LORNAY
ENVIRONMENTAL CONSULTING

PRE-APPLICATION
BASIC ASSESSMENT REPORT

PROPOSED EXPANSION OF ROMANSBAAI ABALONE FARM ON REMAINDER OF PORTION 2 OF THE FARM 711, GANSBAAI

Prepared for

AQUNION

09 October 2024

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Western Cape Government
Environmental Affairs and Development Planning

FORM NO. BAR10/2019

BASIC ASSESSMENT REPORT

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

NOVEMBER 2019

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

GENERAL PROJECT DESCRIPTION

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

PROPOSED EXPANSION OF ROMANSBAAI ABALONE FARM ON PORTION 2 OF THE FARM 711, GANSBAAI, CALEDON RD

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DEPARTMENTAL DETAILS

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

MAPS

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

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

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation

EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape
NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference
WCBSP:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

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

The following checklist of attachments must be completed.

APPENDIX			**✓ (Tick) or x (cross)**
Appendix A:	**Maps**		
	Appendix A1:	**Locality Map**	✓
	Appendix A2:	**Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning**	
	~~**Appendix A3:**~~	~~**Map with the GPS co-ordinates for linear activities**~~	N/A
Appendix B:	**Appendix B1:**	**Site development plan(s)**	✓
	Appendix	**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**	

	Appendix E3:	**Final Comment from the DWS**	N/A
	Appendix E4:	**Comment from the DEA: Oceans and Coast**	
	Appendix E5:	**Comment from the DAFF**	N/A
	~~**Appendix E6:**~~	~~**Comment from WCG: Transport and Public Works**~~	N/A
	Appendix E7:	**Comment from WCG: DoA**	N/A
	Appendix E8:	**Comment from WCG: DHS**	N/A
	Appendix E9:	**Comment from WCG: DoH**	N/A
	Appendix E10:	**Comment from DEA&DP: Pollution Management**	N/A
	Appendix E11:	**Comment from DEA&DP: Waste Management**	N/A
	Appendix E12:	**Comment from DEA&DP: Biodiversity**	N/A
	Appendix E13:	**Comment from DEA&DP: Air Quality**	N/A
	Appendix E14:	**Comment from DEA&DP: Coastal Management**	
	Appendix E15:	**Comment from the local authority**	
	Appendix E16:	**Confirmation of all services (water, electricity, sewage, solid waste management)**	
	Appendix E17:	**Comment from the District Municipality**	
	Appendix E18:	**Copy of an exemption notice**	N/A
	Appendix E19	**Pre-approval for the reclamation of land**	N/A
	Appendix E20:	**Proof of agreement/TOR of the specialist studies conducted.**	
	Appendix E21:	**Proof of land use rights**	

	Appendix E22:	**Proof of public participation agreement for linear activities**	
Appendix F:	**Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.**		
Appendix G:	**Specialist Report(s)** **APP G1 Terrestrial Biodiversity Impact Assessment** **APP G2 Heritage Impact Assessment (PIA,AIA, VIA)**		✓
Appendix H:	**EMPr**		✓
Appendix I:	**Screening tool report**		✓
Appendix J:	**The impact and risk assessment for each alternative**		
Appendix K:	**Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline**		
Appendix…..	**Any other attachments must be included as subsequent appendices**		

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE:		GEORGE OFFICE:
	REGION 1 (City of Cape Town, West Coast District	REGION 2 (Cape Winelands District & Overberg District)	REGION 3 (Central Karoo District & Garden Route District)
Duplicate this section where there is more than one Proponent Name of Applicant/Proponent:	Terrasan Group (PTY) LTD		
Name of contact person for Applicant/Proponent (if other):	Lize Schoonbee		
Company/ Trading name/State Department/Organ of State:	Aqunion (Pty) Ltd		
Company Registration Number:	1995/001834/07		
Postal address:	PO Box 1086		
	HERMANUS	Postal code: 7200	
Telephone:	028 312 1106	Cell: -	
E-mail:	lize@aqunion.co.za	Fax: -	
Company of EAP:	Lornay Environmental Consulting		
EAP name:	Michelle Naylor		
Postal address:	Unit F, Hemel en Aarde Valley		
	HERMANUS	Postal code: 7200	
Telephone:	083 245 6556	Cell: 083 245 6556	
E-mail:	michelle@lornay.co.za	Fax: -	
Qualifications:	Master of Science (Rhodes University)		
EAPASA registration no:	EAPASA. 2019/698,., SACNASP., IAIASA		
Duplicate this section where there is more than one landowner Name of landowner:	As above		
Name of contact person for landowner (if other):	-		
Postal address:	-		
	-	Postal code:-	
Telephone:	-	Cell:-	
E-mail:	-	Fax: -	
Name of Person in control of the land:	As above		
Name of contact person for person in control of the land:	-		
Postal address:	-		
	-	Postal code:-	
Telephone:	-	Cell:-	
E-mail:	-	Fax: -	

Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall:	Overstrand Municipality	
Contact person:	C. Arendse	
Postal address:	P.O BOX 26	
	Gansbaai	Postal code:
Telephone	0288 384 8300	Cell:
E-mail:	gbenvironmental@overstrand.gov.za	Fax: ( )

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

1.	Is the proposed development (please tick):	New		Expansion	X
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
Romansbaai Abalone Farm is an existing and operational Abalone Farm in Gansbaai. The proposed site for the expansion of the farm is located is classified as a greenfield site, although the site has been impacted by day-to-day activities					
~~3.~~	~~**For Linear activities or developments**~~				
~~3.1.~~	~~Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:~~				
~~N/A~~					
~~3.2.~~	~~Development footprint of the proposed development for all alternatives.~~	~~m²~~			
~~3.3.~~	~~Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.~~				
~~3.4.~~	~~Indicate how access to the proposed routes will be obtained for all alternatives.~~				
~~3.5.~~	~~SG Digit codes of the Farms/ Farm Portions /Erf numbers for all alternatives~~				
~~3.6.~~	~~**Starting point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
	~~**Middle-point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
	~~**End point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
~~**Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.**~~					
4.	**Other developments**				
4.1.	Property size(s) of all proposed site(s):				**575000 m² (57.50ha)**

4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):	Approximately **160 000 m²** **(16 ha)**

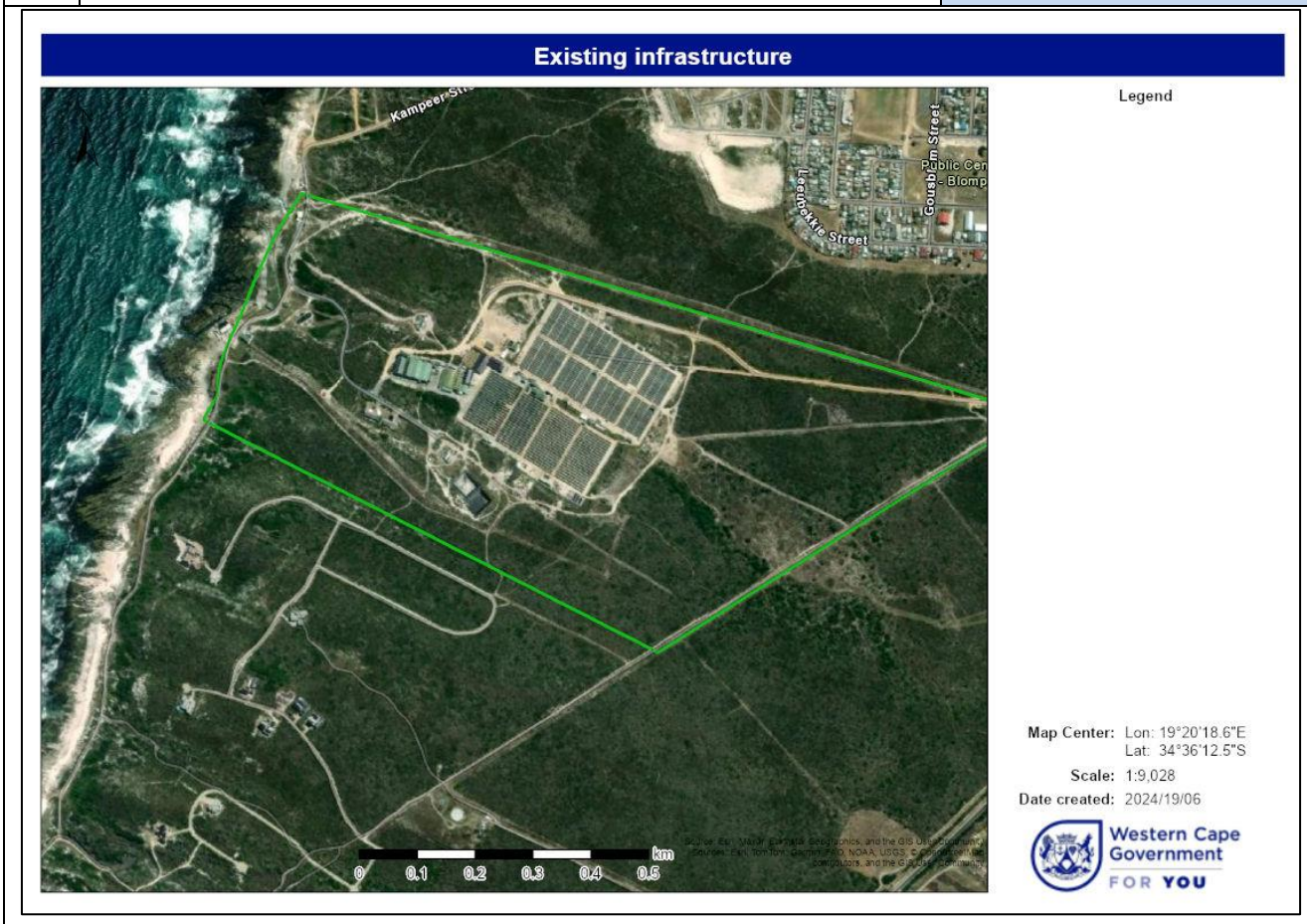

Figure 1: Aerial view showing the existing infrastructure and operations on the subject property.

4.3.

The holder is making application to expand existing operations at Romansbaai Abalone Farm. The expansion of the existing production and grow out area to increase the production output by 300 tons / annum is proposed. In order to accommodate this, the existing pumphouse will be increased in size to allow for the increased abstraction of sea water. Additional sea water lines will also be added to transport the seawater to the farm. A lined seawater reservoir is also proposed to temporarily hold seawater which can be used during peak electricity tariff periods or during electricity outages.

The following is proposed:

<u>Production Area:</u>

Phase 1:

→ Additional production area: **17500 m² (1.75 ha)**

→ Production additions:

- Production capacity increase: 150 tons (wet weight)
- Number of tanks: 1 850

- Number of baskets: 12 950
- Seawater usage: 2 400 m^3/hour
- Aeration fans / blower room: 4 units
- Split/grading station: 1 unit

Phase 2:

→ Additional production area**: 17500 m^2 (1.75 ha)**

→ Production additions:

- Production capacity: 150 tons (wet weight)
- Number of tanks: 1 850
- Number of baskets: 12 950
- Seawater usage: 2 400 m^3/hour
- Aeration fans blower room: 4 units
- Split/grading station: 1 unit

Lined Seawater Reservoir:

→ Storage capacity: 41 000 m^3

→ Surface area: 20 000 m^2 (2 ha)

→ Depth: 3,5 meters

→ Fill-up time: 8 hours

→ Coverage footprint: **20000 m^2** (**2 ha)**

Solar Array:

→ Power generation capacity: 4 MW (backup)

→ Coverage footprint: **40000 m^2 (4 ha)**

Expansion of the existing pumphouse

→ The existing pumphouse will be expanded by 140 m^2 to house the 4 new pipelines used to abstract seawater
→ Coverage footprint: **140 m^2**

4 additional Pipelines:

→ Four additional pipelines will be installed.

→ The pipeline will be placed alongside the existing network of pipeline situated within a disturbed area.

→ Each pipeline will be

- Length: 600 meters
- Diameter: 500 mm
- Total area per pipeline = 300 m^2 / pipeline

Table 1: Total additional footprint summary

	Description	Volume	Size (m^2)
1.	Phase 1 production area / grow out	150 tons / annum	17500
2.	Phase 2 production area / grow out	150 tons / annum	17500
3.	Lined seawater reservoir	41 000 m^3	20000
4.	Solar array	4 MW	40000
5.	Pumphouse expansion		140
6.	4 additional pipelines		1200
		Total size	**96340 (9.6 ha)**

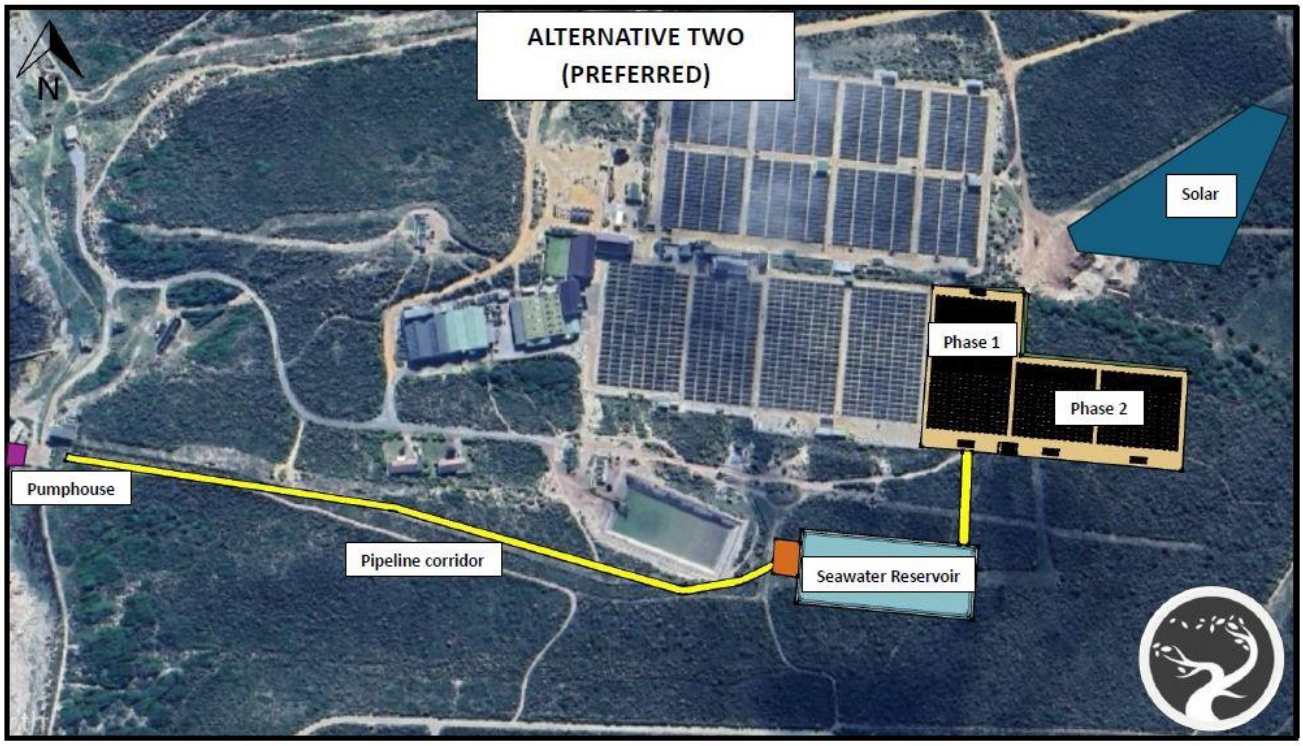

Figure 1. Proposed layout of expansion activities on the property

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).

Romansbaai Abalone Farm is located on Remainder of Portion 2 of the Farm No. 711, between Gansbaai and Danger Point (**Figure 2**). The development seeks to increase the farm's abalone production by approximately 300 tons (wet weight) annually, improving its operational capacity to meet growing market demands. The expansion will cover approximately 9.6 ha, adding to the existing 16 ha of developed area within the 57.5 ha property.

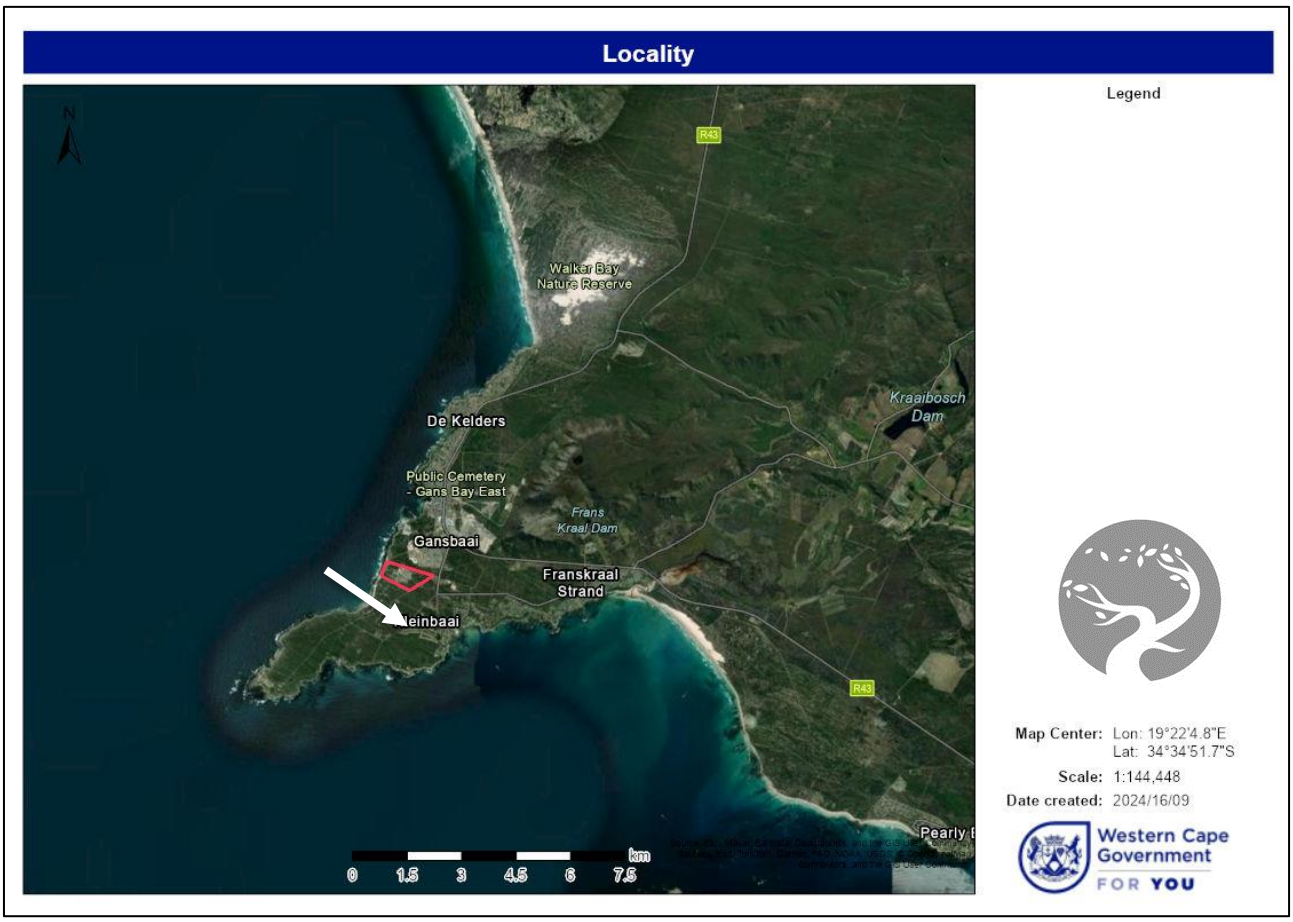

Figure 2: Locality of Romansbaai Abalone Farm

1. **Increase in Production Capacity**

→ The expansion will be executed in two phases, each targeting an annual production increase of 150 tons (wet weight) (**Figure 3**):

- **Phase 1**: Coverage footprint: **1.75 ha**
- **Phase 2**: Coverage footprint **1.75 ha**

→ The total footprint of the additional production area for both phases will be 3.5 ha, with an overall production target of 300 tons per annum upon completion of both phases.

2. **Construction of a Lined Reservoir**

→ The construction of a lined seawater reservoir designed to hold sea water for short periods, during power outages or high tariff periods, is proposed. This includes:

- Excavating **35 000 m^3** of sand over an area of **2 ha**.
- The reservoir will have a storage capacity of **41 000 m^3**

3. **Solar Power Array**

→ To support energy efficiency and sustainability of the farm, an above ground solar power array will be installed as part of the expansion proposal:

- The solar installation will cover an area of **4 ha**, utilizing brush-cut vegetation removal only.

- The system will generate 4 MW of electricity, significantly reducing reliance on grid power and lowering the environmental footprint of the farm. The generated power will only be used on site.

4. Expansion of the Existing Pumphouse

→ The existing pumphouse will be expanded by approximately **140 m²** to accommodate additional infrastructure for increased water intake (**Figure 3**):

- A total of 4 new pumps and 4 pipelines will be installed at the pumphouse
    - 1 new pump and 1 new pipeline will be fitted within the existing pumphouse
    - 3 new pumps and 3 pipelines will be installed within the proposed expanded pumphouse

5. Installation of Additional Pipelines

→ **4 new pipelines** will be installed from the pumphouse to connect the new lined seawater reservoir directly to the production area:

- Each pipeline will be 600 meters long and 500 mm in diameter.
- The combined water extraction rate will be 1600 m^3 per hour.
- Pipeline installation will not require major ground excavation, as they will be laid alongside the existing pipeline in a previously disturbed area (**Figure 4**).

6. Seawater Intake and Discharge Systems

→ The expansion of the abalone farm will require the abstraction of more seawater which will be facilitated through the expansion of the pumphouse. The additional seawater intake will therefore result in an increase in effluent water discharge. Ecologically, the operation of an abalone farm can be considered to be a low impact activity with negligible impacts on the environment when compared with other land-based agricultural activities. The effluent water, which is the circulated seawater which gets discharged back to the marine environment, has been found to have a negligible to zero impact on the marine environment (Probyn et al. 2014).

→ The discharge is undertaken in line with the Department of Forestry, Fisheries and the Environments (DFFE) General Discharge Authorisation (GDA) issued in terms of Section 69(2) of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 of 2008). No amendment to the GDA is required to accommodate the increased seawater discharge.

- The current intake system will be upgraded to abstract a larger volume of water per hour, while the discharge volume will be increased from 230 880 m³ to 270 000 m³ annually.
- The farm operates under the General Discharge Act, which covers the expanded discharge needs without requiring additional coastal water discharge permits.

Figure 3a. Photo showing existing pumphouse and seawater abstraction lines

Figure 3a, 3b: View of the existing pumphouse (green) and the area outlined in red, which is proposed for expansion to accommodate the installation of new pipelines. One pipeline will be integrated into the existing pumphouse infrastructure, as illustrated.

