
DRAFT BASIC
ASSESSMENT REPORT
FOR RESIDENTIAL
DEVELOPMENT ERF
2369, SEAVISTA IN ST
FRANCIS BAY

PREPARED FOR

BORN FREE INVESTMENT 460(PTY) LTD

17 SEPTEMBER 2026

EC08/C/LN1&3/M/43-2026



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This report has been prepared exclusively for **Born Free Investments 460 (Pty) Ltd** and for submission to the Competent Authority. It may not be used for any other purpose without written consent.

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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. This report is current as **of 4 May 2026**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
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.”.

SECTION A: ACTIVITY INFORMATION

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

YES

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

The Applicant, Born Free Investments 460 (Pty) Ltd, bought Erf 2369, Seavista in St Francis Bay (here-after referred to as "the study area") which is located on a site where the old St Francis Bay Hotel used to be and represented as the red polygon in Figures 1-3 below. According to the Applicant, the hotel burned down sometime between 2003-2006 and the ruins were removed but the foundations left. The site has remained undeveloped since and is zoned for high density residential development, however the Applicant would like to develop eight (8) detached residential units, each with an associated private garage and access to an internal road network. The proposed layout has been designed to respond to the site's topography and environmentally sensitive areas by clustering the units within the less sensitive portions of the property while retaining identified high sensitive areas and existing vegetation.

The property measures about 1.3855Ha in total, the below images show historical aerial images to indicate the history of the site. From the images below it is clear that vegetation was left to establish naturally after the hotel ruins were removed, however it is also clear that between 2003 and 2006 the neighbouring property encroached on the study area to provide parking space for the residential development.



Figure 1: The hotel in 2003 burnt down sometime between 2003-2006, as Google Earth shows that most of the Hotel structure is gone, however onsite photos indicate that foundations was never removed.



Figure 2: In 2016 the area has overgrown with vegetation and notice none of the abutting houses along the beach have erosion control in place. In 2020 the neighbours house Southeast from the property placed rocks as erosion protection around the coastline boundary of the house.



Figure 3: In 2022 the erosion control along the coastline increased further southwards.

St Francis Bay has experienced significant long-term coastal erosion associated with historical disruption of natural sediment transport processes, dune stabilisation, coastal development, and alteration of the natural shoreline dynamics. The erosion has resulted in progressive beach narrowing, dune loss, and increased vulnerability of coastal infrastructure and properties to storm events and wave action.

In response, a large-scale coastal protection and beach rehabilitation programme is currently being implemented within the area.

The St Francis Property Owners released a news statement in July 2025, indicating that the large-scale coastal engineering initiative called the Long Term Coastal Protection Scheme (LTCPS) in St Francis Bay is aimed at restoring eroded beaches, protecting coastal properties and infrastructure, and improving long-term shoreline stability.

The project, led by the St Francis Property Owners Non-Profit Company (SFPO NPC), involves the phased construction of strategically positioned rock groynes between the Kromme River mouth and Main Beach, combined with an extensive beach nourishment programme using dredged and transported sand from the Kromme River and Sand River delta.

The study area seems to be the only stretch of property left along this portion of the coastline that does not have erosion control in place compared to the neighbouring properties to prevent possible vulnerability of the proposed residential infrastructure. Therefore, protection of the dune should be prioritised as part of the development.

In terms of the proposed development, the development will include the following primary infrastructure:

- Eight residential units with individual building footprints ranging from approximately 84 m² to 340 m².
- Private garages for each dwelling.

- The units are designed as multi-storey dwellings with basement, ground floor and first floor levels, with the building platforms stepping down the site in line with the changing topography.
- An internal access road and associated vehicle circulation areas connecting to Philippa Place.
- Pedestrian accessways, retaining structures where required, and associated landscaping.
- Basic engineering services including water supply, sewerage, stormwater management, electricity, and telecommunications.
- Rehabilitated landscaped areas comprising approximately 2 935 m² of re-established indigenous vegetation together with lawned areas to improve the visual character of the development and assist with erosion control.

The layout has been specifically designed to avoid most of the environmentally sensitive portions of the property through the designation of approximately 573 m² as high sensitive areas. Existing mature Milkwood (*Sideroxylon inerme*) trees are retained wherever possible and incorporated into the site layout to minimise impacts on indigenous vegetation and maintain the site's natural character.

Construction activities will include site preparation, earthworks, installation of engineering services, construction of the residential units and garages, internal roads and paved areas, landscaping, and rehabilitation of disturbed areas. Once completed, the development will provide low-density residential accommodation that integrates with the surrounding urban environment while incorporating measures to minimise environmental impacts through the retention of sensitive areas and indigenous vegetation.

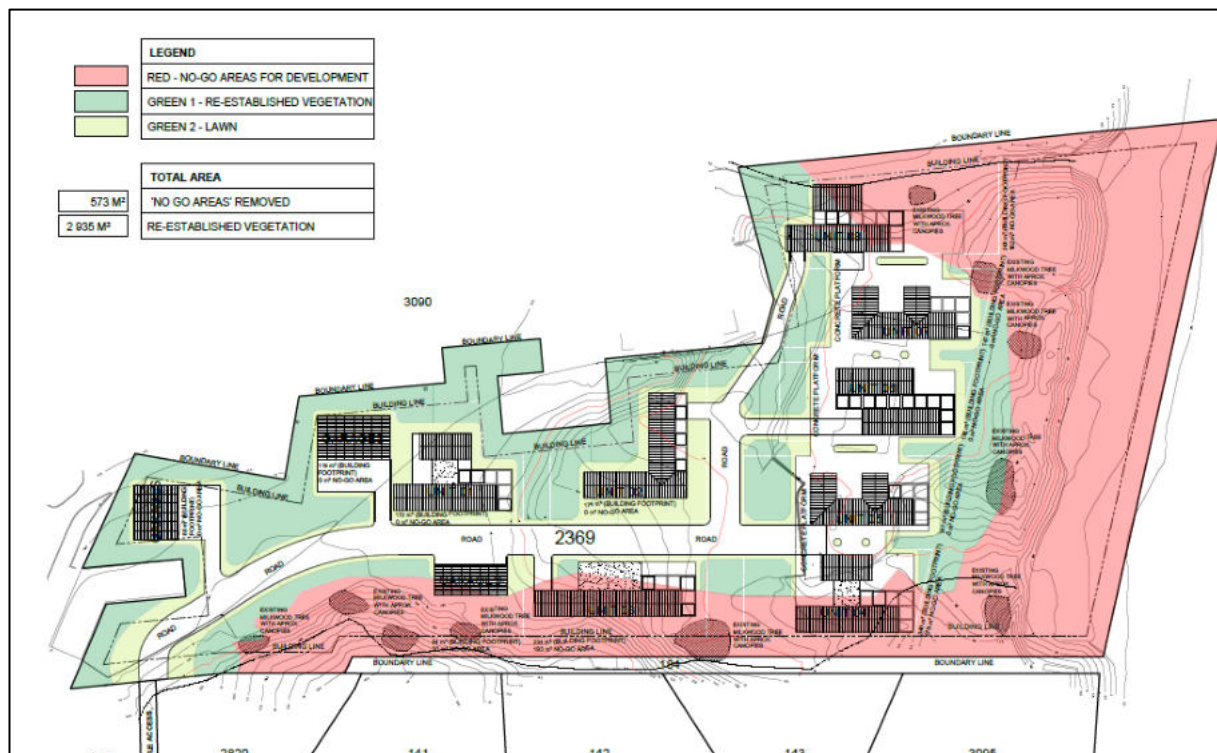


Figure 4: Proposed site layout plan

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) Alternative Site Location

No alternative properties were considered for the proposed development, as the proposal is specifically associated with the redevelopment of Erf 2369, being the site of the former St Francis Bay Hotel. The property has a long history of development and contains substantial previously transformed areas, including paved access and parking areas, grassed areas, an existing swimming pool, terraced areas and remnants of previously constructed structures. The proposed development therefore represents an opportunity for redevelopment and urban infill within an existing urban area, rather than the establishment of a new development on an undeveloped greenfield site.

b) Alternative land-use

No alternative land uses are proposed for assessment as part of the Basic Assessment process. The proposed use of the property for residential development is considered to be the most appropriate and reasonable land use when the existing land-use rights, historical use of the property, surrounding land-use character and environmental characteristics of the site are taken into consideration.

Erf 2369 is located within the established urban area of St Francis Bay and is surrounded predominantly by residential development. St Francis Court is situated to the north, St Francis Villas to the west, and residential properties occur along the southern boundary, while the coastal zone is located immediately to the east. The proposed residential use would therefore be compatible with the existing character and predominant land use of the surrounding area and would constitute the redevelopment of an existing urban property rather than the introduction of an incompatible new land use.

The property also has an established history of development. Erf 2369 formed part of the former St Francis Bay Hotel site and contains existing and remnant infrastructure associated with previous development, including paved access and parking areas, lawns, the former hotel swimming pool and remnants of previously constructed structures. The Application indicated that the former hotel was destroyed by fire between approximately 2003 and 2006, after which the ruins were removed but foundations remained and vegetation was allowed to naturally re-establish across portions of the property.

In addition, the property is currently zoned for high-density residential development. The Applicant is, however, proposing only eight detached residential units, each with a private garage and access to an internal road network. The proposed development therefore represents a residential use that is consistent with the existing land-use rights of the property, while the relatively limited number of units provides an opportunity to respond to the environmental constraints identified on the site.

Alternative land uses such as commercial, retail, industrial, institutional or intensive tourism development have therefore not been carried forward for detailed assessment. Such uses do not form part of the Applicant's development proposal, would not necessarily be consistent with the predominantly residential character of the immediate surroundings, and could introduce different or potentially greater impacts associated with traffic generation, parking requirements, noise, service demand and development intensity. It should be noted that these potential impacts have not been comparatively assessed in the specialist studies and are therefore identified here as planning considerations rather than quantified environmental conclusions.

From an environmental perspective, the Site Sensitivity Assessment confirms that the property is not uniformly environmentally sensitive. Although intact vegetation occurs particularly along the eastern and southern portions of the property, the central and western portions have historically been disturbed or developed. The Garden Route Biodiversity Sector Plan transformation layer similarly identifies the site as urban, while the site investigation confirmed varying levels of disturbance associated with paved areas, lawns, the swimming pool and previous structures. This creates an opportunity to direct residential development towards the more transformed portions of the property while retaining the more environmentally sensitive areas.

Therefore, no other reasonable and feasible land use has been identified that would meet the Applicant's development objectives while resulting in fewer environmental impacts than the proposed residential development.

c) Alternative Design or Layout

Two alternative layout plans have been considered for the proposed residential development on Erf 2369. Both alternatives retain the same overall residential land use and seek to accommodate the proposed development

within the portions of the site identified as suitable for development. Both sites are 13 855m² in size, of which 5 807.86m² has been allocated as 'high sensitive' areas, leaving 8 047.14m² for development. The principal difference between the alternatives relates to the number and positioning of the residential units and the resulting encroachment into the environmentally high sensitive areas.

The layout alternatives were developed in response to the environmental constraints identified through the Site Sensitivity Assessment. The assessment found that the central and western portions of Erf 2369 have historically been disturbed or developed, while intact vegetation occurs primarily along the eastern and southern portions of the property. These intact areas are recommended to be retained as environmental high sensitive areas. The site is also characterised by existing development-related infrastructure and disturbance, including access and parking areas, lawns, the former hotel swimming pool and remnants of previously constructed structures.

The identified high sensitive areas have been treated as an important environmental constraint in the design and assessment of the proposed development. However, the designation of these areas as high sensitive areas does not, in itself, mean that any encroachment should automatically render the development environmentally unacceptable. Rather, the acceptability of the proposed encroachment should be considered in the context of the mitigation hierarchy, the extent and significance of the residual impact, the feasibility of avoidance, and the rehabilitation and vegetation re-establishment measures incorporated into the development.

The layout has therefore undergone refinement specifically to reduce the extent of development within the identified sensitive areas. The revised layouts demonstrate that avoidance has been applied to the extent reasonably practicable, with the majority of the identified high sensitive areas remaining undeveloped.

Layout Alternative 1

Layout Alternative 1 provides for eight residential units (Units 01–08) distributed across the property, together with garages and an internal road network. As illustrated on the layout plan, development is concentrated predominantly within the central and western portions of the site; however, several components of the proposed development extend into areas identified as environmental high sensitive areas.

