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ENVIRONMENTAL CONSULTANCY
REGISTRATION NO. 1998/031976/23

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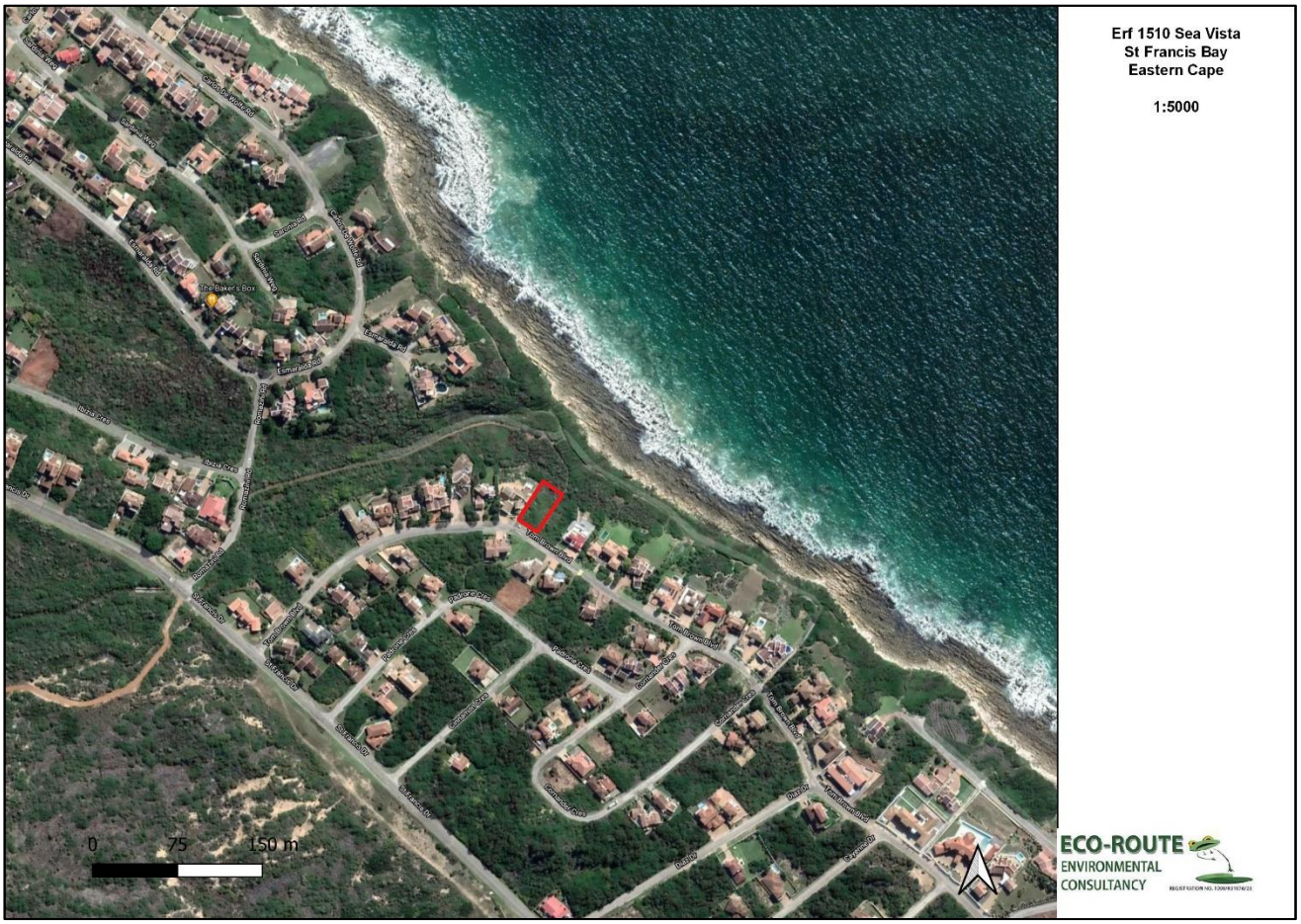
# The Proposed Construction of a Residential Dwelling on Erf 1510, St Francis Bay, Kouga Municipality, Eastern Cape

DEDEA REF: EC08/C/LN1&3/M/51-2022

## Draft Basic Assessment Report

## 30 Day Public Participation 21/10/2022 – 21/11/2022




**October 2022**

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Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT, ENVIRONMENTAL AFFAIRS & TOURISM

# BASIC ASSESSMENT REPORT

(For official use only)

| | |
|---|---|
| **File Reference Number:** | |
| **NEAS Number:** | |
| **Date Received:** | |

**Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014 as amended, promulgated in terms of the National Environmental Management Act, 1998(Act No. 107 of 1998), as amended.**

**Kindly note that:**

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 as amended and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable **tick** the boxes that are applicable or **black out** the boxes that are not applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
6. This report must be handed in at offices of the relevant competent authority as determined by each authority **unless indicated otherwise by the Department**.
7. No faxed or e-mailed reports will be accepted **unless indicated otherwise by the Department**.
8. The report must be compiled by an independent environmental assessment practitioner (EAP). The EAP must satisfy conditions 11 below.
9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

11.1 The Environmental Assessment Practitioner (EAP) must be registered in terms of S24H Regulations with the Registration Authority EAPASA as from 8 August 2022.

11.2. S24H (14) states that "only a person registered as an Environmental Assessment practitioner may perform tasks in connection with an application for an environmental authorisation contemplated in

(a)Chapter 5 of the Act read with the Environmental impact Assessment Regulations.

(b)Section 24G of the Act

(c) Chapter 5 of the National Environmental Management Waste Act 2008 (Act No 59 of 2008) read with the Environmental Impact Assessment Regulations

11.3. Tasks in regulation 14 may only be conducted by an EAP that is registered

11.4. Regulations 20 of S24H indicates the offences and penalties as indicated below:

"*20. Offences and penalties*

*(1) A person is guilty of an offence if that person-*

*(a) contravenes regulation 14 of the Regulations; or*

*(b) pretends to be a registered environmental assessment practitioner or registered candidate environmental assessment practitioner.*

*(2) A person convicted of an offence in terms of subregulation (1) is liable to the penalties contemplated in section 49B(3) of the Act.".*

*Section 49B(3) of the Act states:*

*"A person convicted of an offence in terms of section 49A(1)(h), (l), (m), (n), (o) or (p) is liable to a fine or to imprisonment for a period not exceeding one year, or to both a fine and such imprisonment.".*

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# SECTION A: ACTIVITY INFORMATION

| | | |
|---|---|---|
| Has a specialist been consulted to assist with the completion of this section? | | NO |

If YES, please complete form XX for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

## 1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail

**Location & Development Description:**

The proposed residential dwelling will be developed on Erf 1510 Sea Vista, a suburb of St Francis Bay, Eastern Cape (GPS coordinates: 34°10'42.20"S| 24°50'31.65"E).