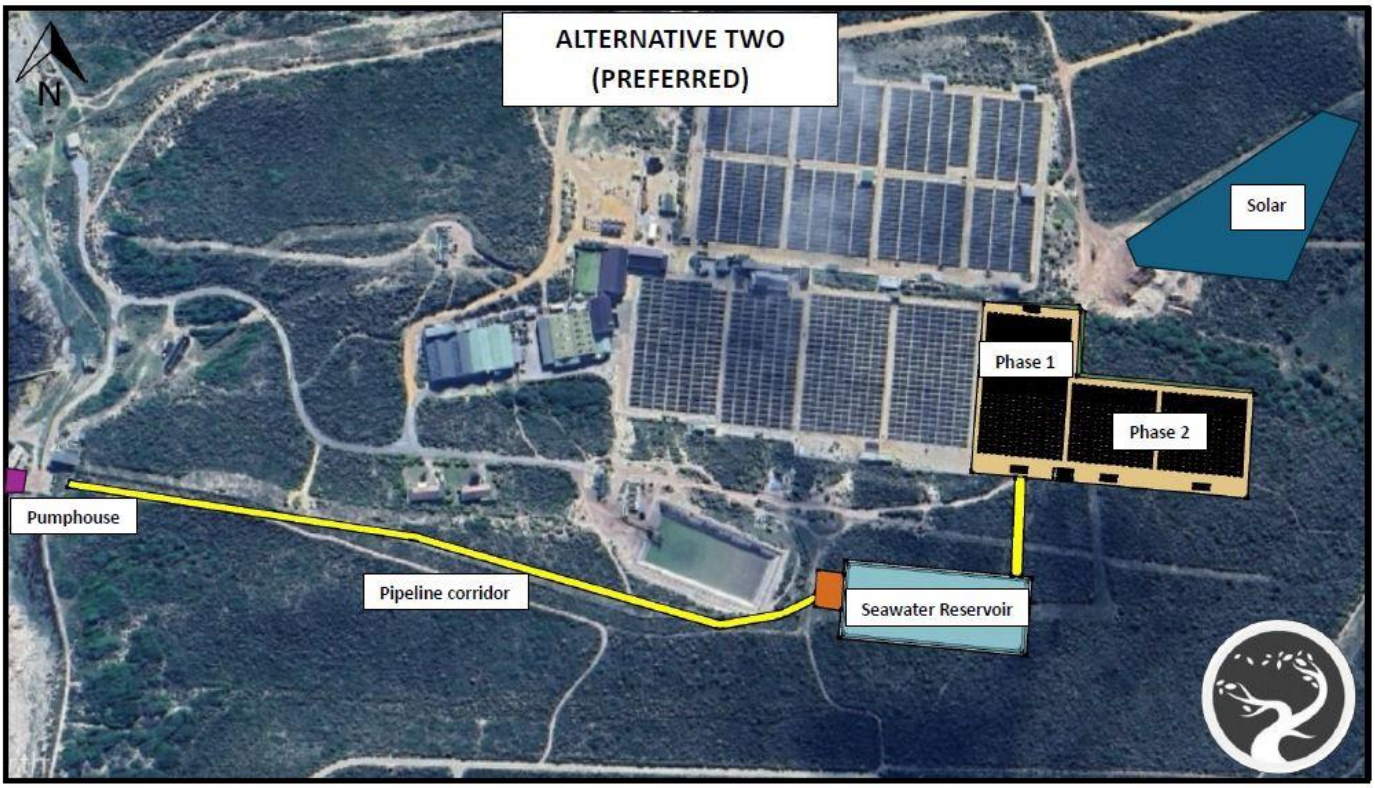

Figure 4: The new pipelines, depicted in yellow, will be installed from the pumphouse to the proposed seawater reservoir and then to the new production area (phases 1 and 2), as illustrated. The new pipelines will be installed in the existing pipeline corridor where the existing pipelines are installed.

Infrastructure Services

1. **Electricity Supply**

   → The farm is allocated 2.4 MVA of municipal electricity, but current usage stands at 1.7 MVA, leaving a surplus capacity of 0.7 MVA.

   → No additional confirmation from the local authority is required for electrical services, as the existing capacity is sufficient for the proposed expansion.

2. **Sewage and Effluent Management**

   → Existing bulk sewage and water reticulation systems are capable of handling up to 350 people, accommodating the additional 350 jobs that will be created through the expansion.

   → These systems, which include potable water supply, toilets, and wastewater treatment infrastructure, are adequately designed, and no further upgrades or modifications are needed to accommodate the proposed expansion

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

There is an existing access road via Van Dyk Road to the farm. No new or additional access is required.

4.6.	SG Digit code(s) of the proposed site(s) for all alternatives: C01300000000071100002			
4.7.	Coordinates of the proposed site(s) for all alternatives:			
	Latitude (S)	34º	36‘	12.49“
	Longitude (E)	19º	20‘	32.54“

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

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

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

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

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) ("ICMA"). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES x	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 x	NO
The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the DWS as Appendix E3.	YES	NO x
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	NO x
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	NO x
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES	NO x
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	NO x
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	NO x

3. Other legislation

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

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.			
LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	**ADMINISTERING AUTHORITY and how it is relevant to this application**	**TYPE Permit/license/authorisation/comment / relevant consideration** (*e.g.* rezoning or consent use, building plan approval, Water Use License and/or General Authorisation, License in terms of the SAHRA and CARA, coastal discharge permit, *etc.*)	**DATE** (if already obtained)**:**
Overstrand Municipality by Law on Municipal Land Use Planning, 2015	Overstrand Municipality	Consent Use for Aquaculture on Agriculture Zone 1	In place
General Discharge Authorisation in terms of Section 69(2) of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 of 2008).	Department of Forestry, Fisheries and the Environment (DFFE)	License	In place
National Heritage Resources Act 25 of 1999 (NHRA) Act 25 of 1999 (NHRA)	Heritage Western Cape	Comment	Pending
The Sea-Shore Act, (Act 21 of 1935)	Cape Nature	Lease agreement already on place	N/A

5. Guidelines

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

National Environmental Management Act 107 of 1998, As Amended (NEMA) & the EIA Regulations (2014) as amended	This application is being undertaken according to the NEMA EIA Regulations, 2014 (as amended).
EIA Guideline and Information Document Series, dated March 2013	Applied to various components in the Basic Assessment process. The following guidelines were considered throughout this Basic Assessment process: • Guidelines for EIA Requirements • Guidelines for Public Participation • Guidelines on Alternatives • Guideline on Need and Desirability • Guideline for Involving Biodiversity Specialists in EIA Processes • Guideline for Environmental Management Plans
National Heritage Resources Act 25 of 1999	Notice of intent to Develop was submitted to Heritage Western Cape. A Heritage Impact Assessment with input from visual, archaeological and palaeontological specialists was included.
Integrated Coastal Management (ICM) Act, (Act NO. 24 of 2008)	Coastal Management Lines General Discharge Authorisation (GDA)
GN No. 326 – Appendices 1 and 4 relating to the information requirements in the BAR and EMPr	Provincial Department of Environmental Affairs and Development Planning
Environmental Impact Assessment Guideline for Aquaculture in South Africa (Notice No. 101 of 2013).	DFFE

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

Agricultural Theme – High Sensitivity – The activity involves the expansion of an existing agricultural facility, specifically an Abalone Farm. The activity is in line with the agricultural theme and therefore no further assessment is required.

Animal Species Theme – High Sensitivity –– The expansion is situated within an area already impacted by the day-to-day operations of the existing Abalone Farm. The adjacent property has been artificially stocked with various species of small antelope which access the land, these will not be impacted by the expansion. The areas proposed for the expansion link directly to the existing operations and have been impacted by fringe activities. For this reason, it is the recommendation of the EAP that no further assessment is required in this theme.

Aquatic Biodiversity Theme – Very High Sensitivity – There are no freshwater indicators on site, this has been verified through on site sensitivity verification by the EAP as well as findings by the Terrestrial / Boanical specialist, where no wetland indicator species are identified. The expansion of the pumphouse will take place below the high-water mark of the sea, but is a small scale expansion to existing disturbed zone.

Archaeological and Cultural Heritage Theme – Very high sensitivity – in line with the requirements of the National Heritage Resources Act, a Notice of Intent to Develop was submitted to Heritage Western Cape as part of the BAR

process. HWC confirmed that a Heritage Impact Assessment with AIA, PIA, VIA and comments from SAHRA Maritime Underwater Culture Unite, is required. These assessments have been completed and are included herein. Mitigation measures have been incorporated in the EMP.

Civil Aviation Theme – High sensitivity – the proposed development is the expansion of existing activities and therefore no additional impacts are expected to this theme. No further assessment required.

Defence Theme – Low. No impacts envisaged. No further assessment required

Palaeontology – very high - PIA completed and findings outlined herein. Mitigation measures have been incorporated into the EMP.

Plant Species Theme – Medium – A terrestrial biodiversity assessment covering the Plant Species Theme has been completed for the site.

Terrestrial Biodiversity Theme – Very high – Assessment completed. The proposed expansion occurs next to the existing operation facilities of the farm and some areas are already disturbed by day-to- day operations. The assessment incorporated the plant species theme under this theme. About 14ha of the 50ha property surveyed is of High botanical sensitivity, and the underlying vegetation type (Overberg Dune Strandveld) is gazetted as Endangered on a national basis. Approximately 40% of this High sensitivity area will be lost or disturbed by the proposed development. At least five plant Species of Conservation Concern (SoCC) were recorded in four of the five footprint areas, but viable populations of all SoCC will remain on undeveloped parts of the property, and most of them should survive in the PV area if the vegetation in this area is brushcut to about 1m tall. Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar. No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels, it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby. All these mitigation measures, amongst others are incorporated in the EMP.

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
1	The development and related operation of facilities or infrastructure for the generation of electricity from a renewable resource where— (i) the electricity output is more than 10 megawatts but less than 20 megawatts; or (ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare.	A 4-ha ground mounted solar array is proposed. The combined solar infrastructure will generate no more than 4 MW of power. The power generated will be used on site only to supplement existing municipal supply.
9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water - (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where - (a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	Intake and effluent pipelines will be installed and essential to operations and will flow from the pumphouse, across the farm and back out to sea. Pipelines will be located adjacent to existing pipelines. Additional pipelines to new production area to join into existing network – 4 lines @ 600 m x 500 mm, delivering 1600 m^3 / hour – located alongside existing pipeline within already disturbed pipeline corridor.
10	The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where - (a) such infrastructure is for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	Effluent seawater pipelines are required to remove the circulated seawater from the farm back to the sea. The seawater does not undergo any form of treatment and the quality and quality of incoming vs effluent water is very similar.
13	The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.	The lined reservoirs will be used to store pumped seawater, which can then be gravity fed across the farm during high electricity demand periods or load shedding. There will be no dam wall. Seawater reservoir will have a total capacity of 41 000 m^3 and will cover a total footprint of about 20 000 m^2, 3.5 m depth, 227m x 83m
15	The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding - (i) the	Construction and subsequent operation of intake and effluent lines within coastal public property, minor expansion

	development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (iii) the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (iv) activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies.	
17	Development – (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of - (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or (e) infrastructure or structures with a development footprint of 50 square metres or more.	Expansion of an abalone farm for which some new infrastructure will fall within 100 m of the high-water mark of the sea
19A	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from - (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; - but excluding where such infilling, depositing, dredging, excavation, removal or moving – (f) will occur behind a development setback; (g) is for maintenance purposes undertaken in accordance with a maintenance management plan; (h) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	Construction will take place within the littoral zone and within 100 m of the high-water mark of the sea
27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.	Vegetation clearance amounting to approximately 10 ha will be required as a result of the proposed expansion
28	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an urban area, where the total land to be developed	The subject land is vacant agricultural land located outside the urban area, and the development will be larger than 1 ha.

	is bigger than 5 hectares; or (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	
30	Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).	Some vegetation belonging to the Overberg Dune Strandveld group will be removed as a result of the proposed development, this vegetation type is classified as En
34	The expansion of existing facilities or infrastructure for any process or activity where such expansion will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions, effluent or pollution, excluding— (i) where the facility, infrastructure, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; (ii) the expansion of existing facilities or infrastructure for the treatment of effluent, wastewater, polluted water or sewage where the capacity will be increased by less than 15 000 cubic metres per day; or (iii) the expansion is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will be increased by 50 cubic meters or less per day.	Notice will be given to the DFFE of the expansion; however the farm operates under the General Discharge Authorisation (GDA) in terms of Section 69(2) of the ICMA.
41	The expansion and related operation of facilities, infrastructure or structures for aquaculture of— (i) finfish, crustaceans, reptiles or amphibians, where the annual production output of such facility, infrastructure or structures will be increased by 20 000 kg (wet weight) or more; (ii) molluscs and echinoderms where the annual production output of such facility, infrastructure or structures will be increased by 30 000 kg (wet weight) or more; or (iii) aquatic plants where the annual production output of such facility, infrastructure or structures will be increased by 60 000 kg (wet weight) or more; excluding where the expansion of facilities, infrastructure or structures is for purposes of sea-based cage culture in which case activity 42 in this Notice will applies.	The existing farm will be increased by 300 ton over two phases (150 tons each)
43	The expansion and related operation of hatcheries or agri-industrial facilities outside industrial complexes, where the development footprint of the	The farm has an existing hatchery on site which may need to be enlarged to accommodate the proposed increase in production.

	hatcheries or agri-industrial facilities will be increased by 2 000 square metres or more.	
45	The expansion of infrastructure for the bulk transportation of water or storm water where the existing infrastructure— (i) has an internal diameter of 0,36 metres or more; or (ii) has a peak throughput of 120 litres per second or more; and (a) where the facility or infrastructure is expanded by more than 1 000 metres in length; or (b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more;	Additions and expansion of existing infrastructure is required - seawater
46	The expansion and related operation of infrastructure for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes where the existing infrastructure— (i) has an internal diameter of 0,36 metres or more; or (ii) has a peak throughput of 120 litres per second or more; and (a) where the facility or infrastructure is expanded by more than 1 000 metres in length; or (b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more;	Additions and expansion of existing infrastructure is required- circulated/ used seawater is discharged back into the sea.
52	The expansion of structures in the coastal public property where the development footprint will be increased by more than 50 square metres, excluding such expansions within existing ports or harbours where there will be no increase in the development footprint of the port or harbour and excluding activities listed in activity 23 in Listing Notice 3 of 2014, in which case that activity applies.	The pump house will be increased in size by approximately 140 m^2 and the additional water pipelines will be installed from the pump house.
54	The expansion of facilities— (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or (e) infrastructure or structures where the development footprint is expanded by 50 square metres or more,	The pump house will be increased in size by approximately 140 m^2 and the additional water pipelines will be installed from the pump house.
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
2	The development of reservoirs, excluding dams, with a capacity of more than 250 cubic metres. i. Western Cape i. A protected area identified in terms of NEMPAA, excluding conservancies; ii. In areas	A temporary seawater holding facility will be constructed. The facility will be 3.5 m deep with a surface area of 20 000 m^2 with a capacity to hold 41 000 m^3 at any point.

	containing indigenous vegetation; or iii. Inside urban areas: (aa) Areas zoned for use as public open space; or (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.	
12	The clearance of an area of 300 square metres or more of indigenous vegetation i. Western Cape i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004 ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	Clearance of vegetation classified as En

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 **Basic Assessment Activity(ies)** as set out in **Category A**~~	~~Describe the portion of the proposed development to which the applicable listed activity relates.~~

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

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

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.

Alternative 2 (Preferred)

The preferred alternative involves the expansion of the Romansbaai Abalone Farming located on the Reminder of Portion 2 of Farm 711 in Romansbaai, Gansbaai. The facility specializes in the cultivation of abalone for export to the Eastern markets. The expansion aims to increase the production output of the farm by 300 tons per annum.

KEY COMPONENTS OF THE PROPOSED EXPANSION

Increase in Production Capacity

→ The expansion aims to increase production by 150 tons (wet weight) per annum for each of the two phases:
- **Phase 1**: 1.75 ha
- **Phase 2:** 1.75 ha
- Total footprint for both phase 1 and 2: **3.5 ha**
- Production increase of **300 tons** per annum in total

Construction of a Lined Reservoir

→ The construction includes the excavation of approximately 35 000m^3 of sand on an area of approximately 2 ha.
→ The purposes of this reservoirs is to hold seawater for short periods to use during high tariff periods or power outages
→ Storage capacity of **41 000 m^3**.

Ground Solar Power Array

→ A ground mounted solar array will be installed for use on site only
→ No power will be fed into the local municipal grid.
→ The solar installation will cover **4 ha.**
→ The system will generate **4 MW** of electricity.

Pumphouse

→ The existing pumphouse will be expanded by approximately **140m^2**
→ 4 new pumps are proposed

Additional Pipelines

→ Four new pipelines will be installed to connect the pumphouse with the seawater reservoir and the production area (**Figure 3 and 4**).

- Each pipeline will be 600 m long and 500 mm in diameter
- 600 m x 0.5 m = 300 m^2 x 4 pipelines = **1200 m^2 of new pipeline**
- Pipelines will extract a combined total of **1600 m^3** of water per hour
- Pipelines will be installed directly adjacent to existing lines in the existing disturbed pipeline corridor

Seawater intake and outtake

→ The expansion will necessitate an increase in influent (intake) water from the sea, leading to a higher volume of effluent discharge.

→ The Romansbaai Abalone Farm operates under the General Discharge Authorisation in terms of section 69(2) of the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008)

→ The expansion only requires amending the discharge volume from 230,880 m³ to 270,000 m³.

INFRASTRUCTURE SERVICES

Electricity

The Romansbaai Abalone Farm is currently allocated and financially responsible for 2.4 MVA of electricity. The current electricity usage stands at 1.7 MVA, demonstrating that there is sufficient capacity available for the proposed expansion. Given this surplus capacity, there is no need for additional confirmation from the local authority regarding electricity services.

Sewage

The Romansbaai Abalone Farm's existing bulk sewage and water reticulation facilities are adequately designed to accommodate up to 350 people. This encompasses the necessary infrastructure for water supply, toilets, and wastewater treatment. The current capacity of these facilities is sufficient to support the planned expansion, which is projected to create an additional 350 jobs. Therefore, no further upgrades or modifications are required for the sewage and water reticulation systems to accommodate the expansion.

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

The proposed development is operating under a Consent Use for Aquaculture under the Agricultural Zone 1, as detailed in the Notice of Intent (NOI) and Application Form. There is an Environmental Authorisation in place for the existing Abalone Farm, along with the various required permits in terms of the Marine Living Resources Act (Act 18 of 1998). The expansion plans outlined in the proposed development primarily focus on enhancing the operational facilities within the confines of the Romansbaai Abalone Farm's existing property and operational infrastructure. Since the expansion is contained within the boundaries of the current approvals, it adheres to the established land use rights.

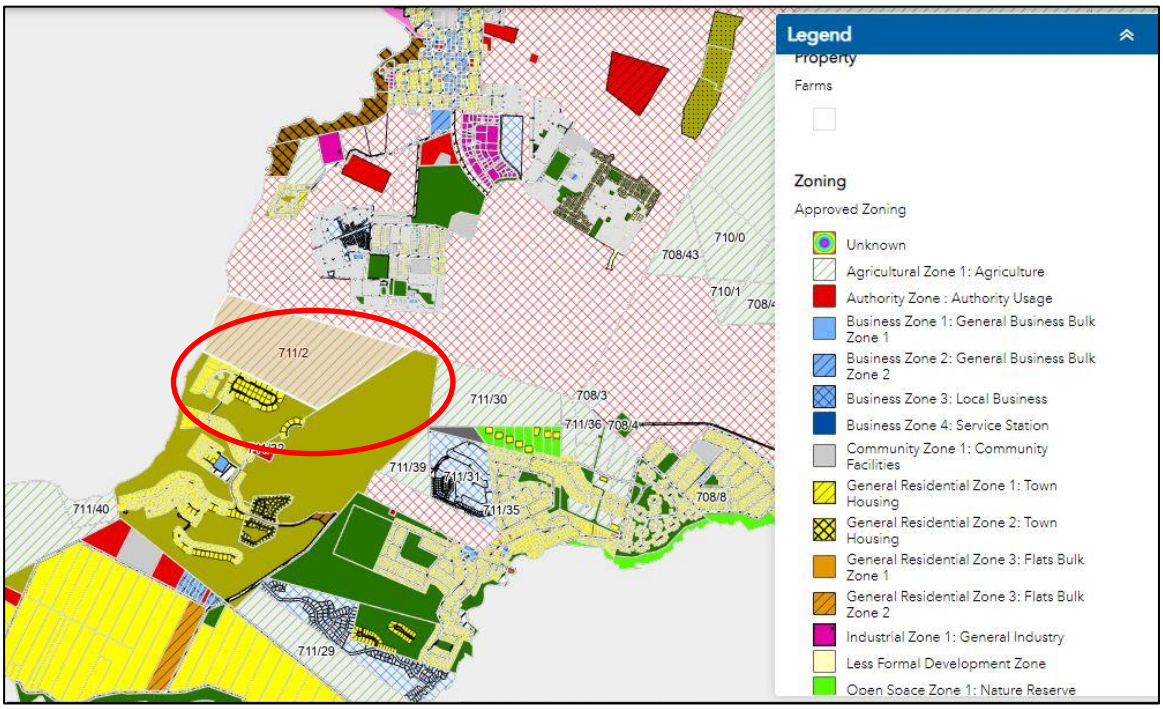

Figure 5: The property falls within Agricultural zone 1: Agriculture.

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

N/A

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

The Extract form the Western Cape PSDF:

"The rural economy incudes but is not limited to farming; fishing and aquaculture Mining; Forestry; Commodity and Servicing; ECO and Agri-tourism; Outdoor recreation and events ; Infrastructure and service Delivery; and diverse Natural Resource related activities (e.g extraction rehabilitation harvesting, etc). Agriculture is going through a difficult transition period with its traditional export market in recession, escalating pressure on operating margins (i.e. input costs escalations exceed commodity price increases), more stringent international and national compliance requirements, and instability in the labour market.

The PSDF strategy for opening up opportunities in the rural space- economy has two dimensions, namely:

i. Accommodating a greater diversity of compatible land use activities on farms and in the rural landscape in general. Compatible activities are those that do not compromise biodiversity, farming activities, cultural and scenic landscapes, and are an appropriate scale and form to fit in with their context in the rural landscape (as specified in the to be updated 2009 PSDF rural land use planning and management guidelines).
ii. Channelling public investment in rural development initiatives (i.e. land reform, agrarian transformation, environmental rehabilitation, enterprise development, etc.) to areas where it can offer real and sustained improvements to beneficiaries and the rural community.

The proposed expansion of the Romansbaai Abalone Farm falls within the realm of aquaculture, which is identified as one of the components of the rural economy in the PSDF. Aquaculture is deemed as a compatible activity that does not compromise biodiversity, farming activities, or cultural and scenic landscapes. By expanding the existing operational facilities within the designated agricultural zone, the development fits into the context of the rural landscape while contributing to economic growth of the area.

The proposed development aligns with the Provincial Spatial Development Framework (PSDF) by contributing to the goals outlined for the rural economy, such as job provisions for the rural community. The PSDF recognizes the challenges faced by the agricultural sector, including factors such as recession in export markets, increasing input costs, and stricter compliance requirements. In response to these challenges, the PSDF emphasizes the need to diversify land use activities in rural areas and channel investments towards initiatives that offer real and sustained improvements to the rural community.

4.2	The Integrated Development Plan of the local municipality.

Extract from the 2017 – 2021 Overstrand IDP: "the aquaculture industry is one of the fastest growing industries in the area with well-established farms with the major players extending their farms to increase tonnage. The Overstrand is host to an aqua hub with huge potential for established export market and one of the largest employers in the municipality. Significant focus has been given to the sector to ensure that jobs are maintained and that Overstrand remains the leader in exporting and growing the product. The Southern coastal line of the Overstrand produces the best quality product in the world and boosting export value and expansion of manufacturing which is key to employment creation. The thriving agriculture sector includes the ever-growing wine industry and with the decline in the sector, the sector shed a significant number of jobs over the years."

Extract from the Overstrand Municipality IDP (2024) "The Agriculture, Forestry and Fishing sector comprised R268.1 million (or 6.4 per cent) of the Municipality's GDP in 2015. It displayed moderate growth of 1.8 per cent for the period 2005 - 2015, but growth has nevertheless slowed marginally in the post-recessionary period (the sector experienced a growth rate of 1.1 per cent over the period 2010 – 2015). This sector is the second smallest sector in Overstrand's local economy. Agriculture, forestry and fishing employed 10.4 percent of the Municipality's workforce in 2015. Employment growth over the period 2005 – 2015 has contracted by 0.9 per cent per annum on average. Employment picked up significantly after the recession and grew at a rate of 3.8 per cent per annum on average since 2010. On net employment, 663 jobs have been lost since 2005 - not all of the jobs lost prior to and during the recession have been recovered. The labour force in the primary sector is characterised by a relatively large proportion of low- and semi-skilled labour (Western Cape Provincial Treasury, 2016 Socio-Economic profile)."

4.3.	The Spatial Development Framework of the local municipality.

EXTRACT FROM THE OVERSTRAND MUNICIPALITY 2020 "As outlined in detail in the status quo analysis section pertaining to the town of Greater Gansbaai, it is an extensive linear developed settlement, divided for the purpose of this MSDF into tree areas (i.e. De Kelders, Gansbaai Proper and Franskraal). Its primary functions are that of a fishing centre, residential, retirement and holiday town(refer Plan 64-66).