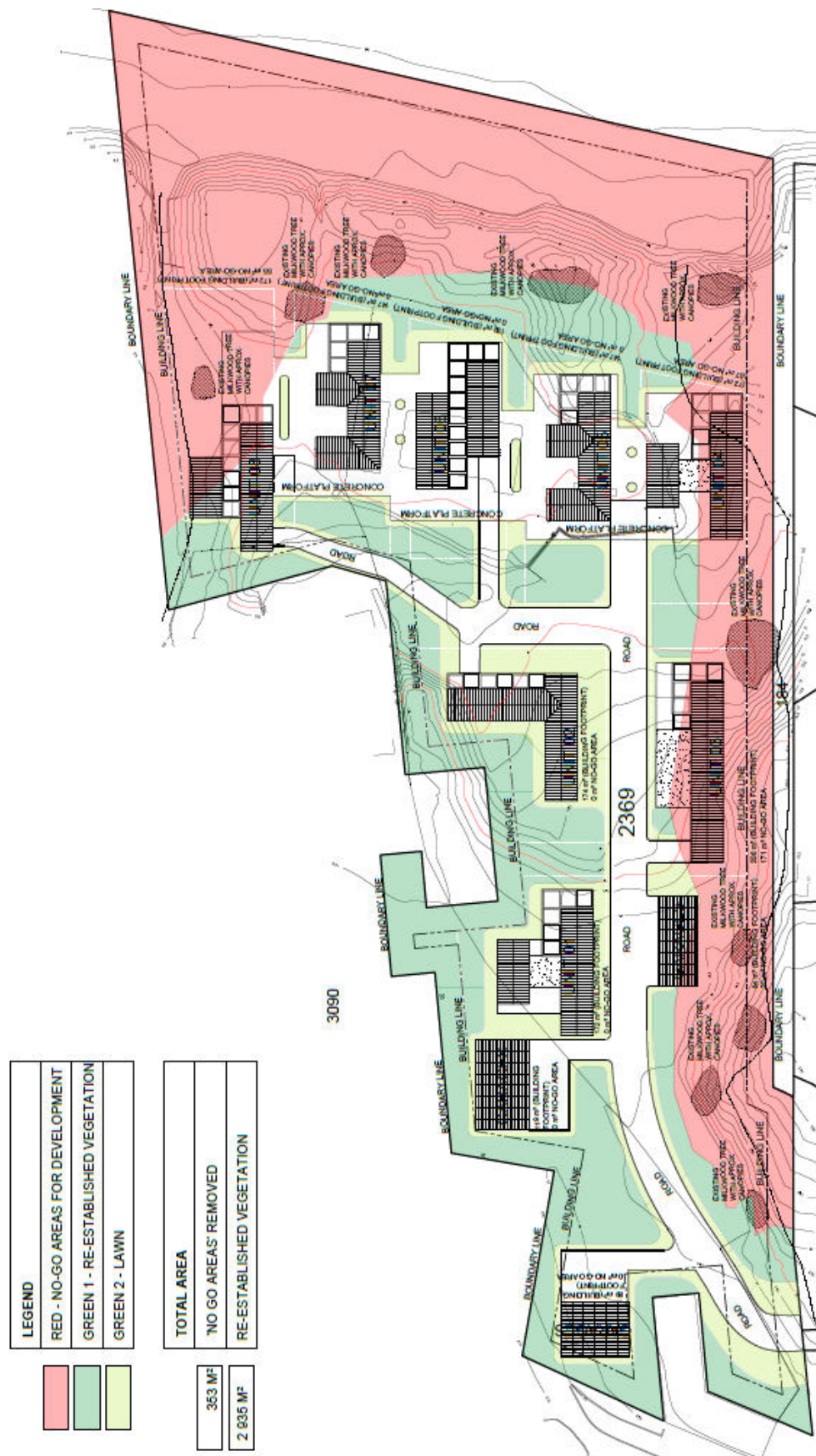


Figure 5: Layout Alternative 1

The plan calculates that approximately 353 m² of identified high sensitive area would be affected/removed under this alternative. It further identifies approximately 2,935 m² of re-established vegetation within the site. The largest individual overlaps (units) with high sensitive areas are indicated in the table below:

Development component	Building footprint	High Sensitive area affected
Unit 03	206 m ²	171 m ²
Unit 04	172 m ²	107 m ²
Unit 08	172 m ²	55 m ²
Garages	84 m ²	20 m ²
Total	—	353 m ²

The remaining building footprints shown on Layout Alternative 1 are recorded as having 0 m² encroachment into the high sensitive areas.

Layout Alternative 2

Layout Alternative 2 represents a refinement of the development footprint in response to the environmental constraints of the site. The revised plan provides for seven residential units (Units 01–07), together with associated garages and internal access.

The principal environmental advantage of this alternative is the substantially reduced encroachment into the identified high sensitive areas. Under Layout Alternative 2, approximately 102 m² of the high sensitive area would be affected, compared with approximately 353 m² under Alternative 1. The plan also identifies approximately 3,168.65 m² of re-established vegetation.

The remaining encroachment into the high sensitive area is associated primarily with two development footprints. The largest individual overlaps (units) with high sensitive areas are indicated in the table below:

Development component	Building footprint	High Sensitive area affected
Unit 03	234 m ²	53 m ²
Unit 07	147 m ²	49 m ²
Total	—	102 m ²

The remaining building footprints shown on the plan are recorded as having no overlap with the mapped high sensitive areas.

The reduction from approximately 353 m² to 102 m² represents a 251 m² reduction, or approximately 71% decrease, in direct encroachment into the mapped high sensitive areas compared with Layout Alternative 1. This demonstrates application of the mitigation hierarchy, particularly the principle of avoidance, through redesign of the development footprint.



Comparison and Preferred Layout

The identified high sensitive areas have been treated as an important environmental constraint in the design and assessment of the proposed development. However, the designation of these areas as high sensitive areas does not, in itself, mean that any encroachment should automatically render the development environmentally unacceptable. Rather, the acceptability of the proposed encroachment should be considered in the context of the mitigation hierarchy, the extent and significance of the residual impact, the feasibility of avoidance, and the rehabilitation and vegetation re-establishment measures incorporated into the development.

The layout has therefore undergone refinement specifically to reduce the extent of development within the identified sensitive areas. The revised layouts demonstrate that avoidance has been applied to the extent reasonably practicable, with the majority of the identified high sensitive areas remaining undeveloped.

Under Alternative 1, the revised development footprint would result in approximately 353 m² of the identified high sensitive area being affected, while approximately 2,935 m² of vegetation would be re-established within the site. This equates to approximately 8.3 m² of re-established vegetation for every 1 m² of high sensitive area affected.

Under Alternative 2, the encroachment is further reduced to approximately 102 m², with approximately 3,168.65 m² of vegetation proposed for re-establishment. This equates to approximately 31 m² of re-established vegetation for every 1 m² of high sensitive area affected.

The proposed encroachment should therefore not be considered in isolation. While a limited loss of vegetation within the identified high sensitive areas would occur, this must be weighed against the substantially larger areas of vegetation that would be retained and/or re-established as part of the development. The revised layouts consequently represent a significant reduction in the development pressure on the sensitive portions of the site compared with the earlier design iterations.

Furthermore, the development is proposed on a property that has historically been intended for development, and the layout has been designed around the environmental constraints identified through the specialist assessment rather than disregarding them. Complete avoidance of all identified sensitive areas would further constrain the developable footprint and may compromise the reasonable and efficient use of the property.

On balance, the limited encroachment into the identified high sensitive areas is considered potentially acceptable, provided that the proposed avoidance, rehabilitation and vegetation re-establishment measures are implemented and secured through the EMP and conditions of Environmental Authorisation. The residual impact should therefore be considered in the context of the development footprint as a whole rather than solely on the basis that some encroachment into an identified high sensitive area occurs.

Of the two alternatives, Alternative 2 provides the stronger environmental outcome, as it reduces direct encroachment into the identified high sensitive area to only 102 m² while providing the greatest area of vegetation re-establishment. Alternative 1 nevertheless remains a potentially feasible alternative, although its residual vegetation impact is greater than that associated with Alternative 2.

	Alternative 1	Alternative 2
Net re-established vegetation	2 582 m ²	3 066.65 m ²
Overall outcome	Net ecological gain	Greater net ecological gain
Relative preference	Acceptable, but less favourable	Preferred

Alternative 1 is therefore acceptable, however, Layout Alternative 2 provides a marginally better environmental outcome by reducing the development intensity from eight to seven residential units and decreasing encroachment into the identified high sensitive areas.

Both Alternative layouts will be assessed.

d) Alternative Technology

There are no technological activities involved in this development and therefore alternative technology to be used in the activity is not applicable to this application.

e) Alternative Operational Aspects of the Activity

There is no alternative to operating this site.

f) Not Implementing the Activity

The No-Go Alternative entails the proposed residential development on Erf 2369 not proceeding and the property remaining in its current state. Under this alternative, neither Layout Alternative 1 nor Layout Alternative 2 would be implemented.

From a biodiversity perspective, the No-Go Alternative would avoid the direct loss or disturbance of vegetation associated with the proposed development. In particular, the intact vegetation occurring along the southern, eastern and northeastern portions of the property would remain undisturbed. These areas have been identified as having elevated ecological sensitivity, with the eastern and northeastern portions providing ecological connectivity between the coastal zone and surrounding vegetated areas, while the eastern vegetated strip also functions as a natural buffer between the development area and the coast. The southern corridor furthermore supports indigenous St Francis Dune Thicket vegetation and specimens of the protected White Milkwood (*SIDEROXYLON INERME*).

The No-Go Alternative would therefore represent the most favourable alternative in terms of avoiding direct disturbance to the existing sensitive vegetation, as the specialist-designated no-go areas would remain unaffected by development.

However, the No-Go Alternative would also mean that the environmental opportunities associated with the proposed redevelopment would not be realised. Erf 2369 is not an entirely natural or undisturbed site. The western portion is highly transformed and includes paved and landscaped areas with little to no remnant natural vegetation, while portions of the central area have also been historically disturbed by previous development. The former hotel swimming pool, paved areas and remnants of previous development remain on the property. Historically, the property formed part of the former St Francis Bay Hotel and contains existing access roads, paved parking areas, lawns and remnants of previous structures.

Under the No-Go Alternative, these transformed and previously developed portions of the property would therefore remain largely in their existing condition. Although some disturbed areas may continue to undergo natural revegetation, the specialist found that portions of the naturally re-established vegetation presently comprise a patchy mosaic of early successional St Francis Dune Thicket species interspersed with a high density of invasive Rooikrans (*ACACIA CYCLOPS*). This vegetation was consequently assigned a Low ecological sensitivity.

Importantly, the No-Go Alternative would also forego the proposed rehabilitation and re-establishment of vegetation incorporated into the development alternatives. While both development alternatives would result in some loss of vegetation within the currently identified high sensitive areas, they also provide for the re-establishment of vegetation elsewhere within the site. On the current layout calculations, Alternative 1 would result in a net increase of approximately 2,362 m² of re-established vegetation, while Alternative 2 would result in a greater net increase of approximately 2,986.65 m². These figures represent a quantitative vegetation balance and should not, however, be interpreted as demonstrating ecological equivalence between re-established vegetation and the intact vegetation occurring within the specialist-designated high sensitive areas.

The No-Go Alternative would further prevent the redevelopment of a historically developed and partially transformed property situated within the existing urban area of St Francis Bay. The opportunity to utilise the lower-sensitivity and transformed portions of the property for residential development, while formally retaining and managing the environmentally sensitive portions of the site, would consequently not be realised. The specialist assessment confirms that development potential does exist on the property, identifying approximately 56.12% of Alternative Layout 1 and 55.15% of Alternative Layout 2 as "go" areas.

Overall, the No-Go Alternative would have the lowest direct impact on the existing sensitive vegetation, as no vegetation clearance associated with the proposed development would occur. It would, however, also result in the loss of the socio-economic and land-use benefits associated with the redevelopment of the property and would forego the opportunity to rehabilitate and re-establish vegetation within currently transformed portions of the site.

The No-Go Alternative should therefore be retained as the environmental baseline against which the development alternatives are assessed. While it performs favourably in terms of the avoidance of direct ecological disturbance, it is not necessarily the preferred overall alternative, particularly where development can be concentrated within transformed and low-sensitivity areas and accompanied by appropriate avoidance, rehabilitation and long-term environmental management measures. Of the development alternatives considered, Alternative 2 remains environmentally preferable, as the specialist specifically favours this option due to its incorporation of additional transformed areas for development.

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.

(Center point of the proposed area where the development will be built – there are no alternative site)

Alternative:

Latitude (S):

Longitude (E):

Alternative S1¹ (preferred or only site alternative)

-34°	'165055	24°	'830571
o	'	o	'
o	'	o	'

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

o	'	o	'
o	'	o	'
o	'	o	'

Alternative S2 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

o	'	o	'
o	'	o	'
o	'	o	'

¹ "Alternative S.." refer to site alternatives.

Alternative S3 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

o	‘	o	‘
o	‘	o	‘
o	‘	o	‘

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 A1² (preferred activity alternative)

13855m² is total site.
10 920m² will be developed and
2 935m² will be kept intact.
(Thus 21% of the site will remain intact).

Alternative A2 (if any)

13855m² is total site.
10 686.35m² will be developed and
3 168.65m² will be kept intact.
(Thus 23% of the site will remain intact).

Alternative A3 (if any)

m²

or, for linear activities:

² "Alternative A.." refer to activity, process, technology or other alternatives.

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)

m²

Alternative A2 (if any)

m²

Alternative A3 (if any)

m²**5. SITE ACCESS**

Does ready access to the site exist?

YES**NO**

If NO, what is the distance over which a new access road will be built

m

Describe the type of access road planned:

Philippa Place is a Class 5B residential street serving a total of 12 residential properties. The road is a cul-de-sac 5m wide and is not kerbed. The road is in a poor condition.



Figure 7: Philippa Place road



Figure 8: Entrance to the property must still be constructed



Figure 9: Access configuration for the proposed development (information obtained from the TIA).

The Traffic Impact Assessment (TIA) (see Appendix D6) indicated that the access to the proposed development is proposed via Erf 2821, an Erf between Erf 2369 and Philippa Place which is 3m wide.

Provided any vegetation or obstructions in the road reserve are cleared, sight distance from the proposed access is clear along both directions in Philippa Place.

In terms of access control, the TIA proposed that the access to the development will be security controlled. Given a queued vehicle measures a minimum of 6.5m it is recommended that any security gate be set back a minimum of 6.5m from the road edge.

In addition, to ensure that visitors do not impeded residents, it is further recommended that the security gate system include a control mechanism such that entering vehicles are able to enter immediately. Exiting vehicles will be unable to do so until an entering vehicle has passed through the access way completely.

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. See Appendix A4.

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.

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; (See Appendix A1 & A2).
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site; (See Appendix A1 & A2).
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites; (See Appendix A6).
- 6.4 the exact position of each element of the application as well as any other structures on the site; (See Appendix A1, A2 & A3)
- 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; (See Appendix A5).
- 6.6 all trees and shrubs taller than 1.8 metres (See Appendix A1 & A2);
- 6.7 walls and fencing including details of the height and construction material (See Appendix A1 & A2);
- 6.8 servitudes indicating the purpose of the servitude (See Appendix A4 & A5);
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto) (See Appendix A1 & A2):
 - 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 (See Appendix A1 & A2); and
- 6.10 the positions from where photographs of the site were taken (See Appendix B).