Figure 1: Locality map of Erf 1510, Sea Vista, St Francis Bay (1:5000)

Erf 1510 is zoned for Residential use. The property is 815m$^2$ in extent and is currently vacant.
The dwelling footprint will be 320m$^2$ and is located in a coastal dune landscape just over 60m from the littoral zone. The proposed residential development will entail the construction of a three-storey (lower ground, ground and first floor) house, associated decking and paving for vehicular access.

Access to Erf 1510 is via Tom Brown Boulevard, which lies to the south of the property.

The residential dwelling will make use of municipal services.

**Terrestrial Biodiversity:**

The vegetation type present on the site is St Francis Dune Thicket vegetation which has been listed as "Least Concern" in terms of conservation status (SANBI, 2018b; Skowno et al., 2019). No CBA or ESAs are present.

**Coastal Management:**

The property occurs within 100m inland from the high-water mark of the sea and thus falls within the Coastal Protection Zone.

A climate change assessment was undertaken by the Department of Forestry, Fisheries, and the Environment (DFFE), Branch Oceans and Coasts. The assessment found that the proposed development site is in a location with no short-term erosion risk and mostly moderate long-term coastal erosion risk, and with no flooding risk.

## 2. FEASIBLE AND REASONABLE ALTERNATIVES

***"alternatives"***, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

**A) Property and site alternatives**

The preferred site/A1 is located at GPS co-ordinates: 34°10'42.20"S| 24°50'31.65"E. There are no other property or site alternatives being assessed as Erf 1510 is zoned for residential use and the applicant/landowner has the intention to utilise the property for a residential dwelling. Due to the slope of the site and existing access, the southern (uppermost) portion of the site is recommended for development.

**B) Activity alternatives**

There are no activity alternatives. The EIA was commissioned for the sole purpose of investigating the construction of a residential dwelling.

**C) Design or layout alternatives**

Due to severe site constraints and strict design guidelines to abide by in order to keep the aesthetic of the surrounding area/community; only one design layout has been considered.

**D) Technology alternatives**

The development will incorporate the use of solar panels and rainwater harvesting.

**E) Operational alternatives**

There are no operational alternatives. The EIA was commissioned for the sole purpose of investigating the construction of a residential dwelling. In addition, the property is zoned for residential development only.

**F) No-go option**

The no-go option would result in the status quo. This option is not feasible as this approach would deny the applicant his lawful right to develop a residential dwelling on this property.

**Paragraphs 3 – 13 below should be completed for each alternative.**

## 3. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.
List alternative sites if applicable.

| **Alternative:** | **Latitude (S):** | | **Longitude (E):** | |
|---|---|---|---|---|
| Alternative S1[1] (preferred or only site alternative) | 34° | 10.702‘ | 24° | 50.528‘ |
| Alternative S2 (if any) | ° | ‘ | ° | ‘ |
| Alternative S3 (if any) | ° | ‘ | ° | ‘ |

**In the case of linear activities:**

| **Alternative:** | **Latitude (S):** | | **Longitude (E):** | |
|---|---|---|---|---|
| Alternative S1 (preferred or only route alternative) | | | | |
| • Starting point of the activity | ° | ‘ | ° | ‘ |
| • Middle point of the activity | ° | ‘ | ° | ‘ |
| • End point of the activity | ° | ‘ | ° | ‘ |
| Alternative S2 (if any) | | | | |
| • Starting point of the activity | ° | ‘ | ° | ‘ |
| • Middle point of the activity | ° | ‘ | ° | ‘ |
| • End point of the activity | ° | ‘ | ° | ‘ |
| Alternative S3 (if any) | | | | |
| • Starting point of the activity | ° | ‘ | ° | ‘ |
| • Middle point of the activity | ° | ‘ | ° | ‘ |
| • End point of the activity | ° | ‘ | ° | ‘ |

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

## 4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

| **Alternative:** | **Size of the activity:** |
|---|---|
| Alternative A1[2] (preferred activity alternative) | 320m$^2$ |
| Alternative A2 (if any) | m$^2$ |
| Alternative A3 (if any) | m$^2$ |

[1] “Alternative S..” refer to site alternatives.
[2] “Alternative A..” refer to activity, process, technology or other alternatives.

or, for linear activities:

| **Alternative:** | **Length of the activity:** |
|---|---|
| Alternative A1 (preferred activity alternative) | m |
| Alternative A2 (if any) | m |
| Alternative A3 (if any) | m |

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

| **Alternative:** | **Size of the site/servitude:** |
|---|---|
| Alternative A1 (preferred activity alternative) | $m^2$ |
| Alternative A2 (if any) | $m^2$ |
| Alternative A3 (if any) | $m^2$ |

## 5. SITE ACCESS

| | |
|---|---|
| Does ready access to the site exist? | YES |
| If NO, what is the distance over which a new access road will be built | m |

Describe the type of access road planned:

| |
|---|
| n/a |

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

## 6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document. Attached as appendix A.

The site or route plans must indicate the following:

6.1 the scale of the plan which must be at least a scale of 1:500;

6.2 the property boundaries and numbers of all the properties within 50 metres of the site;

6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;

6.4 the exact position of each element of the application as well as any other structures on the site;

6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;

6.6 all trees and shrubs taller than 1.8 metres;

6.7 walls and fencing including details of the height and construction material;

6.8 servitudes indicating the purpose of the servitude;

6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):

- rivers;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or invested with alien species);

6.9 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and

6.10 the positions from where photographs of the site were taken.

## 7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this form**.** It must be supplemented with additional photographs of relevant features on the site, if applicable. Attached as appendix B.

## 8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity. Attached as appendix C.

## 9. ACTIVITY MOTIVATION

### 9(a) Socio-economic value of the activity

| | |
|---|---|
| What is the expected capital value of the activity on completion? | R8 000 000 |
| What is the expected yearly income that will be generated by or as a result of the activity? | n/a |
| Will the activity contribute to service infrastructure? | NO |
| Is the activity a public amenity? | NO |
| How many new employment opportunities will be created in the development phase of the activity? | Unknown at this stage |
| What is the expected value of the employment opportunities during the development phase? | Approx. R1 000 000 |
| What percentage of this will accrue to previously disadvantaged individuals? | 80% |

| | |
|---|---|
| How many permanent new employment opportunities will be created during the operational phase of the activity? | n/a |
| What is the expected current value of the employment opportunities during the first 10 years? | n/a |
| What percentage of this will accrue to previously disadvantaged individuals? | n/a |

**9(b) Need and desirability of the activity**

Motivate and explain the need and desirability of the activity (including demand for the activity):

Erf 1510 is zoned as Residential, and the construction of a primary dwelling is permitted in terms of the existing land use rights. The property does not occur within a CBA or ESA.

Due to the property being cleared twice by the previous owner, there are no vegetation Species of Conservation Concern present; however, there were three protected plant species, in low abundance, identified on the site. The identification of these three protected plant species will result in a local low negative terrestrial biodiversity impact due to the development; however, this impact can be mitigated by the careful conservation of these plants by translocating and replanting elsewhere on the property prior to construction activities. Permits will be required from CapeNature prior to translocating practices.

