect in the economy and the need to supply additional goods and services. It is important that most of the employment opportunities created as part of the development are allocated to the local communities to increase the positive benefits.

Table 35: Impact on employment during the construction phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Regional	Regional	N/A
<b>Intensity</b>	High	High	N/A
<b>Duration</b>	Short-term	Short-term	N/A
<b>Consequence</b>	Short-term employment (1 328 jobs)	Short-term employment	Opportunity cost of 1 328 jobs
<b>Probability</b>	Definite	Definite	N/A
<b>Significance</b>	High	High	N/A
<b>Cumulative impacts</b>	Medium	Medium	N/A
<b>Avoidance</b>	Unavoidable	Unavoidable	N/A
<b>Residual Impact</b>	Improved living standards of the directly and indirectly affected households	Improved living standards of the directly and indirectly affected households	N/A
<b>Mitigated</b>	Moderate	Moderate	N/A

Proposed mitigation:

- Recruit local labour as far as feasible.
- Sub-contract to local construction companies where possible.
- Provide on the job training & development where feasible for all the service contractors working on the development.

**Impact on Employment – Operational Phase**

The ongoing operation the proposed development will directly create an estimated 3 FTE employment position all of which will be retained for the lifespan of the development. Aside from the direct employment opportunities, the proposed development will support a further estimated 5 FTE employment positions created through the production and consumption induced effects. Due to the spatial allocation of procurement spending and direct employment created most of the indirect and induced positions will also be created outside of the local area.

It is important to note that these employment opportunities will be sustainable, compared to the employment opportunities created during construction that will cease once construction is completed. The employment opportunities created during the operational phase will be for unskilled, semi-skilled and skilled individuals. Where possible, local labour should be considered, this will increase the positive impact of the local economy. There will also be indirect jobs created when households moving into the proposed development employ landscapers/gardeners, domestic workers, interior designers, security etc.

Table 36: Impact on Employment during the operational phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Regional	Regional	N/A
<b>Intensity</b>	Medium	Medium	N/A
<b>Duration</b>	Long-term	Long-term	N/A
<b>Consequence</b>	Creation of long-term employment (6 jobs)	Creation of long-term employment	Opportunity cost of 6 jobs
<b>Probability</b>	Highly probable	Highly probable	N/A
<b>Significance</b>	Moderate	High	N/A
<b>Cumulative impacts</b>	High	High	N/A
<b>Avoidance</b>	Unavoidable	Unavoidable	N/A
<b>Residual Impact</b>	Improved living standards of the	Improved living standards of the	N/A

Proposed mitigation:

- Local labour should be considered first for employment where possible to increase the positive impact on the local economy.
- Procure goods & services from local small business to stimulate indirect job creation.

**Impact on Household Income – Construction Phase**

The development would have a positive impact on the household income levels in the study area. This increase in household income levels is due to the anticipated increase in unskilled to skilled employment opportunities (construction workers, site managers, security, engineers, painters, machine architects). Although temporary, this increase in household earnings would have a positive effect on nutrition, living conditions, access to better health care, access to more options regarding education, and improved ability to make economic choices.

Table 37: Impact on household income during the construction phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Regional	Regional	N/A
<b>Intensity</b>	Medium	Medium	N/A
<b>Duration</b>	Short term	Short term	N/A
<b>Consequence</b>	Improvement in household income of people employed for the proposed development (R 136 million)	Improvement in household income of people employed for the proposed development	Opportunity cost of R 136 million
<b>Probability</b>	Probable	Highly probable	N/A
<b>Significance</b>	High	High	N/A
<b>Cumulative impacts</b>	Medium	Medium	N/A
<b>Avoidance</b>	Partly	Partly	N/A
<b>Residual Impact</b>	None foreseen as impact would dissipate post construction	None foreseen as impact would dissipate post construction	N/A
<b>Mitigated</b>	Moderate	Moderate	N/A

Proposed mitigation:

- Employ local labour to increase the benefits to the local households.
- Sub-contract to local construction companies where possible.
- Use local suppliers for goods and services.

### **Impact on Household Income – Operational Phase**

The creation of 6 FTE employment positions throughout the country will generate an estimated R0.3 million of additional household income annually, which will be sustained for the entire duration of the proposed developments lifespan. Given the average household size in affected local municipality and nationally, this increase in household earnings will support up to 7 additional people across the country. The sustainable income generated as a result of the development's operation will positively affect the standard of living of all benefitting households.

Table 38: Impact on household income during the operational phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Regional	Regional	N/A
<b>Intensity</b>	Benign	Benign	N/A
<b>Duration</b>	Long term	Long term	N/A
<b>Consequence</b>	Improvement in household income of people employed for the proposed development (R0.3 million)	Improvement in household income of people employed for the proposed development (R0.3 million)	Opportunity cost of R0.3 million
<b>Probability</b>	Highly	Highly	N/A
<b>Significance</b>	High	High	N/A
<b>Cumulative impacts</b>	High	High	N/A
<b>Avoidance</b>	Unavoidable	Unavoidable	N/A
<b>Residual Impact</b>	Improved standard of living of those employed within the development	Improved standard of living of those employed within the development	N/A
<b>Mitigated</b>	Moderate	Moderate	N/A

Proposed mitigation:

- Local labour should be considered to increase the positive impact on the local economy.
- Local procurement of goods and services should be implemented to further increase the benefit of local communities.

**Impact on Rates and Taxes – Construction Phase**

The Mossel Bay Local Municipality earns an income from charging rates and taxes for services that are provided to the local communities within its borders including the supply of water; collecting and disposing of sewage; refuse removal; supplying electricity and gas; stormwater drainage; street lighting; and establishment of external bulk infrastructure.

The municipality will charge levies/tariffs/rates for the mentioned services during the construction of the proposed development. The earnings will be distributed by the government to cover public spending such as maintenance of transport infrastructure, health, education, and other public goods.

Table 39: Impact on rates and taxes during the construction phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Regional	Regional	N/A
<b>Intensity</b>	Medium	Medium	N/A
<b>Duration</b>	Short-term	Short-term	N/A
<b>Consequence</b>	Generation of revenue	Generation of revenue	No impact on the generation of revenue from rates and taxes
<b>Probability</b>	Definite	Definite	N/A
<b>Significance</b>	Moderate	Moderate	N/A
<b>Cumulative impacts</b>	Medium	Medium	N/A
<b>Avoidance</b>	Unavoidable	Unavoidable	N/A
<b>Residual Impact</b>	Improvement of local economy	Improvement of local economy	N/A
<b>Mitigated</b>	Not mitigated	Not mitigated	N/A

Proposed mitigation:

- Adhere to the municipality guidelines.

**Impact on Rates and Taxes – Operational Phase**

The proposed development would contribute to the revenue of the Mossel Bay Local Municipality through payments for utilities used in the operational phase of the development. The proposed development would contribute rates and taxes through payments made by individuals living in the proposed development.

Table 40: Impact on rates and taxes during the operational phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Regional	Regional	N/A
<b>Intensity</b>	Medium	Medium	N/A
<b>Duration</b>	Long-term	Long-term	N/A
<b>Consequence</b>	Generation of revenue	Generation of revenue	No impact
<b>Probability</b>	Definite	Definite	N/A
<b>Significance</b>	High	High	N/A
<b>Cumulative impacts</b>	High	High	N/A
<b>Avoidance</b>	Unavoidable	Unavoidable	N/A
<b>Residual Impact</b>	Long term improvement of the local economy	Long term improvement of the local economy	N/A
<b>Mitigated</b>	Not mitigated	Not mitigated	N/A

Proposed mitigation:

- Adhere to the municipality guidelines.

**Impact on the Sense of Place – Construction Phase**

The area surrounding the proposed development is peri-urban in nature. This means that that the current area has a sense of nature and open space and any rapid change occurring with respect to one or more of the characteristics that define the area's the sense of place could have a negative impact on it. Concerns of increased traffic in the form of construction vehicles which will cause possible disruption of daily living activities and mobility of surrounding residents. Noise and visual intrusion of construction vehicles and activities on the site, etc, could also affect the surrounding areas. These impacts, however, will cease at the conclusion of the construction phase.

Table 41: Impact on sense of place during the construction phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Negative	Negative	N/A
<b>Extent</b>	Local	Local	N/A
<b>Intensity</b>	Low	Low	N/A
<b>Duration</b>	Short term	Short term	N/A
<b>Consequence</b>	Increase traffic, noise, loss of tranquillity	Increase traffic, noise, loss of tranquillity	No negative influence on surrounding area
<b>Probability</b>	Probable	Probable	N/A
<b>Significance</b>	Moderate	Low	N/A
<b>Cumulative impacts</b>	None foreseen at this stage	None foreseen at this stage	N/A
<b>Avoidance</b>	Unavoidable	Partly	N/A
<b>Residual Impact</b>	None foreseen at this stage	None foreseen at this stage	N/A
<b>Mitigated</b>	Moderate	Moderate	N/A

Proposed mitigation:

- Adhere to mitigation measures proposed by relevant specialists.
- Ensure the architectural design of the development fits in with the rest of the area.
- Engage with local associations and local property owners.

#### **Impact on the Sense of Place – Operational Phase**

While the area surrounding the proposed development site is peri-urban in nature, the area has been designated in the municipality's SDF for medium to high density residential developments. At the conclusion of the construction phase, many of the elements that adversely impacted the sense of place – construction vehicles, visual and noise intrusions, will cease. Some disturbances would remain such as increased traffic linked to the additional houses established as part of the development. These elements, however, would not significantly alter the areas peri-urban sense of place and could be mitigated against.