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.

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.

9. ACTIVITY MOTIVATION

9(A) SOCIO-ECONOMIC VALUE OF THE ACTIVITY

What is the expected capital value of the activity on completion?

±R 12 000 000

What is the expected yearly income that will be generated by or as a result of the activity?

±R500 000

Will the activity contribute to service infrastructure?

YES ~~NO~~

Is the activity a public amenity?

~~YES~~ **NO**

How many new employment opportunities will be created in the development phase of the activity?

Not available at this stage

What is the expected value of the employment opportunities during the development phase?

R1 000 000

What percentage of this will accrue to previously disadvantaged individuals?

75%

How many permanent new employment opportunities will be created during the operational phase of the activity?

Not available at this stage

What is the expected current value of the employment opportunities during the first 10 years?

R1 000 000

What percentage of this will accrue to previously disadvantaged individuals?

75%

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

The need and desirability of the proposed development must be considered within the context of the historical use and transformation of Erf 2369, its location within the established residential area of St Francis Bay, the existing development rights associated with the property, the environmental sensitivities that have subsequently become established on portions of the site, and the availability of engineering services.

Need for the development

Erf 2369 is not a previously undeveloped or pristine untouched coastal property. Historically, the property formed part of the former St Francis Bay Hotel site. During approximately 2000, the original hotel property was subdivided as part of a development proposal that included residential sectional-title townhouses, a hotel component, shared access and parking, and a swimming pool. Although that development scheme was never completed, substantial transformation of the site had already occurred, including mechanical terracing, paved areas, lawns, a swimming pool and partial construction associated with a pool bar/restaurant.

The hotel subsequently burned down sometime during 2003 - 2006, after which the site remained largely undeveloped. Natural and secondary vegetation has progressively re-established across portions of the property. This historical context is important when considering the need for the proposed development: the application does not represent the opening of a new area for urban development, but rather the proposed redevelopment of a historically developed and disturbed property.

The property is currently zoned for high-density residential development, while the Applicant proposes to establish only eight or seven detached residential dwellings, each with an associated garage and access to an internal road network. The current proposal therefore represents a comparatively limited residential redevelopment of a property already intended for residential development. The proposed development comprises eight/seven (depending which layout plan will be approved) fully serviced dwellings rather than seeking to maximise the development potential that may otherwise be associated with the existing high-density residential zoning.

The need for the project is consequently primarily associated with the beneficial and appropriate reuse of an existing urban property that has remained partly vacant and underutilised following the destruction of the former hotel. The proposal would enable the transformed portions of the property to be brought back into productive residential use while simultaneously providing an opportunity to formalise the environmental management of the remaining natural and rehabilitated portions of the site.

This is particularly relevant because the site presently contains remnants of its former development, including paved driving and parking areas, lawns, the former hotel swimming pool, and structural remnants associated with previous development. Leaving the property undeveloped would avoid the environmental impacts associated with new construction, but would not in itself remove these historical disturbances or guarantee the active rehabilitation, alien vegetation management and long-term ecological management proposed as part of the current development.

Desirability of the location

From a land-use perspective, residential development is compatible with the surrounding urban environment. Erf 2369 is bordered predominantly by existing residential development, including St Francis Villas to the west,

St Francis Court to the north, and residential properties to the south, while the coastal zone lies to the east. The rehabilitation specialist similarly describes the surrounding land use as formal built-up residential areas to the south and west, dense residential development to the west and further north, natural dune/thicket vegetation to the immediate north and the ocean to the east.

The proposed residential use would therefore not introduce a fundamentally incompatible land use into the area. Rather, it would represent the redevelopment of an existing urban property for a use consistent with both its residential setting and its existing high-density residential zoning.

The development is also preferable, from a broader spatial-efficiency perspective, to accommodating the same development demand through the expansion of the urban footprint into an entirely undeveloped site. Existing urban land that is already transformed and located adjacent to established residential development and municipal infrastructure should, where environmentally acceptable, be utilised efficiently before development pressure is directed towards previously undeveloped areas.

However, the desirability of developing Erf 2369 cannot be determined from its zoning and urban context alone. The site has developed ecological value during the period in which it remained largely undeveloped, and this must be recognised in determining an appropriate development footprint.

Environmental opportunities and constraints

The specialist investigations demonstrate that Erf 2369 contains a combination of historically transformed areas and ecologically sensitive areas. The central and western portions have historically been disturbed or developed, whereas portions of the eastern and southern boundaries remain ecologically intact and contribute to a vegetated corridor associated with the coastal environment.

In particular, the eastern portion contains intact St Francis Dune Thicket that functions as both a buffer between the developed portions of the property and the coastal zone and as an ecological corridor connecting vegetation to the north and south. Additional intact vegetation occurs along the northern and southern portions of the property. Conversely, the central portion contains secondary regrowth within areas previously occupied by the former hotel and is substantially affected by alien vegetation.

The environmental desirability of the project therefore depends strongly on where development is located within the property, rather than simply whether development occurs.

The Site Sensitivity Assessment specifically identified development opportunities and constraints and mapped areas considered suitable and unsuitable for development. The specialist recommended that intact St Francis Dune Thicket on the eastern portion of the site, together with intact vegetation along the southern and northeastern portions, be treated as high sensitive areas.

The current layout has subsequently sought to integrate these environmental constraints into the development design. Under the eight-unit layout (Alternative Layout 1), the total site area is approximately 13 855 m², of which approximately 10 920 m² would form part of the developed/managed development area and approximately 2 935 m² is identified for re-established vegetation, representing approximately 21% of the property. The layout plan further identifies approximately 573 m² of specialist-designated high sensitive vegetation that would be affected, while showing approximately 2 935 m² for re-established vegetation.

Accordingly, although the development would result in unavoidable loss of some existing vegetation, it also incorporates a substantial rehabilitation component and results in a 1:5 ratio (for every 1m² that is disturbed in the high sensitive area, 5m² is rehabilitated/conserved elsewhere on the property). Thus the quantitative

vegetation balance indicates that the proposed re-establishment exceeds the areas disturbed in the high sensitive area.

This should, however, not be interpreted as meaning that newly rehabilitated vegetation is ecologically equivalent to established intact vegetation. The mitigation hierarchy is a structured approach to managing biodiversity impacts. It consists of a sequence of steps that must be followed to minimize negative effects on biodiversity

Thus, the avoidance of intact vegetation remains preferable. In this case full avoidance is not possible, thus minimization of the impact was considered to reduce the severity of impacts that cannot be completely avoided.

An Alternative Layout Plan 2 was designed with a seven-unit layout, the total site area is approximately 13 855 m², of which approximately 10 686.35 m² would form part of the developed/managed development area and approximately 3 168.65 m² is identified for re-established vegetation, representing approximately 23% of the property. The layout plan further identifies approximately 182 m² of specialist-designated high sensitive vegetation that would be affected, while showing approximately 3 168.65 m² for re-established vegetation.

Accordingly, although the development would result in unavoidable loss of some existing vegetation, it also incorporates a substantial rehabilitation component and results in a 1:17 ratio (for the 1m² that is disturbed in the high sensitive area, 17m² is rehabilitated/conserved elsewhere on the property).

Both the Site Layout Plans provide a combination of avoidance and rehabilitation. However, the rehabilitation component should be regarded as mitigation and ecological enhancement of previously disturbed portions of the site rather than a direct substitute for intact habitat.

This distinction is particularly important in demonstrating that the need and desirability assessment has applied the mitigation hierarchy appropriately: avoidance of sensitive vegetation remains the first priority, followed by minimisation of unavoidable impacts and rehabilitation of disturbed areas.

Rehabilitation and long-term environmental management

A significant environmental benefit associated with the proposal is that redevelopment would be accompanied by active rehabilitation and long-term management of portions of the property.

The Vegetation and Landscape Rehabilitation Plan identifies its primary objective as stabilising degraded, disturbed or cleared beachfront dune areas through the reinstatement of self-sustaining indigenous vegetation, erosion management, invasive species control and restoration of ecological functioning. The rehabilitation programme specifically includes restoration of dune-front areas and dune vegetation along the eastern portion of Erf 2369.

This is particularly relevant because the site is situated within a dynamic coastal environment subject to erosion. The rehabilitation specialist emphasises the role of dune vegetation in restricting wind-driven sand movement, rebuilding dune volume, buffering storm impacts and maintaining biodiversity. Alien vegetation, including Rooikrans (*Acacia cyclops*) and Port Jackson Willow (*Acacia saligna*), has also been recorded and requires ongoing management.

The rehabilitation programme is not proposed as a once-off landscaping exercise. The specialist indicates that successful rehabilitation is expected to occur over several years, with the objective of establishing surviving natural dune vegetation followed by continued vegetation development and alien vegetation management. The

management approach is intended to continue indefinitely, particularly in relation to alien vegetation control and beachfront dune stabilisation.

This provides an environmental management opportunity that would not necessarily arise under the No-Go Alternative, where the site could simply remain in its current condition without the implementation of the rehabilitation obligations associated with the proposed development.

Availability of municipal engineering services

The desirability of the development is further supported by its location in an already serviced urban environment.

The Civil Services Availability Report specifically assessed water supply, sewerage and stormwater management for eight proposed dwellings and concludes that bulk service connections are available for water, sewerage and stormwater discharge, subject to the engineering measures recommended in the report.

The estimated average daily water demand for the eight dwellings is approximately 14.4 kl/day, with a calculated peak-hour domestic demand of 0.767 l/s. The engineering report recommends a connection to the municipal water main, together with a booster connection to meet fire-flow requirements. The peak sewage discharge is estimated at approximately 0.524 l/s, with sewage proposed to be collected through an on-site reticulation system and pumped to the existing municipal sewer infrastructure in Diana Crescent.

Stormwater management has similarly been incorporated into the engineering design. The report recommends distributing post-development runoff through three existing discharge channels and establishing three detention areas to temporarily contain major storm runoff and promote infiltration into the sandy soils before controlled overflow towards the beach.

The availability of existing municipal infrastructure supports the principle of redevelopment at this location and reduces the need to extend bulk infrastructure into previously undeveloped areas. The detailed design and implementation of these services must nevertheless comply with municipal requirements and the recommendations of the relevant engineering and environmental specialists.

Consideration of the No-Go Alternative

The No-Go Alternative would result in Erf 2369 remaining substantially in its current state and would avoid the direct vegetation clearance and construction-related impacts associated with the proposed residential development. From a purely ecological avoidance perspective, this alternative would therefore have the lowest immediate impact on the existing intact vegetation.

However, the No-Go Alternative must also be considered against the existing condition, planning context and historical use of the property. Erf 2369 is neither pristine nor wholly natural. It contains substantial historically transformed areas associated with the former hotel and subsequent development works. The specialist assessment confirms that the central and western portions of the property have historically been disturbed or developed, while the principal ecological sensitivities are concentrated along the eastern, southern and northeastern portions.

Not proceeding would consequently preserve the existing ecological condition but would also leave the historically transformed portions of the property underutilised and would forego the proposed formal rehabilitation, alien vegetation management and long-term management of the coastal vegetation.

The No-Go Alternative therefore remains an important environmental baseline and performs best in terms of absolute avoidance of new disturbance. However, it is not automatically the most desirable outcome when the social, planning, land-use and environmental management considerations are considered collectively.

Overall need and desirability

On balance, the redevelopment of Erf 2369 for residential purposes is considered needed and desirable, subject to strict environmental controls and implementation of the mitigation hierarchy.

The principal motivation is that it represents the appropriate redevelopment of a historically developed and substantially transformed property within an established residential area and on land already zoned for high-density residential purposes, however low density development is proposed.

At the same time, the environmental sensitivity of the property cannot be disregarded. Development is therefore desirable only insofar as the final layout concentrates development within historically transformed and lower-sensitivity areas, minimises encroachment into specialist-designated no-go areas, retains existing indigenous vegetation and protected trees wherever reasonably possible, and implements the approved rehabilitation and long-term management measures.

The project provides an opportunity to achieve a more balanced land-use outcome whereby an existing urban property is returned to productive residential use while substantial portions of the site are retained or re-established as indigenous vegetation and actively managed. The proposed rehabilitation of approximately 2 935 m² or 3 168.65m² (depending which layout plan will be approved), together with ongoing dune stabilisation and alien vegetation management, represents a meaningful environmental benefit, although it does not negate or replace the ecological value of intact vegetation that may be lost.

Accordingly, from an EAP perspective, the principle of residential redevelopment of Erf 2369 is considered reasonable and desirable. The acceptability of the development is, however, dependent on the final development footprint, compliance with the specialist recommendations, implementation of the Rehabilitation Plan and EMP, appropriate coastal and stormwater management, and the avoidance and long-term protection of environmentally sensitive portions of the property to the greatest extent reasonably practicable.

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

The proposed development is expected to provide a number of socio-economic and land-use benefits. The redevelopment of Erf 2369 will enable a historically developed and partly transformed property within an established residential area to be returned to productive residential use.

The principal benefits include:

Economic activity and employment: Construction of the proposed dwellings will generate temporary employment and expenditure on building materials, contractors and associated professional and construction services. During the operational phase, further opportunities may arise through property maintenance, landscaping, security and other household-related services. The extent of these benefits has not been quantified.

Contribution to the municipal revenue base: Development of the property will generate potential additional municipal revenue through applicable property rates and service charges associated with the residential properties. This revenue contributes to the municipality's broader ability to provide and maintain services.