In addition, a soil test was undertaken by Outeniqua Geotechnical Services in July 2022. The test results showed a high-risk outcome for compressible soil and slope stability problems. Due to these risks, an engineer must be present during construction to advise on the preliminary recommendations made by Outeniqua Geotechnical Services (report attached in Appendix D). Overall, the site is considered suitable for construction in terms of the geotechnical assessment.

The site was selected based on the existing land use rights and the land use character of the surrounding environment. The specialists' input provided is in favour of the construction activity.

Indicate any benefits that the activity will have for society in general:

It is envisioned that the basic needs required to run the household will all make use of environmentally sustainable technology.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

The proposed activity will create temporary employment opportunities and skills development for the local community during the construction phase.

## 10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

| Title of legislation, policy or guideline: | Administering authority: | Date: |
|---|---|---|
| Constitution of the Republic of South Africa. (Act 108 of 1996) | All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities. | Relevant Consideration |
| Environmental Conservation Act (Act 73 of 1989) | Department of Economic Development, Environmental Affairs &Tourism | Relevant Consideration |
| National Environmental Management Act (Act 107 of 1998) | Department of Economic Development, Environmental Affairs &Tourism | Authorization – December 2022/January 2023 |
| National Environmental Management: Biodiversity Act (Act 10 of 2004) | Department of Economic Development, Environmental Affairs &Tourism | Relevant Consideration |
| National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008) | Department of Forestry, Fisheries, and the Environment (DFFE), Branch Oceans & Coasts (O&C)/ Department of Economic Development, Environmental Affairs &Tourism | Comment/ Relevant Consideration |
| National Environmental Management: Protected Areas Act (Act 57 of 2003) | Department of Economic Development, Environmental Affairs &Tourism | Relevant Consideration |
| National Water Act (Act 36 of 1998) | Department of Water and Sanitation | Relevant Consideration |
| Water Services Act (Act 108 of 1997) | Department of Water and Sanitation | Relevant Consideration |
| Sea Shore Act (Act 21 Of 1935) | Department of Forestry, Fisheries, and the Environment (DFFE), Branch Oceans & Coasts (O&C)/ Department of Economic Development, Environmental Affairs &Tourism | Relevant Consideration |
| Conservation Of Agricultural Resources Act (Act 43 of 1983) | Department of Agriculture, Forestry and Fisheries | Relevant Consideration |
| National Heritage Resources Act (Act 25 of 1999) | Eastern Cape Provincial Heritage Resources Authority | Comment/ Relevant Consideration |

## 11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

### 11(a) Solid waste management

| | |
|---|---|
| Will the activity produce solid construction waste during the construction/initiation phase? | YES [■] |
| If yes, what estimated quantity will be produced per month? | Unknown |
| An estimate could not be made as a contractor has not been appointed at this stage. However, the quantity is expected to be low due to the proposed being the development of a residential dwelling on undeveloped land. | |

How will the construction solid waste be disposed of (describe)?

Construction waste will be sorted into piles of recyclable, hazardous and general waste.

Where will the construction solid waste be disposed of (describe)?

Construction solid waste will be transported to the nearest registered landfill site for disposal.

| | |
|---|---|
| Will the activity produce solid waste during its operational phase? | YES [■] |
| If yes, what estimated quantity will be produced per month? | Unknown |
| Only household waste will be generated. | |

How will the solid waste be disposed of (describe)?

Solid waste will be separated into recyclable and non-recyclable for disposal by the Kouga Municipality.

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

Solid waste will be collected by Kouga Municipality's waste collection services for recycling and/ or transported to the nearest registered landfill site for dumping if waste is non-recyclable.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

| | |
|---|---|
| Can any part of the solid waste be classified as hazardous in terms of the relevant legislation? | [■] NO |
| If yes, inform the competent authority and request a change to an application for scoping and EIA. | |
| Is the activity that is being applied for a solid waste handling or treatment facility? | [■] NO |

If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

**11(b) Liquid effluent**

| | |
|---|---|
| Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? | NO |
| If yes, what estimated quantity will be produced per month? | $m^3$ |
| Will the activity produce any effluent that will be treated and/or disposed of on site? | NO |

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

| | |
|---|---|
| Will the activity produce effluent that will be treated and/or disposed of at another facility? | NO |

If yes, provide the particulars of the facility:

| | | | |
|---|---|---|---|
| Facility name: | | | |
| Contact person: | | | |
| Postal address: | | | |
| Postal code: | | | |
| Telephone: | | Cell: | |
| E-mail: | | Fax: | |

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

| |
|---|
| None |

**11(c) Emissions into the atmosphere**

| | |
|---|---|
| Will the activity release emissions into the atmosphere? | NO |
| If yes, is it controlled by any legislation of any sphere of government? | NO |

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

| |
|---|
| n/a |

## 11(d) Generation of noise

| | | |
|---|---|---|
| Will the activity generate noise? | YES | |
| If yes, is it controlled by any legislation of any sphere of government? | | NO |

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

Noise associated with the construction phase of the development. Construction work will only be permitted during weekdays from 7:00 am to 5:00 pm.

## 12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

| municipal | water board | groundwater | river, stream, dam or lake | other | the activity will not use water |
|---|---|---|---|---|---|
| | | | | | |

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

| | | |
|---|---|---|
| the volume that will be extracted per month: | litres | |
| Does the activity require a water use permit from the Department of Water Affairs? | | NO |

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

## 13. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The use of energy saving light bulbs and natural light will contribute to energy saving.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Solar panels will be incorporated into the design of the activity.

# SECTION B: SITE/AREA/PROPERTY DESCRIPTION

**Important notes:**

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

| Section C Copy No. (e.g. A): | **1** |
|---|---|

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

| YES | |
|---|---|

If YES, please complete form XX for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

All specialist reports and declarations have been attached as appendix D.

## 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

**Alternative S1:**

| Flat | 1:50 – 1:20 | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5 | Steeper than 1:5 |
|---|---|---|---|---|---|---|

**Alternative S2 (if any):**

| Flat | 1:50 – 1:20 | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5 | Steeper than 1:5 |
|---|---|---|---|---|---|---|

**Alternative S3 (if any):**

| Flat | 1:50 – 1:20 | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5 | Steeper than 1:5 |
|---|---|---|---|---|---|---|