Table 42: Impact on sense of place during the operational phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
Nature	Negative	Positive	N/A
Extent	Local	Local	N/A
Intensity	Medium	Low	N/A
Duration	Long term	Long term	N/A
Consequence	Negative influence on surrounding area	Positive influence	No negative influence the site remains as is
Probability	Probable	Probable	N/A

Significance	Moderate	Low	N/A
Cumulative impacts	Low	Low	N/A
Avoidance	Partly	Partly	N/A
Residual Impact	Low	Low	N/A
Mitigated	Moderate	Moderate	N/A

Proposed mitigation:

- Adhere to mitigation measures proposed by relevant specialists.

#### **Impact on Surrounding Property Values – Construction Phase**

Concerns could be raised that the proposed development could negatively impact the property values in the area by resulting in a loss of peacefulness, increased noise, the attraction of criminal elements and visual intrusions in the short-term (i.e. during the construction phase). This is attributed to the construction vehicles and activities occurring both on and off site. Should these issues arise, mitigation measures proposed by relevant specialists would reduce the influence of the negative impacts.

Table 43: Impact on surrounding property values during the construction phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Negative	Negative	N/A
<b>Extent</b>	Local	Local	N/A
<b>Intensity</b>	Low	Low	N/A
<b>Duration</b>	Short term	Short term	N/A
<b>Consequence</b>	None foreseen	None foreseen	None foreseen
<b>Probability</b>	Improbable	Improbable	N/A
<b>Significance</b>	Low	Low	N/A
<b>Cumulative impacts</b>	None foreseen	None foreseen	N/A

<b>Avoidance</b>	Partly	Partly	N/A
<b>Residual Impact</b>	None foreseen	None foreseen	N/A
<b>Mitigated</b>	Moderate	Moderate	N/A

Mitigation Measures:

- Adhere to mitigation measures proposed by relevant specialists.

**Impact on Surrounding Property Values – Operational Phase**

Property values are impacted by several factors such as the image of the area, the features of the property (i.e. uniqueness), convenient location of the property (i.e. proximity to retail, schools, employment opportunities, etc.), the security of the property, etc. Considering the facilities proposed it is likely that further investment would be attracted into the area, making the area more appealing. The proposed development could improve on local real estate values. Due to the activities on the site, employment opportunities will be created, and additional investment could be attracted to the area.

Table 44: Impact on surrounding property values during the operational phase

<b>Assessment</b>			
	<b>Preferred Alternative</b>		<b>No Go Alternative</b>
	Without Mitigation	With Mitigation	With & Without Mitigation
<b>Nature</b>	Positive	Positive	N/A
<b>Extent</b>	Local	Local	N/A
<b>Intensity</b>	Low	Low	N/A
<b>Duration</b>	Short term	Short term	N/A
<b>Consequence</b>	None foreseen	None foreseen	None foreseen
<b>Probability</b>	Improbable	Improbable	N/A
<b>Significance</b>	Low	Low	N/A
<b>Cumulative impacts</b>	None foreseen	None foreseen	N/A
<b>Avoidance</b>	Partly	Partly	N/A
<b>Residual Impact</b>	None foreseen	None foreseen	N/A
<b>Mitigated</b>	Moderate	Moderate	N/A

Mitigation Measures:

- Adhere to mitigation measures proposed by relevant specialists.

## Eco-Thunder Impact Tables

### Construction Phase impacts

<b>Impact: Altered Landscape and Sense of Place during Construction</b>		
<p><b>Nature:</b> The introduction of construction activities and infrastructure of the proposed Tergniet Mixed-Use Development will temporarily alter the visual character of the landscape. The current landscape will be interspersed with construction materials and equipment. This could evoke feelings among local residents and visitors of a landscape in transition.</p>		
	Before Mitigation	After Mitigation
Extent	Local (2)	Local (2)
Duration	Short-Term (2)	Short-Term (2)
Magnitude	Medium (6)	Low (4)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (40)	Low (24)
<p><b>Status:</b> Negative - The construction phase will introduce temporary visual disturbances that could be perceived as out of harmony with the existing landscape.</p>		
<p><b>Reversibility:</b> High - Post-construction, with proper landscaping and mitigation measures, the site can regain a semblance of its original character, although some permanent changes, will remain.</p>		
<p><b>Irreplaceable loss of resources?</b> No - While the landscape's visual character might be altered, with proper mitigation, there won't be an irreplaceable loss. However, care should be taken to ensure that no unique or endangered flora is affected during construction.</p>		
<p><b>Can impacts be mitigated?</b> – Yes</p>		
<p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• Use of Natural Colours and Materials: Use materials and colours that blend with the natural landscape for any temporary structures or construction materials. Mimic the texture and colours of the natural environment, where possible.</li> <li>• Vegetative Screens: At key points of sensitivity, indigenous vegetation around the construction site's perimeter may be planted to act as a natural screen, reducing the visual impact.</li> <li>• Localised Construction: Focus construction activities in smaller, localised areas rather than spreading out across the entire site simultaneously. This phased approach can reduce the overall visual disturbance at any given time.</li> <li>• Revegetation for Restoration: Post-construction, prioritise revegetation efforts, especially in areas where native grasslands were disturbed. This can help in restoring the site's original visual character.</li> <li>• Community Engagement: Engage with the local communities, to keep them informed about construction progress and the measures being taken to reduce visual impacts.</li> <li>• Minimise Night-time Activities: Limit construction activities during the night to reduce light pollution, especially given the proximity to residential areas like Tergniet.</li> </ul>		

<ul style="list-style-type: none"> <li>Visual Simulations: Before starting construction, provide visual simulations to stakeholders, showcasing the expected changes to the landscape, if feasible.</li> </ul>
<p><b>Cumulative Impact</b></p> <p>Medium - When combined with other existing infrastructure the cumulative visual impact during construction could be more pronounced. However, with mitigation measures in place, this can be managed.</p>
<p><b>Residual Risk</b></p> <p>Low - With the proposed mitigation measures, the residual visual impact during the construction phase is expected to be reduced. However, some temporary visual disturbances will be unavoidable.</p>

<b>Impact: Visibility of the Development for Residents during Construction</b>		
<p><b>Nature:</b> Given the undulating terrain, construction activities can stand out prominently against the backdrop of the landscape. For residents, up to 1 km away, they would be watching a new urban development rise. The horizon might now be dotted with cranes, construction equipment, and the beginnings of the Tergniet Mixed-Use Development infrastructure.</p>		
	<b>Before Mitigation</b>	<b>After Mitigation</b>
Extent	Local (2)	Local (2)
Duration	Short-Term (2)	Short-Term (2)
Magnitude	Medium (6)	Low (4)
Probability	Definite (5)	Highly Probable (4)
Significance	Medium (50)	Medium (32)
<p><b>Status:</b></p> <p>Negative - The visibility of construction activities could be perceived as a visual intrusion into the daily lives of nearby residents.</p>		
<p><b>Reversibility:</b></p> <p>Medium - While the construction activities are temporary, the mixed-use infrastructure, once erected, will be a permanent addition to the landscape. However, over time, residents might acclimatise to the new visual elements.</p>		
<p><b>Irreplaceable loss of resources?</b></p> <p>No - The visual change does not result in the loss of any irreplaceable resources. However, the familiar visual character for residents might be altered.</p>		
<p><b>Can impacts be mitigated? – Yes</b></p>		
<p><b>Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>Site Screening: Use natural topography, existing vegetation, or temporary screens to shield construction activities from viewers. Situate construction activities in lower-lying areas or behind hills. Use screens made of materials that blend with the natural environment.</li> <li>Minimise Structure Heights: Keep temporary structure heights to a minimum to reduce their visibility. Use materials and colours that blend with the surrounding landscape.</li> <li>Lighting Control: Minimise light pollution by directing lights downwards, using shields to prevent light spill, and turning off lights when not in use.</li> </ul>		

<ul style="list-style-type: none"> <li>• <b>Strategic Placement:</b> Where possible, prioritise the placement of taller construction equipment and initial construction materials in areas less visible to the majority of residents.</li> <li>• <b>Vegetative Barriers:</b> Enhance and fast-track the planting of native vegetation barriers, especially in areas facing major residential zones, to provide a natural screen.</li> <li>• <b>Informational Signage:</b> Erect informational signboards around the construction site, explaining the project's benefits and duration, to keep residents informed and manage perceptions.</li> <li>• <b>Visual Mock-ups:</b> Share visual mock-ups or simulations with the community, showcasing the expected landscape changes during and post-construction, if feasible.</li> </ul>
<p><b>Cumulative Impact</b></p> <p>Medium - The combined visual impact of the construction activities, along with existing structures could be more noticeable for residents. However, with mitigation measures, this cumulative impact can be managed.</p>
<p><b>Residual Risk</b></p> <p>Medium - Even with mitigation measures, the visibility of certain construction activities to residents will be evident. However, as the construction phase progresses and residents become more accustomed to the changes, the perceived impact may reduce.</p>