5.10.2.1 Local Spatial Development and Growth Management Principles

i. Promote:
- A balanced land use mix, making adequate provision for commercial as well as service industrial growth related to fishing and mari-culture;
- Tourism development based on the ecological and heritage value of the region; - the fishing industry and marine-culture;
- The role of the coastal villages as holiday resorts, retirement villages; and
- The provision of a balanced mix of residential housing stock to address the full range of socio-economic groupings from subsidized housing to housing options for the middle- and upper-income groups.

ii. Restrict:
- Urban development to within the demarcated urban edge

iii. Maintain:
- The unique character of the villages in formed by the provisions of the Draft HPOZs and EMOZs;
- The dominance of the natural environment and viewsheds as the visual backdrop to the villages informed by specifically Heritage Landscapes of Significance HPOZ as well as Draft EMOZs;
- The biodiversity open space corridors based on implementation of the Draft Urban Conservation EMOZs; - the heritage aspects of the "Old Harbour", in particular the slipway, as well as the sites of the old fishermen's cottages (Refer HPOZs)."

The proposed expansion of the Romansbaai Abalone Farm seeks to increase production by 350 tons annually, with key infrastructural additions such as a lined seawater reservoir, a solar power array, expansion of the pumphouse and installation of new pipelines. This proposal directly aligns with the service industrial growth and mariculture promotion objectives mentioned in the SDF. Moreover, the expansion is within the existing urban edge, which complies with the SDF's stipulation to restrict urban growth beyond the urban boundary.

4.4.	The Environmental Management Framework applicable to the area.

Romansbaai Abalone Farm and the property on which it is established is situated entirely within the Coastal Protection Zone (CPZ). The production and farming of Abalone is such that it requires a constant supply of seawater and therefore placing such facilities away from the coast is not possible.

According to the Overstrand Municipality Environmental Management Framework (EMF), this zone is designated for the protection and sustainable management of sensitive coastal ecosystems, including Environmental Management Overlay Zones (EMOZ).

Romansbaai Abalone Farm and its proposed expansion complies with the EMF by situating the majority of its built infrastructure above the 30 m contour line, thereby minimizing the disturbance to the sensitive coastal environment as well as reducing the risk to life or infrastructure through storm surges, sea level rise and coastal erosion. Whilst such operations often avoid being elevated from sea level due to the pumping costs associated with this, the placement of this farms allows for the protection of the natural coastal processes and reduces the risk of impacts related to sea-level rise, storm surges, and erosion. The pumphouse inherently needs to be located in the coastal zone due to the function of it, however only small-scale expansion to existing pumphouse is required and this is directly alongside the existing infrastructure in this zone.

It is important to note that while the property lies within the CPZ, it is located outside of mapped ecological corridors and urban conservation zones, as identified in **Figure 6** below.

It is important to note that Romansbaai Abalone Farm is **Global Gap Accredited** which means that operations are required to meet various global standards, one of which is Environmental Sustainability.

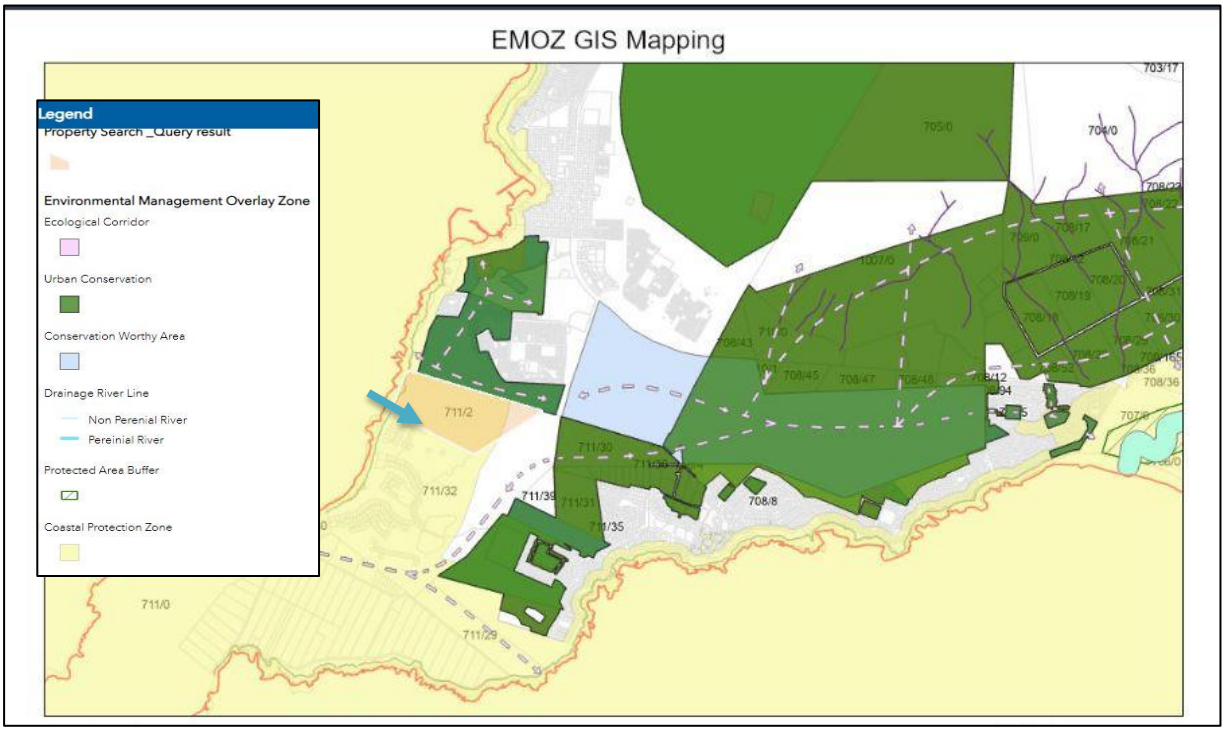

Figure 6: View of the property in relation to the EMOZ.

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

To be included after Public Participation Process.

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

Support of no further investigation from the relevant specialist were incorporated into this assessment.

Extract from the Terrestrial Biodiversity Assessment

1. **Prepare for site visit:**

Cape Nature Spatial Biodiversity Plan is showing that most of the site is mapped within the Other Natural Areas (ONA), with a fairly large patch of CBA1 (Critical Biodiversity Area) in the northeast, and patches of ESA1 (Ecological Support Areas). The Western Cape Biodiversity Spatial Plan highlights the importance of safeguarding and conserving as well as maintaining biodiversity in these areas;

- Critical Biodiversity Areas (CBAs) are unique and valuable places on Earth that are home to a wide variety of terrestrial and aquatic plant and animal species, including many rare and endangered species. These areas must be kept in a natural or near-natural state to ensure the long-term survival of the biodiversity that they support.

- Ecological Support Areas (ESAs) are areas that support the functioning of Protected Areas or CBAs and are often vital for delivering ecosystem services. They need to be maintained in at least a functional state, but some limited habitat loss may be acceptable.

2. **Conduct the site visit**

The site was visited on 27 April 2024. This was at the end of a hot, dry summer, and was thus outside the optimal winter – spring flowering season in this mainly winter rainfall area, and few of the likely geophytes and very few of the annuals were evident or identifiable (apart from the autumn flowering Oxalis, Haemanthus and Brunsvigia), whilst all perennial plants were identifiable. There were thus some seasonal constraints on the accuracy of the botanical findings but given the heavy dominance of perennials in this area – which can be used as indicators of habitat sensitivity - the confidence in the accuracy of the botanical findings is fairly high. The author has undertaken extensive work within the region, which facilitates the making of local and regional comparisons and inferences of habitat quality and conservation value.

According to the SA Vegetation Map the original natural vegetation in the study area is all Overberg Dune Strandveld (Mucina & Rutherford 2018). Based on the botanical specialist ground truthing he would agree with this. No copy of this mapping is provided as it adds little value.

The site has not been burnt for at least twenty years, the vegetation is grazed and fairly lightly trampled (in places) by game (eland, bontebok, springbok and zebra), and has a low density of invasive alien species (<0.5% cover of rooikrans and manitoka; *Acacia cyclops* and *Myoporum sp*.), and most of it can thus be regarded as being in good condition.

3. Assess Impacts on the Biodiversity

The study area was walked, and all plants on site were noted. Photographs of certain plant species were made (using a Fuji mirrorless slr camera) and uploaded to the inaturalist.org website. Satellite imagery dated May 2023 (and earlier) was used to inform this assessment, and for mapping. It is assumed that all-natural vegetation in the dam and growing facility footprints will be permanently lost, and that vegetation in the PV area will be brush-cut and maintained at less than 1m tall, with perhaps a 30% cover loss at the construction phase. The vegetation in the pipeline area is assumed likely to be lost during construction, but most species will return over time (5-10yrs).

The botanical sensitivity of the site is as shown in Figure 3 of the terrestrial biodiversity assessment. Two patches of High sensitivity have been mapped, which are mainly in the proposed PV area and the new dam footprint. Most of Phase 1 facility area is of Low sensitivity, and most of the Phase 2 facility area is of Medium sensitivity.

During the construction phase

The primary construction phase ecological impact of the proposed development would be permanent loss of all Low, Medium and High sensitivity vegetation (gazetted as an Endangered vegetation type) in three of the five footprints, along with associated loss of the site populations of the five recorded plant Species of Conservation Concern in these areas. Areas where vegetation loss will be total are the two growing facilities (Phases 1 & 2) and the new dam.

Temporary vegetation loss would occur in the PV area and the pipeline. In the PV area vegetation loss will be most significant for the larger, taller woody species, which will need to be brush-cut down to less than 1m, whilst the lower growing species should actually benefit from the reduced canopy cover. Total vegetation loss in the PV area is neither desirable nor likely, as the applicant wants to ensure that vegetation cover is largely retained, to limit sand and dust impact. No vegetation loss is likely as a result of the pumphouse expansion.

The proposed PV development would also result in degradation of about 6ha of area mapped as CBA1 (Critical Biodiversity Area 1), with the rest of the footprint impacting on ONA (Other Natural Area). Loss of mapped CBAs and ESAs are not supported, as they are deemed to be irreplaceable habitat and serve multiple ecological functions, for both species, ecological connectivity and for meeting national conservation targets. Loss of CBAs is usually associated with High negative ecological impact.

Botanical significance of this habitat and species loss (before and after mitigation) ranges from Very Low negative for the pumpstation expansion to Medium - High negative for the dam area. There is little one can do to mitigate the impacts of loss of habitat and SoCC.

During the operational phase

Operational phase impacts will take effect as soon as the natural vegetation on the site is lost or disturbed, and will persist in perpetuity, or as long as the area is not fully rehabilitated (not likely within 30yrs). Operational phase impacts include loss of current high levels ecological connectivity across the study areas, and associated habitat fragmentation.

The construction may also result in alien Argentine ant introduction, with associated negative ecological impacts on seed dispersal for up to 25% of the remaining indigenous plant species within 50m of any construction.

The overall habitat fragmentation and loss of ecological connectivity impact is likely to be Medium negative at the property scale (before and after mitigation), as the development will result in loss or degradation of almost 50% of the remaining natural vegetation on the property.

4. Identify opportunities to conserve biodiversity

At least five plant Species of Conservation Concern (SoCC) were recorded on site, with distribution as per Table 1 in the terrestrial biodiversity assessment report. All have substantial and viable populations on the greater property, but their distribution and abundance vary from footprint to footprint. There is a moderate likelihood of one or two other SoCC being present on the various footprints. Rare local endemic species such as *Cliffortia anthospermoides* (Endangered) do not appear to be present on site and were actively searched for. *Erica irregularis* (Endangered) does not occur south of Gansbaai, although it is common at Grootbos. *Dasispermum grandicarpum* is an inconspicuous, low herb that grows annually from a rootstock (especially now, early in the season), and was until recently known only from Grootbos NR, but has now been recorded from Stanford to Gansbaai (pers. obs.). The species is Redlisted as Data Deficient, but it was not seen in the study areas.

Athanasia quinquedenta ssp. rigens is a shrub Redlisted as Vulnerable, and occurs in coastal sands over limestone from Gansbaai to Stilbaai. Scattered plants occur in three of the study areas.

Agathosma geniculata is a shrub Redlisted as Near Threatened, and occurs in coastal sands from De Kelders to Arniston. The species is common on three of the study areas.

Muraltia pappeana is a shrub Redlisted as Near Threatened and occurs in coastal sands from De Kelders to Riversdale. The species is common throughout most of the study areas.

Cyanchum zeyheri (not flowering, provisional id) is a creeping shrub Redlisted as Vulnerable and occurs in coastal sands and rocky areas from Saldanha to Agulhas and is probably very overlooked. Scattered plants occur in three of the study areas.

Lampranthus fergusoniae is a vygie Redlisted as Vulnerable and is found from Kleinmond to Knysna on coastal sands. Scattered plants occur in three of the study areas.

At least five plant Species of Conservation Concern (SoCC) were recorded in four of the five footprint areas, but viable populations of all SoCC will remain on undeveloped parts of the property, and most of them should survive in the PV area if the vegetation in this area is brushcut to about 1m tall.

5. Include Biodiversity considerations in the Environmental Report

- Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter.

- All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*).

- Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.

- No large scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

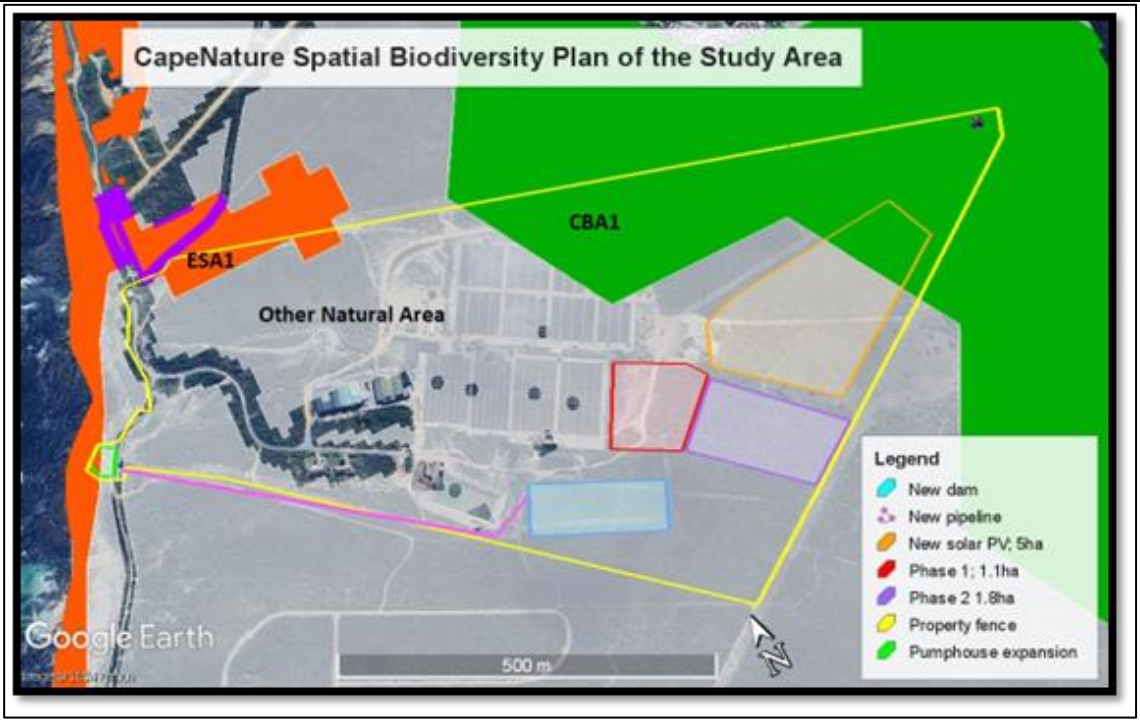

Figure 7: The map illustrates that the majority of the proposed expansion area falls within Other Natural Areas (ONA). A small portion of Ecological Support Area (ESA) is located on the northwestern side, while Critical Biodiversity Area 1 (CBA1) is found on the northeastern side.

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

The site is located within the Coastal Protection Zone (CPZ).

The CPZ aims:

- To protect the ecological integrity, natural character and the economic, social and aesthetic value of the neighbouring coastal public property;
- To avoid increasing the effector severity of natural hazards;
- To protect people, property and economic activities from the risks and threats which may arise from dynamic coastal processes such as wave and wind erosion, coastal storm surges, flooding and sea-level rise;
- To maintain the natural functioning of the littoral activity zone;
- To maintain the productivity of the coastal zone; and
- To allow authorities to perform rescue and clean-up operations.

The existing intake and effluent channels for the Abalone Farm are already situated within the High-Water Mark (HWM). The proposed expansion will enable additional seawater intake through the extension of the existing pumphouse and the installation of additional pipelines. These pipelines will be positioned to minimize any potential environmental impact, with the required blasting of bedrock being carefully planned to result in minimal disturbance to the surrounding area. The impacts associated within the installation of the pipelines will be short term and with the implementation of the mitigation measures, they can be managed.

The bulk of the farm's infrastructure, including the proposed expansion area, is located on elevated terrain above the 30 m contour. This elevation includes the expansion area, which is beyond the 30 m contour, providing additional protection from coastal processes. To mitigate the risks associated with climate change, including sea-level rise and storm surges, the preferred development alternative has been designed to situate all bulk infrastructure for the proposed expansion more than 500 meters inland from the HWM and above 30 m contour. The placement of this infrastructure behind (to the northeast of) the existing operations further ensures resilience against coastal hazards while maintaining the integrity and functionality of the project.

Coastal access will not be affected during construction or operation and will be retained as currently where the general public has unrestricted access along the coastline. The placement of the pumphouse within the littoral zone is

strategically important, as the distance between the farm and the sea directly impacts operational costs. The electrical costs associated with the pumping of water is one of the largest expenses in the operation of an abalone farm, therefore the further the farm is located from the sea, the substantially higher the pumping cost.

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 report has not changed from the one submitted.

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

The proposed expansion of the abalone farm is strategically designed to make optimal use of remaining available land on the subject property, maximizing both land efficiency and operational sustainability. The expansion activities need to be able to tie into existing operations and infrastructure. The core aim of this expansion is to increase the farm's production capacity in response to the growing market demand for abalone exports, while ensuring that the vacant land is effectively utilized to support both agricultural and environmental goals.

One of the keyways the development optimizes vacant land is through the installation of Solar Arrays. These arrays will be installed on unused portions of land, providing an alternative and sustainable energy source to power the farm's operations. This approach not only reduces reliance on traditional electricity sources and fossil fuels but also ensures the farm can maintain continuous operations during power interruptions or load shedding. By utilizing available vacant land for renewable energy infrastructure, the development aligns with broader sustainability objectives and contributes to reducing the farm's carbon footprint.

The proposed expansion is divided into two phases, Phase 1 and Phase 2, which together will significantly increase the farm's production capacity to 300 tons of wet weight abalone production per year. The phased approach allows for the efficient and gradual utilization of available land, ensuring that resources are optimized without overburdening the site. This staged development further demonstrates a careful balance between maximizing land use and maintaining operational growth in a sustainable manner.

In addition to the Solar Arrays, a new seawater reservoir will be constructed as part of the expansion. The reservoir will hold additional seawater drawn through newly proposed pipelines, ensuring the farm has the necessary water supply for uninterrupted operations, even during power outages. This infrastructure plays a vital role in safeguarding the abalone's health and ensuring the long-term sustainability of the farm.

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

The proposed expansion of the abalone farm is designed to significantly optimize the use of existing resources and infrastructure on site, enhancing operational efficiency and sustainability. The development leverages the current facilities, allowing for a strategic upgrade rather than requiring extensive new construction on a greenfield site. This approach not only maximizes the utility of existing assets but also reduces the need for additional infrastructure in other areas outside the property, aligning with principles of sustainable development and resource efficiency.

A significant component of this optimization is the enhancement of the farm's existing production facilities. The expansion plan includes integrating additional equipment and expansion within the current infrastructure. For example, the existing pumphouse will be expanded, production area will be increased and new pipelines will be installed to facilitate increased seawater intake. This method ensures that the farm can boost its production capacity to 300 tons of wet weight abalone per year without the necessity of constructing entirely new infrastructure. By building upon and improving existing systems, the development minimizes the environmental footprint typically associated with new construction projects. The expansion also represents an "infill type" of development within the current operational footprint through focusing on areas already developed and disturbed by day-to-day operations.

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).

Bulk Sewage and Water Reticulations

The Romansbaai Abalone Farm's existing bulk sewage and water reticulation facilities are adequately designed to accommodate up to 350 people. This encompasses the necessary infrastructure for water supply, toilets, and

wastewater treatment. The current capacity of these facilities is sufficient to support the planned expansion, which is projected to create an additional 350 jobs. Therefore, no further upgrades or modifications are required for the sewage and water reticulation systems to accommodate the expansion.

Electricity

The Romansbaai Abalone Farm is currently allocated and financially responsible for 2.4 MVA of electricity. The current electricity usage stands at 1.7 MVA, demonstrating that there is sufficient capacity available for the proposed expansion. Given this surplus capacity, there is no need for additional confirmation from the local authority regarding electricity services.

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

In accordance with the Department of Environmental Affairs' Integrated Environmental Management Guideline on Need and Desirability, as articulated in the EIA Regulations, 2014 (as amended), the proposed expansion of the Romansbaai Abalone farm on Portion 2 of Farm 711 in Gansbaai meets the criteria for need and desirability in several critical aspects:

Aquaculture

Marine Aquaculture has been identified as an important sector for development in South Africa as well as at a provincial and local level and is supported by initiatives such as Operation Phakisa. This is linked to a Governmental drive for improved and sustainable utilisation of South Africa's marine resources and coastline which is currently underutilised (Aquaculture).

The Aquaculture industry is one of the fastest growing industries in the Overstrand and also one of the largest employers in the municipality (Overstrand IDP, 2018-2022). The Overberg District Coastal Management Programme (2015) has identified Aquaculture (local economic development and sustainable job creation) as a high priority going forward, with the Final Situation Analysis Report (2015), identifying Aquaculture, specifically abalone, as an opportunity in the SWOT Analysis for the Overberg through sustainable utilisation of marine living resources and sustainable Aquaculture. Further afield, the Western Cape Joint Planning Initiative (JPI), has identified Aquaculture as a priority JPI for the Overstrand Municipality, for its ability to promote economic growth and development in the municipality. At a National level, the National Aquaculture Policy Framework (2013) has been highlighted as one of the key pillars in achieving the objectives of the National Development Plan (2030) to reduce poverty, unemployment and inequality. This policy framework, aims to, amongst others "promote responsible and sustainable development of globally competitive aquaculture in South Africa and facilitate and support the growth of the aquaculture sector to enable it to contribute to the economic growth, food security and job creation" for South Africa. At full production, the development will provide approximately 350 operational jobs. There will also be opportunities for skills training and Adult Basic Education Training (ABET).

In addition to the socio-economic benefits associated with the proposal, the following aspects should also be considered:

- → The expansion of Romansbaai Abalone Farm will follow the same tried and tested methodology as already operating on site and this have been proven to be successful.
- → Ecologically, the operation of an abalone farm can be considered to be a low impact activity with negligible impacts on the environment when compared with other land-based agricultural activities. For example, the effluent water, which is the circulated seawater which gets discharged back to the marine environment, has been found to have a negligible to zero impact on the marine environment (Probyn *et al*. 2014).
- → Due to the dwindling natural / wild populations of abalone, there is concern relating to the impact of abalone aquaculture on the genetics of the wild stock. However, farms implement management actions to prevent the escape of cultured abalone and spat.
- → The main impacts associated with the expansion of the abalone farm relate to the construction phase.

→ Abalone farming relies on seawater, with a low requirement for freshwater, compared to land based agricultural practices and therefore reduces pressure on natural freshwater resources.

→ There is a high demand for the product on the Asian market. All the stock is exported and this in turn brings foreign capital into the country.