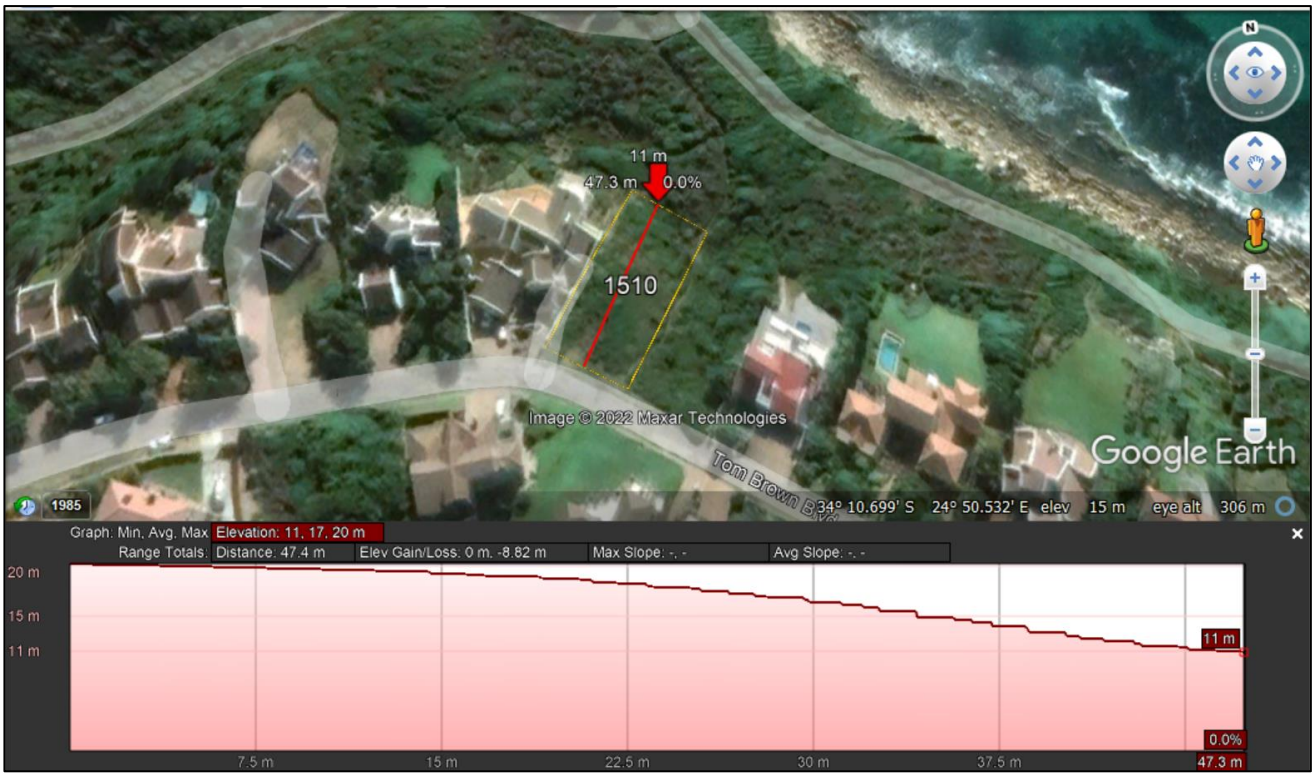


**Figure 2: Elevation profile of Erf 1510, St Francis Bay, EC**

## 2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline
2.2 Plateau
**2.3 Side slope of hill/mountain**
2.4 Closed valley
2.5 Open valley
2.6 Plain
2.7 Undulating plain / low hills
**2.8 Dune**
2.9 Seafront

## 3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

| | **Alternative S1:** | | **Alternative S2 (if any):** | | **Alternative S3 (if any):** | |
|---|---|---|---|---|---|---|
| Shallow water table (less than 1.5m deep) | | NO | YES | NO | YES | NO |
| Dolomite, sinkhole or doline areas | | NO | YES | NO | YES | NO |
| Seasonally wet soils (often close to water bodies) | | NO | YES | NO | YES | NO |
| Unstable rocky slopes or steep slopes with loose soil | | NO | YES | NO | YES | NO |
| Dispersive soils (soils that dissolve in water) | | NO | YES | NO | YES | NO |
| Soils with high clay content (clay fraction more than 40%) | | NO | YES | NO | YES | NO |
| Any other unstable soil or geological feature | YES | | YES | NO | YES | NO |
| An area sensitive to erosion | YES | | YES | NO | YES | NO |

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

## 4. GROUNDCOVER

Indicate the types of groundcover present on the site:

4.1 Natural veld – good condition [E]
4.2 Natural veld – scattered aliens [E]
4.3 Natural veld with heavy alien infestation [E]
4.4 Veld dominated by alien species [E]
4.5 Gardens

4.6 Sport field
4.7 Cultivated land
4.8 Paved surface
4.9 Building or other structure
4.10 Bare soil

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

| | | | | |
|---|---|---|---|---|
| Natural veld - good condition[E] | Natural veld with scattered aliens[E] | Natural veld with heavy alien infestation[E] | Veld dominated by alien species[E] | Gardens |
| Sport field | Cultivated land | Paved surface | Building or other structure | Bare soil |

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

A Compliance Statement has been attached to this report in Appendix D.

## 5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

**5.1 Natural area**
5.2 Low density residential
**5.3 Medium density residential**
5.4 High density residential
5.5 Informal residential
5.6 Retail commercial & warehousing
5.7 Light industrial
5.8 Medium industrial **[AN]**
5.9 Heavy industrial **[AN]**
5.10 Power station
5.11 Office/consulting room
5.12 Military or police base/station/compound
5.13 Spoil heap or slimes dam**[A]**
5.14 Quarry, sand or borrow pit
5.15 Dam or reservoir
5.16 Hospital/medical centre
5.17 School
5.18 Tertiary education facility
5.19 Church

5.20 Old age home
5.21 Sewage treatment plant[A]
5.22 Train station or shunting yard [N]
5.23 Railway line [N]
5.24 Major road (4 lanes or more) [N]
5.25 Airport [N]
5.26 Harbour
5.27 Sport facilities
5.28 Golf course
5.29 Polo fields
5.30 Filling station [H]
5.31 Landfill or waste treatment site
5.32 Plantation
5.33 Agriculture
5.34 River, stream or wetland
5.35 Nature conservation area
5.36 Mountain, koppie or ridge
5.37 Museum
5.38 Historical building
5.39 Protected Area
5.40 Graveyard
5.41 Archaeological site
5.42 Other land uses (describe)

If any of the boxes marked with an "N "are ticked, how will this impact / be impacted upon by the proposed activity.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity.
If YES, specify and explain:

If YES, specify: n/a

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.
If YES, specify and explain:

If YES, specify: n/a

## 6. CULTURAL/HISTORICAL FEATURES

| | | |
|---|---|---|
| Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site? | | NO |
| | | Uncertain |
| If YES, explain: | N/A – please see attached Site Sensitivity Verification Report (Appendix G) | |
| If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site. | | |
| Briefly explain the findings of the specialist: | n/a | |
| Will any building or structure older than 60 years be affected in any way? | | NO |
| Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)? | | NO |
| If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made. | | |

# SECTION C: PUBLIC PARTICIPATION

## 1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  (i) the site where the activity to which the application relates is or is to be undertaken; and
  (ii) any alternative site mentioned in the application;

(b) giving written notice to—
  (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;

(iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
(v) the municipality which has jurisdiction in the area;
(vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
(vii) any other party as required by the competent authority;

(c) placing an advertisement in—
(i) one local newspaper; or
(ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
(i) illiteracy;
(ii) disability; or
(iii) any other disadvantage.

## 2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and

(b) state—
(i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
(ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
(iii) the nature and location of the activity to which the application relates;
(iv) where further information on the application or activity can be obtained; and
(iv) the manner in which and the person to whom representations in respect of the application may be made.