<b>Impact: Dust and Noise Impact during Construction</b>		
<p><b>Nature:</b> The construction activities for the Tergnet Mixed-Use Development will inevitably disturb the soil, leading to potential dust generation. This dust can be carried by winds, affecting the immediate surroundings. Residents nearby might experience a temporary increase in dust levels. This could affect their daily activities, health, and overall quality of life. Additionally, the movement of construction vehicles, machinery operations, and groundwork can cause noise and vibrations, further adding to the disturbances experienced by nearby residents.</p>		
	<b>Before Mitigation</b>	<b>After Mitigation</b>
Extent	Local (2)	Site (1)
Duration	Short-Term (2)	Short-Term (2)
Magnitude	Medium (6)	Low (4)
Probability	Definite (5)	Highly Probable (4)
Significance	Medium (50)	Low (28)
<p><b>Status:</b></p> <p>Negative - The dust and other disturbances from construction activities can be perceived as nuisances by nearby residents and can have potential health implications.</p>		
<p><b>Reversibility:</b></p> <p>High - The dust and construction-related disturbances are temporary and will cease once construction is completed. The environment is expected to return to its pre-construction state in terms of dust levels.</p>		
<p><b>Irreplaceable loss of resources?</b></p> <p>No - The dust and construction disturbances do not result in the loss of any irreplaceable resources. However, there might be a temporary decline in air quality and ambient noise levels.</p>		
<p><b>Can impacts be mitigated?</b> – Yes</p>		

**Mitigation Measures**

- **Dust Suppression:** Regularly water down the construction site, especially during dry and windy conditions, to minimise dust generation.
- **Windbreaks:** Install temporary windbreaks or barriers around the construction site to reduce the spread of dust.
- **Vehicle Speed Limits:** Implement strict speed limits for construction vehicles within the site to reduce dust kick-up.
- **Construction Scheduling:** Schedule dust-generating activities for times when wind speeds are low or when wind direction is away from sensitive receptors, where possible.
- **Use of Dust Screens:** Install dust screens or barriers around the construction site, particularly in areas close to sensitive receptors, to contain dust within the site.
- **Rehabilitation of Disturbed Areas:** Promptly rehabilitate areas where construction activities have ceased. Re-vegetate with native species or suitable ground cover to stabilise the soil and reduce dust generation.
- **Regular Monitoring:** Implement a monitoring program to assess the effectiveness of dust control measures.
- **Machinery Maintenance:** Ensure construction machinery is well-maintained to minimise excessive noise and vibrations.
- **Work Hours:** Restrict the noisiest construction activities to daytime hours and avoid work during early mornings, late evenings, or weekends when residents are more likely to be at home.
- **Community Communication:** Keep the local community informed about construction schedules, especially during particularly disruptive activities. This allows residents to prepare or adjust their schedules accordingly.

**Cumulative Impact**

Medium - The combined impact of dust, noise, and other construction-related disturbances, along with existing activities in the area, could be more noticeable for residents. However, with mitigation measures, this cumulative impact can be managed.

**Residual Risk**

Low - With the proposed mitigation measures, the residual impact of dust and construction disturbances should be significantly reduced. However, occasional spikes in dust or noise might still be experienced during certain construction activities.

Operational Phase impacts

<b>Impact: Altered Landscape and Sense of Place during Operation</b>		
<p><b>Nature:</b> The operational phase of the Tergnet Mixed-Use Development will introduce a new visual element to the landscape. The presence of this mixed-use infrastructure can alter the visual harmony and the intrinsic sense of place that residents and visitors associate with the area. The facility will become a permanent feature in the landscape, potentially influencing how the area is perceived and experienced.</p>		
	Before Mitigation	After Mitigation
Extent	Local (2)	Local (2)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	Medium (5)	Low (3)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (44)	Low (27)
<p><b>Status:</b> Negative - The transformation of the landscape due to the presence the mixed-use infrastructure can be perceived as a visual intrusion by some, especially those who value the natural aesthetics of the region.</p>		
<p><b>Reversibility:</b> Low - While the landscape alteration is long-term during the facility's operational phase, if it is decommissioned, there's potential for the land to be restored to a more natural state, albeit with some lasting changes.</p>		
<p><b>Irreplaceable loss of resources?</b> No - The sense of place is subjective and can evolve over time. While the landscape's visual character changes, no tangible resources are irrevocably lost.</p>		
<p><b>Can impacts be mitigated?</b> – Yes</p>		
<p><b>Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>• Vegetative Screening: Plant indigenous trees and shrubs along site boundaries, especially near major roads, to create natural visual buffers and blend the development into the surrounding landscape.</li> <li>• Landscape Integration: Use materials, textures, and colours that reflect the local architectural styles to harmonise with the surrounding environment and maintain a sense of place.</li> <li>• Lighting Control: Employ downward-facing, low-glare lighting systems with motion sensors to minimise light pollution and preserve the area's nighttime character.</li> <li>• Seasonal Landscaping Maintenance: Implement an ongoing maintenance program to ensure that the landscaped areas remain in good condition, reflecting seasonal changes and preventing visual degradation.</li> </ul>		
<p><b>Cumulative Impact</b> Medium - The facility, in combination with other developments and infrastructure in the area, contributes to a changing landscape character. However, with mitigation measures, the cumulative visual impact can be managed.</p>		
<p><b>Residual Risk</b> Low - With the proposed mitigation measures, the residual impact on the landscape and sense of place would be reduced. However, the presence of the developments will still be a noticeable change in the landscape during its operational phase.</p>		

<b>Impact: Visibility of the Facility to Residents during Operation</b>		
<p><b>Nature:</b> During the operational phase, the Tergniet Mixed-Use Development will become a prominent feature in the landscape. Residents of nearby areas will have varying degrees of visibility of the development. This increased visibility can influence residents' daily visual experience, potentially altering their sense of place and connection to the landscape.</p>		
	<b>Before Mitigation</b>	<b>After Mitigation</b>
Extent	Local (2)	Local (2)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	Medium (6)	Low (4)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (48)	Medium (30)
<p><b>Status:</b> Negative - For residents who value the landscape, the visibility of the development can be perceived as a visual intrusion.</p>		
<p><b>Reversibility:</b> Low - The visual impact is persistent during the development's operational phase. However, if decommissioned, and if the land is restored, the visibility factor can be reversed to a large extent.</p>		
<p><b>Irreplaceable loss of resources?</b> No - While the visual character of the area changes, there's no permanent loss of tangible resources. The sense of place, though altered, can evolve and adapt over time.</p>		
<p><b>Can impacts be mitigated?</b> – Yes</p>		
<p><b>Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>• <b>Vegetative Buffers:</b> Plant indigenous vegetation along site boundaries adjacent to residential areas to reduce direct visibility of infrastructure and enhance visual screening.</li> <li>• <b>Architectural Integration:</b> Utilise materials and colours that complement the local landscape, minimising visual contrast and promoting architectural harmony.</li> <li>• <b>Lighting Control:</b> Employ downward-facing, low-glare lighting systems with motion sensors to minimise light pollution and preserve the area's nighttime character.</li> <li>• <b>Vegetative Screening Guidelines for Mixed-Use Developments</b></li> </ul> <p>To effectively integrate mixed-use developments into the surrounding landscape and minimise their visual impact, the following vegetative screening guidelines should be implemented. These guidelines outline appropriate vegetation heights, coverage requirements, and planting arrangements based on building height.</p>		

Building Height	Recommended Vegetation Height	Minimum Screening Coverage (%)
Single-storey (≤4m height)	Shrubs/trees of 1m+ height	20 – 30% of the façade length
Double-storey (4m – 8m height)	Trees of 1.5m+ height	25 – 35% of the façade length
Three-storey (8m – 12m height)	Trees of 3m+ height	30 – 40% of the façade length
Larger Developments (≥12m height)	Trees of 5m+ height, with layered understory shrubs	40% of the façade length

*Planting Arrangements and Density*

Tree Spacing: Trees should be planted at 3m – 5m intervals, depending on canopy spread.

Shrub Placement: Dense shrubs should be planted at 1m – 1.5m intervals to provide lower-level screening.

Multi-Layered Buffering: A combination of tall trees, mid-sized shrubs, and ground cover should be used to maximise screening effectiveness.

Hedge Rows for Additional Screening: Fast-growing hedge species can provide immediate coverage for lower structures.

Minimum Vegetative Buffer Width: A 5m-wide vegetated buffer should be maintained along property boundaries.

*Maintenance Considerations*

Regular Pruning and Trimming: Trees and shrubs should be maintained to prevent overgrowth while ensuring effective screening.

Vegetation Replacement Strategy: A replanting plan should be established to manage plant loss due to weather, aging, or disease.

Soil and Water Conservation Measures: Mulching and appropriate irrigation should be implemented to support healthy vegetation growth.

These guidelines ensure that mixed-use developments are effectively integrated into the landscape while reducing their visual impact through structured vegetative screening.

**Cumulative Impact**

Medium - The facility's visibility, combined with other infrastructural elements in the area, contributes to a changing visual landscape. However, with mitigation measures in place, the cumulative visual impact can be moderated.

**Residual Risk**

Medium - Implementing the proposed mitigation measures should reduce the facility's visibility impact on residents.