In terms of the renewable power generation, a combination of the high electricity costs of running an abalone farm, as well as the drive for increased renewable energy options, the small-scale solar power generation proposed here is favourable. Reducing the electrical costs of the operation as well as providing an opportunity to feed some of the excess power into the municipal grid is highly advantageous.

Need for the Development

The expansion is driven by a clear market demand for abalone products, which has seen significant growth in recent years. The current production capacity of the farm is insufficient to meet this rising demand, creating a need for increased output to maintain market competitiveness and profitability. By expanding its facilities, the farm will be able to scale up its production to 300 tons of wet weight abalone annually, addressing the demand gap and supporting the economic viability of the operation.

In addition, the expansion includes the integration of renewable energy solutions and infrastructure upgrades, such as the installation of Solar Arrays and a new seawater reservoir. These enhancements will improve the farm's operational resilience and efficiency, reducing its reliance on traditional power sources and mitigating the risk of production disruptions due to power outages or load shedding. This approach not only supports the farm's sustainability but also aligns with broader environmental goals of reducing carbon footprints and enhancing energy security.

Desirability of the Development

The desirability of the proposed expansion is underscored by several factors. Firstly, the project represents an efficient use of existing resources and infrastructure, minimizing the need for new land development and reducing overall environmental impact. By focusing on infill development within the current operational area, the expansion avoids additional land disturbance and maintains the integrity of surrounding natural environments.

Furthermore, the project contributes to local and regional economic development by creating job opportunities and increasing the farm's export capacity. This has positive implications for the local economy and supports the sustainability of the regional aquaculture industry.

The proposed development also aligns with the principles of sustainable development outlined in the DEA's Integrated Environmental Management Guideline. It demonstrates a commitment to environmental stewardship through the optimization of existing infrastructure, the adoption of renewable energy technologies, and the enhancement of operational efficiency. These factors collectively enhance the desirability of the expansion by ensuring that the project meets both economic and environmental objectives in a balanced and responsible manner.

SECTION F: PUBLIC PARTICIPATION

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

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

N/A

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

Public Participation Process will be undertaken inline with the NEMA EIA Regulations as outlined in the NOI and the application form. Proof of PPP document will be available after the first round of PPP.

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

→ DEADP Land Use → DEADP: Coastal Management Unit → Cape Nature → Overberg District Municipality → Overstrand Municipality → Department of Agriculture (DOA) → Department of Forestry, Fisheries and the Environment (DFFE)

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

This will be included into the Final BAR

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

This will be included into 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.

N/A

Note:

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

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

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

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

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

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

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

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

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

2. Surface water

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

3. Coastal Environment

3.1.	Was a specialist study conducted?	YES	NO x
3.2.	Provide the name and/or company who conducted the specialist study.		
N/A – The application is for the expansion of existing infrastructure within an already impacted coastal area.			
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.		

If yes, describe the following:
(i) the extent to which the applicant has in the past complied with similar authorisations;

N/A

(ii) whether coastal public property, the coastal protection zone or coastal access land will be affected, and if so, the extent to which the proposed development proposal or listed activity is consistent with the purpose for establishing and protecting those areas;

The intake and effluent channels will be located in these areas, the channels will be subsurface so as to not affect public access. In addition, the preferred alternative aims to reduce as far as practically possible, all infrastructure within the 100 m from the high-water mark zone.

(iii) the estuarine management plans, coastal management programmes, coastal management lines and coastal management objectives applicable in the area;

The preferred alternative aims to reduce as far as practically possible, all infrastructure within the 100 m from the high-water mark zone.

(iv) the likely socio-economic impact if the listed activity is authorised or is not authorised;

The proposed development, if approved, will generate a significant amount of job opportunities for people in the direct area

(v) the likely impact of coastal environmental processes on the proposed development;

In order to avoid the effects of climate change, sea level rise and storm surges, the preferred alternative aims to reduce as far as practically possible, all infrastructure within the 100 m from the high-water mark zone.

(vi) whether the development proposal or listed activity—
(a) is situated within coastal public property and is inconsistent with the objective of conserving and enhancing coastal public property for the benefit of current and future generations;

N/A, Infrastructure will be located subsurface so as to avoid impacting public access. Marine aquaculture, in particular abalone farming, has been identified as a more sustainable alternative to terrestrial agriculture.

(b) is situated within the coastal protection zone and is inconsistent with the purpose for which a coastal protection zone is established as set out in section 17 of NEM: ICMA;

N/A, the farm will operate within the coastal protection zone (CPZ). The CPZ aims:
- To protect the ecological integrity, natural character, and the economic, social and aesthetic value of the neighbouring coastal public property;
- To avoid increasing the effect or severity of natural hazards;
- To protect people, property and economic activities from the risks and threats which may arise from dynamic coastal processes such as wave and wind erosion, coastal storm surges, flooding and sea-level rise;
- To maintain the natural functioning of the littoral active zone;
- To maintain the productivity of the coastal zone; and
- To allow authorities to perform rescue and clean-up operations.

The proposed development is consistent with the objectives and as reflected in the preferred alternative

(c) is situated within coastal access land and is inconsistent with the purpose for which coastal access land is designated as set out in section 18 of NEM: ICMA;

N/A, Coastal access will not be affected during construction or operation.

(d) is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated;

N/A, the impacts associated within the installation of the pipeline will be short term and with the implementation of the mitigation measures, they can be managed. During the operational phase, discharge of effluent water will not cause any negative effects on the marine environmental due to the quality of the discharge water

(e) is likely to be significantly damaged or prejudiced by dynamic coastal processes;

N/A, only essential infrastructure is located within 100 m of the high water mark. The bulk of the expansion activities are located above the 30 m contour.

(f) would substantially prejudice the achievement of any coastal management objective; or

N/A – the proposed expansion will take place directly alongside the existing abalone farm and not affect any Greenfields sites.

(g) would be contrary to the interests of the whole community;

N/A – Abalone farms are one of the main job providers in the Overstrand, an operation of this size will be creating a significant number of jobs for local communities.

(vii) whether the very nature of the proposed activity or development requires it to be located within coastal public property, the coastal protection zone or coastal access land;

Yes, the electrical costs associated with the pumping of water is one of the largest expenses in the operation of an abalone farm, therefore the further the farm is located from the sea, the substantially higher the pumping cost. It is not financially feasible to locate an abalone farm off the coast.

(viii) whether the proposed development will provide important services to the public when using coastal public property, the coastal protection zone, coastal access land or a coastal protected area; and

No, however, the area is known for extensive abalone poaching activity and it is expected that the presence of the operations in the area and the associated security infrastructure, may act as a deterrent for poaching in the vicinity.

(ix) the objects of NEM: ICMA, where applicable.

A lease agreement is in process with Cape Nature for the section of channel which fall within the littoral zone.

Disturbance and Impact minimization

The proposed expansion involves the additional disturbance of a 140 m² area within the coastal zone for the expansion of the pumphouse. This expansion, as depicted in orange in **Figure 8**, will be located directly adjacent to the existing pumphouse. It will include the installation of four new pumps and four pipelines (one new pump will be housed in the existing pumphouse). The excavation required for this extension will involve drilling into the bedrock and using Nonex, a non-explosive rock-breaking agent. This method is chosen to minimize noise and vibration impacts compared to traditional blasting methods. The impact of this excavation will be contained to the immediate area of the expansion, with the broken rock being removed to create a sump that integrates with the existing infrastructure. This careful approach ensures that while there will be excavation and blasting, the extent of disturbance is minimized and managed effectively.

The area highlighted in yellow as shown in **Figure 8**, will be excavated for a depth limited to approximately 1 m, which is necessary to accommodate the new pipelines, each with a diameter of 0.5 m.

Alignment with existing infrastructure

The proposed pipelines will be aligned alongside the existing pipelines and disturbed route of the infrastructure, as illustrated in **Figure 8**. This alignment is crucial in reducing additional environmental disturbance and ensuring that the new development integrates with the existing infrastructure rather than creating new disturbance. The expansion of the existing pumphouse will allow for the increased seawater intake required for the expansion of the production activities on the farm. The project design has been carefully planned to avoid impacts on protected areas, including limestone formations, milkwood trees, and replanted vegetation, which are highlighted in yellow in **Figure 9**.

Preservation of Public Access

The design of the expansion explicitly avoids any alterations to existing public pathways. The project ensures that public access to the coastal area remains unaffected as currently in effect, respecting the principles of maintaining public access as stipulated by Section 63 of the ICMA.

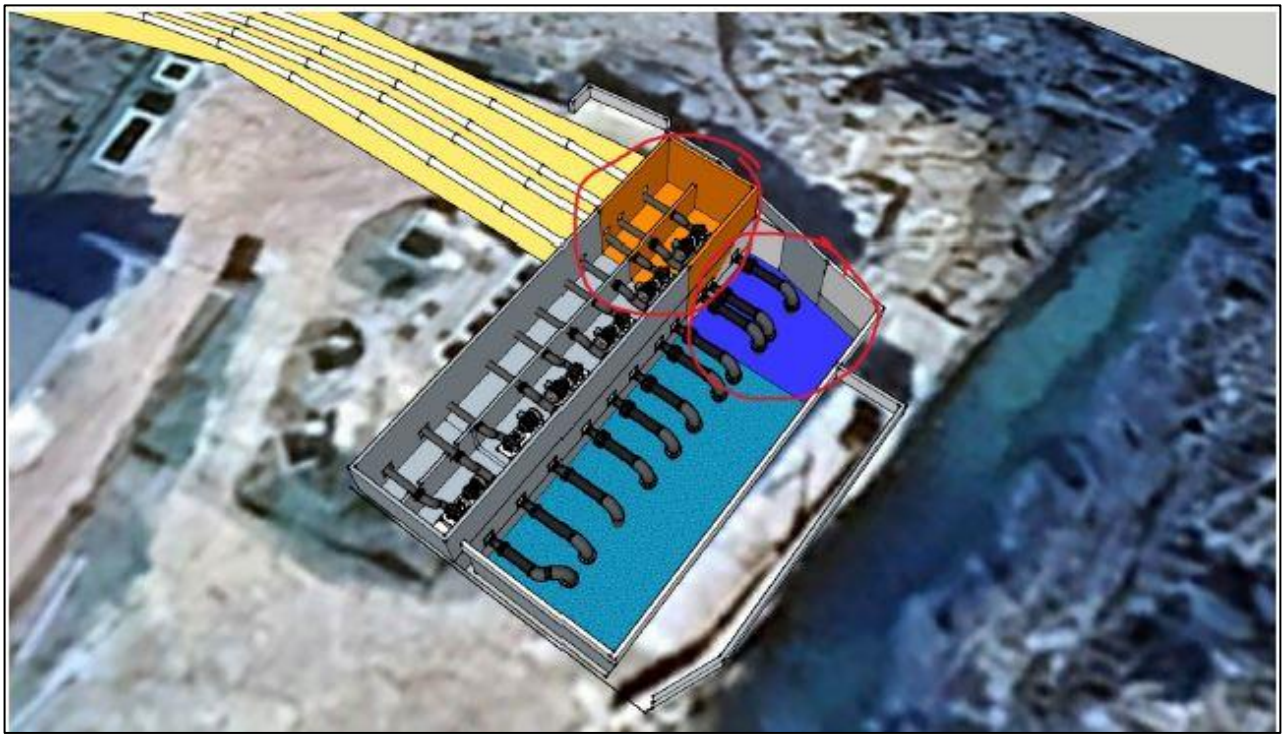

Figure 8: Area illustrated in orange and blue is the area of expansion that will be excavated and blasted for the installation of new pumps to be fitted on the new pipelines. The pipelines indicates in yellow will be subsurface so as not to restrict public access and movement along the coastline.

Figure 9: The existing pipelines are indicated in red and the yellow circle indicates the limestone, milkwood and replanted vegetation area.

3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.

N/A

3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.

Abalone Farms inherently rely on a constant supply of fresh seawater and operate mostly on a continued through flow system, where the seawater is pumped onto the farm, runs through the tanks and is then discharged back to sea. The pumphouse and associated infrastructure needs to be located within the high-water mark and CPZ. In the case of Romansbaai Abalone Farm however, the bulk of the infrastructure such as abalone tanks, offices, service infrastructure etc are located high on the farm above the coastal contour and therefore are at low risk of impacts relating to storm surges and sea level rise.

One of the key considerations has been the farm's location relative to climate change risks, such as sea level rise, storm surges, and coastal erosion. The bulk infrastructure, including the proposed production area for the expansion, is strategically situated on elevated ground above the 10-meter contour line, with the new production area being located beyond the 30-meter contour. The positioning of all major infrastructure more than 500 meters inland from the High-Water Mark provides an added layer of protection from the dynamic forces of the coastal environment.

In terms of excavation and blasting, the development involves minimal disturbance alongside the existing pumphouse. Although some bedrock excavation and minor blasting will be necessary to create space for the installation of the pipelines, these activities will be highly localized and controlled to limit environmental impact. Excavation will occur to a depth of 1 m to accommodate the three 0.5 m diameter pipes, ensuring the infrastructure is securely installed without compromising the surrounding geological features. Blasting, where required, will follow strict environmental protocols to mitigate vibrations and reduce the risk of disrupting nearby sensitive areas, such as the existing limestone formations.

The decision to place the bulk infrastructure behind the existing operations, northeast of the farm and more than 500 meters from the High-Water Mark, aligns with sustainable development principles. By keeping the expanded facilities away from vulnerable coastal areas and critical zones like the Littoral Active Zone, the development not only ensures long-term operational stability but also limits ecological disturbance to sensitive coastal ecosystems.

4. Biodiversity

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

Nick Helme Botanical Surveys

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

The systematic conservation planning, which is supported by Cape Nature BSP, SA vegetation maps, NFEPA, iNaturalist as well as other biodiversity informants have been utilised for the assessment of the study area.

Extracted from the Botanical Specialist report:

SA Vegetation Map shows that the original natural vegetation in the study area is all Overberg Dune Strandveld (Mucina & Rutherford 2018). This was also confirmed through ground truthing by the specialist.

Overberg Dune Strandveld is now gazetted as Endangered on a national basis (Government of South Africa 2022). About 90% of its total original extent remains intact, about 36% is conserved, and the national conservation target is also 36% (Rouget et al 2004), and I am thus unclear on how this can be listed as Endangered, even though it is listed under the B1(iii) criterion (restricted distribution and threatening processes). The unit is known to support relatively few plant Species of Conservation Concern (Raimondo et al 2009), most of which are threatened by habitat loss to urban development and alien invasive vegetation. This unit occurs on nutrient poor, deep, alkaline sands on the coastal lowlands, and the vegetation type does not need fire for optimal ecological functioning, although it can and does occasionally burn (Helme & Rebelo 2016).

The site has not been burnt for at least twenty years, the vegetation is grazed and fairly lightly trampled (in places) by game (eland, bontebok, springbok and zebra), and has a low density of invasive alien species (<0.5% cover of rooikrans and manitoka; *Acacia cyclops* and *Myoporum sp*.), and most of it can thus be regarded as being in good condition.

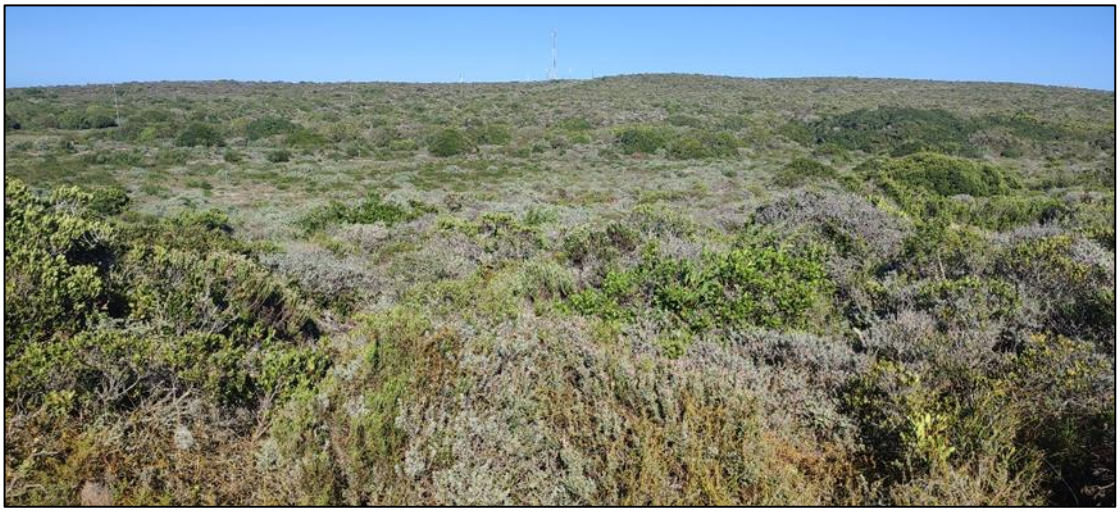

Photo 1: View of natural Strandveld vegetation in the area proposed for the PV facility, looking southwest (Helme, 2024)

Photo 2: View of High sensitivity Overberg Dune Strandveld on the Phase 2 facility area, looking northwest (Helme, 2024)

Photo 3: View of disturbed, Low sensitivity Overberg Dune Strandveld in the proposed Phase 1 facility area, looking north towards the existing infrastructure (Helme, 2024).

Photo 4: View of High sensitivity Strandveld vegetation in proposed dam area, looking west (Helme, 2024).

Photo 5: View west along proposed pipeline route to existing pumpstation, with brushcut area to the right (north) of the fence (Helme, 2024).

As can be seen in the site photos the natural vegetation on most areas has high structural diversity, with a mix of tall shrubs, small trees, grasses, restios and herbs. Autumn flowering geophytes are also present (*Brunsvigia, Oxalis, Haemanthus*).

Indigenous species noted in the natural vegetation in most of the study areas include *Searsia glauca, S. laevigata, S. lucida, Anthospermum spathulatum*, *A. galiodes, Euclea racemosa, Pterocelastrus tricuspidatus, Thamnochortus insignis, Cynodon dactylon, Carpobrotus acinaciformis, Otholobium bracteolatum, Jordaaniella dubia, Ruschia sarmentosa, Restio eleocharis, R. calcicola, Helichrysum niveum, H. patulum, H. dasyanthum, Cassine peragua, Maytenus lucida, Lachenalia rubida, Ficinia ramosissima, F. indica, F. secunda, Schoenus arenicola, Chaenostoma subspicatum, Phylica ericoides, Metalasia muricata, Salvia aurea, Brunsvigia orientalis, Passerina paleacea, Satyrium carneum, Osteospermum moniliferum, Eriocephalus racemosus, Tetragonia fruticosa, Sideroxylon inerme, Roepera flexuosa, Geranium incanum, Muraltia satureoides, M. pappeana, Haemanthus coccineus, Brunsvigia orientalis, Chironia baccifera, Olea exasperata, Ehrharta villosa, Cineraria geifolia, Asparagus asparagoides, Rumex sagittatus, Oncosiphon suffruticosum, Pentameris pallida, Arctotheca calendula, Athanasia quinqedentata ssp. rigescens, Cassine peragua, Aspalathus hispida, Cotula pruinosa, Tephrosia capensis, Agathosma geniculata, Pelargonium betulinum, Massonia depressa, Solanum guineense, Ifloga repens, Babiana nana, Myrsine africana, Zaluzianskya villosa, Oxalis depressa and Trachyandra ciliata.*

At least five plant Species of Conservation Concern (SoCC) were recorded on site, with distribution as per **Table 1**. All have substantial and viable populations on the greater property, but their distribution and abundance vary from footprint to footprint. There is a moderate likelihood of one or two other SoCC being present on the various footprints. Rare local endemic species such as *Cliffortia anthospermoides* (Endangered) do not appear to be present on site and were actively searched for. Erica *irregularis* (Endangered) does not occur south of Gansbaai, although it is common at Grootbos. *Dasispermum grandicarpum* is an inconspicuous, low herb that grows annually from a rootstock (especially

now, early in the season), and was until recently known only from Grootbos NR, but has now been recorded from Stanford to Gansbaai (pers. obs.). The species is Redlisted as Data Deficient, but it was not seen in the study areas.

Table 2: Distribution of the plant SOCC in the study areas. No SoCC were recorded in the pumpstation or pipeline areas (Helme, 2024).

Species	***Redlist Status***	***Found where***
Athanasia quinquedentata ssp. *rigens*	VU	PV, Phase 2, Dam
Cynanchum zeyheri	VU	PV, Phase 2, Dam
Muraltia pappeana	Near Threatened	PV, Phase 1, Phase 2, Dam
Agathosma geniculata	Near Threatened	PV, Phase 2, Dam
Lampranthus fergusoniae	VU	PV, Phase 2, Dam

Athanasia quinquedenta ssp. rigens is a shrub Redlisted as Vulnerable, and occurs in coastal sands over limestone from Gansbaai to Stilbaai. Scattered plants occur in three of the study areas.

Agathosma geniculata is a shrub Redlisted as Near Threatened, and occurs in coastal sands from De Kelders to Arniston. The species is common on three of the study areas.

Muraltia pappeana is a shrub Redlisted as Near Threatened, and occurs in coastal sands from De Kelders to Riversdale. The species is common throughout most of the study areas.

Cyanchum zeyheri (not flowering, provisional id) is a creeping shrub Redlisted as Vulnerable, and occurs in coastal sands and rocky areas from Saldanha to Agulhas, and is probably very overlooked. Scattered plants occur in three of the study areas.

Lampranthus fergusoniae is a vygie Redlisted as Vulnerable, and is found from Kleinmond to Knysna on coastal sands. Scattered plants occur in three of the study areas.

The botanical sensitivity of the site is as shown in Figure 10 below. Two patches of High sensitivity have been mapped, which are mainly in the proposed PV area and the new dam footprint. Most of Phase 1 facility area is of Low sensitivity, and most of the Phase 2 facility area is of Medium sensitivity.

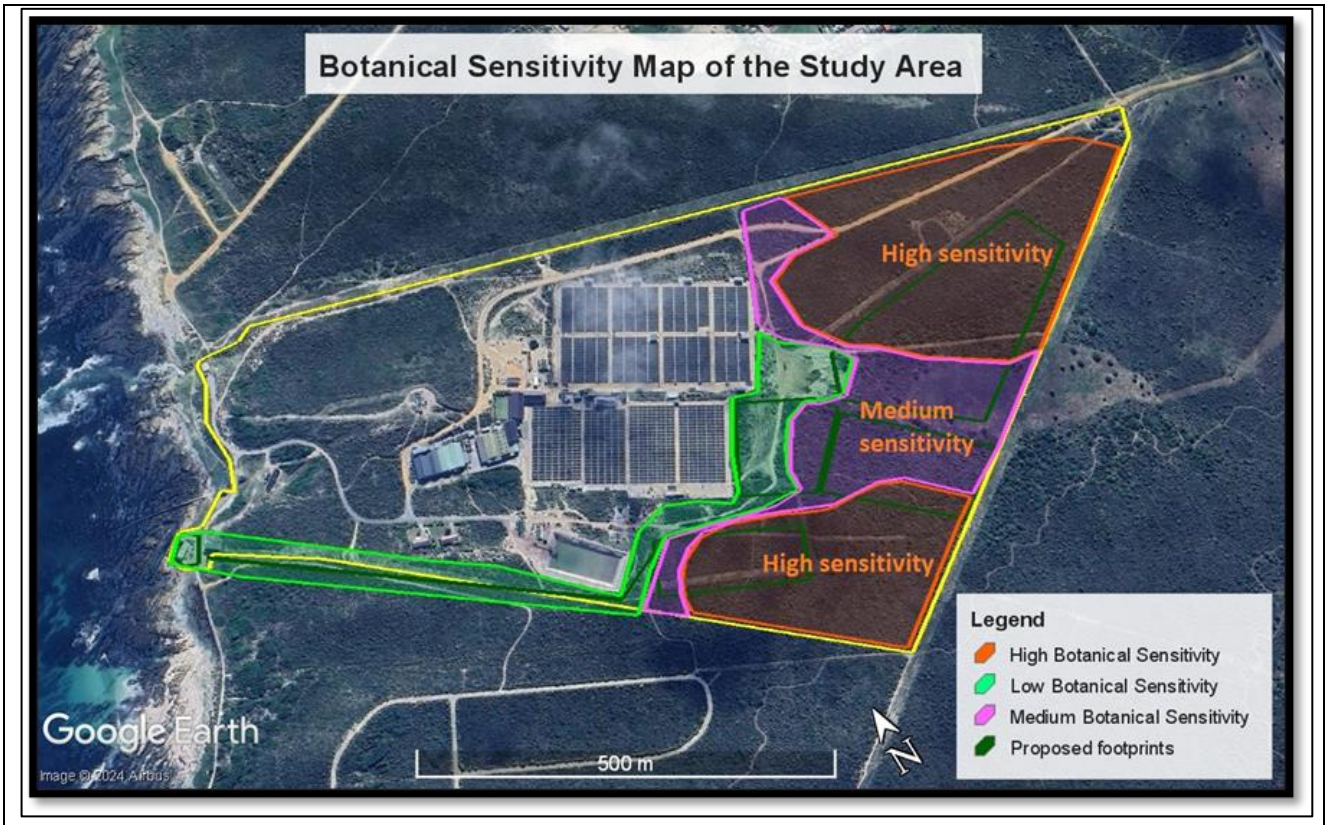

Figure 10: Botanical sensitivity map for the portion of the property with proposed development footprints (property outline in yellow) (Helme, 2024).