## 3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

## 4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

## 5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

## 6. AUTHORITY PARTICIPATION

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least 30 (thirty) calendar days before the submission of the application.

List of authorities informed:

| |
|---|
| Please refer to Appendix G.1 for a full I&AP register. |

List of authorities from whom comments have been received:

| |
|---|
| Preliminary comments from the Department of Forestry, Fisheries, and the Environment (DFFE), Branch Oceans & Coasts (O&C) |

## 7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority.

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application at least 30 (thirty) calendar days before the submission of the application and be provided with the opportunity to comment.

| | |
|---|---|
| Has any comment been received from stakeholders? | NO |

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

Only a pre-application public participation has been undertaken. Any comments from stakeholders will be recorded in the Final BAR.

# SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 as amended, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

## 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

No issues have been raised. Comments will be included in the Final BAR.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report):

To be included in the Final BAR.

## 2.IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

### Impact Assessment Methods

Criteria are ascribed for each predicted impact. These include the intensity (size or degree scale), which also includes the type of impact, being either a positive or negative impact; the duration (temporal scale); and the extent (spatial scale), as well as the probability (likelihood). The methodology is quantitative, whereby professional judgement is used to identify a rating for each criterion based on a seven-point scale (Table 1) and the significance is auto-generated using a spreadsheet through application of the calculations.

For each predicted impact, certain criteria are applied to establish the likely **significance** of the impact, firstly in the case of no mitigation being applied and then with the most effective mitigation measure(s) in place.

These criteria include the **intensity** (size or degree scale), which also includes the **nature** of impact, being either a positive or negative impact; the **duration** (temporal scale); and the **extent** (spatial scale). These numerical ratings are used in an equation whereby the **consequence** of the impact can be calculated. Consequence is calculated as follows:

**Consequence = type x (intensity + duration + extent)**

To calculate the significance of an impact, the **probability** (or likelihood) of that impact occurring is applied to the consequence.

**Significance = consequence x probability**

Depending on the numerical result, the impact would fall into a significance category as negligible, minor, moderate or major, and the type would be either positive or negative.

**Table 1:** Assessment criteria for the evaluation of impacts

| Criteria | Numeric Rating | Category | Description |
|---|---|---|---|
| Duration | 1 | **Immediate** | Impact will self-remedy immediately |
| | 2 | **Brief** | Impact will not last longer than 1 year |
| | 3 | **Short term** | Impact will last between 1 and 5 years |
| | 4 | **Medium term** | Impact will last between 5 and 10 years |
| | 5 | **Long term** | Impact will last between 10 and 15 years |
| | 6 | **On-going** | Impact will last between 15 and 20 years |
| | 7 | **Permanent** | Impact may be permanent, or in excess of 20years |
| Extent | 1 | **Very limited** | Limited to specific isolated parts of the site |
| | 2 | **Limited** | Limited to the site and its immediate surroundings |
| | 3 | **Local** | Extending across the site and to nearby settlements |
| | 4 | **Municipal area** | Impacts felt at a municipal level |
| | 5 | **Regional** | Impacts felt at a regional level |
| | 6 | **National** | Impacts felt at a national level |
| | 7 | **International** | Impacts felt at an international level |
| Intensity | 1 | **Negligible** | Natural and/ or social functions and/ or processes are negligibly altered |
| | 2 | **Very low** | Natural and/ or social functions and/ or processes are slightly altered |
| | 3 | **Low** | Natural and/ or social functions and/ or processes are somewhat altered |
| | 4 | **Moderate** | Natural and/ or social functions and/ or processes are moderately altered |
| | 5 | **High** | Natural and/ or social functions and/ or processes are notably altered |
| | 6 | **Very high** | Natural and/ or social functions and/ or processes are majorly altered |
| | 7 | **Extremely high** | Natural and/ or social functions and/ or processes are severely altered |
| [illegible] | 1 | **Highly unlikely / None** | Expected never to happen |
| | 2 | **Rare / improbable** | Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere |

| | | | |
|---|---|---|---|
| | **3** | **Unlikely** | Has not happened yet but could happen once in the lifetime of the project, therefore there is apossibility that the impact will occur |
| | **4** | **Probable** | Has occurred here or elsewhere and could therefore occur |
| | **5** | **Likely** | The impact may occur |
| | **6** | **Almost certain / Highly probable** | It is most likely that the impact will occur |
| | **7** | **Certain / Definite** | There are sound scientific reasons to expect that the impact will definitely occur |

When assessing impacts, broader considerations are also considered. These include the level of confidence in the assessment rating; the reversibility of the impact; and the irreplaceability of the resource as set out in (Table 2, Table 3, and Table 4), respectively.

**Table 2:** Definition of confidence ratings.

| Category | Description |
|---|---|
| Low | Judgement is based on intuition |
| Medium | Determination is based on common sense and general knowledge |
| High | Substantive supportive data exists to verify the assessment |

**Table 3:** Definition of reversibility ratings.

| Category | Description |
|---|---|
| Low | The affected environment will not be able to recover from the impact - permanently modified |
| Medium | The affected environment will only recover from the impact with significant intervention |
| High | The affected environment will be able to recover from the impact |

**Table 4:** Definition of irreplaceability ratings.

| Category | Description |
|---|---|
| Low | The resource is not damaged irreparably or is not scarce |
| Medium | The resource is damaged irreparably but is represented elsewhere |

| | | | | |
|---|---|---|---|---|
| **Project Phase** | **Construction** | | | |
| **Impact** | **Clearance of terrestrial vegetation for the construction of the dwelling and associated infrastructure** | | | |
| **Description of impact** | **Habitat loss for terrestrial wildlife, mortalities to various species unable to evade the disturbance, loss of viable propagules, fragmentation of ecological infrastructure** | | | |
| **Mitigable** | Low | Mitigation does not exist; or mitigation will slightly reduce the significance of impacts | | |
| **Potential mitigation** | • **the removal and translocation of protected plants should be undertaken prior to construction clearing activities. A permit is required prior to removal.**<br>• **Protected plants must either be moved to a safer, no-go area on the property or taken to a nursery for temporary storage until rehabilitation takes place.**<br>• **Access by heavy machinery should be limited on the site.**<br>• **Only areas necessary for the development footprint should be cleared and the remainder of the property should be left natural.**<br>• **During the construction phase of the proposed development, disturbance to patches of dune thicket on adjacent properties must be avoided – laydown areas for construction materials must therefore be contained within the clearing footprint of the proposed development.**<br>• **During the construction phase of the proposed development, disturbance to patches of dune thicket on adjacent properties must be avoided – laydown areas for construction materials must therefore be contained within the clearing footprint of the proposed development.** | | | |
| **Assessment** | **Without mitigation** | | **With mitigation** | |
| **Nature** | Negative | | Low negative | |
| **Duration** | Permanent | Impact may be permanent, or in excess of 20years | Permanent | Impact may be permanent, or in excess of 20years |
| **Extent** | Limited | Limited to the site and its immediatesurroundings | Very limited | Limited to specific isolated parts of the site |
| **Intensity** | Very low | Natural and/ or social functions and/ or processes are slightly altered | Low | Natural and/ or social functions and/ orprocesses are somewhat altered |
| **Probability** | Probable | Has occurred here or elsewhere and could therefore occur | Rare / improbable | Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere |
| **Confidence** | High | Substantive supportive data exists to verify the assessment | Medium | Determination is based on common sense and general knowledge |
| **Reversibility** | Medium | The affected environment will only recover from the impact with significant intervention | High | The affected environment will be able to recover from the impact |
| **Resource irreplaceability** | Medium | The resource is damaged irreparably but is represented elsewhere | Low | The resource is not damaged irreparably or is not scarce |
| **Significance** | **Minor - negative** | | **Negligible - negative** | |
| **Comment on significance** | The previous clearing of vegetation and disturbance of top soil at the site, together with the absence of plant SCC (high confidence) translates to a **LOW** site sensitivity. | | | |
| **Cumulative impacts** | The impact would result in insignificant cumulative effects | | | |