<b>Impact: Potential Visual Impact of Operational, Lighting during Operation</b>		
<b>Nature:</b> Operational lighting is essential for the Tergniet Mixed-Use Development to ensure safe and efficient operations, especially during nighttime hours. However, this lighting can introduce a new source of light in the area, potentially causing light pollution.		
	<b>Before Mitigation</b>	<b>After Mitigation</b>
Extent	Local (2)	Local (2)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	Moderate (6)	Low (4)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (48)	Medium (30)
<b>Status:</b> Negative - The introduction of artificial lighting can be perceived as a visual disturbance, especially if it contrasts starkly with the existing ambient light levels.		
<b>Reversibility:</b> Medium - The impact is directly tied to the operational phase. If the facility is decommissioned or lighting practices are modified, the impact can be reversed.		
<b>Irreplaceable loss of resources?</b> No - While the night-time visual character might change, there's no permanent loss of resources. However, the natural night sky, if significantly affected, can be considered a non-renewable resource in the context of the project's lifespan.		
<b>Can impacts be mitigated?</b> – Yes		
<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>• Downward-facing Lights: Use fixtures that direct light downwards to minimise upward light spill, preserving the night sky.</li> <li>• Motion Sensors: Install motion sensors so that lights are only activated when necessary, reducing the duration of light emissions.</li> <li>• Low-intensity Lighting: Opt for low-intensity lighting that provides sufficient illumination for safety without being overly bright.</li> <li>• Shielding: Use shields on lights to direct illumination to the intended areas and prevent light spill into unintended areas.</li> <li>• Educate Staff: Ensure that staff are aware of the importance of minimising light pollution and are trained to use lighting efficiently.</li> <li>• Periodic Reviews: Conduct periodic reviews of lighting practices to identify and rectify any unnecessary light emissions.</li> </ul>		
<b>Cumulative Impact</b> Medium - The facility's lighting, when combined with other light sources in the area could contribute to an overall increase in light pollution. However, with effective mitigation, this cumulative impact can be managed.		
<b>Residual Risk</b> Low - With the proposed mitigation measures in place, the residual risk of significant light pollution from the facility should be reduced. Some localised light spill might still occur, but its impact should be limited.		

## 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.

Table 42 below summarises the potential Impacts associated with the proposed development. Please refer to the Section I (2) for the proposed mitigation measures to ensure the corresponding rating post mitigation.

### **Impact of Proposed Alternative C**

Comparing the figures of Alternative A (40m buffer) and Alternative C (80m buffer recommended by Chepri) shows the potential impact of imposing the 80m buffer. Through the construction phase, developing according to the alternate layout schema will result in a loss of R136.5 in production to the local economy (combining direct, indirect, and induced impact types). This will lead to a net loss to the local GDP of R38.3 million.

Construction phase employment will be reduced by 22 jobs directly on site, and a further 140 jobs through indirect and induced impacts for a total opportunity cost of 162 jobs. The lost wage income during the construction phase is calculated at R16.6 million.

Table 45: Construction phase impacts – Net Loss

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Production (R' millions)	- R50.6	- R66.7	- R19.2	- R136.5
GDP (R' millions)	- R9.9	- R21.1	- R7.3	- R38.3
Employment	- R21.6	- R107.8	- R32.2	- R161.9
Income (R' millions)	- R5.3	- R8.5	- R2.8	- R16.6

In terms of operations, the alternate development case will result in a direct loss of R18.2 million in business per annum and a total of R41 million in lost business across the economy. This will yield a net loss of GDP of R19.3 million per annum across all impact categories.

Direct employment is reduced by 15 jobs, with a further 33 jobs lost through indirect and induced impacts for a total of 48. The impact on wage income is calculated at R7.1 million per annum.

Table 46: Operational phase impacts – Net Loss

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Production (R' millions)	- R 18.2	- R 10.8	- R 12.0	- R 41.0
GDP (R' millions)	- R 9.6	- R 4.9	- R 4.8	- R 19.3
Employment	- 15.4	- 15.2	- 17.4	- 48.0
Income (R' millions)	- R 2.7	- R 2.2	- R 2.2	- R 7.1

Table 47: Summary of the Impacts Post Mitigation

Impact	Alternative A (40m buffer/corridor)	Alternative B (No buffer/corridor)	No-Go
<b>Construction Phase</b>			
<b>Blue Skies Research</b>			
<b>Terrestrial Biodiversity</b> <ul style="list-style-type: none"> <li>• Destruction of habitat</li> <li>• Direct mortality of fauna</li> <li>• Vibration and noise</li> </ul>	Low (-)	Low (-)	No Impact
<b>Chepri with input from Mark Berry and Blue Skies Research to complete the assessment</b>			
<b>Loss of an endangered ecosystem type</b>	Low (-)	Medium (-)	No Impact
<b>Loss of ecosystem services</b>	Low (-)	Medium (-)	No Impact
<b>Loss of ecosystem function, pattern and process</b>	Low (-)	High (-)	No Impact
<b>Loss of distinct biodiversity features</b>	Low (-)	Medium (-)	No Impact
<b>Ramp Economics</b>			
<b>Production and local economy</b>	High (+)	Not assessed	Opportunity cost of R1.1 billion, Opportunity cost of GDP contribution of R 314 million
<b>Employment</b>	High (+)	Not assessed	Opportunity cost of 1328 jobs
<b>Household income</b>	High (+)	Not assessed	Opportunity cost of R 136 million
<b>Rates and taxes</b>	Medium (+)	Not assessed	No Impact
<b>Sense of place (Socio-economic)</b>	Low (-)	Not assessed	No Impact
<b>Surrounding property values</b>	Low (-)	Not assessed	No Impact
<b>Eco-Thunder</b>			
<b>Altered Landscape and Sense of Place</b>	Low (-)	Not assessed	No Impact
<b>Visibility of the Development for Residents</b>	Low (-)	Not assessed	No Impact
<b>Dust and Noise</b>	Low (-)	Not assessed	No Impact
<b>Operational Phase</b>			
<b>Ramp Economics</b>			
<b>Production and local economy</b>	High (+)	Not assessed	Opportunity cost of R3.9 million, Opportunity cost of GDP contribution of R 1.8 million

<b>Employment</b>	High (+)	Not assessed	Opportunity cost of 6 jobs
<b>Household income</b>	High (+)	Not assessed	Opportunity cost of R 0.3 million
<b>Rates and taxes</b>	High (+)	Not assessed	No Impact
<b>Sense of place (Socio-economic)</b>	Low (-)	Not assessed	No Impact
<b>Surrounding property values</b>	Low (+)	Not assessed	No Impact
<b>Eco-Thunder</b>			
<b>Altered Landscape and Sense of Place</b>	Low (-)	Not assessed	No Impact
<b>Visibility of the Development for Residents</b>	Medium (-)	Not assessed	No Impact
<b>Lighting Visual Impact</b>	Medium (-)	Not assessed	No Impact

**FRESHWATER COMPLIANCE STATEMENT, MANAGEMENT RECOMMENDATIONS - CONFLUENT**

A key impact related to large residential developments is the generation of large volumes of stormwater associated with an increased area of impermeable surfaces (i.e. roads, roofs and other infrastructure). Stormwater is typically conveyed into watercourses, where high volumes (and associated high energy) cause degradation of watercourses, mainly due to the erosion of the bed and banks. These watercourses may not necessarily fall within the development footprint but may still ultimately receive stormwater by connecting the development into an existing stormwater network that discharges into the watercourse. In this way, stormwater generated from the site can still affect watercourses located far outside of the development footprint.

It is therefore important that stormwater generated on site should be managed according to Sustainable Drainage System (SuDS) principles. This requires that as much stormwater as possible should be attenuated within the development footprint. For example, the City of Cape Town guideline is that developments must provide for 24-hour extended detention of the 1-year return interval 24-hour storm event. In this respect the following measures, inter alia, should be considered:

- Rainwater harvesting tanks be installed at all residences;
- Use of swales and detention ponds to attenuate stormwater runoff, encourage infiltration and reduce the speed, energy and volumes at which stormwater is discharged from the site.

**AGRICULTURAL COMPLIANCE STATEMENT – JOHAN LANZ**

The agricultural impact of the proposed development will be the permanent exclusion of potential agricultural production from the land parcel. The site is not currently utilised for agricultural production and has very limited future production potential because of the very sandy soils, the small size of the land parcel, which makes agriculture non economically viable, and its location among small parcels of land with non-agricultural land use and cut off from nearby agriculture by the N2 highway.

Because the site is not suitable for agricultural production, the proposed development cannot have an unacceptable negative impact on the agricultural production capability of the site. Therefore, from an agricultural impact point of view, it is recommended that the development be approved.

The entire site will be excluded from agricultural use. Therefore, the protocol requirement of confirmation that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities, is not relevant in this case. For the same reason, and because there are no off-site agricultural impacts, there are no Environmental Management Programme inputs required for the protection of agricultural potential on the site.

The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions. In completing this statement, no assumptions have been made and there are no uncertainties or gaps in knowledge or data that are relevant to it. No further agricultural assessment of any kind is required for this application.

### **PLANTS SPECIES AND TERRESTRIAL BIODIVERSITY - CHEPRI**

Summary and recommendations:

Due to almost the entire site falling under an Ecological Support Area (ESA1), and the Endangered ecosystem types, Groot Brak Dune Strandveld as delineated by the WCBSP and as Hartenbos Dune Thicket by the Red List of Ecosystems (RLE) for terrestrial realm for South Africa, the proposed development site is considered an area of importance for the maintenance of biodiversity, according to National and Local Biodiversity Planning and Land Use guidelines. We found that, although the vegetation on the entire site is in a degraded state, due to intensive vegetation clearing actions since, at least, 2004, there were some species that are characteristic of Groot Brak Dune Strandveld regenerating on the site. Therefore, the loss of the site's vegetation during construction of the development on the site, will lead to the loss of Groot Brak Dune Strandveld rehabilitation potential on site, which was considered when we assessed and scored impacts. These impacts, however, are considered low if suggested mitigation actions were to be taken, which most importantly, include the demarcation of a mitigation area on the northernmost section of the site where no development is recommended. It is also recommended that care be taken to leave the vegetation in this mitigation area undisturbed during construction on the rest of the site. Additionally, it is recommended that rehabilitation of natural species be encouraged in the mitigation area and that alien invasive species be controlled.