Construction Phase

The primary construction phase ecological impact of the proposed development would be permanent loss of all Low, Medium and High sensitivity vegetation (gazetted as an Endangered vegetation type) in three of the five footprints, along with associated loss of the site populations of the five recorded plant Species of Conservation Concern in these areas. Areas where vegetation loss will be total are the two growing facilities (Phases 1 & 2) and the new dam.

Temporary vegetation loss would occur in the PV area and the pipeline. In the PV area vegetation loss will be most significant for the larger, taller woody species, which will need to be brush-cut down to less than 1m, whilst the lower growing species should actually benefit from the reduced canopy cover. Total vegetation loss in the PV area is neither desirable nor likely, as the applicant wants to ensure that vegetation cover is largely retained, to limit sand and dust impact. No vegetation loss is likely as a result of the pumphouse expansion.

The proposed PV development would also result in degradation of about 6ha of area mapped as CBA1 (Critical Biodiversity Area 1), with the rest of the footprint impacting on ONA (Other Natural Area). Loss of mapped CBAs and ESAs are not supported, as they are deemed to be irreplaceable habitat and serve multiple ecological functions, for both species, ecological connectivity and for meeting national conservation targets. Loss of CBAs is usually associated with High negative ecological impact.

Botanical significance of this habitat and species loss (before and after mitigation) ranges from **Very Low negative** for the pumpstation expansion to **Medium - High negative** for the dam area. There is little one can do to mitigate the impacts of loss of habitat and SoCC.

The extent of the impacts is deemed to be local and regional, but also national, in that the vegetation types and threatened species are also assessed at a national level.

Table 3: Summary table for construction phase botanical impacts associated with the proposed development.

Development Area	Extent of impact	Duration of impact	Intensity	Probability of impact	Irreplaceable loss of biodiversity	Significance before mitigation	Significance after mitigation
PV area	Local	Long term	Medium	Definite	Low to Medium	Low to Medium -ve	Low to Medium -ve
Phase 1 Area	Local & regional	Permanent	High	Definite	Low	Low -ve	Low -ve
Phase 2 Area	Local & regional	Permanent	High	Definite	High	Medium -ve	Medium -ve
Dam area	Local & regional	Permanent	High	Definite	High	Medium to High -ve	Medium to High -ve
Pipeline	Local	Temporary	Low	Definite	Low	Low -ve	Low -ve
Pumphouse expansion	Local	Permanent	Very Low	Definite	Very Low	Very Low -ve	Very Low -ve
No Go	Local	Unknown and variable	Neutral to low negative	Unknown	Low	Neutral to Low negative	Neutral to Low negative

Operational Phase Botanical Impacts

Operational phase impacts will take effect as soon as the natural vegetation on the site is lost or disturbed, and will persist in perpetuity, or as long as the area is not fully rehabilitated (not likely within 30yrs). Operational phase impacts include loss of current high levels ecological connectivity across the study areas, and associated habitat fragmentation. The construction may also result in alien Argentine ant introduction, with associated negative ecological impacts on seed dispersal for up to 25% of the remaining indigenous plant species within 50m of any construction.

The overall habitat fragmentation and loss of ecological connectivity impact is likely to be **Medium negative** at the property scale (before and after mitigation), as the development will result in loss or degradation of almost 50% of the remaining natural vegetation on the property.

Table 4: Summary table for operational phase botanical associated with the proposed development.

Development Area	Extent of impact	Duration of impact	Intensity	Probability of impact	Irreplaceable loss of biodiversity	Significance before mitigation	Significance after mitigation
PV area	Local	Long term	Medium	Likely	Low to Medium	Low to Medium -ve	Low to Medium -ve
Phase 1 Area	Local & regional	Permanent	High	Definite	Low	Low to Medium -ve	Low to Medium -ve
Phase 2 Area	Local & regional	Permanent	High	Definite	High	Medium -ve	Medium -ve
Dam area	Local & regional	Permanent	High	Definite	High	Medium -ve	Medium -ve

Pipeline	Local	Temporary	Low	Likely	Low	Low -ve	Low -ve
Pumphouse expansion	Local	Permanent	Very Low	Definite	Very Low	Very Low -ve	Very Low -ve
No Go	Local	Unknown and variable	Neutral to low negative	Unknown	Low	Neutral to Low negative	Neutral to Low negative

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 Cape Farm Mapper, a Critical Biodiversity Area 1 (CBA1) intersects the northwestern part of the property. The planned installation of solar panels in this area will result in some disturbance, primarily due to brush-cutting for the placement of the panels. However, this impact has been managed to ensure that the CBA1 is not completely lost. Despite the partial shading caused by the solar panels, most species in this area are expected to persist.

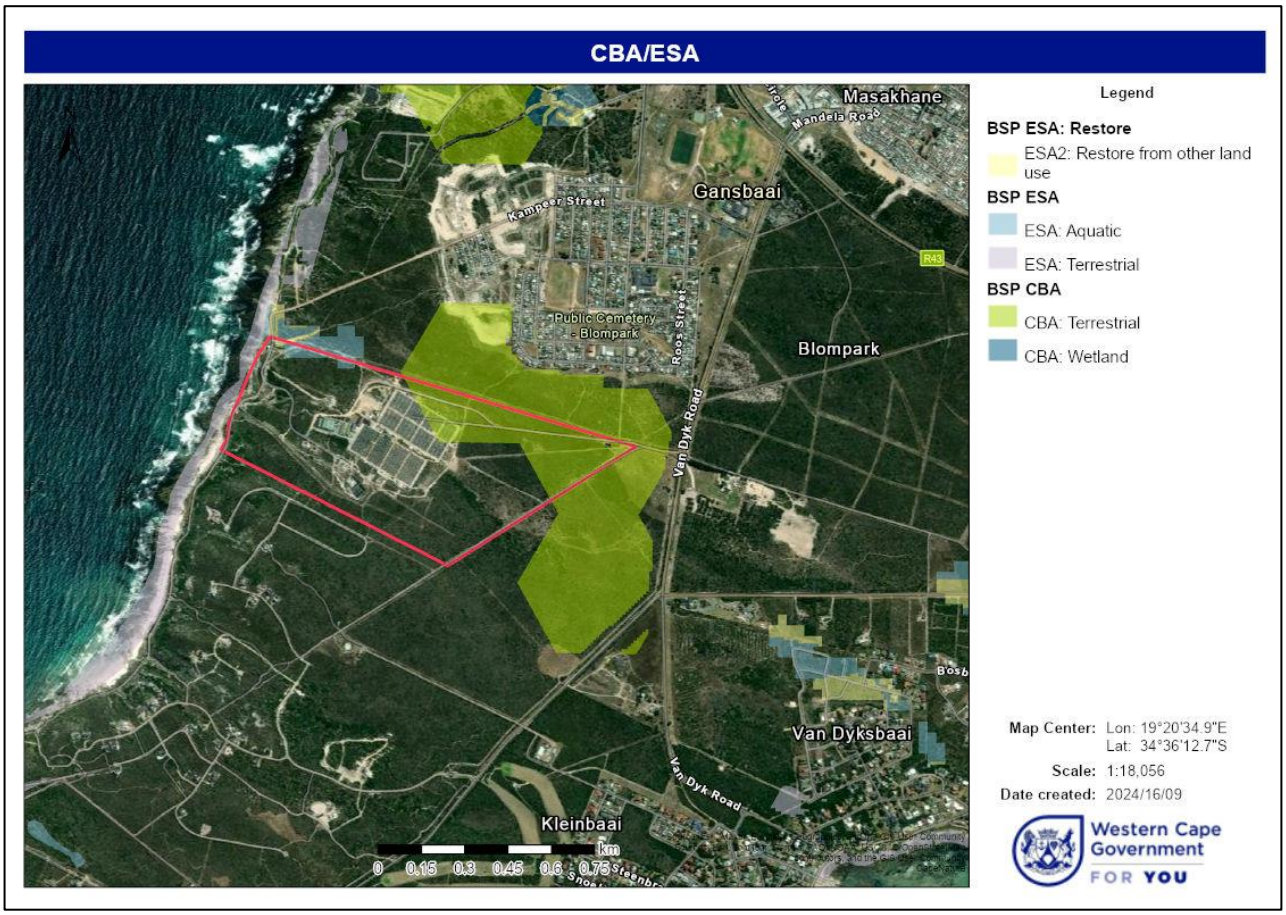

Figure 11: The northwestern area of the property falls within CBA1

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.

The proposed development has the potential to impact the site-specific features and functionality of the Biodiversity Spatial Plan (BSP) category associated with the Overberg Dune Strandveld, which is classified as Endangered. The Terrestrial Assessment highlights that the original vegetation on the site is primarily Overberg Dune Strandveld, characterized by a mixture of grazed and lightly trampled areas by game species such as eland, bontebok, and springbok, and a low density of alien vegetation (*Acacia cyclops* and *Myoporum sp*.), much of which is in good condition.

The assessment identifies at least five plant Species of Conservation Concern (SoCC) present on the site, with viable populations across the greater property. The distribution and abundance of these species vary across the development

footprint. Notably, while rare local endemics like *Cliffortia anthospermoides* (Endangered) and *Erica irregularis* (Endangered) are not found on site, other species such as *Dasispermum grandicarpum*, currently Redlisted as Data Deficient, have been recorded in proximity. Additionally, species such as *Athanasia quinquedenta ssp. rigens* (Vulnerable), *Agathosma geniculata* (Near Threatened), *Muraltia pappeana* (Near Threatened), *Cyanchum zeyheri* (Vulnerable, provisional identification), and *Lampranthus fergusoniae (*Vulnerable) are observed within various study areas. These species contribute to the ecological value of the site and the broader region, indicating that the area supports a diverse range of plant life with varying conservation statuses.

The botanical sensitivity of the site, as depicted in **Figure 10**, reveals that two patches of High sensitivity are located primarily within the proposed photovoltaic (PV) area and the new dam footprint. Most of the Phase 1 facility area is of Low sensitivity, while the Phase 2 facility area is categorized as Medium sensitivity.

According to the Terrestrial Biodiversity assessment the primary ecological impact during construction phase of the proposed development would be permanent loss of all Low, Medium and High sensitivity vegetation (gazetted as an Endangered vegetation type) in three of the five footprints, along with associated loss of the site populations of the five recorded plant Species of Conservation Concern in these areas. Areas where vegetation loss will be total are the two growing facilities (Phases 1 & 2) and the new dam.

Temporary vegetation loss would occur in the PV area and the pipeline. In the PV area vegetation loss will be most significant for the larger, taller woody species, which will need to be brushcut down to less than 1m, whilst the lower growing species should actually benefit from the reduced canopy cover. Total vegetation loss in the PV area is neither desirable nor likely, as the applicant wants to ensure that vegetation cover is largely retained, to limit sand and dust impact. No vegetation loss is likely as a result of the pumphouse expansion.

The proposed PV development would also result in disturbance of about 4 ha of area mapped as CBA1 (Critical Biodiversity Area 1), with the rest of the footprint impacting on ONA (Other Natural Area). Loss of mapped CBAs and ESAs are not The site is classified as Overberg Dune Strandveld (Endangered) vegetation. Large sections of the proposed expansion area have been impacted by current activities onsite including animals from the adjacent property which are roaming between the subject property. The clearance of vegetation Search and Rescue was conducted by a professional Botanical Specialist prior the construction of the previous expansion on the farm which aimed at retracting the sensitive plants and replanted them in areas indicated in yellow on the map in **Figure 12** below. The proposed expansion will not extend or impact these areas. **Figure 13** indicate the areas of limestone outcrops, milkwood and vygie on the property. By illustration the expansion of facilities for the production area, construction of lined seawater reservoir and additional pipelines will not expand to these features.

Figure 12: The map illustrating the plants rescued from the previous development and planted in the areas indicated in yellow.

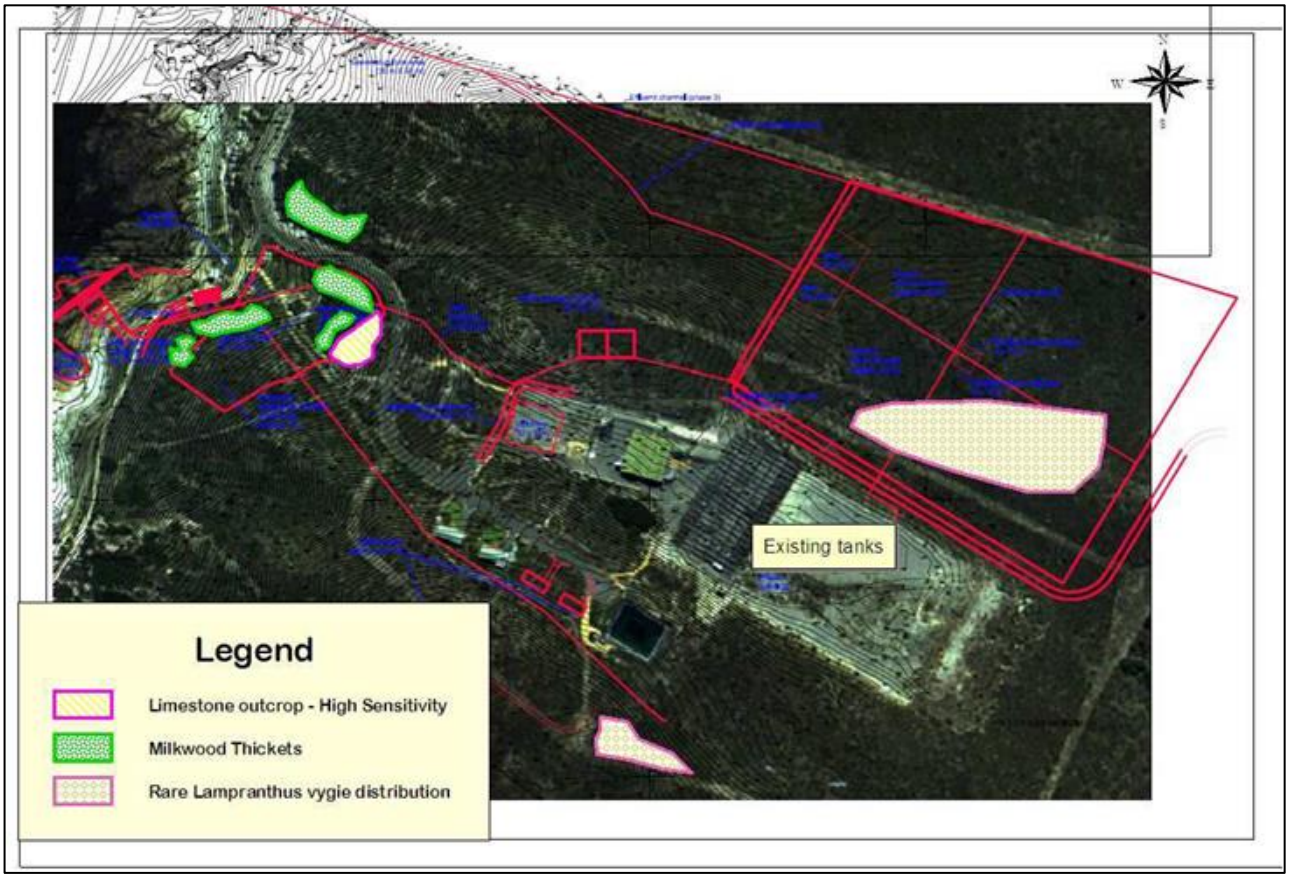

Figure 13: A clear illustration of the limestone, milkwood thicket and vygie distribution.

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

With reference to the site sensitivity verification undertaken by the EAP it was found that the site has been disturbed by long term operations on the abalone farm. The adjacent Romansbaai Beach and Fynbos Estate has stocked the adjacent property with various local antelope species. These animals access the open space on Portion 2 from time to time. The expansion of the abalone farm will not have a negative impact on these animals. As per the findings of the Terrestrial Assessment, the majority of the expansion takes place on low sensitivity areas. Area marked for the reservoir (2 ha) falls partially within low, medium and high sensitivity areas. The proposed PV Array falls within high sensitivity area, however the natural vegetation will be left to persist below the solar array, thereby maintain habitat for small faunal species. Animal movement corridors and open fields will be maintained around the periphery of the property, and allowing the coast allowing for continues connectivity. The design incorporates a 40-meter-wide corridor of green vegetation along the border of the Romansbaai Estates property, indicated in green on **Figure 14**. This corridor, marked by a yellow line, is intended to facilitate the movement of fauna and preserve connectivity between habitats.

Figure 14: The map showing the Abalone property boundary indicated in yellow and the Romansbaai Estate indicated in green.

5. Geographical Aspects

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

6. Heritage Resources

6.1.	Was a specialist study conducted?	YES x	NO
6.2.	Provide the name and/or company who conducted the specialist study.		
ACRM – Jonathan Kaplan			

6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.

Extract from the Heritage Impact Assessment Report:

The Notice of Intent to Develop was submitted to Heritage Western Cape requesting a Heritage Impact Assessment, Palaeontological Impact Assessment and the Visual Impact Assessment to be done. The Heritage Western requires that the above-mentioned studies should be conducted with the belief that the proposed expansion of the Romansbaai Abalone farm Portion 2 of Farm 711, Gansbaai will impact on the Heritage resources.

Archaeological Impact Assessment

A field assessment was conducted by Agency for Cultural Resource Management (ACRM) on 31 January 2024, in which the following observations were made:

A few thin, dispersed scatters of fragmented marine shellfish (mostly *Turbo sarmaticus* / *alikreuke*l, some *limpet* & *Haliotis/perlemoen*), and a few quartz and quartzite chunks and flakes were recorded in the route of the proposed seawater intake pipeline (an existing servitude). The resources occur in a severely degraded context. No grindstones, formal tools, pottery, ostrich eggshell or any other organic remains were found along the ± 400m long proposed pipeline.

No archaeological resources were encountered in the footprint area of the proposed solar plant, the proposed grow out tanks, and the proposed seawater storage dam, which is set back about 400m from the rocky shoreline.

Grading of archaeological resources
The very small numbers of stone pieces and the highly disturbed context in which they were found, means that the archaeological remains have been graded as Low (3C) local significance. The archaeological resources in the proposed pipeline route have been graded as having Low (Grade 3C) archaeological significance.

Potentially important shell midden deposits (in the proposed intake pipeline), and Later Stone Age campsites (in the proposed solar plant, grow out tanks & storage dam) may be uncovered during vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile.

Unmarked Khoisan burials may also be uncovered during construction phase excavations.

Palaeontology Impact Assessment

According to Pether (2024), the project area is mantled by unconsolidated pale coversands, labelled as the Qg coversands, which have a topography of dune ridges orientated NW-SE as part of a typical stabilized headland bypass dunefield. Underlying the stabilized dunefield are the aeolianites of the Waenhuiskrans Formation which is comprised of partly cemented older dunes and sandsheets and is typically capped by calcrete.

The installation of a Solar Energy Facility involves shallow excavations for cabling. It is assumed that the depths of earthworks entailed in creating level areas for the aquaculture tanks and dam would be up to 2-3m. Earthworks will mainly affect the Qg dune coversands, but may intersect the underlying, older Waenhuiskrans Fm. aeolianites where the coversands are thin. Fossil bones are overall sparse in the Qg coversands and those which may be discovered are expected to be of latest Quaternary age and mainly to be species of extant fauna.

The fossil bones that may occur in the Waenhuiskrans Fm. are, like the later coversands, also mainly comprised of representatives of extant fauna, but unexpected species of a different fauna are more likely to occur, as a result of phases of different ecological and palaeoclimatic conditions in the past, as well as the bones of some species which became extinct in the geologically recent past.

The overall, default palaeontological sensitivity of unconsolidated coversand deposits is classified as LOW/Blue by the SAHRIS Palaeo-Sensitivity map.

The Klein Brak Fm. is not rated on the SAHRIS palaeontological sensitivity map but is assigned CLEAR/Unclassified. Due to the open coast setting of the seashore of the Project Area only extant species are expected and a LOW sensitivity may be assigned to the raised beach deposits. Furthermore, the additional pipelines will be installed along an already disturbed route through the beach deposits. An impact on the fossil heritage of the Klein Brak Fm. is not expected.

Visual Impact Assessment

The site is located on the Danger Point Peninsula which is strongly linked with Gansbaai and the coastal plain to the east (Franskraal to De Damme), yet it forms an entity with its own character within this larger landscape. The R43 is a regional road linking the towns of Gansbaai, Franskraal, Pearly Beach, Buffeljagsbaai and De Damme. Van Dyk Street is the main access to the Romansbaai Peninsula giving access to the abalone farm, Danger Point (Lord Roberts Street) and Kleinbaai. Danger Point Lighthouse and Kleinbaai harbour are the main end destinations on the peninsula

According to Lategan (2024), the expansion of the Romansbaai Aqunion Abalone Farm will not have an impact of great significance on the Cultural Heritage Landscape. The topography of the area with its steep coastal edge and hills to the west, creates an area with a high visual absorption level. The abalone farm is furthermore situated in a depression which screens the facility from the surrounding area.

Solar arrays have the potential to create a glare effect which can amplify the visual impact but due to the screening of the ridge to the north, the glare is effectively screened from the receptors.

The overall visual impact is thus low, and the heritage landscape will not be altered through the expansion of the facility' (Lategan 2024).

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.

Extracted from the Heritage Impact Assessment (2024) "According to Lategan (2024), the proposed expansion of the Romansbaai Aqunion Abalone Farm will not have an impact of great significance on the Cultural and Heritage Landscape. The Romansbaai Abalone farm is located on the Danger Point Peninsula about 3 kms southeast of the town centre of Gansbaai. According to the HWC Report, large numbers of archaeological resources have been recorded in Gansbaai and the surrounding coastal region. These includes the unmarked Khoisans remains which were uncovered during the excavations for the residential development at Romansbaai Estate development. The remains occur in a severely degraded context (Figure 16-18). No grindstones, formal tools, pottery, ostrich eggshell or any other organic remains were found along the ± 400m long proposed pipeline.

No archaeological resources were recorded in the footprint area of the proposed solar plant, the proposed grow out tanks, and the proposed new storage dam, which is set back in a shallow depression about 400m inland from the shoreline.
The very small numbers of stone pieces and the highly disturbed context in which they were found, means that the archaeological remains have been graded as Low (3C) local significance."

No buildings, structures or features older than 60 years will be impacted by the proposed expansion of the Romansbaai Abalone Farm.

No graves or typical grave features were encountered during the field study.

8. Socio/Economic Aspects

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

Extract from Overstrand Municipal IDP (**2024-2025**):

"*The Overstrand Municipal area is the smallest municipal area in the Overberg District in terms of geographical spread but is the second-largest economy in the district. In 2021 the Overstrand Municipal area economy was valued at R 8.1 billion and contributed 31.7 per cent to the Overberg District economy during the year.*

In 2022, GDPR growth in the Overstrand municipal area was forecast to increase to 2.5 per cent. In the 2023 forecast period, economic growth in the Overstrand municipal area is expected to contract with -0.2 per cent, which is lower than the anticipated growth rates of the Overberg District and Provincial economies (Western Cape Provincial Treasury,

Overstrand SEP 2023). Overstrand's 2024 projected forecast is 0.7 per cent economic growth, which is lower than both the District and Western Cape projection over the same period.