Efficient use of previously developed urban land: The proposal makes use of a property that has historically accommodated development and is situated within an established residential area, rather than establishing the proposed residential use on an entirely undeveloped greenfield site.

Environmental rehabilitation and management: The development incorporates formal rehabilitation of disturbed portions of the property, together with alien vegetation management and the long-term management of retained and re-established indigenous vegetation. These measures provide broader environmental benefits through improved vegetation cover, dune stabilisation and ecological management of the site.

Additional residential opportunities: The development will provide additional residential properties within St Francis Bay. However, as no specific housing-demand assessment has been undertaken, this benefit should not be presented as addressing an identified housing shortage.

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

The proposed development is expected to provide the following benefits to the local St Francis Bay community:

Local employment and expenditure: The construction phase will create temporary employment and opportunities for local contractors, suppliers and service providers. Where practicable, local labour and businesses should be prioritised.

Ongoing service opportunities: Once developed, the residential properties are likely to generate ongoing demand for services such as property maintenance, gardening, landscaping, security and other household-related services.

Improvement and productive use of the property: The development will facilitate the redevelopment of a historically developed and partly transformed property that has remained largely undeveloped following the loss of the former hotel.

Environmental rehabilitation: Implementation of the Rehabilitation Plan will provide for rehabilitation of disturbed areas, management of alien invasive vegetation and ongoing management of retained and re-established indigenous vegetation. This may contribute positively to the environmental quality of the immediate area.

Municipal revenue: The developed properties will potentially contribute additional property rates and service charges to Kouga Municipality, thereby contributing to the municipal revenue base from which services and infrastructure within the broader community are funded.

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:

Response:

Legislation			
National Environmental Management Act (Act No 107 of 1998). Section 24 of NEMA stipulates that a specific activity/ties in a specific geographical area may not commence without environmental authorisation from the competent authority.	DEDEAT Eastern Cape	1998	An environmental authorisation application was submitted in accordance with Section 24 of NEMA.
Environmental Impact Assessment Regulations: 324, 325, 326 & 327 The EIA Regulations list various activities that are associated with the proposed accommodation development, that require authorisation.	DEDEAT Eastern Cape	Applicable from 7 April 2017	Listed activities were identified and an application was submitted for authorising the listed activities.
National Water Act (No. 36 of 1998). If the development triggers water uses in terms of Section 21 of the NWA, then an application must be submitted.	DWS Kouga	1998	A WULA will not be necessary.
National Environmental Management: Biodiversity Act The NEMBA requires a special authorisation for any activity which may impact on threatened or protected species or ecosystems as species or ecosystems as specified in terms of Sec 52.	DEA	2004	The terrestrial biodiversity assessment did not confirm the presence of any threatened or protected species listed in terms of NEM:BA during the site survey. Several Species of Conservation Concern were identified as potentially occurring within the study area and surrounds; however, none were recorded during the field survey.

The Alien and Invasive Species Regulations (2014) under the Act specify the legal obligations of landowners with respect of invasive plant and animal species that occur on their properties.			White Milkwood (SIDEROXYLON INERME) individuals were, however, recorded within areas of intact vegetation on Erf 2369. White Milkwood is a nationally protected tree species in terms of the National Forests Act, 1998 (Act No. 84 of 1998), and may not be cut, damaged, destroyed, uprooted or otherwise affected without the required permit. The development layout should therefore avoid the identified Milkwood trees and their associated canopies as far as practicable. Should any protected Milkwood tree require disturbance or removal, the necessary permit must be obtained prior to such activity.
National Environmental Management Air Quality Act 2004 (NEMAQA) The Activity is not listed/regulated in terms of the Act. However, the National Dust Control Regulation under GN-R827 of 1 November 2013 specifies dust-fall rates for residential and non-residential areas.	DEA	2005	Preventive measures must be employed to minimise dust-fall during residential establishment/preparation.
National Environmental Management: Integrated Coastal Management Act 2008 (No. 24 of 2008) The proposed development is within 1km from the high-water mark.	DEA	2009	Listed activities: GNR 327: 19A GNR 324 Activity 12 (a)(iii) was applied for and fulfils the requirements.
National Environmental Management: Protected Areas Act The site is located within 5km from various nature reserves, e.g. the Sand River Private Nature Reserve, the Thula Moya Nature Reserve, Irma Booysen Florareservaat and the Rebelsrus Private Nature Reserve)	DEA	2004	Listed activities: GNR 324: Activity 4 (a) (i) (ee) & (gg) Activity 12 (a) (ii)& (iii)

National Environmental Management Waste Act, 2008 (Act 59 of 2008) The development will not produce solid waste during the construction and operational phases in excess of the stipulated thresholds. The development will not produce effluent during the construction and operational phases in excess of the stipulated thresholds. The development will not produce hazardous waste in excess of the stipulated thresholds. During the construction and operational phases waste will be disposed of onsite.	DEA and Provinces	2008	The proposed development would not require a Waste License for the generation, storage, treatment, recycling or disposal of general- or hazardous waste
Spatial Planning and Land Use Management Act (No. 16 of 2013) SPLUMA is the legislation in terms of which developers submit the land use application to the local municipality.	Municipal Planning Tribunal	Applicable from 2015	Chapter 2 of SPLUMA sets out Planning Principles which need to be adhered to. The site is currently zoned for residential.
National Road Traffic Act, 1996 (Act 93 of 1996) The Act sets out the rules pertaining to who can drive a vehicle, the qualifications one has to have before one can be licensed to drive a vehicle, how one may operate a vehicle on the various types of roads and what happens in the case of a person operating a vehicle in a reckless or negligent manner or failing to comply with the rules of the road.	South African National Road Agency Limited	1996	The developer will ensure that subcontractors are sensitized to the matter and provide the necessary transport training. The principles will apply to all road users to not conduct reckless driving and speeding, which must be done in collaboration with the Traffic Department of the Kouga Municipality.
National Heritage Resources Act (No 25 of 1999)	Eastern Cape Heritage	1999	A Phase I AIA and Phase I PIA were completed and an application was submitted on the SAHRIS system

Provides for the protection of Heritage resources.	Resources Authority		for ECPRHA to assess the application.
Alien and Invasive Species Regulations, 1 August 2014 The Regulations categorise the listed invasive species, list restrictive activities about the release and spread of invasive species, provide a national framework to monitor, control and eradicate invasive species, regulate permits, provide risk assessment framework, and list compliance and enforcement regulations.	DEA	2014	The development could cause the spread of invasive species. Current alien vegetation species will be removed and endemic species are proposed for landscaping. There is also a rehabilitation plan provided with this application.
The National Forest Act No. 84 of 1998 (NFA) & List of Protected Tree Species under the National Forest Act, 1998 (Act No. 84 of 1998) Provides for the protection of certain listed tree species.	Department of Environment, Forestry and Fisheries	1998 & 1999	White Milkwood (SIDEROXYLON INERME) was identified on site. A permit shall be obtained before the removal of such species.
Occupational Health & Safety Act, 1993 (Act No. 85 of 1993) Every employer shall provide and maintain, as far as reasonably practicable, a working environment that is safe and without risk to the health of his employees.	Department of Labour	1993	Construction employers and employees will have to adhere to the Health & Safety rules to ensure a safe working environment. The construction employers must provide a 'Builders Code of Conduct' if required by the DEDEAT.
Policies, Plans & Ordinances			
World Heritage Convention Act, 1999 and UNESCO Man & Biosphere Programme The site is not located in any area identified in terms of an International Convention and is not located in the core or buffer area of a proclaimed Biosphere Region.	DEA	1999	No response is required.

Kouga Municipality Spatial Development Framework The Kouga SPD gives effect to the vision, goals and objectives of the municipal Integrated Development Plan.	Kouga	2021	No rezoning is required.
The Subtropical Thicket Ecosystem Project (STEP) The STEP aims to integrate the natural environment into land-use decisions at the municipal level to facilitate and achieve sustainable development.	Kouga	2006	In terms of the STEP programme, the conservation status of the land concerned is rated 'Impacted Areas' and is privately owned. The municipality is not earmarking this property for restoration.
The Eastern Cape Biodiversity Conservation Plan (ECBCP) The Bioregional Plan provides the spatial plan that shows terrestrial and aquatic features in the Eastern Cape that are critical for conserving biodiversity and maintaining ecosystem functioning.	DEA & ECPTA	2019	A portion of the site falls within a terrestrial CBA1 according to the Eastern Cape Biodiversity Plan, however a specialist was appointed to ground truth the site.
Eastern Cape the Provincial Nature Conservation Ordinance of 1974 (PNCO) The Provincial Nature Conservation Ordinance (PNCO) protects the endangered and protected flora outside of protected areas. Species classified as Schedule 3 are endangered species. Species classified as Schedule 4 are protected species. A permit is required for the removal or destruction of species on the PNCO list.	DEA & ECPTA	1974	A Terrestrial Specialist was appointed to conduct the site inspection and identify species of special concern and protection.
Guidelines			
Draft National Guideline for Consideration of Climate Change Implications in Applications for	DEA	2021 (draft released for public comment)	It is an unpromulgated draft guideline document, however Section 3 titled: Climate Change

Environmental Authorisations The Draft National Guideline aims to create a consistent approach for the incorporation of climate change considerations in EIA's, WML's and AEL's. I&AP's must be provided with the minimum requirements for climate change assessment in these applications.			Assessment in the BAR meets the minimum requirement.
The National Biodiversity Offset Guideline Biodiversity offsetting consists of actions that are taken to comply with biodiversity offset outcomes required in conditions in EAs, Biodiversity Offset Implementation Agreements and environmental management programmes (EMPrs). The desired outcome of biodiversity offsets is to ensure that biodiversity is secured in the long term through the protection and appropriate management of ecosystems and species.	DEA	2023	The applicable guidelines were considered and the mitigation hierarchy applied. Of the total 13855 m ² site, 3508 m ² was identified as sensitive and recommended as a high sensitive area. - Alternative 1: 21% of the site remains undeveloped within the sensitive area. 573m² is proposed to be developed in the sensitive area. However, for every 1 m² disturbed, approximately 5 m² will be rehabilitated. - Alternative 2: 23% of the site remains undeveloped within the sensitive area. 182m² is proposed to be developed in the sensitive area. However, for every 1 m² disturbed, approximately 17 m² will be rehabilitated. Both alternatives therefore minimise impacts on the sensitive area while providing for rehabilitation, with Alternative 2 achieving the greater avoidance and rehabilitation benefit.
DEA (2010) IEM Guideline 7 Public Participation The EIA Regulations stipulate that "Public Participation" must be incorporated in the EIA process. The Guideline aims to ensure that a fair Public Participation Process is followed.	DEA	2010	A Public Participation Process according to the Guideline is incorporated into Section F and Appendix E of this report.

See Appendix F (EMP) for a full discussion on applicable Legislation

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	NO
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If yes, what estimated quantity will be produced per month?

± 20m³/month during construction.

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

Construction waste will comprise mainly of previous building foundations, excess spoil material from excavation and trenching activities, vegetation, construction material, general waste from the site personnel, paints, oil, bitumen spills, solvents, and sewage. During the construction phase, the disposal of solid waste will be the responsibility of the developer.

Spoil material can be reused as backfill or erosion mitigation works, while excess spoil must be disposed of off-site. An area on the proposed site must be earmarked for the storage of spoil material on-site. The designated area must be easily accessible for dumping trucks to collect the spoil material, which must be carted to a registered landfill site.

General waste must be kept in bins within the construction site and should be collected and disposed of every week or alternatively, it should be disposed of into a skip and transported to the nearest registered landfill site.

Spent canisters for paints and solvents are the responsibility of the respective contractor and are disposed of at a suitable landfill site or recycled.

During the operational phase, house waste consists mainly of domestic waste such as glass, paper, plastics, with a limited quantity of foodstuffs.

Once the site is operational, the refuse will be collected by the Kouga Municipality and disposed of at the registered waste disposal site as per the normal practice for business premises.

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

Spoil material will be re-used where possible as backfill material and excess will be disposed of at the nearest registered Municipal Dumping Site.

Will the activity produce solid waste during its operational phase?

YES	NO
-----	----

If yes, what estimated quantity will be produced per month?

± 0.3m³ /day

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

Waste will be disposed of at a registered landfill site.

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

N/A

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?

YES

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?

YES

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

During the construction phase, substances such as stored oils and fuels, as well as accidental leaks or spills from construction vehicles and machinery, may contribute to contaminated runoff during periods of rainfall. The volumes are expected to be limited, and appropriate mitigation measures can be implemented to minimise the risk of soil, surface water and groundwater contamination.

Portable toilets will be provided for construction workers during the construction phase. These facilities must be appropriately positioned, regularly serviced by an approved service provider, and maintained in accordance with applicable health and environmental requirements.

Please see Section D for the full discussion of potential impacts and associated mitigation measures.

During the operational phase, sewage generated by the proposed eight residential dwellings will be discharged to the municipal sewerage system. The Engineering Services Report estimates a peak daily dry weather flow (PDDWF) of 6.4 kl/day for the eight dwellings, with an instantaneous peak dry weather flow of 0.185 l/s based on the NPDG methodology. Using the more conservative NMBM sewer design requirements, the average dry weather flow (ADWF) is estimated at 6.0 kl/day, with an instantaneous peak dry weather flow of 0.262 l/s and a

peak wet weather flow of 0.524 l/s. The Engineering Services Report adopts the latter value of 0.524 l/s as the design peak wet weather flow.

A 160 mm diameter PVC-U gravity sewer, laid at a minimum gradient of 1%, is proposed within the development to collect sewage from the eight dwellings. Sewage will drain to a proposed small private pump station, from where it will be pumped via a rising main through the adjacent public open space to the existing municipal sewer manhole in Diana Crescent. The rising main is proposed to follow an existing footpath, thereby reducing disturbance to the dense indigenous vegetation along the existing fence line.