In terms of the ESA1 area, the occurrence of remnant Groot Brak Dune Strandveld plant species and the occurrence of antelope spoor in especially the northern half of the site, indicates that it still holds a function as an ESA1 area, especially in terms of ecological connectivity. The suggested mitigation area, however, will offset the loss of the ESA1 area to some extent and lower the impact on biodiversity from Medium to Low.

None of the Sensitive plant or animal Species of Special Concern, as identified by the screening tool were present on site. However, eight individuals of the protected tree species, *P. viridiflorum*, was found on the site, and mapped. It is recommended that where individuals of this species fall within a development area, that where possible, a 2-meter buffer be demarcated around the tree. Where a tree cannot be kept at its location, it is recommended that an application be made at the nearest Forestry office of DFFE, for a license to replant the tree in an area on the site where development will not take place, otherwise, a valid license to destroy the tree.

From an EAP perspective, the recent biodiversity mapping has been updated, the site is no longer classified as an Ecological Support Area (ESA1) but instead falls within Critical Biodiversity Area categories CBA 1 and CBA 2 (terrestrial realm). However, the proposed development site is still considered an area of biodiversity importance in terms of National and Local Biodiversity Planning and Land Use guidelines.

While the site is no longer formally classified as ESA1, the presence of remnant Groot Brak Dune Strandveld species and evidence of antelope movement, particularly in the northern portion of the site, indicate that it continues to perform an ecological function consistent with ecological support and connectivity objectives.

### **BOTANICAL COMMENT – MARK BERRY BOTANICAL SURVEYS**

Findings and recommendation

The site is situated in a shallow dune slack, and the vegetation can be described as an open grassy (dune) thicket or strandveld type, typically associated with dune slacks. It comprises mainly grasses, restioids (*Thamnochortus insignis*) and a few scattered shrubs and trees, including *Osteospermum moniliferum*, *Helichrysum cymosum*, *H. patulum*, *H. odoratissimum*, *Chrysocoma ciliata*, *Senecio burchellii*, *Metalasia* sp, *Seriphium plumosum*, *Wiborgia obcordata*, *Carpobrotus edulis*, *Passerina corymbosa*, *Cliffortia cf linearifolia*, *Muraltia ericoides*, *Pelargonium capitatum*, *Leonotis ocymifolia*, *Crassula cf subulata* and *Selago corymbosa*. There are also a few dune thicket elements here and there, such as *Searsia glauca*, *S. crenata*, *S. pallens*, *Sideroxylon inerme*, *Pittosporum viridiflorum*, *Gymnosporia buxifolia*, *Grewia occidentalis*, *Diospyros dichrophylla* and *Aloe arborescens*. Both *Sideroxylon inerme* (milkwood) and *Pittosporum viridiflorum* (kasuur) are protected tree species under

the National Forests Act (Act 84 of 1998). The farm dam in the north-western corner of site is surrounded by tall shrubs and trees, including several exotics such as *Schinus terebinthifolia* and *Psidium guajava*. One would not expect any notable species of conservation concern (SCC) to occur here, but the site certainly has some value as a part of the local biodiversity network.

The recommendation for an ecological corridor on the N2 side of the site is supported, which will provide a passage for fauna (pollinators & seed dispersal agents) to migrate across the site. This will theoretically maintain the ecological link between the natural vegetation on the western and eastern sides of the site. The N2 road reserve could serve as an extension to this corridor. The minimum width for such a corridor is difficult to determine but probably depends on what is required from the corridor. In this instance there is probably no need to accommodate significant natural habitat, but more a need to maintain the functioning of the larger biodiversity network. I would suggest a minimum width of 40 m in order to minimise undesirable edge influences. A width of 40-50 m is considered suitable for small fauna, such as amphibian movement according to Cotter et al. The biodiversity assessment report recommended a width of  $\pm 80$  m for the corridor.

Site ecological importance (SEI) was determined by applying the criteria described in the Species Environmental Assessment Guideline (SANBI, 2020). The SEI considers the biodiversity importance of the affected area or habitat and its resilience to impacts. The habitat in this instance is described as degraded strandveld. SEI has been determined to be Medium for the site due to its size, the threat status of the vegetation type and limited connectivity that remains. This means that minimisation and restoration mitigation is recommended according to the Guideline.

Currently, motivation for the ecological corridor seems weak if development proposals further away to the west between the R102 and the N2 are going ahead. These will sadly compromise the biodiversity link between the Groot Brak and Klein Brak Estuaries and other vegetation remnants in the area, such as the one in Reebok, 1 km southwest of the site. In a previous study for the municipality, the specialist motivated for a connection between the latter and the biodiversity corridor between the R102 and the N2.

#### Management of corridor

The most important management or maintenance task for the corridor would be to keep it clear of aliens. Ideally, all exotic species should be removed from the corridor. A simple alien clearing plan should suffice. It is important to note that the aliens must be cleared on an annual basis. To improve biodiversity inside the corridor, it is recommended that topsoil containing seeds of indigenous species and salvageable plants, such as *Carpobrotus* spp and *Aloe arborescens*, be collected from the development areas and deposited or planted inside the corridor.

The corridor should also not be fenced off on the sides facing away from the development. If fencing is needed for security reasons, a permeable fence should be erected that will allow small mammals through. Pedestrian traffic should be minimised. But if access needs to be provided for the residents, a path network should be established. The corridor should also be assessable for fire protection purposes.

#### **TERRESTRIAL FAUNAL AND AVIFAUNAL SPECIES COMPLIANCE STATEMENT REPORT – BLUE SKIES RESEARCH**

Listed sensitivity in the DFFE Screening Tool Report:

The results from this report confirm the site sensitivity of the proposed project footprint to be “Low” rather than “High” as identified in the DFFE Screening Tool Report. This follows from degraded nature of the on-site habitat which offers little in the way of faunal habitats, does not provide a functional link in providing ecosystem services and which does not represent suitable habitat for any faunal or avifaunal SCC.

#### Overlap with Critical Biodiversity Areas (CBAs)

Following the ground-truthing phase, the following conclusions may be drawn:

- The site harbours degraded habitats retrieved as having a “Very low” SEI.
- The site harbours an impaired terrestrial faunal and avifaunal diversity.
- The site displays compromised biodiversity and ecological characteristics and ecosystem dynamics.

- The site does not serve as an important or highly functional ecological corridor in the broader study area landscape.

Although the northern margin of the site is mapped as a mix of terrestrial CBA 1 and CBA 2, the study area therefore fails to meet the criteria of these categories defined as:

CBA 1: "Areas in a natural condition that are required to meet biodiversity targets for species, ecosystems, or ecological processes and infrastructure."

and

CBA 2: "Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure."

Taken together, the study area is of little value in meeting biodiversity targets and offering ecosystem services or supporting ecological processes. To this end, this further indicates that the site is of a lower sensitivity and is therefore developable from a faunal sensitivity perspective.

#### Conclusion

This report provides a representative faunal and avifaunal assessment of the study area considering facets of:

- Terrestrial faunal and avifaunal habitat composition,
- terrestrial faunal and avifaunal components,
- the presence of any terrestrial faunal and avifaunal SCC on the site,
- the SEI of habitats within the study area, with associated acceptable development activities, and
- a "Constraints and opportunities" map of the site.

Taken together, the results of the report indicate the following:

- The study area is comprised of four broadly identified habitat features with the larger part existing in a highly degraded state, the north-western corner harbouring an artificial dam and a large number of alien and invasive trees and the south-western part representing a built-up area.
- Terrestrial faunal and avifaunal diversity and abundances in the study area appear low which likely results from the degraded and isolated nature of the site. To this end, predator-prey dynamics and ecosystem dynamics appearing highly compromised, with the study area not forming an important ecological link and faunal dispersal corridor in the landscape.
- Given a lack of suitable habitat characteristics along with high levels of daily disturbances, all considered SCC are highly unlikely to occur on the site.
- All habitats on the site are retrieved as having a "Very low" SEI, allowing for development activities of medium to high impact without restoration activities being required.
- Current impacts within the study area appear severe to the point where the ecological integrity of the site has been compromised to such a degree that only a low number of common terrestrial faunal and avifaunal species are present.
- Impacts from the proposed development during the construction phase are expected to lead to the loss of only a relatively small area of degraded habitats and small subpopulations of burrowing species of "Least Concern", with this loss being acceptable given that it should not compromise biodiversity targets on either a local, regional or national scale.
- During the operational phase impacts to the surrounding environment will not be a novel feature to the surrounding receiving environment and are not expected to drastically affect biodiversity and ecological patterns in the broader study area landscape.
- Considering the compromised biodiversity and ecological characteristics and ecosystem dynamics of the site, its isolated nature, the degraded state of habitats and their retrieval as having a "Very low" SEI, this renders the entire site is developable from a faunal perspective, and any of the three development layouts may be considered for the study area without restoration activities being required.

- The results from this report confirm the site sensitivity of the proposed project footprint to be “Low” rather than “High” as identified in the DFFE Screening Tool Report.
- Following the ground-truthing phase, the study area fails to meet the criteria of the overlapped CBA 1 and CBA 2 categories further indicating that it is of a lower sensitivity and is therefore developable from a faunal sensitivity perspective.

Taken together therefore, the relatively limited spatial extent of the proposed project footprint along with the limited impact of its limited impact on the receiving environment is therefore acceptable from a faunal conservation perspective. Also considering the socio-economic benefits in the Western Cape, this development is therefore supported from a faunal biodiversity perspective.

### **SOCIO-ECONOMIC IMPACT ASSESSMENT – RAMP ECONOMICS**

Please also refer to the Socio-Economic Assessment, attached as Appendix G9 and the various sections in this document that draws from the findings of the assessment.