In 2021, a total of 31 309 workers were employed in the Overstrand municipal area, contributing 27.2 per cent to Overberg District employment during the year. Despite the 2 595 formal and informal jobs gained in 2022 not all jobs lost over the Covid-19 pandemic have been regained. The unemployment rate in the Overstrand remains the highest in the Overberg District (21.5 per cent). The estimated decline in employment opportunities is likely to result in a decline in household income, which in turn will continue to restrain municipal revenue and increase the demand for free basic services."

The Blompark neighbourhood provide a range of housing options mostly within the middle to lower price bracket as well as social housing. Most residents are locally employed, and the various abalone farms and fishing industry is an important job provider. This community has a strong link to the ocean and the resource use and industrial components linked to it. Proximity to such employment opportunities is thus important and this provide a high level of tolerance and acceptance of such facilities.

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

The proposed expansion of the abalone farm has several socio-economic benefits for the local community and the broader region:

- → By expanding the abalone farm, new employment opportunities will be generated. These jobs can directly benefit local residents, providing them with stable income and improving their quality of life. Additionally, the influx of workers may lead to increased demand for housing, services, and other goods, further stimulating economic activity.
- → The expansion project will contribute to the overall economic growth of the province. As the abalone farm increases production, it will generate additional revenue. This revenue can flow into the local economy, supporting other businesses and services. Increased economic activity can lead to a positive cycle of growth, benefiting both the farm and the surrounding community.
- → When the abalone farm thrives it will make a great contribution throughout the region. For instance:
    - Local businesses may experience higher demand as farm workers spend their earnings on goods and services.
    - Infrastructure development (such as roads, utilities, and transportation) may improve due to increased economic activity.
    - Educational institutions and healthcare facilities may receive additional funding from tax revenues generated by the farm.

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

Job provisions would be a good thing that the community would like to uplift the standard of living and therefore contributing to more wellbeing.

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.

- → Due to the topography of the site, the visual expansion of the development will be minimal. The natural landscape effectively screens the site, making the expansion less noticeable to the surrounding communities.
- → The potential for noise disturbance during construction activities, such as blasting will be minimal.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

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

Provide a description of the preferred property and site alternative.

The preferred property for the proposed expansion is Portion 2 of Farm No. 711, which is situated within an urban edge in Gansbaai. This property is the site of the existing Romansbaai Abalone Farm and there are therefore no other property alternatives available.

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

No additional property or site alternatives were investigated for the proposed expansion as the project is intended to take place within the existing Romansbaai Abalone Farm. Therefore, there were no alternative properties or sites considered for the development. Expansion alongside existing operations is preferred over developing a new, Greenfields site.

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

As above.

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

N/A as no property or site alternatives were investigated.

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

The decision to focus solely on expanding the existing Romansbaai Abalone Farm on Portion 2 of Farm No. 711 can be justified due to several factors:

- The current farm already possesses the necessary infrastructure and operational expertise for abalone production. Expanding on this existing site leverages this expertise and minimizes the need to duplicate infrastructure in a new location.
- Developing a new site would likely require land conversion and potential disruption of ecosystems and associated impacts. Expanding on the existing farm minimizes this impact as the land is already dedicated to abalone production.
- Since the expansion occurs on land already zoned for this purpose and owned by the same entity (Terrasan Group), the approval process can potentially be streamlined compared to acquiring and developing a new site.
- Developing a new site would involve additional costs for land acquisition, infrastructure development, and potentially relocation expenses. Expanding on the existing farm leverages existing resources and minimizes these costs.

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

Positive Impacts

→ Expanding on the existing farm minimizes the need to convert undeveloped land, potentially reducing habitat loss and fragmentation.

→ Utilizing existing farm infrastructure can minimize the need for new construction projects that may disrupt the environment.

Negative Impacts

- → Even within the existing farm, some level of vegetation removal and habitat disturbance may be necessary for construction activities. Measures to minimize this impact should be explored.
- → Increased production can lead to a higher volume of effluent discharge.
- → potential loss of archaeological sites
- → Construction activities can generate noise that may disrupt wildlife.
- → Construction activities can create dust that can affect air quality and nearby vegetation.

~~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.

The application assessed herein is for the expansion of an already existing Abalone Farm. Abalone Farms rely on very specific criteria in order to operate in a feasible way. Factors such as proximity to the coast to ensure the constant supply of fresh seawater, as well as availability of relatively level ground, are critical. With the Romansbaai Abalone Farm already being in operation, there are few options for alternative layouts on the subject property. The expansion project needs to tie into the existing operations and cannot be placed in random places on the farm. This has resulted in there being limited options for design and layout alternatives, with only minor realignments of expansion areas being possible in order to avoid identified sensitive areas and no development zones.

ALTERNATIVE LAYOUT 2 (PREFERRED)

The preferred design or layout alternative for the expansion of the Romansbaai Abalone Farm, referred to as Alternative Layout 2, incorporates a carefully planned approach aimed at balancing operational needs with environmental sustainability. This design reflects a comprehensive evaluation of site factors, including the construction of both Phase 1 and Phase 2 of the new production areas, as well as the installation of four additional pipelines. These pipelines are strategically positioned to optimize water intake and outtake processes, essential for abalone farming operations. By aligning the pipelines with existing infrastructure, this design maximizes operational efficiency and accommodates future scalability.

To minimize environmental impacts, the preferred design places Phase 1 within a low ecological sensitivity zone and Phase 2 within a medium ecological sensitivity zone. Although construction will lead to the unavoidable loss of indigenous vegetation, the impact is mitigated by the strategic location of the development in areas with lower ecological importance. This careful zoning allows the farm to expand while preserving the more ecologically sensitive portions of the site, reducing the overall footprint of disturbance on the natural environment.

A significant component of this design alternative is the integration of solar power into the farm's energy supply, demonstrating a strong commitment to sustainability. Various layout options for the solar arrays were considered to minimize the environmental and operational impacts. Initially, the possibility of installing solar panels on the rooftops of

existing farm buildings was explored. However, due to limited roof space—accounting for only 5% of the required solar capacity - this option was deemed unviable.

The chosen solution was to use ground-mounted solar arrays, which provides the most efficient and cost-effective alternative. This option ensures the farm can harness renewable energy to power operations while avoiding the challenges posed by the other alternatives. The use of renewable energy in the form of solar power will not only reduce the farm's carbon footprint but also enhance its long-term sustainability and reduce the seawater pumping cost.

Additionally, the inclusion of a lined seawater reservoir and the upgraded pipeline system ensures a stable and reliable water supply, which is critical for maintaining production levels and supporting the expansion's operational needs. This infrastructure upgrade enhances both the farm's resilience to water shortages and its ability to manage resources effectively.

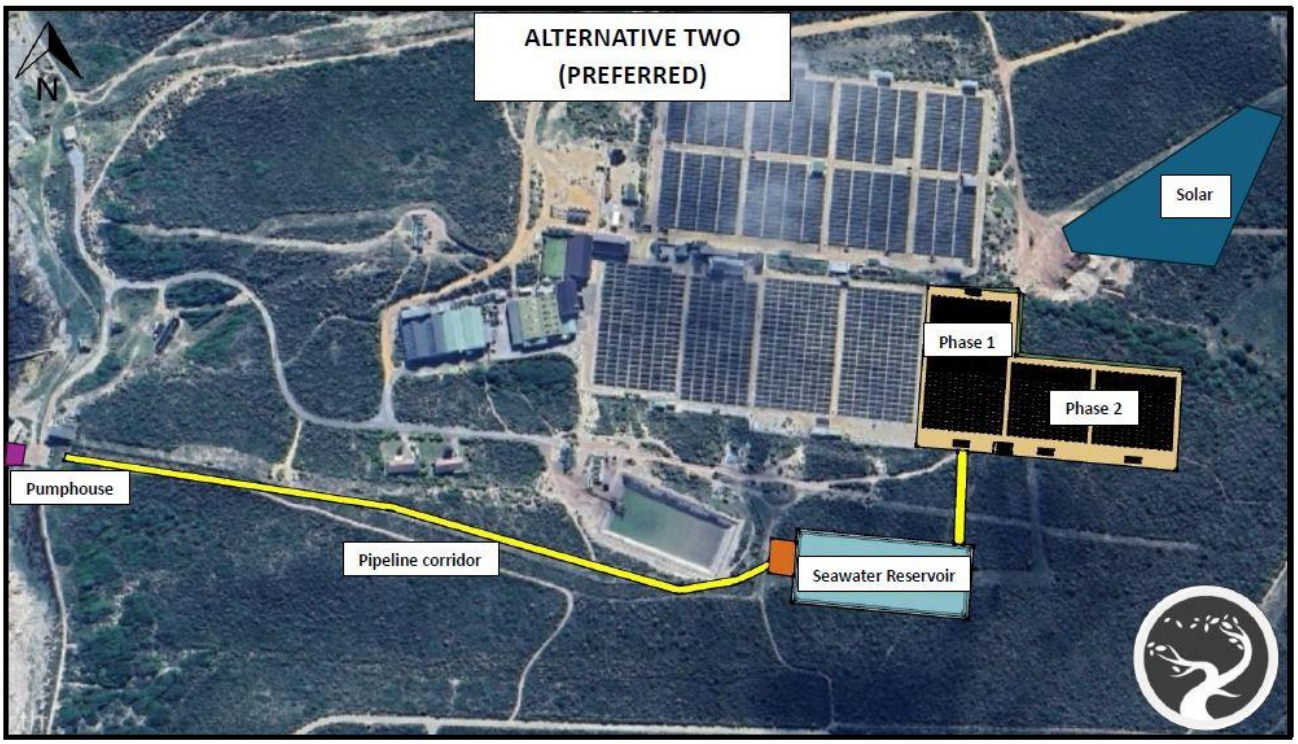

Figure 15: Illustration of Preferred Layout Alternative

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

Three alternatives are assessed in this application and have been based primarily on the location of the various site sensitivities. These site sensitivities have been highlighted as site constraints and have assisted with the evolution to the Preferred Alternative 2.

The site constraints identified by the specialist and EAP include:

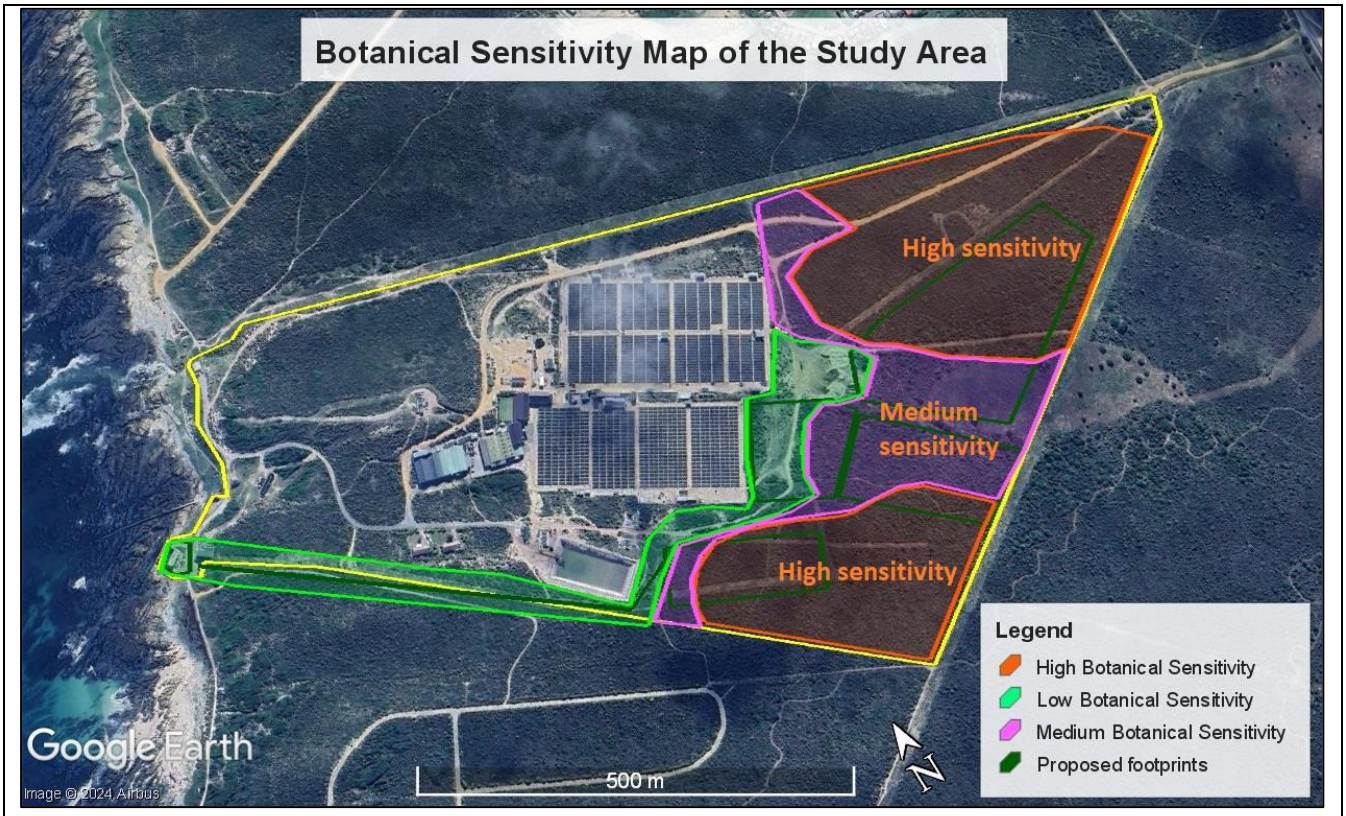

Figure 16. Terrestrial Biodiversity site sensitivity map

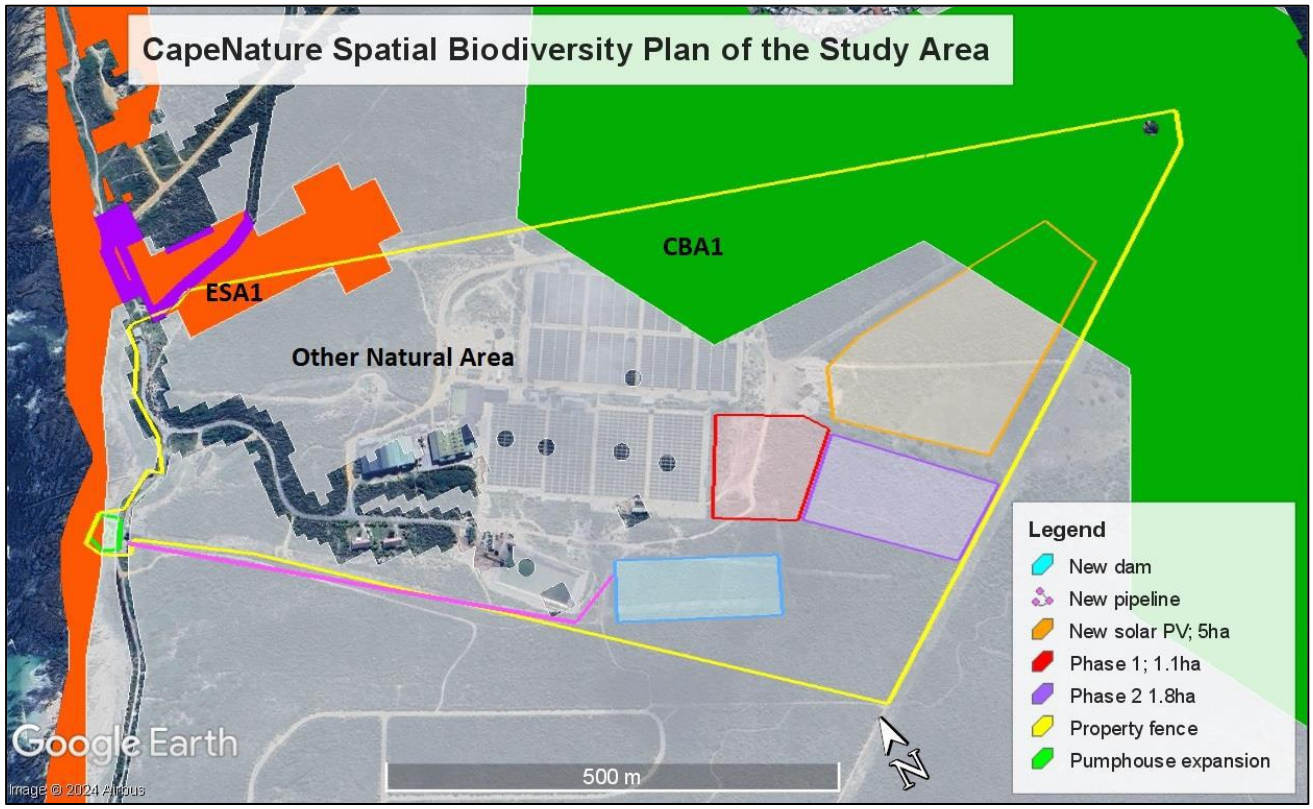

Figure 17: Spatial Biodiversity Plan for the site

Alternative 1

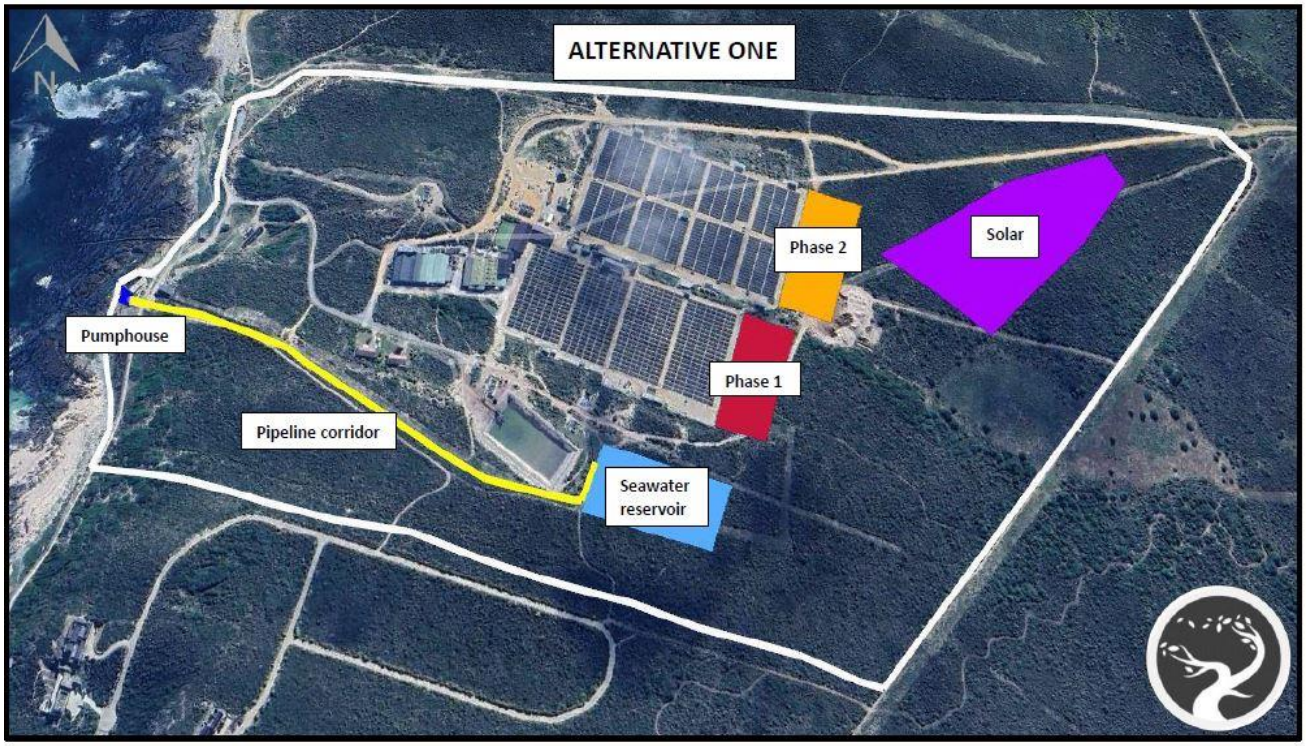

Figure 18: Illustration of Alternative 1

Alternative 1 was explored as a potential layout for the expansion of the Romansbaai Abalone Farm. This alternative proposed situating both Phase 1 and Phase 2 of the expansion near the existing grow-out tanks, aiming to streamline operations and enhance the integration of new infrastructure with the current facilities. However, after careful consideration, this alternative proved to be problematic due to several environmental and operational challenges.

The proposed location for Phase 2 falls partially within the Critical Biodiversity Area 1 (CBA1). The development of Phase 2 in the area would require the removal of over one hectare of indigenous vegetation and the creation of a platform for the construction of the production area. This would result in ecological impact and loss of sensitive habitat and vegetation. The removal of vegetation in this region is far more destructive than the brush cutting associated with the solar panel installation. The ecological integrity of CBA1 is crucial for the preservation of biodiversity and disturbing it would contravene environmental guidelines designed to protect such critical habitats.

In addition to environmental concerns above, the location of the solar panels in this alternative, will result in visual impacts. The proximity of the solar array to the access road means that the installations would be visible to the public and nearby residents. This visibility could disrupt the visual character of the area, negatively affecting the aesthetic value and sense of place for the local community. Moreover, the potential for unauthorized access or vandalism would increase, as the solar infrastructure would be easily accessible from the road. This would pose a security risk to the farm and require additional measures to safeguard the equipment, leading to higher operational costs.

The location of the grow out platforms far from the core operational areas also has impact on staff productivity, loss of time to move across large distances between production areas and difficulty moving animal from one area to the next.

Alternative Layout 2 (Preferred)

The preferred design or layout alternative for the expansion of the Romansbaai Abalone Farm, referred to as Alternative Layout 2, incorporates a carefully planned approach aimed at balancing operational needs with environmental sustainability. This design reflects a comprehensive evaluation of site factors, including the construction of both Phase 1 and Phase 2 of the new production areas, as well as the installation of four additional pipelines. These pipelines are strategically positioned to optimize water intake and outtake processes, essential for abalone farming operations. By aligning the pipelines with existing infrastructure, this design maximizes operational efficiency and accommodates future scalability and also ensures maximum use of already impacted areas on the farm.

To minimize environmental impacts, the preferred design places Phase 1 within a low ecological sensitivity zone and Phase 2 within a medium ecological sensitivity zone. Although construction will lead to the unavoidable loss of indigenous vegetation in these areas, the impact is mitigated by the strategic location of the development in areas with lower ecological importance. This careful zoning allows the farm to expand while preserving the more ecologically sensitive portions of the site, reducing the overall footprint of disturbance on the natural environment. The layout also allows for improved human resource management and general flow of works,

A significant component of this design alternative is the integration of solar power into the farm's energy supply, demonstrating a strong commitment to sustainability. Ground-mounted solar arrays are proposed to supplement the high electrical needs, which provides the most efficient and cost-effective alternative. This layout ensures the farm can harness renewable energy to power operations while avoiding the challenges posed by the other alternatives. The use of renewable energy in the form of solar power will not only reduce the farm's carbon footprint but also enhance its long-term sustainability.

Additionally, the inclusion of a lined seawater reservoir and the upgraded pipeline system ensures a stable and reliable water supply, which is critical for maintaining production levels and supporting the expansion's operational needs. This infrastructure upgrade enhances both the farm's resilience to water shortages and its ability to manage resources effectively.