| | | |
|---|---|---|
| **Project Phase** | **Construction** | |
| **Impact** | **Geotechnical restraints due to steep slopes and highly compressible sands** | |
| **Description of impact** | **Settlement issues, slope stability problems, possible damage to adjacent properties** | |
| **Mitigable** | High | Mitigation exists and will considerably reduce significance of impacts |
| **Potential mitigation** | **Earthworks:**<br>• **Some bulk earthworks are anticipated to clear, level and compact the site in preparation of construction.**<br>• **Terracing of the site with a retaining wall (or a series of retaining walls) may be required if a portion of the proposed structure is to be constructed below NGL (e.g. lower ground or basement levels).**<br>• **Earthworks can be accomplished using light machinery and all excavations to a depth of at least 3m are provisionally classified as per SABS1200D as "soft".**<br>• **The insitu "clean" sandy soils are fine-grained but will be generally suitable for backfilling and compaction on platforms, under floors, behind retaining walls and below foundations at the optimum moisture content.**<br>• **Organic matter, such as roots and humus/topsoil should be removed from the footprint of structures and stockpiled separately for landscaping purposes.**<br>• **Excavations may be highly unstable at angles steeper than 35° and battering or shoring of excavation sidewalls may be required. Lateral support systems may be required along site boundaries.**<br><br>**Foundations and floors:**<br>• **Piled foundations should only be considered for excessively heavy structures as this method is generally an uneconomical in the area due to high establishment costs of specialist contractors.**<br>• **Strip and pad foundations should be founded at a minimum depth of 0.8m below ground level (platform level) on well compacted insitu sands.**<br>• **Bearing pressures should be limited to 125-150kPa where possible, to minimise settlement.**<br>• **As a guideline to achieve adequate compaction to avoid settlement, the foundation trenches should be excavated to the recommended minimum founding depth, well wetted and compacted with several passes of a mechanical trench rammer (Wacker), until the DCP penetration rate is less than 20mm/blow to a depth of 1m below the foundation invert. If adequate compaction cannot be achieved with this method, the contractor should remove additional loose soil from below the founding level (e.g. overexcavate 0.3-0.5m), recompact the base of the excavation and then replace the insitu soil in compacted layers. The structural engineer can consider additional techniques such as replacing insitu soil with 3-5% cement-stabilised sand.**<br>• **Foundations near/above retaining walls and steep natural slopes (within 3m) will require careful consideration, possibly including special measures such as deeper foundations to prevent surcharge loading of walls or slopes.**<br>• **The structural engineer should inspect foundation trenches and ensure adequate testing of before casting concrete. Filling under reinforced concrete floors should be compacted at the optimum moisture content (10-12%) to 100% of maximum dry density.**<br><br>**Roads:**<br>• **The insitu roadbed material consists of very fine sandy soil, which is loose and prone to rutting, and should be compacted to 100%MDD.**<br>• **Following the compaction of the roadbed, 100mm of imported SSG gravel material is recommended to support the driveway layerworks, which include 150mm of G5 subbase, compacted to 95%MDD, and cement interlocking pavers on 20mm bedding sand.** | |

| Assessment | Without mitigation | | With mitigation | |
|---|---|---|---|---|
| **Nature** | Negative | | Negative | |
| **Duration** | Permanent | Impact may be permanent, or in excess of 20years | Brief | Impact will not last longer than 1 year |
| **Extent** | Very limited | Limited to specific isolated parts of the site | Very limited | Limited to specific isolated parts of the site |
| **Intensity** | Very high | Natural and/ or social functions and/ or processes are majorly altered | Low | Natural and/ or social functions and/ or processes are somewhat altered |
| **Probability** | Certain / Definite | There are sound scientific reasons to expect that the impact will definitely occur | Rare / improbable | Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere |
| **Confidence** | High | Substantive supportive data exists to verify the assessment | Medium | Determination is based on common sense and general knowledge |
| **Reversibility** | Low | The affected environment will not be able to recover from the impact - permanently modified | Medium | The affected environment will only recover from the impact with significant intervention |
| **Resource irreplaceability** | Not relevant | | Not relevant | |
| **Significance** | **Moderate - negative** | | **Negligible - negative** | |
| **Comment on significance** | Due to the steep site gradient and compressible soils, specific engineering inputs are required to reduce the negative geotechnical restraints on the site. | | | |
| **Cumulative impacts** | Without mitigation, the geotechnical restraints on the site could result in significant destruction to the development site, but also to adjacent sites (specifically downhill). | | | |

| Project Phase | Construction | | | |
|---|---|---|---|---|
| **Impact** | **Noise pollution** | | | |
| **Description of impact** | **Noise caused by machinery and staff** | | | |
| **Mitigable** | Low | Mitigation does not exist; or mitigation will slightly reduce the significance of impacts | | |
| **Potential mitigation** | • **Construction activities must only take place during normal working times between 07:00-17:00 on weekdays.**<br>• **Machinery may be fitted with silences to dampen noise.**<br>• **Staff must be reminded that they are working within a residential area and noise levels must be kept low.** | | | |
| **Assessment** | **Without mitigation** | | **With mitigation** | |
| **Nature** | Negative | | Negative | |
| **Duration** | Brief | Impact will not last longer than 1 year | Brief | Impact will not last longer than 1 year |
| **Extent** | Limited | Limited to the site and its immediate surroundings | Limited | Limited to the site and its immediate surroundings |
| **Intensity** | Very low | Natural and/ or social functions and/ or processes are slightly altered | Negligible | Natural and/ or social functions and/ or processes are negligibly altered |

| | | | | |
|---|---|---|---|---|
| **Probability** | Almost certain / Highly probable | It is most likely that the impact will occur | Almost certain / Highly probable | It is most likely that the impact will occur |
| **Confidence** | Medium | Determination is based on common sense and general knowledge | Medium | Determination is based on common sense and general knowledge |
| **Reversibility** | High | The affected environmental will be able to recover from the impact | High | The affected environmental will be able to recover from the impact |
| **Resource irreplaceability** | Not relevant | | Not relevant | |
| **Significance** | **Minor - negative** | | **Negligible - negative** | |
| **Comment on significance** | Some extent of noise pollution during construction is expected; however, with mitigation the impact will be reduced. | | | |
| **Cumulative impacts** | No cumulative impacts exist. | | | |