#### **Impact of No Development (No-Go Alternative)**

The impact of no development occurring on the site will result in opportunity cost. Opportunity cost refers to what is lost or what is given up when a “no go” alternative decision is made. It is an economic concept, representing a trade-off in any decision-making process. The impact of no development on the site means that the socio-economic impacts shown in the impact modelling will be lost.

The figure below illustrates the total opportunity cost during the construction and operation phase of the proposed development.



During the construction phase of the proposed development the opportunity cost will result in a R 1.1 billion potential loss in production revenue and a potential opportunity cost of R 314 million towards GDP. This will further result in an opportunity cost of 1 328 jobs and R 136 million in household income. The impact of no development during the operational phase means an opportunity cost of R 3.9 million of potential production and R 1.8 million towards GDP per annum. The opportunity cost of no development will be the potential loss of R0.3 million in household income per annum and 6 jobs.

Since the site is vacant and generates no revenue currently, the opportunity cost of no development on the site will impact the local community, as the proposed development will help improve the standard of living of local communities.

### **ECO-THUNDER VISUAL IMPACT ASSESSMENT**

The VIA for the proposed Tergniet Mixed-Use Development has been conducted with a comprehensive analysis of the potential visual impacts across all phases of the project, including construction, operation, and decommissioning. This assessment considers the project's visibility from key viewpoints, the potential impact on residents and scenic corridors, and the effectiveness of proposed mitigation measures.

Based on the findings, the project site demonstrates a moderate capacity to absorb the visual changes due to the existing semi-urban and agricultural landscape, as well as its proximity to transport routes like the N2 and R102. The operational phase introduces new structures and activities that will alter the landscape and potentially affect the sense of place for nearby residents. However, with the implementation of key mitigation measures—such as vegetative screening, landscape integration, and lighting management—the visual impacts can be reduced to an acceptable level.

The visual impact of the development is not anticipated to result in significant or irreversible visual disruption. Furthermore, the mitigation strategies outlined align with industry best practices and are deemed practical and achievable within the project's scope. The overall landscape character, which consists of mixed residential, agricultural, and open spaces, can accommodate the proposed development without compromising the visual integrity of the area.

In addition to site-specific impacts, cumulative visual impacts were evaluated considering other developments along the N2 and R102 corridors. The introduction of the Tergniet Mixed-Use Development will contribute to the evolving landscape character, but it aligns with the region's broader development trends. Given the existing infrastructure and semi-urban context, the project is unlikely to result in significant cumulative visual disruption. However, continued collaboration with local authorities and neighbouring developments is recommended to maintain visual coherence in the area.

The VIA concludes that the proposed Tergniet Mixed-Use Development does not present any fatal flaws from a visual perspective. The project is supported from a visual perspective and can be authorised, provided that the recommended mitigation measures are implemented and maintained throughout the construction and operational phases. Continuous monitoring and adaptive management are advised to address any unforeseen visual impacts that may arise.

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

Freshwater impact management measures:

- Implement SUDS drainage systems stormwater management on site.

Terrestrial Biodiversity Impact Assessment and Plant and Animal species Compliance Statement (Chepri):

1. Designate a mitigation area on the northernmost section of the undeveloped section of the site.
2. Plant indigenous (Groot Brak Dune Strandveld) species in gardens that may be located within the proposed development and encourage indigenous plant recovery in the mitigation area.
3. Undertake active alien invasive plant clearing in the mitigation area and garden areas of the proposed development.

Botanical Statement (Mark Berry):

The recommendation for an ecological corridor on the N2 side of the site is supported, which will provide a passage for fauna (pollinators & seed dispersal agents) to migrate across the site. This will theoretically maintain the ecological link between the natural vegetation on the western and eastern sides of the site. The N2 road reserve could serve as an extension to this corridor. The minimum width for such a corridor is difficult to determine but probably depends on what is required from the corridor. In this instance there is probably no need to accommodate significant natural habitat, but more a need to maintain the functioning of the larger biodiversity network. I would suggest a minimum width of 40 m in order to minimise undesirable edge influences. A width of 40-50 m is considered suitable for small fauna, such as amphibian movement according to Cotter et al.

Terrestrial faunal and avifaunal species compliance statement report (Blue Skies Research):

Considering the compromised biodiversity and ecological characteristics and ecosystem dynamics of the site, its isolated nature, the degraded state of habitats and their retrieval as having a "Very low" SEI, this renders the entire site is developable from a faunal perspective. To this end, any of the three

development layouts may be considered for the study area without restoration activities being required.

It is, however, recommended that the newly developed area be fenced off so as to curb the potential predation by domestic pets and collision of fauna with vehicles. Furthermore, it is recommended that the development footprint be kept at the provided minimum to minimise disturbance of surrounding natural habitats. Furthermore, every effort should be made to save and relocate any mammal, reptile, amphibian, bird, or invertebrate that cannot flee of its own accord, encountered during site preparation (i.e., to avoid and minimise the direct mortality of faunal species). These animals should be relocated to a suitable habitat area immediately outside the project footprint, but under no circumstance to an area further away.

#### Socio-Economic Impact Assessment (Ramp Economics):

- Developer should encourage contractor to procure local goods & services and employ local people from the communities as far as is feasible to do so.
- Recruit local labour as far as feasible.
- Sub-contract to local construction companies where possible.
- Provide on the job training & development where feasible for all the service contractors working on the development.
- Local labour should be considered first for employment where possible to increase the positive impact on the local economy.
- Procure goods & services from local small business to stimulate indirect job creation.
- Employ local labour to increase the benefits to the local households.
- Use local suppliers for goods and services.
- Adhere to the municipality guidelines.
- Adhere to mitigation measures proposed by relevant specialists.
- Ensure the architectural design of the development fits in with the rest of the area.
- Engage with local associations and local property owners.

#### Visual Impact Assessment (Eco-Thunder):

##### Construction Phase mitigation measures:

- **Use of Natural Colours and Materials:** Use materials and colours that blend with the natural landscape for any temporary structures or construction materials. Mimic the texture and colours of the natural environment, where possible.
- **Vegetative Screens:** At key points of sensitivity, indigenous vegetation around the construction site's perimeter may be planted to act as a natural screen, reducing the visual impact.
- **Localised Construction:** Focus construction activities in smaller, localised areas rather than spreading out across the entire site simultaneously. This phased approach can reduce the overall visual disturbance at any given time.
- **Revegetation for Restoration:** Post-construction, prioritise revegetation efforts, especially in areas where native grasslands were disturbed. This can help in restoring the site's original visual character.
- **Community Engagement:** Engage with the local communities, to keep them informed about construction progress and the measures being taken to reduce visual impacts.
- **Minimise Night-time Activities:** Limit construction activities during the night to reduce light pollution, especially given the proximity to residential areas like Tergniet.
- **Visual Simulations:** Before starting construction, provide visual simulations to stakeholders, showcasing the expected changes to the landscape, if feasible.
- **Site Screening:** Use natural topography, existing vegetation, or temporary screens to shield construction activities from viewers. Situate construction activities in lower-lying areas or behind hills. Use screens made of materials that blend with the natural environment.
- **Minimise Structure Heights:** Keep temporary structure heights to a minimum to reduce their visibility. Use materials and colours that blend with the surrounding landscape.
- **Lighting Control:** Minimise light pollution by directing lights downwards, using shields to prevent light spill, and turning off lights when not in use.

- **Strategic Placement:** Where possible, prioritise the placement of taller construction equipment and initial construction materials in areas less visible to the majority of residents.
- **Vegetative Barriers:** Enhance and fast-track the planting of native vegetation barriers, especially in areas facing major residential zones, to provide a natural screen.
- **Informational Signage:** Erect informational signboards around the construction site, explaining the project's benefits and duration, to keep residents informed and manage perceptions.
- **Visual Mock-ups:** Share visual mock-ups or simulations with the community, showcasing the expected landscape changes during and post-construction, if feasible.
- **Dust Suppression:** Regularly water down the construction site, especially during dry and windy conditions, to minimise dust generation.
- **Windbreaks:** Install temporary windbreaks or barriers around the construction site to reduce the spread of dust.
- **Vehicle Speed Limits:** Implement strict speed limits for construction vehicles within the site to reduce dust kick-up.
- **Construction Scheduling:** Schedule dust-generating activities for times when wind speeds are low or when wind direction is away from sensitive receptors, where possible.
- **Use of Dust Screens:** Install dust screens or barriers around the construction site, particularly in areas close to sensitive receptors, to contain dust within the site.
- **Rehabilitation of Disturbed Areas:** Promptly rehabilitate areas where construction activities have ceased. Re-vegetate with native species or suitable ground cover to stabilise the soil and reduce dust generation.
- **Regular Monitoring:** Implement a monitoring program to assess the effectiveness of dust control measures.
- **Machinery Maintenance:** Ensure construction machinery is well-maintained to minimise excessive noise and vibrations.
- **Work Hours:** Restrict the noisiest construction activities to daytime hours and avoid work during early mornings, late evenings, or weekends when residents are more likely to be at home.
- **Community Communication:** Keep the local community informed about construction schedules, especially during particularly disruptive activities. This allows residents to prepare or adjust their schedules accordingly.
- **Vegetative Screening:** Plant indigenous trees and shrubs along site boundaries, especially near major roads, to create natural visual buffers and blend the development into the surrounding landscape.
- **Landscape Integration:** Use materials, textures, and colours that reflect the local architectural styles to harmonise with the surrounding environment and maintain a sense of place.
- **Lighting Control:** Employ downward-facing, low-glare lighting systems with motion sensors to minimise light pollution and preserve the area's nighttime character.
- **Seasonal Landscaping Maintenance:** Implement an ongoing maintenance program to ensure that the landscaped areas remain in good condition, reflecting seasonal changes and preventing visual degradation.
- **Vegetative Buffers:** Plant indigenous vegetation along site boundaries adjacent to residential areas to reduce direct visibility of infrastructure and enhance visual screening.
- **Architectural Integration:** Utilise materials and colours that complement the local landscape, minimising visual contrast and promoting architectural harmony.
- **Lighting Control:** Employ downward-facing, low-glare lighting systems with motion sensors to minimise light pollution and preserve the area's nighttime character.
- **Downward-facing Lights:** Use fixtures that direct light downwards to minimise upward light spill, preserving the night sky.
- **Motion Sensors:** Install motion sensors so that lights are only activated when necessary, reducing the duration of light emissions.