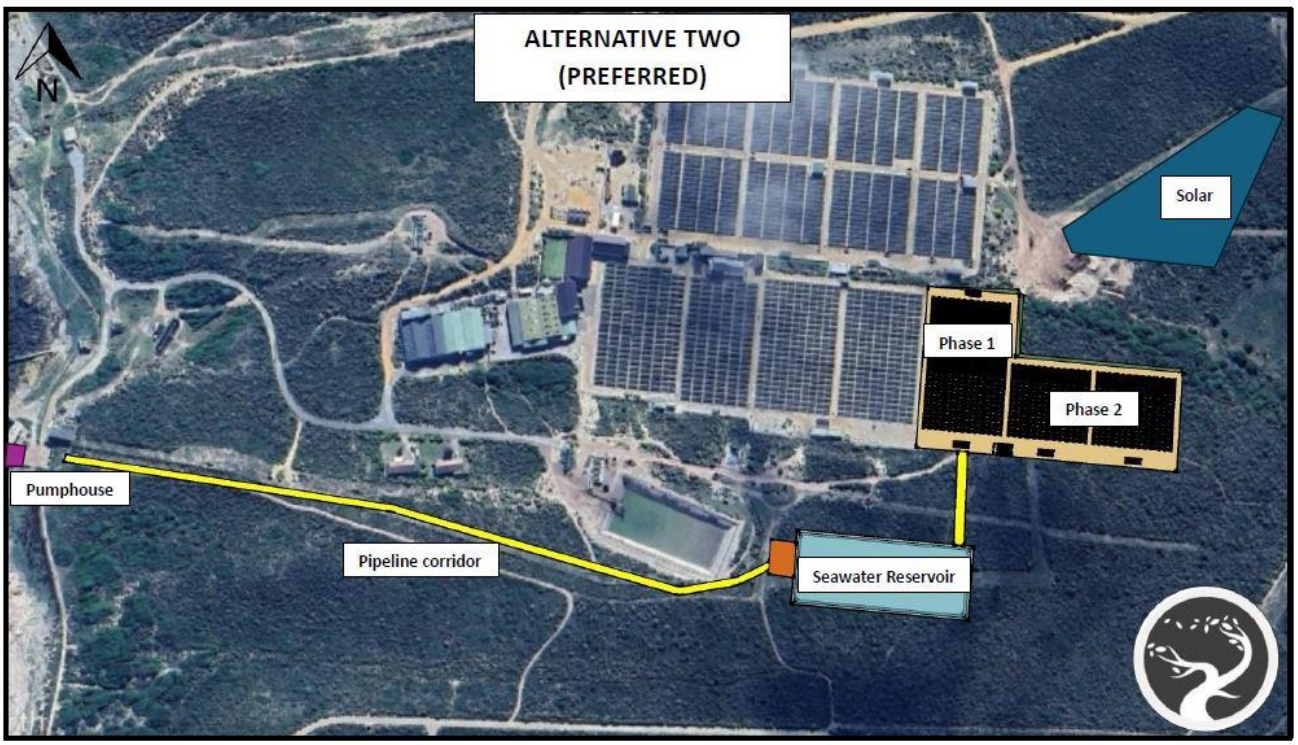

Figure 15: Illustration of Preferred Layout Alternative

NOTE: There are no alternative locations or designs available for proposed pumphouse expansion, pipeline routing or reservoir location. The pumphouse needs to be expanded from existing footprint, the pipelines need to follow the route

of the existing pipeline corridor to the farm, and the seawater holding reservoir needs to be located at the highest point on the farm to allow for the gravity flow to the farm. Therefore, the alternatives assessed in this report, only speak to alternative location options for the production areas (Phase 1 & 2) and solar PV.

Alternative 3: No-go Area

This alternative includes the assessment of the no development, no expansion option, where the status quo is maintained. While this option eliminates any negative environmental impacts, it also prevents the farm from the planned expansion and production increase, which could limit the business growth and long-term viability. The applicant has identified the need for the expansion in response to market demand.

Provide a motivation for the preferred design or layout alternative.

Alternative 2 (Preferred)

The selection of Alternative 2 as the preferred design or layout alternative for the expansion of the Abalone Farm is grounded in a comprehensive assessment of the ecological and social impacts associated with the proposed development. This alternative was chosen to mitigate potential negative effects on the environment, particularly concerning the natural vegetation and sensitive ecological areas as identified in the specialist assessments and EAP site sensitivity verification procedures.

A key factor in the decision-making process was the evaluation of the impacts on natural vegetation, including milkwood trees, limestone outcrops, and vygie plants. These elements are significant not only for their ecological value but also for their role in the local biodiversity. By situating the expansion activities within an area that avoids these sensitive zones, Alternative 2 ensures that the farm's expansion does not encroach upon or disrupt these critical habitats.

The visual impact assessment conducted as part of the environmental evaluation process also played a crucial role in the selection of Alternative 2. This assessment determined that the proposed location for the solar arrays will not adversely affect public areas, thereby avoiding potential aesthetic and social issues associated with visual impact. Ensuring that the solar installations are inconspicuous minimizes concerns from nearby communities and aligns with sustainable development practices by not compromising the landscape's natural beauty.

Moreover, Alternative 2 addresses the significant environmental and social concerns identified in the evaluation of Alternative 1, which proposed development in a highly ecologically sensitive area within Critical Biodiversity Area 1 (CBA1). The potential removal of indigenous vegetation and the visibility of the solar arrays in public areas made Alternative 1 less favourable. In contrast, Alternative 2 aligns more closely with environmental stewardship principles by preserving critical habitats and minimizing ecological disruption.

In conclusion, the choice of Alternative 2 reflects a balanced approach that prioritizes sustainable development while minimizing environmental impact. This decision supports the project's objectives by ensuring that the expansion aligns with ecological conservation goals and adheres to best practices in environmental management. The preferred layout not only facilitates operational efficiency but also ensures that the expansion project proceeds with minimal adverse effects on the natural environment and local communities.

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

N/A

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

Alternative 1

Positive impacts

→ Reduced impact on existing farm resources due to connection with existing production area.
→ Integration of solar energy (positive long-term impact on reducing reliance on fossil fuels).
→ Job creation for the local communities

Negative impacts

→ Loss of a highly sensitive area in the northeastern section of the site due to complete clearance of vegetation for phase 2 production platform development.
→ Encroachment of the Solar Array on CBA1 and Its Visual Impact on the adjacent residential area.

Alternative 2 (Preferred)

Positive Impacts

→ Reduced impact on existing farm resources due to connection with existing production area.
→ Potential for less vegetation clearance compared to Alternative 1 (depending on specific layout details).
→ Integration of solar energy (positive long-term impact on reducing reliance on fossil fuels).
→ Job creation for the local communities.

Negative Impacts:

→ Some level of vegetation removal and habitat disturbance is likely during construction, even with the preferred design. Mitigation measures are necessary.

Alternative 3 (No-Go)

Positive Impacts

→ No environmental impact as the status quo remains (no construction or development).

Negative Impacts:

→ Lost opportunity for economic development and job creation.

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:

The proposed development will also include the installation of the solar arrays that will be used as the alternative source of power generation to continue operations of the farm during power cuts and high tariff periods. The development of the seawater reservoir to allow for seawater to be gravity fed as opposed to pumped, will also reduce the pumping demand and associated cost thereof. The cost of constantly pumping seawater onto the farm is by the far the highest cost on Abalone Farm and therefore it is a priority for farms to look into cost saving mechanisms particularly around electricity costs.

Provide a description of any other technology alternatives investigated.

N/A

Provide a motivation for the preferred technology alternative.

Solar arrays provide a dependable source of backup power, ensuring operational continuity during potential grid outages.

Provide a detailed motivation if no alternatives exist.

N/A

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

Positive impacts

→ Renewable energy source will have a positive impact on the environment and play an important role in maintaining the sustainable development goals.

Negative impacts

→

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

~~Provide a description of the preferred operational alternative.~~

~~N/A~~

~~Provide a description of any other operational alternatives investigated.~~

~~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.

Choosing the 'No-Go' option, which entails maintaining the current state and decommissioning development, is not the preferred alternative in this scenario. This choice is less favourable because it prevents progress of the farm and potential opportunities for growth and improvement and fails to address issues.

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

The expansion of the abalone farm is limited by existing operations and specific requirements for operations, therefore only layout alternatives as described in Alternative 1 and 2 are assessed, along with the no development option.

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

The preferred alternative for the proposed expansion of the abalone farm is Alternative 2. This choice has been made after careful consideration of the environmental impact, particularly with respect to botanically sensitive areas on the site. The expansion is planned within the existing abalone farm on Portion 2 of Farm 711, a location deemed optimal for minimizing additional impacts on the sensitive botanical areas that are already influenced by daily farm operations.

By selecting this site, the project effectively avoids the total loss of approximately 1.7 ha of indigenous vegetation within the Critical Biodiversity Area 1 (CBA1), a potential impact associated with Alternative 1. This consideration is crucial in maintaining the ecological integrity of the region, as CBA1 areas are typically of high environmental value. The proposed location for the solar arrays within Alternative 2 has also been deemed suitable, as it ensures minimal visual impact on the adjacent residential area and involves only the necessary brush cutting of vegetation. This approach not only mitigates visual and environmental impacts but also adheres to sustainable development practices.

Moreover, other areas within the farm are unsuitable for development due to the presence of limestone, milkwood thicket, and vygie distribution, further justifying the selection of this location. Given these constraints and the environmental factors considered, no other reasonable or feasible alternatives exist beyond those evaluated. This underscores that the chosen alternative not only supports the expansion objectives but also aligns with overarching environmental management goals.

In addition to the ecological constraints listed above, the alternatives for the proposed expansion are limited by the existing operational activities on site. The expansion activities need to tie into existing operations on site, and link to water sources and pipelines. The grow out platforms need to be located in a systematic way to allow for best operational procedures to take place – this can relate to pipelines and water flow, shifting of animals through the farm as they grow, general performance of staff on site, elevation (to allow for gravity feed of water where possible), feeding routing, access to existing services etc. This, together with the ecological constraints, have resulted in limited options for alternative locations, designs and assessment thereof.

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 identified during specialists' assessments.

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

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

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

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

Nature/ Type

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

Significance

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

Impact Magnitude	
Extent	**On site** – impacts that are limited to the boundaries of the development site.
	Local – impacts that affect an area in a radius of 20 km around the Development site.
	Regional – impacts that affect regionally important environmental resources or are experienced at a regional scale as determined by administrative boundaries, habitat type/ecosystem.

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

Likelihood- the likelihood that an impact will occur

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

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

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

Definition of significance:

Negligible	An impact of negligible significance (or an insignificant impact) is where a resource or receptor (including people) will not be affected in any way by a particular activity, or the predicted effect is deemed to be 'negligible'.
Minor	An impact of minor significance is one where an effect will be experienced, but the impact magnitude is small (with and without mitigation) and within accepted standards, and/or the receptor is of low sensitivity/value.
Moderate	

	An impact of moderate significance is one within accepted limits and standards. The emphasis for moderate impacts is on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable. This does not necessarily mean that 'moderate' impacts have to be reduced to 'minor' impacts, but that moderate impacts are managed effectively and efficiently.
Major	An impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued / sensitive resource / receptors. A goal of the EIA process is to get to a position where the Project does not have any major residual impacts.

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

Significance colour scale (if applicable):

Negative	Positive
Negligible	Negligible
Minor	Minor
Moderate	Moderate
Major	Major

Impact rating colour scale:

Negative	Positive
Negligible	Negligible
Low	Low
Medium	Medium
High	High

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

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

ALTERNATIVE 1

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**1. Vegetation removal**
Potential impact and risk:	Removal of the Overberg Dune Strandveld (En) on the Northwest of the site, which includes the CBA area of terrestrial during the construction phase for the installation of the solar arrays. Loss of endangered species of vegetation including the section of the CBA.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Removal contributes to regional loss
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	-Search and rescue required -Fencing off of construction zones -Appointment of ECO for construction phase -Pipelines to be installed below ground on dunes, soil stockpiled for rehabilitation -Natural corridors to be implemented to retain connectivity - Amend layout to avoid CBA
Residual impacts:	Loss of endangered vegetation
Cumulative impact post mitigation:	Loss of vegetation contributing to retain connectivity
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**2. Socio-economic**
Potential impact and risk:	Job creation (+) Traffic as a result Impacts of large vehicles accessing the site (-)
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)

Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**3. Visual**
Potential impact and risk:	Visual impact of the construction activities
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium

Proposed mitigation:	-Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account - Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. -Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach	
Residual impacts:	The solar installations visible to the public and residents of the nearby settlement, raising concerns about visual impact and aesthetic harmony	
Cumulative impact post mitigation:	Low - coastal expansion development in the area.	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**	**Medium negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**4. Heritage Impact**
Potential impact and risk:	→ **Archaeology-** potentially important shell midden deposited (in the proposed intake pipeline), and Later Stone Age campsite may be uncovered during vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile. → Unmarked Khoisan burials may also be uncovered during construction phase excavations. → **Palaeontology-** potential loss of scientifically valuable fossil bones of the terrestrial animals.
Nature of impact:	Negative (disturbance/ loss of resources) Positive (discovery)
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Risk of destroying potential scientifically valuable fossil bones of terrestrial animals as well as sites already found.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low- Medium
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Possible loss of resources Possible significant findings
Cumulative impact prior to mitigation:	Disturbance and/ or loss of potentially significant archaeological and palaeontological sites.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-) Disturbance or loss of site Medium (+) Possible discovery of the information
Degree to which the impact can be avoided:	High through correct monitoring of construction works
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found

	→ If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
Residual impacts:	→ Potential loss of cultural resources (-) → Potential significant findings (+).
Cumulative impact post mitigation:	→ Reduce potential for archaeological and palaeontological sites
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
Impact	**5. Increase intake and effluent discharge of seawater**
Potential impact and risk:	Trapping and harming of the marine organisms, including fish larvae, plankton, and other small species during intake of seawater
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Medium-High
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Medium- ecological impacts and disturbance of sensitive areas during the construction phase.
Cumulative impact prior to mitigation:	Low- degradation of coastal zone during the operational activities.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications.

	→ Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Cultivate marine algae in paddle ponds downstream of grow-out facilities to contribute to bioremediation of the effluent stream prior to release. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	Local biodiversity loss and disrupt marine food chains.
Cumulative impact post mitigation:	local biodiversity loss and disrupt marine food chains.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative

POST-CONSTRUCTION PHASE

Impact	**1. Socio-economic**
Potential impact and risk:	Job creation, staff support group through education programmes and community projects
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**	
POST-CONSTRUCTION PHASE		
Impact	**2. Visual**	
Potential impact and risk:	Visual impact of the expansion of facilities on the landscape	
Nature of impact:	Negative	
Extent and duration of impact:	Local; long-term	
Consequence of impact or risk:	Medium	
Probability of occurrence:	Probable	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	Low	
Indirect impacts:	Medium	
Cumulative impact prior to mitigation:	Little or no other commercial or industrial development	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.	
Degree to which the impact can be avoided:	Low	
Degree to which the impact can be managed:	Medium	
Degree to which the impact can be mitigated:	Medium	
Proposed mitigation:	→ Keep general outdoor lighting as unobtrusive as possible through use of low-level bollard type lights, where needed, such as parking areas and footpaths. → Use discrete external signage and avoid commercial advertising or billboard-type signs - Fix signs to buildings or walls, if possible, to avoid the visual clutter of signposts.	
Residual impacts:	Large extent of the abalone tanks on the urban edge Solar arrays	
Cumulative impact post mitigation:	Low	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**	**Medium negative**
POST-CONSTRUCTION PHASE		
Impact	**3. Increased volume of effluent water discharge**	
Potential impact and risk:	Increased volume of operational discharge of the effluent seawater back into the marine environment, risks of causing eutrophication and increases in suspended solids.	
Nature of impact:	Negative	
Extent and duration of impact:	Local; long-term (operations)	
Consequence of impact or risk:	Medium	
Probability of occurrence:	Unlikely	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	High	
Indirect impacts:	Medium- ecological impacts and disturbance of sensitive areas during the operational phase.	
Cumulative impact prior to mitigation:	Low- degradation of coastal zone during the operational activities.	

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Moderate (medium)
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of General Discharge Authorisation (GDA). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the GDA specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	→ Low- provided that the management is effective- degradation of the coastal zone overtime.
Cumulative impact post mitigation:	More intake and more discharge and leading to risks of eutrophication and suspended solids.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	N/A
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	-
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	-
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-

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

ALTERNATIVE 2 (PREFERRED)

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**1. Vegetation removal**
Potential impact and risk:	Removal of the Overberg Dune Strandveld (En) vegetation.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Removal contributes to regional loss of endangered vegetation
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	High
Degree to which the impact can be reversed:	Low
Indirect impacts:	
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low on the southern side of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter. → All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*). → Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar. → No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below

	300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby. → -
Residual impacts:	Loss of high ecological sensitive areas
Cumulative impact post mitigation:	Loss of vegetation contributing to retain connectivity
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium negative**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**2. Visual**
Potential impact and risk:	Visual impact of the construction activities
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account → Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. → Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach
Residual impacts:	The solar installations visible to the public and residents of the nearby settlement, raising concerns about visual impact and aesthetic harmony
Cumulative impact post mitigation:	Low - coastal expansion development in the area.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Impact	**3. Blasting of a bedrock**
Potential impact and risk:	Blasting of bedrock is required along the high-water mark for the expansion of the pumphouse.
Nature of impact:	Negative
Extent and duration of impact:	Local: short term

Consequence of impact or risk:	Temporary noise impacts to humans as well as marine fauna, blasting dust may also be experienced
Probability of occurrence:	Definite – if blasting is undertaken
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Marine noise, short-term dust and noise
Cumulative impact prior to mitigation:	Contributes towards general marine noise
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ A survey should be done of the proposed line prior to blasting (and construction) and any sedentary animals should be removed from the site. To be repeated as required → Nonexplosive rock breaking explosive (Nonex) to be used to avoid impacting any potential nearby marine mammals, sharks and fish → Undertake visual observation / pre-blast survey prior to blasting to ensure there are no marine mammals and flocks of diving seabirds present in the immediate vicinity (500 m radius) of the construction area
Residual impacts:	Marine dust may be experienced temporarily
Cumulative impact post mitigation:	Marine / underwater noise, short term dust in water column for underwater blasting.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**4. Socio-economic**
Potential impact and risk:	Job creation (+) Traffic as a result Impacts of large vehicles accessing the site (-)
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High

Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**5. Visual impacts**
Potential impact and risk:	Visual impact of the construction activities
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (construction phase)
Consequence of impact or risk:	Low
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Degree to which the impact can be reversed:	Low
Indirect impacts:	Ribbon development along the CBA area.
Cumulative impact prior to mitigation:	Removal contributes to regional loss of the vegetation type.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	-Locate large structures in low-lying positions of the site, where possible, and minimize earthworks and disturbance to the site by taking the topography into account - Locate the solar PV arrays in a low-lying area, off any dune ridges, and in sympathy with the topography. -Locate the construction camp and related storage/stockpile areas in visually unobtrusive positions on the site, where these are not visible from the beach
Residual impacts:	Large extent of the abalone tanks on the urban edge Solar arrays
Cumulative impact post mitigation:	Low - coastal expansion development in the area.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**6. Archaeological impacts**
Potential impact and risk:	Potentially important shell midden deposited (in the proposed intake pipeline), and Later Stone Age campsite may be uncovered during vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile.

Nature of impact:	Negative (disturbance/ loss of resources) Positive (discovery)
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Risk of destroying potential scientifically valuable fossil bones of terrestrial animals as well as sites already found.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low- Medium
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Possible loss of resources Possible significant findings
Cumulative impact prior to mitigation:	Disturbance and/ or loss of potentially significant archaeological and palaeontological sites.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-) Disturbance or loss of site Medium (+) Possible discovery of the information
Degree to which the impact can be avoided:	High through correct monitoring of construction works
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Possible
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found → If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations
Residual impacts:	→ Potential loss of cultural resources (-) → Potential significant findings (+).
Cumulative impact post mitigation:	→ Reduce potential for archaeological and palaeontological sites
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**

PLANNING, DESIGN AND DEVELOPMENT PHASE

Impact	**7. Palaeontological impacts**
Potential impact and risk:	The excavation of a trench for placement of the pipelines may intersect the underlying Waenhuiskrans Formation that potentially have fossil bones. The excavation depths of earthworks entailed in creating level areas for the aquaculture tanks and dam would be about the same, i.e. up to 2-3 m and that the earthworks will mainly affect the Qg coversands, but may intersect the underlying, older Waenhuiskrans Fm. aeolianites where the coversands are thin.
Nature of impact:	Negative

Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	The earthworks may intersect the underling formations
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Positive impacts: potential discovery of fossil bones
Cumulative impact prior to mitigation:	Medium
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
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:	High
Proposed mitigation:	→ Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist. → Vegetation clearance in foredunes to be monitored by archaeologist – shovel testing may be required if sites are found → If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist. → A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
Residual impacts:	Positive: Discovery of new fossil bones uncovered during excavation.
Cumulative impact post mitigation:	Positive: Discovery of new fossil bones uncovered during excavation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative

ALTERNATIVE 2 (PREFERRED)	
POST-CONSTRUCTION PHASE	
Impact	**1. Socio-economic**

Potential impact and risk:	Job creation, staff support group through education programmes and community projects
Nature of impact:	Job creation; Positive Traffic; negative (-)
Extent and duration of impact:	Local; short-term (construction phase)
Consequence of impact or risk:	Job creation (+) Impacts on large construction vehicles accessing site (-) risk of damage to roads and loss of loads.
Probability of occurrence:	Job creation: Definite Traffic; Possible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Impact on public roads users
Cumulative impact prior to mitigation:	Cumulative impacts on roads and public users
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+) Medium (-)
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Employ locally as far as possible → Ensure loads are secured to prevent loss of loads in public roads.
Residual impacts:	→ Employment opportunities during the construction phase → Impact to public roads
Cumulative impact post mitigation:	→ Minor traffic impacts → Job creation
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High positive**
POST-CONSTRUCTION PHASE	
Impact	**2. Visual**
Potential impact and risk:	Visual impact of the expansion of facilities on the landscape
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Medium
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Low
Indirect impacts:	Medium
Cumulative impact prior to mitigation:	Little or no other commercial or industrial development
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium to high on the northwest of the site.
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium

Proposed mitigation:	→ Keep general outdoor lighting as unobtrusive as possible through use of low-level bollard type lights, where needed, such as parking areas and footpaths. → Use discrete external signage and avoid commercial advertising or billboard-type signs - Fix signs to buildings or walls, if possible, to avoid the visual clutter of signposts.
Residual impacts:	Solar arrays will not be visible to the residential area adjacent to the farm
Cumulative impact post mitigation:	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
POST-CONSTRUCTION PHASE	
Impact	**3. Increased volume of effluent water discharge**
Potential impact and risk:	Increased volume of operational discharge of the effluent seawater back into the marine environment, risks of causing eutrophication and increases in suspended solids.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term (operations)
Consequence of impact or risk:	Medium
Probability of occurrence:	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	High
Indirect impacts:	Medium- ecological impacts and disturbance of sensitive areas during the operational phase.
Cumulative impact prior to mitigation:	Low- degradation of coastal zone during the operational activities.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Moderate (medium)
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	→ Low- provided that the management is effective- degradation of the coastal zone overtime.

Cumulative impact post mitigation:	→ Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low negative**
POST-CONSTRUCTION PHASE	
Impact	**4. Intake and effluent discharge of seawater**
Potential impact and risk:	Trapping and harming marine organisms during the intake which could lead to fatality of those organisms.
Nature of impact:	Negative
Extent and duration of impact:	Local; long-term
Consequence of impact or risk:	Low
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Medium
Indirect impacts:	Medium- local marine ecosystem species loss
Cumulative impact prior to mitigation:	Low- local marine ecosystem species loss
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be avoided:	Low, unavoidable
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	High, effective management and mitigation measures can be implemented to reduce the impacts.
Proposed mitigation:	→ Adhere to requirements of Coastal Waters Discharge Permit (CWDP). → Monitor effluent water quality leaving the facility and ensure it complies with relevant aquaculture guidelines (AAD 2010). → Parameters to be monitored and frequency of monitoring to comply with the CWDP specifications. → Ensure appropriate management of feeding regime to prevent wasteful and excessive accumulation of feed in tanks which will increase dissolved nutrient levels in effluent water. → Farm management practices must ensure regular cleaning of tanks to prevent excess build-up of particulates in grow-out facilities which would lead high levels peaks of particulate outputs during sporadic flushing. → Maintain effluent sump and discharge pipeline and screens in good working order
Residual impacts:	local marine ecosystem species loss
Cumulative impact post mitigation:	local marine ecosystem species loss

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

DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	N/A
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	-
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	-
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

NO-GO
Status Quo remains

The No Development option means that no expansion of the Abalone Farm takes place. As a result, no benefits and positive impacts associated with the proposed expansion will be realised. The Abalone Farm will not be a position to compete with international markets. In addition, no options for alternative electricity generation can be added to supplement existing and any future expansion. The No Go option however will not trigger the need to disturb indigenous vegetation alongside the existing farm or the need for works within the high water mark of the sea to expand the pump house and water lines.