The receiving municipal gravity sewer discharges to the Aida Pump Station, from where sewage is pumped to the St Francis Bay Wastewater Treatment Works, located approximately two kilometres away.

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO
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If yes, what estimated quantity will be produced per month?

N/A

Will the activity produce any effluent that will be treated and/or disposed of on site?

Yes	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?

YES	NO
-----	----

If yes, provide the particulars of the facility:

Facility name:	Sea Vista Wastewater Treatment Works		
Contact person:	Haroon Prince		
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:	hprince@kouga.gov.za	Fax:	

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

No recycling of waste water will be undertaken for this development.

Will the activity release emissions into the atmosphere?

YES	NO
YES	NO

If yes, is it controlled by any legislation of any sphere of government?

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:

During the construction phase, there will be localized liberation of dust generated, due to vegetation clearing, demolition of the old hotel foundations, excavations, and the hauling of materials around the site. The wind direction in the area is generally westerly to south-westerly with dominantly easterly winds during the summer months. The wind erosion susceptibility on the site is labelled as very high according to the Natural Agricultural Resources Atlas of South Africa. There is a possibility that residential area that lies north and west of the site could be negatively impacted by the dust during the construction. Dust would need to be suppressed during the construction phase through regular damping down of the study area and erecting shade cloth to barricade the site off.

Once in the operational phase, this impact should be eliminated since the bare grounds would either be covered with buildings, roads, or pathways and open ground would be planted with grasses, gardens, and natural vegetation between undeveloped areas, as per the layout plan that will provide ground cover to the area.

Also, during the construction phase, there would be localized exhaust emissions, but it should not increase significantly in concentrations of hydrocarbons, nitrogen oxides, and carbon monoxide.

The burning of waste during the construction phase should be prevented and fires for heating and cooking purposes should only be permitted in designated areas.

During the operational phase a very limited increased car emissions may occur due to increased traffic associated with 8/7 house units.

Also, the type of facility that will be residential, there is no industrial site planned and therefore no mechanical plant that will be omitting emissions into the atmosphere as one would expect from a factory.

In light of the above, there is no need to apply for an air emissions license.

Will the activity generate noise?

YES	NO
YES	NO

If yes, is it controlled by any legislation of any sphere of government?

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:

The proposed area is close to many public receptors, with the St Francis Court directly abutting the property.

The biggest impact will be experienced during the construction phase, earthmoving machinery will strip the topsoil layers and vegetation in preparation for construction, excavation machinery for the digging of the foundations, TLB's, trucks hauling material to and from the site, and working personnel onsite. The level of noise has not been formally measured, but generally, noise levels at the source of an earthmoving machine are 60-75dB. Within 10m from the source, noise levels abate to about 63dB, within 20m noise levels will abate to about 57dB, and within 60m to about 47dB. The nearest residents that are about 20m away from the proposed area, will therefore be the most affected during the construction phase. Considering abutting developments might lead to a cumulative impact.

Also, reverse sirens produce a high-pitched, irritating noise and possibly could cause some irritation to abutting residences early in the morning or later at night. Since the fitting of the sirens is a requirement of the OHS Act, there is no mitigation possible, except for preventing operations very early in the morning or late at night. The impact will last for the duration of construction, once operational it will be to the equivalent of normal residential setting.

Personnel on-site should also wear protective gear and clothing to minimize the impact of noise.

Construction should be limited to a workday that starts at 7am and ends at 5pm, which coincides with normal working hours during the week for most people. Construction work over weekends should be restricted to between 7am and 1pm, but no work on Sundays or public holidays.

Once operational, noise levels will be typical of background urban noise levels.

See Section D for the full discussion on impacts.

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
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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:

14.4 kl/d

Does the activity require a water use permit from the Department of Water Affairs?

~~YES~~

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:

Electricity for the proposed eight residential units will be supplied by the local municipality. Keeping in mind that the land is zoned for high density residential development and the applicant is proposing a low-density development. The proposed eight residential units are anticipated to require an electrical supply of approximately 200 A. The existing substation provides a 250 A three-phase supply and therefore has sufficient capacity, in principle, to accommodate the anticipated electrical demand of the proposed development (see Appendix A5).

Where practicable, energy-efficient technologies and design measures should be incorporated into the residential units to reduce electricity consumption. These may include:

- The installation of energy-efficient LED lighting;
- The use of energy-efficient water-heating systems, which may include solar water heaters or other energy-efficient geysers, together with appropriate insulation to minimise heat loss;
- The incorporation of natural lighting and ventilation into the design of the residential units, where practicable, to reduce reliance on artificial lighting and mechanical cooling;
- Appropriate roof and ceiling insulation to reduce heat gain and heat loss and improve the overall thermal efficiency of the residences;
- The use of timers, motion sensors or daylight sensors for external lighting, where appropriate; and
- The potential installation of rooftop solar photovoltaic (PV) systems to supplement municipal electricity supply, where feasible.

The developer and future property owners should, where reasonably practicable, consider further opportunities to improve the energy efficiency and long-term sustainability of the residential development.

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

Energy-efficient lighting will be encouraged, such as LED technology for artificial lighting, rather than standard light fittings to reduce power consumption and increase the life span of the bulbs.

The developer should also consider the installation of solar panels on building roofs to supply power to lights and solar/gas geysers for retail use to reduce the electrical load on the national grid.

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):

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	NO
-----	----

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

All specialist reports must be contained in 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
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Alternative S3 (if any): N/A

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
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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): N/A

Shallow water table (less than 1.5m deep)

YES	NO
----------------	-----------

YES	NO
----------------	-----------

YES	NO
-----	----

Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	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. GROUND COVER

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 - lawn

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.

The eastern portion of the site consists of a corridor of intact St Francis Dune Thicket and acts as a buffer between the development portions of the site and the coastal zone, including an ecological corridor, linking to surrounding intact vegetation, north and south of the area under investigation. While this vegetation is predominantly intact, it is characterised by a number of pedestrian pathways, through the dune system, providing access to the coastal area.

Additional intact portions of the St Francis Dune Thicket occurs on the northern and southern boundaries of the site and have been set aside as ‘high sensitive’ areas for development. Secondary regrowth of St Francis Dune Thicket occurs in the central portion of the site, however it is highly invaded by alien species, which was previously developed as the St Francis hotel that has subsequently burnt down.

Roy de Kock, who is a SACNASP registered Ecological scientist from the BlueLeaf Environmental surveyed the vegetation onsite.

Mr. de Kock indicated that the site comprises a mixture of intact indigenous dune thicket vegetation and transformed residential areas. Approximately 0.81 ha of the 13 855 m² site is covered by intact St Francis Dune Thicket, comprising tall (>1 m), relatively continuous thicket vegetation dominated by indigenous trees and shrubs. The remaining approximately area is transformed and comprises regularly maintained/mown lawn and existing developed surfaces, including buildings, paved areas, parking areas, the swimming pool and associated recreational infrastructure. No natural dune thicket vegetation remains within these transformed portions of the site.

No threatened species were identified on site. One protected tree species (*Sideroxylon inerme* subsp. *inerme* – Milkwood) and three (3) protected plants were identified on site, namely:

Aizoon rigidum (Skaapvygie); *Mesembryanthemum aitonis* (Brakslai); and *Chasmanthe aethiopica* (Small Cobra Lily), all are Least Concern but protected and would require a permit for removal, under the National Forest Act (Act No. 84 of 1998).

The following exotic and/or invasive plant species were observed in the proposed development area:

Yucca aloifolia (Aloe Yucca); *Acacia cyclops* (Rooikrans – AIS Category = 1b); and *Cenchrus clandestinus* (Kikuyu grass).

Exotic plant species with no AIS classification are not considered as problem species as they do not require specific management measures. They should however be monitored and managed on site to ensure that they do not become problematic.

See Appendix D4 for the full report.

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) - Ocean

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

N/A

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: **N/A**

If YES, specify:

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: **N/A**

If YES, specify:

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?

YES	NO
Uncertain	

If YES,
explain:

The Archaeological and Cultural Heritage Impact Assessment identified the remains and foundations of the former St Francis Bay Hotel on the property. The hotel was constructed by approximately 1960/1961 and the remaining structures are therefore older than 60 years and protected in terms of Section 34 of the National Heritage Resources Act, 1999. Although the remaining structures were not considered conservation-worthy and the anticipated heritage impact is low, a permit from ECPHRA will be required where these structures are to be demolished, destroyed or otherwise affected by the proposed development.

No archaeological material, shell middens, graves or other archaeological or historical sites were identified within the proposed development footprint or the immediately surrounding coastal dunes. The site was consequently assessed as having a low archaeological heritage significance.

The Palaeontological Impact Assessment confirmed that the site is underlain by the Nanaga Formation of the Algoa Group, which has the potential to contain fossil material. Although the formation is mapped as having very high palaeontological sensitivity, fossils are sparsely distributed and the specialist concluded that it is very unlikely that the proposed development would result in the loss or damage of palaeontological heritage resources. No objection to the development was raised from a palaeontological perspective, provided that the prescribed fossil chance-find procedure is implemented.

The archaeological and palaeontological chance-find procedures must be incorporated into the EMPr and implemented during construction.

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:

The Screening Tool Report identified the palaeontological theme as having very high sensitivity and the heritage and archaeological theme as low sensitivity.

According to Ms. Celeste Booth (Archaeological and Cultural Heritage Specialist) Impact Assessment, no archaeological material, shell middens, graves or other archaeological sites were found within the development footprint or immediate surrounds, and the site was assessed as having a low archaeological heritage significance. The remains and foundations of the former St Francis Bay Hotel were, however, identified on the property. As these structures are now older than 60 years, they are protected in terms of Section 34 of the National Heritage Resources Act and an ECPHRA permit will be required where they are to be demolished or destroyed. The specialist considered the remaining structures to be not conservation-worthy and the anticipated impact on them to be low.

See Appendix D2 for full report.

According to Dewald Wilken (Palaeontological Specialist) Impact Assessment the site was found to be underlain by the Nanaga Formation of the Algoa Group, which is mapped as having very high palaeontological sensitivity and has the potential to contain fossil material. However, fossils within this formation are sparsely distributed and the specialist concluded that it is very unlikely that the proposed development will result in the loss or damage of palaeontological heritage resources. No objection to the development was raised, provided that the prescribed fossil chance-find procedure is implemented should fossil material be uncovered during construction.

See Appendix D3 for full report.

Will any building or structure older than 60 years be affected in any way?

YES

NO

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES

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.

The online application to SAHRA was submitted, and ECPHRA responded see attached response:

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 ADVERTISEMENT 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.

The application was registered on 12 August 2026. A notice board was erected at the site and a notice was placed in The Kouga Express on 17 September 2026 to notify potential I&AP's to register and/or comment on the proposed project on or before 19 October 2026. If any person does register, they will be allowed to comment until the end of this 30day public participation process.

Written notices were sent to the registered I&AP's:

- A written notice was sent via email on 17 September 2026 to the municipal councillor of Ward 12 (which is the ward in which the site is situated), the Kouga Local Municipality, the Sarah Baartman District Municipality, and the organs of the state that have jurisdiction in respect of any activity on the site, and all directly abutting neighbours.
- Only abutting owners who's contact details could not be obtained will receive a notice at their property.
- All I&AP's are provided the mandatory 30 Day comment period on the Draft BAR, which ends on 19 October 2026.
- All comments received will be submitted in the Public Participation Report and if required, amendments to the BAR will be made.
- The Draft BAR was placed on the Digital Soils Africa website for public access. It will remain on the website for the period to comment.
- No public meeting will be held, unless requested.

Once the public participation is completed, a public participation report will be completed and submitted with the Final BAR to the DEDEAT.

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:

1. Kouga Local Municipality

P O Box 21

Jeffreys Bay

6330

Attention: Municipal Manager

Charl du Plessis

Joezay Reed is the office administrator

jreed@kouga.gov.za

042 200 2200

Attention: Elsa van Biljon (Townplanner)

evbiljon@kouga.gov.za

Environmental Officer: Nomvelo Siwela

nsiwela@kouga.gov.za

Director of Civil and Water Services: Charles de Kock

cdekock@kouga.gov.za

Sea Vista Wastewater Treatment Works: Haroon Prince

hprince@kouga.gov.za

manager of Water Services Authority. Haroon Prince: 0718825236

Kouga Municipality Ward 12 Councillor

Cllr. Lorraine Maree

082 892 4664

lmaree@kouga.gov.za

2. Sarah Baartman District Municipality

Contact Division: Infrastructure and Planning

Tel: 041 508 7099 / 041 508 7111

Email: cmabindla@sbdm.co.za

Address: P O Box 318

32 Govern Mbeki Avenue (Standard Bank Building)

Port Elizabeth

6000

3. Land Claims Commission

Land Claims Commission

Contact Person: Mr Zama Memela (Acting Chief Director: Eastern Cape)

043-7006000. Fax: 043-7433 687

zama.memela@dalrrd.gov.za

4. DWS (Environmental assessment)

Contact Person: Ntombiyamayirha Mpumela and Sonke Ngxeba

Tel: 041 501 0717 073 742 6767

Email: MpumelaN@dws.gov.za or NgxebaS@dws.gov.za

Address: Private Bag X6041

Port Elizabeth

6000

5. Department of Economic Development, Environmental Affairs and Tourism

Contact Person: Andries Struwig

Tel: 041 508 5840 / 079 503 1762
Email: Andries.Struwig@dedea.gov.za
Address: Private Bag X5001
Greenacres
Port Elizabeth
6057

6. Department Forestry, Fishery and the Environment: Oceans and Coast
2 East Pier Shed
East Pier Road
Victoria & Alfred Waterfront
Cape Town
8000
Attention: Dr. Lisolomzi Fikizolo

7. Department of Environment, Forestry and Fisheries (DEFF) Port Elizabeth
Contact Person: Mr. Zinzile Mtotywa
Tel: 063 750 4427 (official) 041 407 4052
Email: zmtotywa@dffe.gov.za
Address: 54 Paterson Road
North End
6000

8. Eastern Cape Parks and Tourism
P O Box 11235
Southernwood
East London
5213
Attention: Ms. Londeka Jilimane (Environmental Planner)
Email: Londeka.Jilimane@ecpta.co.za
Tel: 043 705 4400

List of authorities from whom comments have been received:

N/A - Draft documents are out for public participation and review. If comments are received, this section will be populated accordingly.