| | | | | |
|---|---|---|---|---|
| **Project Phase** | **Construction** | | | |
| **Impact** | **Visual impact/ Sense of place** | | | |
| **Description of impact** | **Visual & aesthetic consequences of the proposed project** | | | |
| **Mitigable** | Medium | Mitigation exists and will notably reduce significance of impacts | | |
| **Potential mitigation** | • **Due to the proposed dwelling being surrounded by already existing dwellings, there is little to be done to mitigate against visual pollution; however, shade cloth may be used to demarcate and reduce visual consequences caused by construction.** | | | |
| **Assessment** | **Without mitigation** | | **With mitigation** | |
| **Nature** | Negative | | Negative | |
| **Duration** | Short term | Impact will last between 1 and 5 years | Short term | Impact will last between 1 and 5 years |
| **Extent** | Limited | Limited to the site and its immediate surroundings | Limited | Limited to the site and its immediate surroundings |
| **Intensity** | Low | Natural and/ or social functions and/ or processes are somewhat altered | Very low | Natural and/ or social functions and/ orprocesses are slightly altered |
| **Probability** | Certain / Definite | There are sound scientific reasons to expect that the impact will definitely occur | Likely | The impact may occur |
| **Confidence** | Medium | Determination is based on common sense and general knowledge | Medium | Determination is based on common sense and general knowledge |
| **Reversibility** | Medium | The affected environment will only recover from the impact with significant intervention | High | The affected environmental will be able to recover from the impact |
| **Resource irreplaceability** | Not relevant | | Not relevant | |
| **Significance** | **Minor - negative** | | **Negligible - negative** | |
| **Comment on significance** | Due to the change in visual impact of the property from vacant land to residential dwelling, there is some visual/aesthetic consequences to be expected. However, due to the surrounding area being residential, a low negative impact is expected and little can be mitigated against. | | | |
| **Cumulative impacts** | No cumulative impacts exist. | | | |

| **Project Phase** | **Construction** | | | |
|---|---|---|---|---|
| **Impact** | **Employment** | | | |
| **Description of impact** | **Empowerment of the local community members living in the area relating to temporary employment opportunities** | | | |
| **Mitigable** | Medium | Mitigation only exists to ensure that the positive impact is followed through. | | |
| **Potential mitigation** | • **Use existing social structures and communication channels to ensure social representation.** | | | |
| **Assessment** | **Without mitigation** | | **With mitigation** | |
| **Nature** | Negative | | Positive | |
| **Duration** | Short term | Impact will last between 1 and 5 years | Short term | Impact will last between 1 and 5 years |
| **Extent** | Local | Extending across the site and to nearby settlements | Local | Extending across the site and to nearby settlements |
| **Intensity** | Low | Natural and/ or social functions and/ or processes are somewhat altered | Low | Natural and/ or social functions and/ or processes are somewhat altered |
| **Probability** | Rare / improbable | Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere | Almost certain / Highly probable | It is most likely that the impact will occur |
| **Confidence** | Low | Judgement is based on intuition | Medium | Determination is based on common sense and general knowledge |
| **Reversibility** | Not relevant | | Not relevant | |
| **Resource irreplaceability** | Not relevant | | Not relevant | |
| **Significance** | **Negligible - negative** | | **Negligible - positive** | |
| **Comment on significance** | Due to the proposed development being on a small-scale, there is a low difference in impacts between without mitigation and with mitigation. However, as the impact would be positive for the local community to be employed during construction, mitigation is recommended to ensure this occurs. | | | |
| **Cumulative impacts** | Minor upliftment for the local community. | | | |

Impacts foreseen during the operational phase:

| **Project Phase** | **Operation** | | | |
|---|---|---|---|---|
| **Impact** | **Light Pollution** | | | |
| **Description of impact** | **Visual/ aesthetic consequences due to incorrect or excessive lighting, especially outdoor lighting** | | | |
| **Mitigable** | Medium | Mitigation exists and will notably reduce significance of impacts | | |
| **Potential mitigation** | • **Municipal by-laws need to be adhered to.**<br>• **It is strongly advised that only downward facing lights are used on the outside of the house.** | | | |
| **Assessment** | **Without mitigation** | | **With mitigation** | |
| **Nature** | Negative | | Positive | |
| **Duration** | Permanent | Impact may be permanent, or in excess of 20 years | Brief | Impact will not last longer than 1 year |
| **Extent** | Limited | Limited to the site and its immediate surroundings | Very limited | Limited to specific isolated parts of the site |

| | | | | |
|---|---|---|---|---|
| **Intensity** | Low | Natural and/ or social functions and/ or processes are somewhat altered | Negligible | Natural and/ or social functions and/ or processes are negligibly altered |
| **Probability** | Probable | Has occurred here or elsewhere and could therefore occur | Rare / improbable | Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere |
| **Confidence** | Medium | Determination is based on common sense and general knowledge | Medium | Determination is based on common sense and general knowledge |
| **Reversibility** | Low | The affected environment will not be able to recover from the impact - permanently modified | Medium | The affected environment will only recover from the impact with significant intervention |
| **Resource irreplaceability** | Not relevant | | Not relevant | |
| **Significance** | **Minor - negative** | | **Negligible - positive** | |
| **Comment on significance** | Lighting, specifically outdoor lighting is not only aesthetic, but it provides a level of security to property owners. Therefore, outdoor lighting is essential, but should be implemented in a way which does not cause negative impacts to neighbours. | | | |
| **Cumulative impacts** | Without mitigation the development would not be meeting design guidelines enforced by the municipality. Specifically design guidelines for the local area. | | | |

| | | | | |
|---|---|---|---|---|
| **Project Phase** | **Operation** | | | |
| **Impact** | **Formal gardens** | | | |
| **Description of impact** | **Habitat loss for terrestrial wildlife, fragmentation of ecological corridor** | | | |
| **Mitigable** | High | Mitigation exists and will considerably reduce the significance of impacts | | |
| **Potential mitigation** | • **It is advised that no manicured gardens are created without necessity. Specifically downhill/east of the development footprint.**<br>• **Areas that are not required for development purposes should remain natural with indigenous vegetation.**<br>• **All alien invasive plants must be removed from the site on an on-going basis.** | | | |
| **Assessment** | **Without mitigation** | | **With mitigation** | |
| **Nature** | Negative | | Positive | |
| **Duration** | Brief | Impact will not last longer than 1 year | Permanent | Impact may be permanent, or in excess of 20 years |
| **Extent** | Limited | Limited to the site and its immediate surroundings | Very limited | Limited to specific isolated parts of the site |
| **Intensity** | Negligible | Natural and/ or social functions and/ or processes are negligibly altered | Very low | Natural and/ or social functions and/ or processes are slightly altered |
| **Probability** | Highly unlikely / None | Expected never to happen | Almost certain / Highly probable | It is most likely that the impact will occur |
| **Confidence** | Medium | Determination is based on common sense and general knowledge | Medium | Determination is based on common sense and general knowledge |
| **Reversibility** | Medium | The affected environment will only recover from the impact with significant intervention | Not relevant | |

| | | | | |
|---|---|---|---|---|
| **Resource irreplaceability** | Low | The resource is not damaged irreparably or is not scarce | Not relevant | |
| **Significance** | **Negligible - negative** | | **Minor - positive** | |
| **Comment on significance** | With mitigation the impact is likely to have more beneficial impact to retaining a wider ecological corridor, than without mitigation. | | | |
| **Cumulative impacts** | Without mitigation this impact could result in potential erosion downhill of the site caused by stormwater flow. | | | |

Decommissioning is not foreseen for this development.