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.

The Romansbaai Abalone Farm expansion application aims to increase the production volume of abalone on the site. Specialist assessments including Terrestrial Biodiversity Assessment, Heritage Impact Assessment; Archaeological and Palaeontological Impacts Assessment, and Visual Impact Assessment were conducted to determine the impact of the proposed expansion application on the ecological and socio-economic environment. The findings from these assessments suggest that the proposed development would not lead to significant impacts on the site. No substantial impacts or mitigation measures have been identified. The expansion activities will take place directly alongside the existing Abalone Farm and tie into the existing infrastructure. With the aim to increase the production output by 300 Tons, more water and electricity will however be required. This will be accommodated by the expansion of the pumphouse, addition for four pumps and pipelines, the development of 2 additional grow-out platforms and the installation of a seawater holding reservoir and ground mounted solar array to supplement the expansion and reduce the cost of pumping sea water on a continual basis.

Terrestrial Biodiversity Assessment

At least five plant **Species of Conservation Concern** (SoCC) were recorded on site, with distribution as per Table 1. All have substantial and viable populations on the greater property, but their distribution and abundance varies from footprint to footprint. There is a moderate likelihood of one or two other SoCC being present on the various footprints. Rare local endemic species such as *Cliffortia anthospermoides* (Endangered) do not appear to be present on site, and were actively searched for. *Erica irregularis* (Endangered) does not occur south of Gansbaai, although it is common at Grootbos. *Dasispermum grandicarpum* is an inconspicuous, low herb that grows annually from a rootstock (especially now, early in the season), and was until recently known only from Grootbos NR, but has now been recorded from Stanford to Gansbaai (pers. obs.). The species is Redlisted as Data Deficient, but it was not seen in the study areas.

Athanasia quinquedenta ssp. rigens is a shrub Redlisted as Vulnerable and occurs in coastal sands over limestone from Gansbaai to Stilbaai. Scattered plants occur in three of the study areas.

Agathosma geniculata is a shrub Redlisted as Near Threatened and occurs in coastal sands from De Kelders to Arniston. The species is common on three of the study areas.

Muraltia pappeana is a shrub Redlisted as Near Threatened and occurs in coastal sands from De Kelders to Riversdale. The species is common throughout most of the study areas.

Cyanchum zeyheri (not flowering, provisional id) is a creeping shrub Redlisted as Vulnerable, and occurs in coastal sands and rocky areas from Saldanha to Agulhas and is probably very overlooked. Scattered plants occur in three of the study areas.

Lampranthus fergusoniae is a vygie Redlisted as Vulnerable and is found from Kleinmond to Knysna on coastal sands. Scattered plants occur in three of the study areas.

The botanical sensitivity of the site is as shown in Figure 3. Two patches of High sensitivity have been mapped, which are mainly in the proposed PV area and the new dam footprint. Most of Phase 1 facility area is of Low sensitivity, and most of the Phase 2 facility area is of Medium sensitivity.

Archaeological Impacts Assessment

A field assessment was conducted by Agency for Cultural Resource Management (ACRM) on 31 January 2024, in which the following observations were made:

A few thin, dispersed scatters of fragmented marine shellfish (mostly *Turbo sarmaticus/alikreukel*, some *limpet & Haliotis/perlemoen*), and a few quartz and quartzite chunks and flakes were recorded in the route of the proposed seawater intake pipeline (an existing servitude). The resources occur in a severely degraded context.

No grindstones, formal tools, pottery, ostrich eggshell or any other organic remains were found along the ± 400m long proposed pipeline.

No archaeological resources were encountered in the footprint area of the proposed solar plant, the proposed grow out tanks, and the proposed seawater storage dam, which is set back about 400m from the rocky shoreline.

Potentially important shell midden deposits (in the proposed seawater intake pipeline), and Later Stone Age campsites (in the proposed solar plant, grow out tanks & storage dam) may be uncovered vegetation clearing operations, and construction phase excavations, including cut and fill, landscaping, and shaping of the dune profile.

Unmarked Khoisan burials may also be uncovered during construction phase excavations

Grading of archaeological resources

The archaeological resources in the proposed pipeline route have been graded as having Low (Grade 3C) archaeological significance.

Visual Impact Assessment

Findings suggest that the Danger Point Peninsula plays a crucial role in providing shelter and resources for the community, which is essential for their livelihood and well-being. An evaluation of the of the potential receptors confirmed that the Romansbaai Abalone farm is situated in a depression which screens the facility from the surrounding area. This, however, suggests that the overall visual impact is thus low and the heritage landscape will not be altered through the expansion of the facility. Also, the specialist suggested that due to the overall impact rating that is low, this implies that there are no mitigation measures that are deemed necessary.

The findings and recommendations from these specialist assessments have influenced the proposed development by indicating that it can proceed without significant adverse impacts on the site. This likely means that the expansion plans can move forward with fewer mitigation measures, reducing potential delays or expenses associated with extensive mitigation efforts. Additionally, the recognition of the importance of the Danger Point Peninsula to the community's livelihood underscores the need for careful consideration of any visual impacts to ensure minimal disruption to local resources and well-being.

Palaeontology Impact Assessment

The installation of a Solar Energy Facility involves shallow excavations for cabling. It is assumed that the depths of earthworks entailed in creating level areas for the aquaculture tanks and dam would be up to 2-3m. Earthworks will mainly affect the Qg dune coversands, but may intersect the underlying, older Waenhuiskrans Fm. aeolianites where the coversands are thin. Fossil bones are overall sparse in the Qg coversands and those which may be discovered are expected to be of latest Quaternary age and mainly to be species of extant fauna.

The fossil bones that may occur in the Waenhuiskrans Fm. are, like the later coversands, also mainly comprised of representatives of extant fauna, but unexpected species of a different fauna are more likely to occur, as a result of phases of different ecological and palaeoclimatic conditions in the past, as well as the bones of some species which became extinct in the geologically recent past.

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

The impact management measures identified by the specialists for inclusion in the Environmental Management Plan (EMPr) for the proposed abalone farm expansion are as follows:

Terrestrial Biodiversity Assessment

- Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter.
- All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*).

- Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.
- No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

Heritage Impact Assessment (VIA/AIA&PIA)

- No archaeological mitigation is required prior to construction phase excavations commencing.
- Vegetation clearing and Construction Phase excavations must be monitored by a professional archaeologist.
- If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist.
- A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
- Regarding the Cultural and Heritage Landscape, `no mitigation measures are deemed necessary' (Lategan 2024).

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

N/A

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

Romansbaai Abalone Farm is a significant job provider for the local community in Gansbaai. The proposed development is expected to have a positive impact on the surrounding communities in several ways. Firstly, it will create job opportunities for local residents, thereby enhancing employment prospects and contributing to livelihood improvement. This infusion of employment opportunities can lead to greater economic growth within the community, as individuals gain stable incomes and spending power. Additionally, with more residents engaged in formal employment, there may be a reduction in crime levels due to increased economic stability and decreased desperation for illegal means of income. Overall, the development has the potential to foster a more prosperous and secure environment for the surrounding communities, characterized by improved economic conditions and lower crime rates.

No significant negative impacts are expected as a result of the expansion application, as the activities will be in line with what is already taking place on the farm. There will be no significant changes in day to day operations.

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

N/A

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

None that the EAP is aware of.

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

Extract from Terrestrial Biodiversity Assessment

- About 14ha of the 50ha property surveyed is of High botanical sensitivity, and the underlying vegetation type (Overberg Dune Strandveld) is gazetted as Endangered on a national basis. Approximately 40% of this High sensitivity area will be lost or disturbed by the proposed development.

- At least five plant Species of Conservation Concern (SoCC) were recorded in four of the five footprint areas, but viable populations of all SoCC will remain on undeveloped parts of the property, and most of them should survive in the PV area if the vegetation in this area is brushcut to about 1m tall.
- The only mapped CBA1 that will be impacted by the proposed development is in the PV area, and it will thus not be totally lost, as most of the species in this area should survive, even if partly shaded by panels, and ecological connectivity through the PV area will remain.
- Loss of vegetation in the Phase 1 & 2 and dam areas will be total, with the dam area being the most significant (highest density of SoCC of the three total loss areas).
- Combined construction and operation phase botanical impacts are Medium negative or less for all development areas, expect for the dam area, where it is Medium to High negative. The proposed mitigation is relatively minor, and will not substantially lower these impacts.
- If any development on site is approved then all mitigation as outlined in Section 7 must be timeously and properly implemented.
- The No Go alternative would be the strongly preferred alternative from a botanical perspective, with a Neutral impact.
- This level of botanical impact does potentially trigger a biodiversity offset requirement (Department of Forestry, Fisheries & the Environment. 2023). However, given that the vegetation type is relatively well conserved (100% of national target already set aside) – at least on paper – no further land additions to the conservation of Overberg Dune Strandveld are advised, especially given CapeNature's management constraints. Given that even the formally conserved areas of this vegetation type are under severe threat from alien invasive vegetation, such as in the nearby Walker Bay Nature Reserve (CapeNature). Thus it is suggested that any biodiversity offset be in the form of funding for alien invasive plant management in these already declared but poorly managed conservation areas. A biodiversity offset specialist should calculate the appropriate quantum of the contribution, and this should ideally be enough to fund alien clearing operations in at least a 100ha area in perpetuity (based on approx. 10ha footprint, at an offset ratio of 10:1 for Endangered habitats, as per offset guidelines, Department of Forestry, Fisheries & the Environment 2023).

Heritage Impact Assessment

Indications are that the proposed expansion of the Romansbaai Aquinion Abalone Farm on Portion 2 of Farm No. 711 near Gansbaai does not pose a significant threat to local Stone Age archaeological heritage resources. Shell midden deposits, and unmarked Khoisan burials, may however, be uncovered or exposed during construction phase excavations.

According to Pether (2024), any fossils heritage is likely to be encountered in an archaeological context and could be of high archaeological significance.

According to Lategan (2024:38), although most, of the identified receptors are sensitive to visual change of the experiential landscape, the overall impacts are low due to the high absorption level of the landscape and the low vertical extend of the infrastructure. Solar arrays have the potential to create a glare effect which can amplify the visual impact, but due to the screening of the ridge to the north, the glare is effectively screened from the receptors**.**

Recommendations:

- No archaeological mitigation is required prior to construction phase excavations commencing.
- Vegetation clearing and construction phase excavations must be monitored by a professional archaeologist.
- If any human remains are uncovered or exposed during excavations, work must stop, and the finds reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be removed or disturbed until inspected by the archaeologist.
- A protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), must be included in the Environmental Management Plan (EMP) for the proposed development. The Fossil Finds Procedure provides guidelines to be followed in the event of fossil bone finds in the excavations.
- Regarding the Cultural and Heritage Landscape, `no mitigation measures are deemed necessary' (Lategan 2024).

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

The mitigation hierarchy has been rigorously applied to identify and implement the Best Practicable Environmental Option (BPEO) for the proposed expansion of the Romansbaai Abalone Farm. This approach ensures that environmental impacts are minimized and managed in a structured and effective manner. The hierarchy consists of four sequential steps: Avoid, Minimize, Remediate, and Compensate.

Figure 16: Mitigation Hierarchy (holcim.com 2024)

Avoidance

The first step in the mitigation hierarchy is to avoid impacts wherever possible. During the planning and design phases, efforts were made to avoid high-sensitivity areas identified in the Terrestrial Biodiversity Assessment. For instance, Alternative Layout 2 was selected to minimize impacts on Critical Biodiversity Area 1 (CBA1) and other ecologically sensitive zones. This decision was informed by the understanding that avoiding impacts upfront is often the most effective strategy for environmental protection.

Minimization

Where complete avoidance is not feasible, the next step is to minimize impacts. Various measures have been incorporated into the project design to minimize ecological disturbance. For example, the placement of solar arrays was carefully evaluated to minimize visual impacts on the landscape, with consideration given to natural screening from the north-facing ridge. Additionally, vegetation clearing in the PV area will be limited to brush cutting to a height of 1 meter to preserve plant Species of Conservation Concern (SoCC).

Remediation

Remediation measures are planned to mitigate any unavoidable impacts that may arise during construction and operation. For instance, if shell middens or unmarked Khoisan burials are uncovered during excavation, protocols are in place to ensure proper archaeological management and potentially relocate such findings to protect them from harm. The same goes for the natural vegetation found on site, the mitigation measures employed by the terrestrial biodiversity specialist ensured that any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter. All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia*

cyclops) and manitoka (*Myoporum serratum* and *M tenuifolium*). Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar. No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

Compensation

Finally, where residual impacts remain after avoidance, minimization, and remediation efforts, compensation measures are proposed. This level of botanical impact does potentially trigger a biodiversity offset requirement (Department of Forestry, Fisheries & the Environment. 2023). However, given that the vegetation type is relatively well conserved (100% of national target already set aside) – at least on paper – no further land additions to the conservation of Overberg Dune Strandveld are advised, especially given CapeNature's management constraints. Given that even the formally conserved areas of this vegetation type are under severe threat from alien invasive vegetation, such as in the nearby Walker Bay Nature Reserve (CapeNature). Thus it is suggested that any biodiversity offset be in the form of funding for alien invasive plant management in these already declared but poorly managed conservation areas. A biodiversity offset specialist should calculate the appropriate quantum of the contribution, and this should ideally be enough to fund alien clearing operations in at least a 100ha area in perpetuity (based on approx. 10ha footprint, at an offset ratio of 10:1 for Endangered habitats, as per offset guidelines, Department of Forestry, Fisheries & the Environment 2023).

SECTION J: GENERAL

1. Environmental Impact Statement

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

Terrestrial Biodiversity Assessment

The study area, originally covered by Overberg Dune Strandveld (a Critically Endangered vegetation type), remains largely in good condition despite not being burnt for at least twenty years and experiencing light grazing and trampling by game. The site has a low density of invasive alien species and supports high structural diversity with a mix of indigenous shrubs, small trees, grasses, restios, and herbs. Significant indigenous species include *Searsia glauca, Euclea racemosa,* Helichrysum *niveum,* and *Brunsvigia orientalis*, among many others.

Five plant Species of Conservation Concern (SoCC) were recorded, including *Athanasia quinquedentata ssp. rigens (*Vulnerable), *Agathosma geniculata* (Near Threatened), *Muraltia pappeana* (Near Threatened), Cyanchum zeyheri (Vulnerable), and *Lampranthus fergusoniae* (Vulnerable). These species have viable populations within the study area, although the distribution and abundance vary.

Two patches of high botanical sensitivity were identified, primarily in the proposed photovoltaic (PV) area and the new dam footprint. Most of Phase 1 facility area is of low sensitivity, and most of Phase 2 is of medium sensitivity.

Construction Phase Botanical Impacts

The primary impact of construction would be the permanent loss of Low, Medium, and High sensitivity vegetation, affecting the site populations of the five recorded SoCC. Significant vegetation loss will occur in the two growing facilities and the new dam area. Temporary vegetation loss is expected in the PV area and pipeline, with most significant loss for larger woody species.

Loss of Critical Biodiversity Area (CBA) 1 is anticipated, leading to high negative ecological impacts due to the loss of irreplaceable habitat serving multiple ecological functions.

Operational Phase Botanical Impacts

Operational phase impacts include persistent loss of natural vegetation and high levels of ecological connectivity, leading to habitat fragmentation. There is also a risk of Argentine ant introduction, negatively impacting seed dispersal of indigenous plant species. The overall habitat fragmentation impact is deemed medium negative at the property scale.

Palaeontology Impact Assessment

The project area, covered by unconsolidated pale coversands (Qg), overlays the Waenhuiskrans Formation, which has high palaeontological sensitivity due to the potential presence of fossil bones. Excavations for the Solar Energy Facility and aquaculture tanks might intersect these formations, potentially uncovering fossils mainly of extant fauna from various ecological and palaeoclimatic phases. The impact is deemed to be low negative and thus mitigation measures should be undertaken in accordance to the specialist recommendations.

Archaeological Impact Assessment

Scattered, fragmented marine shellfish and a few quartz artifacts were found along the proposed seawater intake pipeline route, graded as having Low (Grade 3C) archaeological significance. No significant archaeological resources were found in the footprints of the proposed solar plant, grow-out tanks, and seawater storage dam. However, potentially important shell midden deposits and Later Stone Age campsites might be uncovered during construction. Therefore, the impacts are deemed to be low.

Visual Impact on Cultural Landscape

The expansion of the Romansbaai Aqunion Abalone Farm is deemed to have a low visual impact on the cultural heritage landscape due to the area's high visual absorption level and the facility's position in a depression that screens it from the surrounding area. No mitigation measures are necessary as the expansion will not significantly alter the heritage landscape.

1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)
	See attached under Appendix B.
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.

Positive impacts

- → Romansbaai Abalone Farm is a significant job provider for the local community of Gansbaai and surrounds the expansion is expected to create more job opportunities during both the construction and operational phases, thus providing economic benefits to the local community.
- → Additionally, increased production of abalone can contribute to economic growth by enhancing the farm's productivity and revenue generation.
- → The expansion will also facilitate educational programs related to aquaculture and marine conservation, fostering community engagement and knowledge sharing.
- → Moreover, incorporating green energy generation into the expansion plans can promote sustainability and reduce environmental impact. The use of gravity fed water during peak hours, will reduce the load on electrical supply.
- → Expansion on the existing farm and impacted areas would result in less environmental impacts as opposed to developing a new abalone farm on another property.

Negative impacts

- → Impacts on and loss of areas of high botanical sensitivity
- → Short terms impacts associated with the expansion of the pumphouse which is located within the littoral active zone. The areas surrounding the pumphouse where the expansion will take place is completely transformed so limited long-term impacts are expected.

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

The preferred Alternative layout for the proposed expansion of the Romansbaai Abalone Farm, provides for the best possible option given the constraints and basic requirements for the placement of the expansion activities. Although there will be loss of a range of low, medium and high sensitivity terrestrial areas, large portions of these areas are impacted by peripheral operations on the existing Abalone Farm. By using the site constraints identified by the EAP and specialist team, the most feasible option for the expansion has been found, with limited impacts anticipated.

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.

In order to ensure that the proposed expansion of the Romansbaai Abalone farm proceeds in an environmentally responsible and sustainable manner, several conditions, based on the findings from various specialist assessments, are recommended to be included in the project authorization. These conditions are designed to mitigate potential impacts and to ensure compliance with environmental management principles.

Terrestrial Biodiversity Assessment:

- → Any approved development footprints should be clearly demarcated on site prior to any development. No disturbance of natural vegetation outside of these demarcated areas should be allowed, either during construction or thereafter.
- → All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens *et al* 2021). The main invasive species are rooikrans (*Acacia cyclops)* and manitoka (*Myoporum serratum* and *M tenuifolium*).
- → Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.
- → No large scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below 300mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.

Visual Impact Assessment:

- → Large structures should be located in low-lying positions on the site to minimize visual impacts, taking into account the site's topography to reduce the extent of earthworks and site disturbance.
- → Solar photovoltaic (PV) arrays should be positioned in low-lying areas, away from dune ridges, and in harmony with the natural topography to reduce their visual footprint.
- → The construction camp and associated storage and stockpile areas should be situated in locations that are visually unobtrusive and not visible from the beach, to minimize the visual impact on the landscape.

Heritage Impacts Assessment:

- → Vegetation clearing and all construction phase excavations must be supervised by a professional archaeologist to ensure that any archaeological resources are identified and managed appropriately.
- → Archaeological monitoring should be conducted during vegetation clearance in foredunes, and shovel testing may be required if archaeological sites are discovered.
- → Should any human remains be uncovered during excavations, all work must cease immediately, and the findings must be reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be disturbed until inspected and managed by the archaeologist.
- → The Fossil Finds Procedure (FFP) must be included in the Environmental Management Plan (EMP) to provide guidelines for handling fossil finds during excavations.
- → According to the Cultural and Heritage Landscape assessment, no additional mitigation measures are deemed necessary (Lategan 2024).

Intake and Discharge of Seawater:

- → The project must comply with the requirements of the General Discharge Authorisation (GDA).
- → Effluent water quality leaving the facility must be monitored regularly to ensure compliance with relevant aquaculture guidelines and GDA requirements
- → Specific parameters for water quality monitoring and the frequency of monitoring must adhere to GDA specifications.
- → Farm management practices should be designed to avoid excessive accumulation of feed in tanks, thereby preventing high levels of dissolved nutrients in the effluent water.
- → Regular cleaning of tanks must be carried out to prevent the accumulation of particulates in the grow-out facilities, thus avoiding spikes in particulate outputs during sporadic flushing events.
- → The effluent sump, discharge pipeline, and screens must be maintained in good working order to ensure effective effluent management.

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.

After investigation by the EAP team, the recommendations contained in the specialist studies, and the proposed mitigation measures provided as well as the evolution to the most Preferred Alternative, it is recommended that the proposed activity must be authorized, with the implementation of the recommended mitigation measures. This conclusion is based on the evaluation of the visual, heritage, and ecological assessments conducted, which indicate that the project, if managed according to the recommended mitigation strategies, can proceed with minimal adverse environmental impact

Conditions of Authorisations:

- → All listed invasive alien plant species should be removed from the site within one year of any project authorisation, using approved methodology (see Martens et al 2021). The main invasive species are rooikrans (*Acacia cyclops*) and manitoka (*Myoporum serratum* and *M.tenuifolium*).
- → Search and Rescue of all translocatable bulbs (geophytes) should be undertaken from the approved development footprints for Phases 1 & 2 and the new dam prior to construction. This should be done at the end of the flowering season for the relevant species (ranges from April to October). Material should be translocated to other parts of the property where it will not be disturbed in future, and which is ecologically similar.
- → No large-scale soil disturbance or site clearing should happen in the proposed PV area, and instead vegetation can be trimmed to a maximum height of 1 m, maintaining the bulk of the plant cover, whilst allowing for the solar panels to be positioned at a minimum of 1 m above ground level. If the vegetation grows above the panels it may be trimmed on a regular basis, as needed, but should never be cut below 300 mm above the ground. Cut material can be used as mulch to stabilise and cover any loose sand nearby.
- → Archaeological monitoring should be conducted during vegetation clearance in foredunes, and shovel testing may be required if archaeological sites are discovered.
- → Should any human remains be uncovered during excavations, all work must cease immediately, and the findings must be reported to the Environmental Control Officer and the contracted archaeologist (Jonathan Kaplan 082 321 0172). Human remains must not be disturbed until inspected and managed by the archaeologist.
- → The Fossil Finds Procedure (FFP) must be included in the Environmental Management Plan (EMP) to provide guidelines for handling fossil finds during excavations.

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

N/A

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

Five years should be the EA period. While no further information can be provided at the time of the Draft BAR, the applicant would aim to commence with construction as soon as possible once the EA is granted.

3. Water

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

The proposed expansion will connect to the water networks provided by the Overstrand Municipality. Water will be reused and recycled where possible.

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.
Waste is collected weekly by the municipality and it is recycled on the dumping site.

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.
The development proposal incorporates a solar array as a key design measure to improve the farm's efficiency. This will provide an alternative power source and ensure continued operations during periods of loadshedding.	

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

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

I……, ID number ……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:

Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

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

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

mnaylor

02/10/2024

Signature of the EAP: Date:

LORNAY ENVIRONMENTAL CONSULTING PTY LTD

Name of company (if applicable):

DECLARATION OF THE REVIEW EAP

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

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

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE SPECIALIST

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

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

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

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

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

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

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

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE REVIEW SPECIALIST

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

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

Signature of the EAP: Date:

Name of company (if applicable):