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?

YES	NO
-----	----

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

N/A - Draft documents are out for public participation and review. If comments are received, this section will be populated accordingly.

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.

N/A - Draft documents are out for public participation and review. If comments are received, this section will be populated accordingly.

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):

N/A - Draft documents are out for public participation and review. If comments are received, the responses will be formulated and this section will be populated accordingly.

Regional Climate:

Rainfall

The area generally receives between 401 and 600 mm per annum but is mostly elevated in autumn and spring.

Temperature

Daily mean maximum temperatures range between 25.1°C and 27 °C and daily mean minimum temperatures between below 8°C.

Wind Regimes

The prevailing wind directions are predominantly westerlies and easterlies according to the meteoblue.com website.

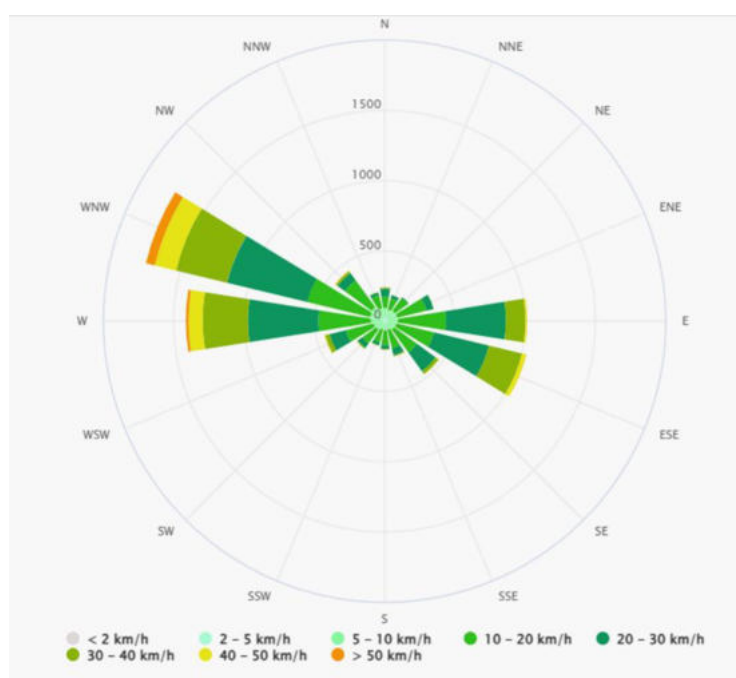


Figure 10: Wind rose in the St Francis Bay area (Credit https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/st-francis-bay_south-africa_8063467).

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

The potential environmental and socio-economic impacts associated with the proposed development and its alternatives were assessed using a qualitative impact assessment methodology. The assessment considers impacts associated with the planning and design, construction and operational phases of the proposed activity, as applicable.

Each identified impact or risk is assessed for the applicable development alternatives, including the No-Go Alternative, with consideration given to both the unmitigated impact and the residual impact following implementation of appropriate mitigation and management measures.

The following assessment criteria are applied:

Nature of the impact

The nature of the impact describes the environmental or socio-economic effect that may result from the proposed activity. The impact is identified as either positive, negative or neutral and describes what environmental aspect or resource may be affected and the manner in which it may be affected.

Extent of the impact

The spatial extent of the impact is considered in terms of whether the effect is:

- Site-specific – restricted to the development footprint or site;
- Local – extending beyond the site into the immediate surrounding area;
- Regional – affecting a broader geographical area; or
- National or greater – where impacts extend beyond the regional scale.

Duration of the impact

The anticipated duration of the impact is assessed as:

- Short-term – generally 0–5 years;
- Medium-term – approximately 5–15 years;
- Long-term – approximately 16–30 years; or
- Permanent – where the impact is expected to remain for the foreseeable future or cannot reasonably be reversed.

Consequence of the impact or risk

The consequence describes the likely environmental or socio-economic outcome should the identified impact occur. Consideration is given to the sensitivity and importance of the affected resource, the magnitude of the potential change and the implications for ecological functioning, environmental quality, land use or socio-economic conditions.

Probability of occurrence

The likelihood of the impact occurring is assessed as:

- Improbable – unlikely to occur;
- Probable – there is a distinct possibility that the impact may occur;
- Highly probable / high probability – the impact is considered likely to occur; or
- Definite – the impact will occur as a consequence of the activity.

Degree of irreplaceable loss of resources

Consideration is given to the extent to which the impact may result in the permanent or irreplaceable loss of an environmental resource, habitat, ecological function, heritage resource or other valued feature. The potential for irreplaceable loss is rated qualitatively from Very Low to High, or regarded as Not Applicable where relevant.

Reversibility of the impact

The degree to which the affected environment or resource could reasonably return to its pre-impact condition is assessed. Reversibility is rated qualitatively from Very Low to High depending on the nature of the affected resource and the ability for natural recovery, rehabilitation or restoration to occur.

Indirect impacts

Indirect or secondary impacts that may arise as a consequence of the primary impact are identified and considered as part of the assessment. These may include, for example, habitat fragmentation, displacement of fauna, erosion, downstream impacts, increased pressure on surrounding resources or secondary socio-economic effects.

Cumulative impacts

Potential cumulative impacts are considered in the context of the proposed development together with existing and reasonably foreseeable activities within the surrounding environment. Cumulative impacts may be positive or negative and are assessed both before and following mitigation.

Significance of the impact prior to mitigation

An overall significance rating is assigned to each impact before mitigation, taking into consideration the nature, extent, duration, consequence, probability, reversibility, potential for irreplaceable loss and cumulative effects of the impact.

Significance is expressed qualitatively as:

Very Low, Low, Medium-Low, Medium, Medium-High, High or Very High, with the impact identified as positive (+), negative (-) or neutral where appropriate.

Degree to which the impact can be avoided, managed and mitigated Following determination of the unmitigated significance, consideration is given to the extent to which the impact can reasonably be:

- avoided through changes to the location, layout, design or implementation of the activity;

- managed through appropriate environmental controls and management measures; and/or
- mitigated to reduce the magnitude, duration, probability or consequence of the impact.

The effectiveness of avoidance, management and mitigation is qualitatively rated according to the circumstances of each impact.

Residual impacts

Residual impacts are those impacts that are expected to remain following the effective implementation of the recommended avoidance, management and mitigation measures. Residual impacts are described to provide an indication of the environmental effect that cannot reasonably be eliminated.

Cumulative impact following mitigation

The cumulative impact is reconsidered following implementation of the proposed mitigation measures in order to determine whether the contribution of the proposed development to cumulative environmental effects would be reduced.

Significance of the impact after mitigation

A final significance rating is assigned after consideration of the proposed mitigation measures and residual impacts. The post-mitigation significance therefore represents the anticipated significance of the impact provided that the prescribed mitigation and management measures are effectively implemented.

The significance ratings presented in the Impact Assessment therefore represent the professional judgement of the EAP, informed by the findings and recommendations of the relevant specialist studies, the sensitivity of the receiving environment, the characteristics of the proposed development and the effectiveness of the proposed mitigation measures. The same assessment approach has been applied consistently to the applicable alternatives to allow for comparison between the development options.

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.

Alternative (preferred alternative)

Assessment of each impact and risk identified for each Alternative below is the Table representing the summary of the significant impact ratings, after mitigation, which is discussed in Appendix G.

Significance colour legend:

Very High	High	Medium-High	Medium	Medium-Low	Low	Very Low
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	Alternative 1:	Alternative 2:	No-Go
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Failure to obtain and comply with all applicable statutory approvals and associated conditions could lead to delays in project implementation, increased financial costs and potential legal consequences arising from regulatory non-compliance.	Medium (-)	Very Low (-)	Negligible
Economic viability and project implementation timeframe.	Low (-)	Low (-)	Medium (-)
Risk of infrastructure failure.	Low (-)	Low (-)	Negligible
CONSTRUCTION PHASE			
Potential soil contamination from hydrocarbons, construction materials and chemicals, and improper management of construction-related sanitation facilities.	Low (-)	Low (-)	Negligible
Loss and disturbance of natural vegetation and associated plant species, including potential loss of threatened and protected species,	High (-)	Medium (-)	Negligible

with an associated increased risk of soil erosion.			
Potential loss or disturbance of identified and potentially occurring plant Species of Conservation Concern (SCC) as a result of vegetation clearing and site preparation.	High (-)	Medium (-)	Negligible
Loss and fragmentation of biodiversity habitat, including CBAs, ESAs and threatened ecosystems/vegetation types, resulting in reduced ecological connectivity and potential decline or localised loss of plant and animal Species of Conservation Concern (SCC).	High (-)	Medium (-)	Negligible
Potential deterioration of surface and groundwater quality due to contaminated stormwater runoff, accidental spills or leaks of hazardous substances, inadequate sanitation, and increased sediment and microbiological loads associated with construction activities.	Low (-)	Low (-)	Negligible
Temporary increase in ambient noise levels and associated disturbance to surrounding residents as a result of construction machinery, vehicle movements, reversing alarms and construction personnel.	Medium-High (-)	Medium-High (-)	Negligible
Temporary deterioration of local air quality and associated nuisance and health impacts due to fugitive dust generated by vegetation clearing, earthworks, exposed soils, vehicle movements and the handling and transportation of construction materials.	Medium-Low (-)	Medium-Low (-)	Negligible

Temporary deterioration of local air quality due to exhaust emissions from construction vehicles and machinery, and potential smoke emissions from cooking fires.	Very Low (-)	Very Low (-)	Negligible
Temporary deterioration of the visual character and amenity of the site and surrounding area due to construction activities, machinery, earthworks, material stockpiles and general site disturbance.	Low (-)	Very Low (-)	Negligible
Generation of construction, general and potentially hazardous waste (e.g. paints, oil, bitumen spills), with potential for soil and water contamination, visual nuisance and environmental degradation if waste is inadequately stored, handled or disposed of.	Very Low (-)	Very Low (-)	Negligible
Temporary increase in construction-related traffic and heavy vehicle movements, with potential disruption, congestion and road-safety impacts on the surrounding road network.	Low (-)	Low (-)	Negligible
Temporary positive socio-economic benefits through employment creation, local procurement and increased demand for goods and services during construction.	Medium (+)	Medium (+)	Medium (-)
Loss or destruction of built heritage resources associated with the remaining structures and foundations of the former St Francis Bay Hotel during site clearance and construction.	Very Low (-)	Very Low (-)	Negligible
Potential disturbance, damage or destruction of previously	Very Low (-)	Very Low (-)	Negligible

unidentified archaeological heritage resources, including unmarked graves or human remains, during excavation and other ground-disturbing activities.			
Excavation, earthworks and other ground-disturbing activities associated with construction may expose previously unidentified fossil material. If such material is not recognised and appropriately managed, construction activities could result in the damage, destruction or permanent loss of palaeontological heritage resources. The likelihood of such an impact is considered low, as fossils within the underlying Nanaga Formation are sparsely distributed.	Very Low (-)	Very Low (-)	Negligible
OPERATIONAL PHASE			
Permanent loss and disturbance of soil resources within the development footprint due to excavation and removal of the existing sand and subsoil layers for foundations and associated infrastructure, with a potential for erosion of exposed soils.	Low (-)	Low (-)	Negligible
Long-term alteration and fragmentation of remaining biodiversity habitat and ecological connectivity, with potential ongoing disturbance to indigenous fauna and flora, including SCC, as a result of residential occupation and associated activities.	Medium (-)	Medium-Low (-)	Negligible

Long-term rehabilitation, protection and management of retained and re-established indigenous vegetation, including ongoing alien invasive plant control and dune stabilisation, with associated improvement in habitat condition and ecological functioning.	Medium-High (+)	High (+)	Negligible
Potential contamination of surface and groundwater from stormwater runoff, sewage leaks or spills, and pollutants associated with routine residential activities and maintenance.	Very Low (-)	Very Low (-)	Negligible
Potential increase in local ambient noise levels and disturbance to neighbouring residents associated with residential activities, vehicle movements and routine maintenance of the development.	Very Low (-)	Very Low (-)	Negligible
Permanent alteration of the visual character and sense of place through the introduction of built structures and associated infrastructure, with potential visual intrusion experienced by surrounding sensitive receptors.	Low (-)	Low (-)	Negligible
Generation of general household and maintenance-related waste, with potential for littering, visual degradation and environmental pollution if waste is inadequately stored, collected or disposed of.	Very Low (-)	Very Low (-)	Negligible
Increase in traffic volumes on the surrounding road network, with potential effects on	Very Low (-)	Very Low (-)	Negligible

intersection capacity and level of service.			
Potential traffic-safety conflicts and localised congestion associated with vehicles entering and exiting the development via the proposed access from Philippa Place.	Low (-)	Low (-)	Negligible
Long-term positive socio-economic benefits through residential investment, increased municipal revenue and ongoing expenditure associated with occupation and maintenance of the development.	Medium (+)	Medium (+)	Medium (-)
Permanent alteration of the existing cultural landscape and character of the site through the introduction of the proposed residential development.	Low (-)	Low (-)	Negligible
DECOMMISSIONING AND CLOSURE PHASE			
Not assessed at this stage.			