### 3. CLIMATE CHANGE ASSESSMENT

Climate change issues must be considered as part of the EIA process. EAP must determine:

**a)The potential impact of climate change on society and the economy, whether the impact is negative or positive, considering that society needs to be at the centre of the proposed development;**

The proposed development of a residential dwelling will have a low to negligible negative impact on climate change.

**b)The potential alternatives of the proposed development, alternatives that will have less impact on climate change (environment and generation of waste included), the society and economy;**

The proposed development includes the use of solar panels for the generation of electricity. This would result in a decreased reliance on the already severely strained electricity grid.

In addition, the applicant is encouraged to participate in recycling and reuse of waste products produced during both the construction and operational phases, in order to decrease the volume of waste heading to landfill sites.

**c)whether, and to what extent, the proposed development will result in the release of greenhouse gas (GHG) emissions;**

According to an article published by Mengpin Ge, Johannes Friedrich and Leandro Vigna in February 2020 and updated in June 2022, on the World Resources Institute webpage, regarding Greenhouse Gas Emissions by Countries and Sectors: the energy sector was found to be the biggest source of greenhouse gas emissions. *"The energy sector includes transportation, electricity and heat, buildings, manufacturing and construction, fugitive emissions and other fuel combustion."*

The proposed development will contribute to GHG emissions in the form of electricity, construction and a minor volume of emissions released by construction vehicles. However, viewed in isolation, the proposed will result in low to negligible release of GHG.

**d)whether the proposed development is necessary to achieve long term decarbonisation goals;**

The proposed development has various aspects included in its function that will minorly assist in achieving long term decarbonisation goals, e.g., the use of solar panels, and the use of LED light bulbs.

**e)the impact of the development on social, economic, natural and built environment that are crucial for climate change, adaptation and resilience;**

The proposed development itself will not play a major role in negatively contributing to climate change. The running of the household will predominantly have a negative contribution on climate change. The aspects involving the everyday

activities undertaken by the household must be carefully considered by the owner and adjusted to have a result that will positively impact the environment and society at large. E.g., recycling and reusing of waste products, cognisance of food sources, clothing sources, transportation, etc.

**f) the projected impact of climate change on proposed development; and surrounding environment, and implications for the development.**

As the proposed development is situated in a coastal zone, there is inherent risk of coastal hazards due to climate change. However, as discussed earlier in this report, the proposed site is located in an area with a low short-term risk of coastal erosion, but in an area of medium long-term erosion risk. Monitoring of changes in the coastal environment is of utmost importance.

**g)Explanation of how the impacts is likely to be exacerbated or minimised as result of climate change and what measures are likely to be implemented to accommodate and manage (adapt to) the anticipated worst scenario where applicable**

Coastal hazards will increase in negative impacts over the years due to climate change. This poses a risk to coastal development. Coastal impacts will affect areas differently depending on the coast line type. The proposed development is supported due to its location in the landscape – the site is located on a steep dune with a buffer of shrubs and woody vegetation which protects the property from short-term coastal impacts. However, considering the long-term possibility of negative coastal impacts, monitoring of the coastal environment is a priority.

*"the likelihood is that coastal erosion processes, including shoreline erosion / accretion, cliff retreat and dune migration will vary considerably with anticipated global climate change into the future and monitoring of changes in the coastal environment will be important."* (Geohazards in Coastal Areas, R. Wigley, Council for Geoscience,2011)

**h) whether, and to what extent, the impacts identified in (a) -(g) can be mitigated.**

No mitigation exists for the proposed dwelling in isolation. As coastal impacts would affect all development along the entire South African coast, local municipalities and homeowners will need to monitor and provide site specific mitigation measures dependant on the type and severity of coastal impacts experienced.

**4. ENVIRONMENTAL IMPACT STATEMENT**

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

**Alternative A (preferred alternative)**

**Loss of indigenous vegetation:** due to construction, the property will be cleared of most of the vegetation present. Due to previous clearing on the property, there is only secondary dune thicket vegetation present on the site. However, three protected plant types were noted, and a permit will need to be acquired prior to removal of these plants. The loss of indigenous vegetation on this property is of low sensitivity concern.

**Vulnerability to coastal dynamic:** The coastal location of the proposed development indicates that it is inherently exposed to risks associated with natural and dynamic coastal processes. These risks provide significant impacts to the sustainability of any development within coastal areas. With inspection of coastal GIS mapping for South Africa; the Climate Change Coastal Vulnerability Assessment shows that in terms

of short-term erosion, the property is in an area that has no risk of short-term coastal erosion, and in terms of long-term erosion, the property is in an area with high to moderate coastal erosion.
In conclusion, the development is protected because there is distance of a distance with a buffer of shrubs/ woodland between the property boundary and the high-water mark, and no short-term erosion risk is present.

**Geotechnical restraints:** due to the steep slopes and compressible soils of the property, site specific engineering input is required to mitigate these potential site constraints.

**Green technology in design and function:** the preferred alternative will incorporate the use of solar panels for a reduction in electricity reliance from the main grid, and the use of rainwater harvesting.

**Alternative A2 (not supported)**

An alternative in this case may only relate to technology alternatives as design, layout and activity alternatives are restricted to the following:

1. development activity – the property is zoned for residential development only.
2. design/layout alternatives – due to the site constraints and strict area design guidelines, there are no other alternatives.

An alternative to consider is to not make use of any green technology aspects in the design and function of the proposed dwelling.

This alternative would not be supported as it does not contribute to sustainable development practices.

**No-go alternative (compulsory)**

The No-go alternative assumes that the dwelling will not be constructed as proposed, and the status quo will remain in place. This will preserve the ecological value of the property. However, it is to be noted that this is a residential Erf and the Applicant has the legal right to develop on this Erf.

# SECTION E. RECOMMENDATIONS OF PRACTITIONER

This section will be completed in full in the Final BAR once public participation has been undertaken.

| | | |
|---|---|---|
| Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)? | YES | NO |
| Is an EMPr attached? | YES | |

The EMPr must be attached as Appendix F.

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

| |
|---|
| n/a |

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

| |
|---|
| To be completed in the Final BAR. |

# SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Public Participation

Appendix H: Screening Tool Report and Site Sensitivity Verification Report