- Low-intensity Lighting: Opt for low-intensity lighting that provides sufficient illumination for safety without being overly bright.
- Shielding: Use shields on lights to direct illumination to the intended areas and prevent light spill into unintended areas.
- Educate Staff: Ensure that staff are aware of the importance of minimising light pollution and are trained to use lighting efficiently.
- Periodic Reviews: Conduct periodic reviews of lighting practices to identify and rectify any unnecessary light emissions.
- Vegetative Screening Guidelines for Mixed-Use Developments  
To effectively integrate mixed-use developments into the surrounding landscape and minimise their visual impact, the following vegetative screening guidelines should be implemented. These guidelines outline appropriate vegetation heights, coverage requirements, and planting arrangements based on building height.

Building Height	Recommended Vegetation Height	Minimum Screening Coverage (%)
Single-storey (≤4m height)	Shrubs/trees of 1m+ height	20 – 30% of the façade length
Double-storey (4m – 8m height)	Trees of 1.5m+ height	25 – 35% of the façade length
Three-storey (8m – 12m height)	Trees of 3m+ height	30 – 40% of the façade length
Larger Developments (≥12m height)	Trees of 5m+ height, with layered understory shrubs	40% of the façade length

#### Planting Arrangements and Density

- Tree Spacing: Trees should be planted at 3m – 5m intervals, depending on canopy spread.
- Shrub Placement: Dense shrubs should be planted at 1m – 1.5m intervals to provide lower-level screening.
- Multi-Layered Buffering: A combination of tall trees, mid-sized shrubs, and ground cover should be used to maximise screening effectiveness.
- Hedge Rows for Additional Screening: Fast-growing hedge species can provide immediate coverage for lower structures.
- Minimum Vegetative Buffer Width: A 5m-wide vegetated buffer should be maintained along property boundaries.

#### Maintenance Considerations

- Regular Pruning and Trimming: Trees and shrubs should be maintained to prevent overgrowth while ensuring effective screening.
- Vegetation Replacement Strategy: A replanting plan should be established to manage plant loss due to weather, aging, or disease.
- Soil and Water Conservation Measures: Mulching and appropriate irrigation should be implemented to support healthy vegetation growth.

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.

The 80m buffer on the northern boundary of the site will not be incorporated into the proposal. The reasoning for this has been shown in several sections of this assessment report and briefly touched on below.



Figure 22: Mitigation Area recommended by Chepri

Please note that Chepri recommends as a mitigation measure to Alternative B that an 80m corridor be incorporated on the northern boundary of the site. Due to the economic impact of not developing 2 ha of the site an alternative layout (Alternative A) was presented to Chepri however they refuse to assess Alternative A and adjust their impact tables to suit the requirements of the BAR. As such Mark Berry Botanical Surveys was appointed to provide comment on the proposal and the Preferred Alternative A and it was confirmed in the Botanical comment that the corridor can still serve the purpose if it were 40m wide. As such, due to the fact that Chepri has gone awol and taking the botanical comment into account that states that the 40m corridor will serve the same purpose of maintaining connectivity.

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

During the construction phase:

- Altered Landscape and Sense of Place: Low negative impact significance
- Visibility of the Development for Residents: Low negative impact significance
- Dust and Noise: Low negative impact significance
- Production and local economy: High positive impact significance
- Employment: High positive impact significance
- Household income: High positive impact significance
- Rates and taxes: Medium positive impact significance
- Sense of place (Socio-economic): Low negative impact significance
- Surrounding property values: Low negative impact significance

During the operational phase:

- Altered Landscape and Sense of Place: Low negative impact significance
- Visibility of the Development for Residents: Medium negative impact significance
- Lighting Visual Impact: Medium negative impact significance
- Production and local economy: High positive impact significance
- Employment: High positive impact significance
- Household income: High positive impact significance
- Rates and taxes: Medium positive impact significance

	<ul style="list-style-type: none"> <li>• Sense of place (Socio-economic): Low negative impact significance</li> <li>• Surrounding property values: Low positive impact significance</li> </ul>															
5.	<p>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.</p> <p>The standard building mitigation to make the proposed development energy efficient and reduce water demands have become requirements in recent years and will be implemented. This will reduce the demand on water resources and energy.</p> <p>The proposed site is however located approximately 70m above sea level and more than 600m from the Tergniet coastline. As such the site itself is located far enough from potential impacts of sea level rises.</p>															
6.	<p>Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.</p> <p>Chepri recommends as a mitigation measure to Alternative B that an 80m corridor be incorporated on the northern boundary of the site. Due to the economic impact of not developing 2 ha of the site an alternative layout (Alternative A) was presented to Chepri however they refuse to assess Alternative A and adjust their impact tables to suit the requirements of the BAR. As such Mark Berry Botanical Surveys was appointed to provide comment on the proposal and the Preferred Alternative A and it was confirmed in the Botanical comment that the corridor can still serve the purpose if it were 40m wide. As such, due to the fact that Chepri has gone unresponsive to emails and taking the botanical comment into account that states that the 40m corridor will serve the same purpose of maintaining connectivity.</p>															
7.	<p>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.</p> <p>The proposed impacts and appropriate mitigation measures were included into the EMPr for implementation during the pre-construction, construction, and post-construction phases of the project.</p>															
8.	<p>Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">MITIGATION HIERARCHY</th> </tr> </thead> <tbody> <tr> <td style="width: 5%;">1</td> <td style="width: 20%;">AVOID IMPACTS</td> <td>All the specialists found that there will be low on the biophysical environment. The botanist did however recommend excluding two thicket patches from the development footprint.</td> </tr> <tr> <td>2</td> <td>MINIMISE IMPACTS</td> <td>The implementation of the EMPr during the construction phase will minimise the Impacts associated with the construction phase.</td> </tr> <tr> <td>3</td> <td>RECTIFY</td> <td>The disturbances created by the construction phase will be rehabilitated in accordance with the EMPr.</td> </tr> <tr> <td>4</td> <td>OFFSET</td> <td>As a precaution a 40m corridor has been incorporated into the layout on the northern boundary of the site to maintain ecological connectivity.</td> </tr> </tbody> </table>	MITIGATION HIERARCHY			1	AVOID IMPACTS	All the specialists found that there will be low on the biophysical environment. The botanist did however recommend excluding two thicket patches from the development footprint.	2	MINIMISE IMPACTS	The implementation of the EMPr during the construction phase will minimise the Impacts associated with the construction phase.	3	RECTIFY	The disturbances created by the construction phase will be rehabilitated in accordance with the EMPr.	4	OFFSET	As a precaution a 40m corridor has been incorporated into the layout on the northern boundary of the site to maintain ecological connectivity.
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## SECTION J: GENERAL

### 1. Environmental Impact Statement

1.1.	<p>Provide a summary of the key findings of the EIA.</p> <p>The proposed mixed development is located on Erf 998 and a portion of Remainder of Farm 139 Zandhoogte, Tergniet, Mossel Bay.</p> <p>The findings of the specialists have been explored in several sections of this BAR and in order to avoid repetition, all their findings and recommendation are not included here again.</p> <p>Essentially the site has been disturbed over a long period of time and as such does not hold much biodiversity or functionality. Although the mapped vegetation unit is sensitive not many of the species associated with the vegetation unit remain. Chepri and Mark Berry have recommended an ecological corridor on the northern boundary to maintain connectivity between CBA's which has been incorporated into the Preferred Alternative A. Blue Skies Research has found that the whole site is</p>
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suitable for the proposed development (Alternative B) as the biodiversity and ecological characteristics are highly compromised and ecosystem dynamics of the site, its isolated nature and degraded state of habitats and their retrieval as having a Very Low SEI. Additionally, the degraded nature of the on-site habitat which offers little in the way of faunal habitats, does not provide a functional link in providing ecosystem services and which does not represent suitable habitat for any faunal or avifaunal SCC.

A precautionary approach is being applied to the proposal and therefore a 40m corridor has been incorporated into the Preferred Alternative A.

The site will have a medium negative impact on the sense of place, which can be expected when developing an undeveloped (yet disturbed) area.

The proposal will result in high positive socio-economic impacts during both the development and operational phases.

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)
	Please refer to the preferred Alternative A, the recommended corridor (Development No-go) has already been incorporated into the layout
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.