3. CLIMATE CHANGE ASSESSMENT

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

- 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 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;
- whether, and to what extent, the proposed development will result in the release of greenhouse gas (GHG) emissions;
- whether the proposed development is necessary to achieve long term decarbonisation goals;

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

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

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

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

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 potential impacts of climate change on society and the economy are considered particularly relevant to the proposed development due to the coastal location of Erf 2369. Climate change may increase the exposure of coastal communities and infrastructure to hazards such as sea-level rise, coastal erosion, storm surges, more intense rainfall events, drought and increased temperatures. In the context of the proposed development, the most important potential socio-economic risk is associated with the vulnerability of the property and surrounding coastal infrastructure to coastal erosion and extreme coastal events.

St Francis Bay already experiences long-term coastal erosion, beach narrowing and dune loss, which have increased the vulnerability of coastal properties and infrastructure to storm events and wave action. Climate change has the potential to exacerbate these existing pressures over the operational life of the development. This could result in negative consequences for residents and property owners through increased risks to buildings and infrastructure, increased maintenance and repair costs, potential loss or damage to property and increased expenditure on coastal protection and rehabilitation measures. These impacts could extend beyond the development itself where damage to municipal services, roads or other shared infrastructure occurs.

Changes in rainfall patterns and an increased occurrence of intense rainfall events may similarly place greater pressure on stormwater infrastructure and increase the potential for localised erosion and runoff. Conversely, prolonged dry periods and drought may increase pressure on municipal water resources. The development is relatively small, comprising seven or eight residential dwellings within an existing urban area, and is therefore not expected in itself to materially alter the broader socio-economic vulnerability of St Francis Bay to climate change. Nevertheless, the development must be designed so that it does not increase climate-related risks to its future residents or neighbouring properties.

Importantly, the proposed development incorporates measures that may contribute positively to local climate resilience. The rehabilitation and long-term management of indigenous dune vegetation is intended to assist with dune stabilisation, restrict wind-driven sand movement, rebuild dune volume and improve the ability of the dune system to buffer storm impacts. The engineering design also provides for three stormwater detention areas to temporarily contain major storm runoff, promote infiltration into the site's sandy soils and allow controlled overflow towards the coast.

From a socio-economic perspective, the development will also result in short-term construction expenditure and employment opportunities and, once developed, contribute to the municipal revenue base through property rates and service charges. However, these positive economic benefits should not be considered sufficient justification for exposing people or property to unacceptable climate-related risk.

Overall, the potential impact of climate change on society and the economy is considered predominantly negative if climate-related coastal and stormwater risks are not appropriately accommodated in the design and long-term management of the development. Provided that the development footprint avoids and protects the coastal dune system as far as reasonably practicable, the Rehabilitation Plan is implemented, stormwater infrastructure is appropriately designed and maintained, and the development does not interfere with the natural coastal protection function of the dune system, the proposed development is not expected to materially increase the climate-change vulnerability of the surrounding community. Climate resilience should therefore remain an important consideration in the final engineering design and long-term management of the property.

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 alternatives considered for the proposed development comprise Layout Alternative 1, Layout Alternative 2 and the No-Go Alternative. No alternative site is proposed, as the application relates specifically to the redevelopment of Erf 2369, while the residential use is consistent with the existing zoning and surrounding land-use character.

From a climate-change perspective, the No-Go Alternative would have the lowest direct climate-related impact, as it would avoid construction activities, associated material and energy consumption, construction waste generation and the operational resource requirements associated with additional residential dwellings. However, as discussed under (a) above, the No-Go Alternative would also forego the socio-economic and environmental management benefits associated with redevelopment of the property.

Between the two development alternatives, Layout Alternative 2 is considered the preferable alternative from a climate-change and broader environmental resilience perspective. Alternative 2 reduces the development from eight to seven residential units, has a smaller development footprint within environmentally sensitive areas and provides for a greater area of vegetation retention/re-establishment (approximately 3 168.65 m² of re-established vegetation under Alternative 2 compared with approximately 2 935 m² under Alternative 1).

The reduced development intensity associated with Alternative 2 would also reasonably be expected to result in marginally lower construction material requirements, construction waste generation, operational energy and water consumption, sewage generation and domestic waste generation than the eight-unit alternative. These differences have not been separately quantified, and given the small scale of the development, are unlikely to be substantial; they nevertheless favour Alternative 2 when applying climate-conscious and resource-efficiency principles.

In addition to the layout alternatives, technological and design measures that could reduce the climate-change footprint and improve the resource efficiency of the development should be incorporated into the detailed building design where feasible. These may include:

- incorporating appropriate wall and roof insulation and passive design measures to reduce heating and cooling requirements;
- maximising natural lighting and ventilation where practicable;
- installing energy-efficient LED lighting and energy-efficient appliances and fittings;
- incorporating renewable energy technologies, particularly rooftop solar photovoltaic systems and/or solar water heating;
- installing water-efficient plumbing fixtures and considering rainwater harvesting for appropriate non-potable uses;
- selecting durable, locally available and lower-impact construction materials where reasonably practicable; and
- applying the waste hierarchy during construction and operation by reducing waste generation and promoting the reuse and recycling of suitable materials.

These measures would reduce resource consumption and, particularly where they reduce reliance on grid electricity, may reduce the operational greenhouse gas emissions associated with the residential development. They would also potentially reduce long-term electricity and water costs to residents and improve the resilience of the development to interruptions or constraints in municipal services.

Accordingly, while the No-Go Alternative would result in the lowest direct contribution to climate change, of the development alternatives assessed, Alternative 2 represents the preferable option as it combines lower development intensity with greater retention/re-establishment of vegetation and potentially lower long-term resource demand and waste generation. The climate-related implications for society and the economy have been addressed under item (a) above and are not repeated here.

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

Yes, the proposed development will result in the release of greenhouse gas (GHG) emissions; however, given the nature and relatively small scale of the development, these emissions are expected to be limited and predominantly indirect.

During the construction phase, GHG emissions will principally arise from the combustion of fossil fuels by construction vehicles, machinery and equipment; transportation of construction materials, waste and workers to and from the site; and embodied carbon associated with the manufacture and transportation of construction materials such as concrete, cement, steel and other building products. Vegetation clearing will also result in a small loss of existing carbon storage and sequestration capacity. However, the site does not comprise forest habitat and has historically been developed and disturbed. The development will furthermore retain portions of the existing indigenous vegetation and provide for substantial re-establishment of indigenous vegetation. The loss of carbon sequestration capacity associated with vegetation clearing is therefore expected to be very small in the broader climate-change context.

During the operational phase, the development will not involve industrial processes or other significant direct sources of GHG emissions. Operational emissions will primarily be indirect and associated with electricity consumption by the residential units, municipal water supply and wastewater treatment, generation and disposal of domestic waste, and vehicle trips generated by residents and visitors. Minor direct emissions may also arise from activities such as the use of fuel-powered garden equipment.

The development comprises only seven or eight residential units within an existing serviced urban area, rather than a large-scale residential or industrial development. Existing municipal infrastructure is available to service the property, thereby avoiding the need for extensive new bulk infrastructure solely to service the development. Consequently, the development is not anticipated to constitute a significant source of GHG emissions at a municipal or regional scale.

No project-specific carbon footprint or quantitative GHG inventory has been undertaken and it would therefore not be appropriate to assign a numerical quantity of CO₂-equivalent emissions to the development. Nevertheless, based on the nature and scale of the activity, the project's contribution to overall GHG emissions is considered to be low.

Opportunities to further reduce GHG emissions through energy-efficient building design, renewable energy, water-efficiency measures, waste minimisation and recycling have been discussed under Question (b) above and are not repeated here.

d) Whether the proposed development is necessary to achieve long-term decarbonisation goals;

The proposed residential development is not specifically necessary to achieve South Africa's long-term decarbonisation goals. The purpose of the development is to provide residential accommodation through the redevelopment of a historically developed property within the existing urban area of St Francis Bay, rather than to provide renewable energy infrastructure or undertake an activity specifically aimed at reducing or removing greenhouse gas emissions.

The development is, however, also not considered to materially hinder the achievement of long-term decarbonisation objectives, given its relatively small scale and the absence of any carbon-intensive industrial or manufacturing processes. As discussed under Question (c), GHG emissions associated with the development are expected to arise principally from construction activities and indirectly from operational electricity consumption, transport, municipal services and waste generation.

Although the development itself is not required for decarbonisation, opportunities exist to support broader decarbonisation objectives through energy-efficient building design, the incorporation of renewable energy technologies such as rooftop solar photovoltaic systems, reduced reliance on grid electricity, water-efficient design and appropriate waste reduction, reuse and recycling measures. These measures have been discussed under Question (b) above.

Accordingly, the proposed development is considered neutral in terms of its necessity for achieving long-term decarbonisation goals: it is not required to achieve such goals, but its design and operation can incorporate measures that reduce its carbon footprint and support the broader transition towards lower-carbon development.

e) The impact of the development on social, economic, natural and built environments that is crucial for climate change, adaptation and resilience;

The proposed development has the potential to affect elements of the natural, built, social and economic environment that contribute to climate-change adaptation and resilience. Given the coastal location of Erf 2369, the most important consideration is the retention and functioning of the coastal dune system and associated indigenous vegetation.

Natural environment:

The loss or disturbance of coastal vegetation may reduce ecological resilience and the natural protective function provided by vegetated dunes. This is particularly relevant because St Francis Bay is already affected by coastal erosion. The rehabilitation specialist indicates that dune vegetation assists in restricting wind-driven sand movement, rebuilding dune volume and buffering storm impacts. The development would result in some unavoidable vegetation disturbance; however, the layouts also provide for the retention of sensitive areas and substantial re-establishment of indigenous vegetation. The rehabilitation and long-term management of these areas, including alien vegetation control, would therefore contribute positively to the resilience of the coastal dune system. The rehabilitation areas should nevertheless not be regarded as equivalent substitutes for existing intact vegetation.

Built environment:

Climate-related risks to the built environment are principally associated with coastal erosion and stormwater management. The development will introduce permanent residential structures and associated infrastructure into an already erosion-prone coastal environment and these assets may consequently be exposed to increasing climate-related coastal hazards over their operational lifespan. The protection of the coastal dune and appropriate siting and design of infrastructure are therefore important adaptation measures. Stormwater management has been incorporated into the engineering design, including three detention areas intended to temporarily contain major storm runoff, promote infiltration and provide controlled overflow towards the coast.

Social and economic environment:

The development will introduce additional residents and private assets that may be exposed to future climate-related hazards. Inadequate adaptation could result in damage to property and infrastructure, disruption to residents and increased maintenance, repair and coastal-protection costs. Conversely, appropriately designed and managed development, including dune rehabilitation and effective stormwater management, can reduce this vulnerability. The socio-economic implications of climate change have been discussed further under Question (a) above.

Overall, the proposed development is not considered likely to materially reduce climate-change adaptation and resilience, provided that development within sensitive coastal areas is minimised, the remaining dune and indigenous vegetation are protected, the Rehabilitation Plan is implemented and maintained over the long term, and stormwater and other engineering infrastructure are designed and maintained with appropriate consideration of the site's coastal setting. These measures are particularly important because the natural dune system represents part of the site's first line of resilience against coastal erosion, wind-blown sand and storm impacts.

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

Climate change may affect the proposed development and surrounding environment over the long-term through increased coastal erosion and storm-related coastal impacts, changes in rainfall intensity and patterns, periods of drought and increasing temperatures. Given the coastal location of Erf 2369, the most important climate-related risk to the development is considered to be the potential exacerbation of existing coastal erosion and associated impacts on the dune system and coastal infrastructure.

St Francis Bay is already subject to significant long-term coastal erosion, which has resulted in beach narrowing, dune loss and increased vulnerability of coastal properties and infrastructure to storm events and wave action. Coastal protection measures have consequently already been implemented along neighbouring properties, while broader coastal protection and beach rehabilitation measures are being undertaken within St Francis Bay. Climate change, including sea-level rise and changes in the frequency or intensity of extreme coastal events, may exacerbate these existing pressures over the operational lifespan of the proposed residential development.

The implications for the development are therefore not limited to direct inundation from sea-level rise. Progressive shoreline erosion, loss or destabilisation of the coastal dune, increased wave and storm impacts and associated damage to infrastructure may represent more relevant long-term risks. Accordingly, the coastal dune and associated vegetation should be regarded as an important natural buffer and its disturbance should be minimised. The proposed rehabilitation and long-term management of dune vegetation is particularly important in this regard, as the rehabilitation specialist identifies dune vegetation as contributing to the restriction of wind-driven sand movement, rebuilding of dune volume and buffering of storm impacts.

Climate change may also result in changes in rainfall patterns, including periods of more intense rainfall as well as prolonged dry periods. More intense rainfall could increase stormwater runoff and erosion risks, particularly where natural infiltration areas are replaced by roofs, roads and other impermeable surfaces. The engineering design responds to this risk through the provision of three stormwater detention areas intended to temporarily contain major storm runoff, promote infiltration into the sandy soils and allow controlled overflow towards the coast. Conversely, prolonged drought conditions could place additional pressure on municipal water resources and reinforce the need for water-efficient design and responsible water consumption.

The projected effects of climate change therefore do not necessarily render the proposed development unsuitable, but they increase the importance of climate-resilient design and long-term management. In particular, the final development footprint should minimise disturbance of the coastal dune and sensitive vegetation; dune rehabilitation and stabilisation measures should be implemented and maintained; and stormwater infrastructure should be designed and maintained to accommodate the site's coastal setting and associated erosion risks.

There remains uncertainty regarding the magnitude and timing of future climate-change effects at the individual property scale. The development should therefore apply a precautionary and adaptive management approach, recognising that coastal conditions may change over the operational lifespan of the residential development and that management or protective measures may require review and adaptation in response to changing coastal conditions.