**Table 48: Summary of the Impacts Post Mitigation**

Impact	Alternative A (40m buffer/corridor)	Alternative B (No buffer/corridor)	No-Go
<b>Construction Phase</b>			
<b>Blue Skies Research</b>			
<b>Terrestrial Biodiversity</b>	Low (-)	Low (-)	No Impact
<ul style="list-style-type: none"> <li>• Destruction of habitat</li> <li>• Direct mortality of fauna</li> <li>• Vibration and noise</li> </ul>			
<b>Chepri with input from Mark Berry and Blue Skies Research to complete the assessment</b>			
<b>Loss of an endangered ecosystem type</b>	Low (-)	Medium (-)	No Impact
<b>Loss of ecosystem services</b>	Low (-)	Medium (-)	No Impact
<b>Loss of ecosystem function, pattern and process</b>	Low (-)	High (-)	No Impact
<b>Loss of distinct biodiversity features</b>	Low (-)	Medium (-)	No Impact
<b>Ramp Economics</b>			
<b>Production and local economy</b>	High (+)	Not assessed	Opportunity cost of R1.1 billion, Opportunity cost of GDP contribution of R 314 million
<b>Employment</b>	High (+)	Not assessed	Opportunity cost of 1328 jobs

<b>Household income</b>	High (+)	Not assessed	Opportunity cost of R 136 million
<b>Rates and taxes</b>	Medium (+)	Not assessed	No Impact
<b>Sense of place (Socio-economic)</b>	Low (-)	Not assessed	No Impact
<b>Surrounding property values</b>	Low (-)	Not assessed	No Impact
<b>Eco-Thunder</b>			
<b>Altered Landscape and Sense of Place</b>	Low (-)	Not assessed	No Impact
<b>Visibility of the Development for Residents</b>	Low (-)	Not assessed	No Impact
<b>Dust and Noise</b>	Low (-)	Not assessed	No Impact
<b>Operational Phase</b>			
<b>Ramp Economics</b>			
<b>Production and local economy</b>	High (+)	Not assessed	Opportunity cost of R3.9 million, Opportunity cost of GDP contribution of R 1.8 million
<b>Employment</b>	High (+)	Not assessed	Opportunity cost of 6 jobs
<b>Household income</b>	High (+)	Not assessed	Opportunity cost of R 0.3 million
<b>Rates and taxes</b>	High (+)	Not assessed	No Impact
<b>Sense of place (Socio-economic)</b>	Low (-)	Not assessed	No Impact
<b>Surrounding property values</b>	Low (+)	Not assessed	No Impact
<b>Eco-Thunder</b>			
<b>Altered Landscape and Sense of Place</b>	Low (-)	Not assessed	No Impact
<b>Visibility of the Development for Residents</b>	Medium (-)	Not assessed	No Impact
<b>Lighting Visual Impact</b>	Medium (-)	Not assessed	No Impact

## 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
<p>In order to obtain/reach the impact management objects the corresponding mitigation measures prescribed in the BAR and EMPr must be implemented.</p> <p>The Impact monitoring will be undertaken by an appointed and independent ECO.</p> <p>The impact management outcomes will be monitored by the appointed ECO, in addition to the implementation of mitigation measures during the duration of the development, if all management mitigation measures are implemented successfully the resulting impact management outcomes will mean that the develop was undertaken with no significant or avoidable impacts to the environment.</p>	

Impact management objectives and impact management outcomes included in the EMPr:

<b>PRE-CONSTRUCTION PHASE</b>	
<b>IMPACT MANAGEMENT OBJECTIVES</b>	<b>IMPACT MANAGEMENT OUTCOMES</b>
To appoint a suitably qualified and experienced Environmental Control Officer	The conditions of Environmental Authorisation and the requirements of the EMPr are implemented and monitored during all phases of the development, which will promote sound environmental management on site.
Identify and demarcate no-go areas (northern corridor), working areas and site facilities	Future construction activities will be restricted to within the designated areas & environmentally sensitive areas (no-go areas) will be protected from disturbance
To set up and equip the site camp and associated site facilities in a manner that will promote good environmental management.	Site camp facilities do not impact significantly on environment. The equipment required to implement the provisions of the EMPr are provided on site.
Environmental Control Officer to conduct an inspection prior to the commencement of construction activities on site	<p>Good environmental management is promoted and enforced by the ECO during the full pre-construction and construction phases.</p> <p>Site facilities are appropriately located on site.</p> <p>Construction workers receive environmental awareness training before commencing work on site</p>
<b>CONSTRUCTION PHASE</b>	
To limit noise generated by construction activities	No avoidable noise impacts emanate from the site during the construction phase
Limit loss of: <ul style="list-style-type: none"> <li>• an endangered ecosystem type</li> <li>• ecosystem services</li> <li>• ecosystem function, pattern and process</li> <li>• distinct biodiversity features</li> </ul>	Managed and limited loss of: <ul style="list-style-type: none"> <li>• an endangered ecosystem type</li> <li>• ecosystem services</li> <li>• ecosystem function, pattern and process</li> <li>• distinct biodiversity features</li> </ul>
Limit: <ul style="list-style-type: none"> <li>• Destruction of habitat</li> <li>• Direct mortality of fauna</li> <li>• Vibration and noise (machinery and people)</li> </ul>	Managed and limited: <ul style="list-style-type: none"> <li>• Destruction of habitat</li> <li>• Direct mortality of fauna</li> <li>• Vibration and noise (machinery and people)</li> </ul>
<b>POST CONSTRUCTION REHABILITATION PHASE</b>	
To rehabilitate all areas disturbed by construction activities in an environmentally sensitive manner	<p>The site is neat and tidy, and all exposed surfaces are suitably covered/ stabilised.</p> <p>There is no construction-related waste or pollution remaining on site.</p>
Prevent alien vegetation establishment on the site	Only indigenous vegetation species establish on the disturbed areas

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.

An Environmental Control Officer must be appointed to monitor the compliance and implementation of the Environmental Management Programme, mitigation measures and the Environmental Authorization conditions.

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.
The proposal should be authorised in terms of the preferred Alternative A, the implementation of the EMPr must be monitored by a suitable qualified and experienced ECO.	
2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.
	It is assumed that the proposed mitigation measures as listed in this report and the EMPr (Appendix H) will be implemented and adhered to as the significance of impacts ratings are conditional on implementation of the mitigation measures.
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.
	<ul style="list-style-type: none"> <li>• The period for which the EA is required = 10 years.</li> <li>• The date the activity will be concluded = 10 years.</li> <li>• When the post construction monitoring requirements should be finalised = 10 years.</li> </ul>

### 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.

According to the Civil Engineering Services Report the following general water saving practices are proposed:

- Dual flush toilets.
- Low flow shower heads which make use of either aerators or pulse systems to reduce the flow without compromising the quality of the shower. The choice of shower heads is up to the homeowner but must have a flow of less than 7 liters per minute.
- Low flow faucets. The faucets in the bathrooms should have a peak flow of less than 10 liters per minute.
- Rainwater tanks – all houses should be fitted with rainwater collection tanks for landscaping and washing of vehicles.
- Consideration should be given to provide solar pumps at each rainwater tank in order to more effectively supply the units. The overflow from tanks should be directed into the stormwater system. All water sources situated externally on buildings should be fed from these rainwater tanks.
- Geyser and pipe insulation. Homeowners must be required to install geyser and pipe insulation. This must be included in their building guidelines.

### 4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.

The EMPr has encouraged waste management through the various phases of the project.

Construction Phase:

- An integrated waste management approach (AVOID first, then REDUCE, then REUSE, then RECYCLE, then DISPOSAL) must be adopted.
- Adequate waste receptacles, bins and skips should be available for the collection and removal of waste.
- Individual recycling bins for the various categories (paper, glass, plastic, etc.) must be provided, labelled and have a designated area on site, close to access points (for easy removal), away from any natural areas, and should have appropriately weighted lids, to prevent the wind from toppling the bins, resulting in waste dispersal.
- These bins must be emptied on a weekly basis and dropped off at a collection point for recycling, by recycling companies, ensure that a waste slip is obtained as proof of this, and have this filed in the Environmental File.

- Infographics and educational notices to create awareness around sustainable waste management should be provided.
- Environmental awareness training will be conducted for all site workers to create awareness.
- Any solid waste intended for disposal must be disposed of at a landfill site, licensed in terms of section 20 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) or the National Environmental Management: Waste Act (Act No. 59 of 2008).

Operational Phase:

- Appropriate waste receptacles should be established, for permanent use during operational phase.
- Separation of waste, in separate, labelled waste receptacles, should be encouraged.
- Littering should be restricted, and signage should be erected accordingly.
- On-going monitoring of stormwater infrastructure should be undertaken.

## 5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.
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The utilization of energy efficient LED type luminaires should be considered and integrated into the final design.	
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## SECTION K: DECLARATIONS

### DECLARATION OF THE APPLICANT

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

I **Jacobus Petrus Pozyn**, ID number **6012315117084** 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:

  
Date:

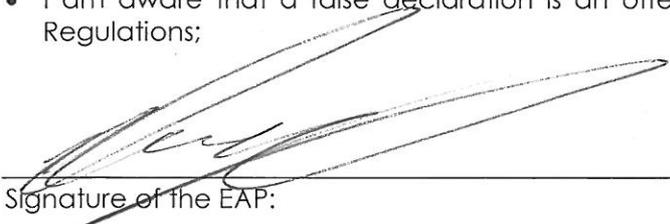
**3MP Sales and Education Services**

Name of company (if applicable):

## DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I **Michael Jon Bennett**, EAP Registration number **2021/3163** 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;

  
Signature of the EAP:

5 March 2026  
Date:

**Sharples Environmental Services cc**

Name of company (if applicable):

**DECLARATION OF THE REVIEW EAP**

I ....., EAP 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.

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Signature of the EAP:

Date:

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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.

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Signature of the EAP:

Date:

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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.

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Signature of the EAP:

Date:

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Name of company (if applicable):