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

As discussed under Question (f), climate change has the potential to exacerbate existing coastal erosion and storm-related risks, increase the consequences of intense rainfall events and stormwater runoff, and increase pressure on water resources during prolonged dry periods. These risks are particularly relevant over the long operational lifespan of a permanent residential development.

The most significant site-specific concern is the potential for climate change to increase the rate or severity of coastal erosion and storm-related impacts. Progressive erosion or loss of the beachfront dune could reduce the natural buffer between the ocean and the proposed development, thereby increasing the exposure of the property and associated infrastructure to future coastal hazards. This risk should primarily be managed through protection of the existing dune system, minimisation of disturbance to coastal vegetation and implementation of the approved Rehabilitation Plan. Re-established indigenous dune vegetation will assist with dune stabilisation, restriction of wind-driven sand movement and buffering of storm impacts.

Climate change may also exacerbate stormwater and erosion impacts where more intense rainfall occurs. The increase in impermeable surfaces associated with buildings, roads and paving could increase runoff if inadequately managed. The proposed stormwater system therefore provides for three detention areas to temporarily contain major storm runoff, promote infiltration into the sandy soils and provide controlled overflow towards the coast. These systems must be appropriately designed, maintained and kept free of obstructions for the lifetime of the development.

Conversely, prolonged drought conditions may increase pressure on municipal water resources. Water-efficient fixtures, responsible water consumption, drought-tolerant indigenous landscaping and, where incorporated into the final design, rainwater harvesting should therefore be promoted to reduce potable water demand.

In accommodating a reasonable worst-case scenario, the development should adopt a precautionary and adaptive management approach. The condition and stability of the coastal dune and rehabilitated vegetation should be monitored over the operational life of the development. Where monitoring indicates progressive erosion, dune destabilisation or failure of rehabilitation measures, appropriate remedial measures should be implemented in consultation with the relevant authorities and suitably qualified coastal/environmental specialists.

Importantly, future coastal protection should not rely on ad hoc hard-engineering interventions at individual properties without the necessary environmental assessment and statutory approvals. Any future erosion-protection measures should take account of the broader coastal processes and the long-term coastal protection strategy applicable to St Francis Bay.

Overall, climate change may increase the severity of impacts already identified for the site rather than necessarily introduce entirely new impacts. The principal adaptation response is therefore to maintain the natural resilience of the coastal dune system, ensure effective stormwater management, reduce unnecessary pressure on water resources and retain the ability to adapt management measures as coastal and climatic conditions change over time.

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

The impacts identified under Questions (a)–(g) are considered largely capable of being mitigated or reduced, although climate-related risks cannot be completely eliminated, particularly given the coastal location of the property and uncertainty regarding the magnitude and timing of future climate change.

The development's contribution to greenhouse gas emissions can be reduced through the resource- and energy-efficiency measures discussed under Questions (b) and (c), including energy-efficient building design, renewable energy where feasible, water-efficiency measures, waste reduction and recycling. However, some GHG emissions associated with construction materials, construction activities, transport, electricity consumption, waste generation and municipal services will remain unavoidable.

The potential effects of climate change on the development can similarly be reduced through appropriate design and long-term management. Of particular importance are the protection and rehabilitation of the coastal dune and indigenous vegetation, which contribute to dune stability and buffering of storm impacts, together with appropriate stormwater management. The proposed stormwater detention areas will assist in managing increased runoff by temporarily containing stormwater and promoting infiltration into the site's sandy soils.

Water-related vulnerability can be reduced through water-efficient design, responsible consumption, drought-tolerant indigenous landscaping and rainwater harvesting where incorporated into the final design. Long-term monitoring and adaptive management of the dune and rehabilitated vegetation will further allow management measures to respond to changing environmental conditions.

The socio-economic consequences identified under Question (a), particularly potential damage to private property and infrastructure and associated maintenance or repair costs, can therefore be reduced by incorporating climate resilience into the design and management of the development. However, the residual risk associated with long-term coastal erosion, extreme coastal events and broader climate uncertainty cannot be entirely mitigated at the individual property level.

Overall, the climate-change impacts and risks associated with the proposed development to be manageable, provided that the mitigation, rehabilitation, stormwater management and adaptation measures identified in this BAR document and the associated specialist and engineering documentation are implemented and maintained over the operational life of the development. The development should therefore be managed according to an adaptive approach, with climate-related risks periodically reconsidered where changing coastal or climatic conditions warrant additional intervention.

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.

The proposed redevelopment of Erf 2369 will result in both temporary construction-related impacts and permanent changes associated with the establishment and operation of the residential development. The principal environmental concern is the loss and disturbance of indigenous coastal vegetation and associated habitat, including potential impacts on plant Species of Conservation Concern (SCC), together with the resultant reduction in ecological connectivity and functioning. Other impacts relate to soil disturbance and erosion, fauna disturbance, surface and groundwater contamination, noise, dust, waste generation, traffic, visual change and heritage and palaeontological resources. Positive socio-economic impacts will arise primarily through construction-related expenditure and employment, while implementation and ongoing

management of the Rehabilitation Plan will provide a long-term positive ecological benefit through indigenous vegetation rehabilitation, dune stabilisation and alien invasive plant control.

The assessment indicates that the majority of construction-related impacts are site-specific or local and short-term, and are capable of being effectively managed through implementation of the EMPr and specialist mitigation measures. These include impacts associated with soil contamination, water pollution, dust, emissions, waste, construction traffic and temporary visual disturbance. After mitigation, these impacts are generally reduced to Very Low, Low or Medium-Low negative significance. Construction noise remains a more noticeable temporary impact and is rated Medium-High negative after mitigation, although it is confined to the construction period and can be controlled through restrictions on working hours, equipment maintenance and appropriate site management.

The assessment indicates that the majority of construction-related impacts are site-specific or local and short-term, and are capable of being effectively managed through implementation of the EMPr and specialist mitigation measures. These include impacts associated with soil contamination, water pollution, dust, emissions, waste, construction traffic and temporary visual disturbance. After mitigation, these impacts are generally reduced to Very Low, Low or Medium-Low negative significance. Construction noise remains a more noticeable temporary impact and is rated Medium-High negative after mitigation, although it is confined to the construction period and can be controlled through restrictions on working hours, equipment maintenance and appropriate site management.

During the operational phase, some permanent footprint-related effects will remain. These include permanent loss or sealing of soil beneath buildings and infrastructure, continuing habitat fragmentation, routine residential disturbance to fauna and flora, a permanent built presence within the landscape, increased traffic and ongoing generation of domestic waste. Most of these impacts are assessed as Very Low to Low negative after mitigation. The principal operational ecological impact is the long-term alteration and fragmentation of remaining habitat, which is rated Medium negative for Alternative 1 and Medium-Low negative for Alternative 2 after mitigation. This reflects the greater retention and rehabilitation of vegetation and reduced encroachment into sensitive areas under Alternative 2.

Although the development will permanently alter the existing visual character of the site, the proposed dwellings would occur within an established residential area and can be integrated into the surrounding landscape through appropriate architectural treatment and the retention and re-establishment of indigenous vegetation between and around structures. The operational visual impact is therefore assessed as Low negative after mitigation for both development alternatives.

The likelihood of significant impacts on archaeological and palaeontological resources is low, provided the prescribed management measures are implemented. The archaeological assessment requires appropriate permitting for the remaining former hotel structures and implementation of a Chance Finds Protocol, while the palaeontological specialist concluded that, despite the underlying Nanaga Formation having palaeontological potential, fossils are sparsely distributed and significant fossil loss is unlikely. There is no palaeontological objection to the development provided the fossil chance-find procedure is implemented.

An important positive residual impact is associated with implementation of the Vegetation and Landscape Rehabilitation Plan. Long-term rehabilitation, protection of retained vegetation, indigenous landscaping, alien invasive plant control and dune stabilisation are expected to improve vegetation cover, ecological functioning, sand stabilisation and resilience within retained areas. This positive impact is assessed as Medium-High positive for Alternative 1 and High positive for Alternative 2 after mitigation. The Rehabilitation Plan specifically seeks to reinstate self-sustaining native vegetation, control invasive species, stabilise disturbed dune areas and restore ecological functioning.

Alternative 1

Alternative 1 is considered environmentally less favourable than Alternative 2. Although many of its construction and operational impacts can be reduced to Low or Very Low significance through mitigation, it results in greater disturbance of sensitive vegetation and consequently greater permanent habitat loss and fragmentation. The residual ecological impacts associated with vegetation, SCC and biodiversity therefore remain comparatively high. In particular, the assessment records High negative residual significance for the loss/disturbance of plant SCC and habitat/biodiversity impacts under Alternative 1. The likelihood of these impacts is highly likely to definite because vegetation clearing necessarily accompanies construction, and the consequences are long-term or permanent.

Although Alternative 1 is considered capable of implementation subject to strict mitigation and rehabilitation, it does not represent the environmentally preferred layout because avoidable impacts on sensitive vegetation remain greater than under Alternative 2

Alternative 2

Alternative 2 is the environmentally preferred development alternative.

The assessment demonstrates that it reduces encroachment into identified sensitive vegetation and provides greater opportunity for the retention and re-establishment of indigenous vegetation. Consequently, although permanent vegetation and habitat loss cannot be eliminated, the extent and ecological significance of these impacts are materially reduced relative to Alternative 1. The assessment identifies Alternative 2 as the preferred alternative because of its lower overall ecological impact.

Under Alternative 2, vegetation clearing and habitat loss remain definite and permanent within the authorised footprint, and impacts on plant SCC remain probable, but avoidance, Search and Rescue, demarcation of retained vegetation, rehabilitation and long-term habitat management reduce the residual ecological significance to Medium negative for plant SCC and biodiversity loss during construction, and Medium-Low negative for long-term operational habitat fragmentation.

Most other residual impacts associated with Alternative 2 are expected to be Very Low to Low negative and are either short-term during construction or readily manageable during operation. In addition, rehabilitation and dune management constitute a High positive long-term impact under Alternative 2. On balance, and subject to strict implementation of the EMPr, Rehabilitation Plan, specialist recommendations, permitting requirements and environmental monitoring, the residual impacts associated with Alternative 2 are considered environmentally acceptable and do not constitute a fatal flaw to the proposed development.

No-go alternative (compulsory)

The No-Go Alternative entails that the proposed residential development on Erf 2369 would not proceed and the property would remain substantially in its current condition.

From an environmental perspective, this alternative would result in the least additional disturbance, as no vegetation clearing, earthworks, buildings, internal roads or associated services would be established. The approximately 573 m² of identified high sensitive vegetation affected under Alternative 1 and 182 m² under Alternative 2 would remain undisturbed, while construction-related impacts such as habitat and vegetation loss, fauna disturbance, soil disturbance and erosion, dust, noise, waste generation, traffic impacts, visual intrusion and potential contamination would be avoided.

The environmental advantage of the No-Go Alternative must, however, be considered in the context of the existing condition and history of the property. Erf 2369 is not a pristine greenfield site, having previously accommodated the St Francis Bay Hotel. The site retains evidence of historical development and transformation, including paved and grassed areas, a swimming pool, structural remnants and mechanically altered portions, together with secondary and intact coastal vegetation. The No-Go Alternative would therefore largely retain the existing condition of the property rather than result in active environmental improvement.

Importantly, the rehabilitation and long-term ecological management commitments associated with the proposed development would also not necessarily arise under the No-Go Alternative. The development provides for approximately 2 935 m² of re-established vegetation under Alternative 1 and 3 168.65 m² under Alternative 2, together with dune rehabilitation, indigenous revegetation and ongoing alien invasive plant control. These measures are intended to improve the condition and stability of retained and disturbed portions of the site, and it cannot be assumed that equivalent rehabilitation would occur if the property remains undeveloped.

The No-Go Alternative would also avoid the additional demand on municipal infrastructure and services associated with residential occupation. Conversely, it would result in the loss of the socio-economic benefits associated with redevelopment of the property, including construction expenditure, temporary employment and procurement opportunities, private investment and the longer-term contribution of the developed properties to the municipal revenue base through property rates and service charges. The impact assessment accordingly identifies the unrealised socio-economic opportunity associated with the No-Go Alternative as a Medium negative residual impact.

Overall, the No-Go Alternative is environmentally preferable when considered solely in terms of avoiding new disturbance and retaining the existing intact vegetation. However, this advantage must be weighed against the previously transformed character of substantial portions of the property, its location within an established residential area, the absence of certainty that rehabilitation and long-term vegetation management would occur without the development, and the socio-economic benefits associated with redevelopment. On balance, the EAP considers the No-Go Alternative less favourable than the preferred development alternative.

The No-Go Alternative is therefore not recommended as the preferred alternative. This conclusion is dependent on the authorised development footprint being restricted to that assessed in the BAR, disturbance of intact and sensitive vegetation being minimised to the greatest practicable extent, and the rehabilitation, alien invasive plant management and long-term protection of retained and re-established indigenous vegetation being implemented as binding requirements of the Environmental Authorisation and EMPr.

SECTION E. RECOMMENDATIONS OF PRACTITIONER

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
YES	NO

Is an EMPr attached?

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:

Based on the findings of the Basic Assessment and specialist investigations, Alternative 2 is identified as the environmentally preferred alternative, primarily because it results in reduced encroachment into identified sensitive vegetation and provides for a greater extent of retained and re-established indigenous vegetation. Consequently, the residual ecological impacts associated with Alternative 2 are lower than those associated with Alternative 1.

The EAP is, however, of the opinion that the difference in the overall environmental performance of the two development alternatives is not of such magnitude that Alternative 1 should be regarded as environmentally unacceptable. Both alternatives occur on the same previously developed property, within an established residential area, and both retain portions of the existing indigenous vegetation and provide for rehabilitation and long-term management of retained and re-established vegetation. Furthermore, the majority of the identified environmental impacts can be reduced to acceptable residual levels through implementation of the prescribed mitigation and management measures.

Although Alternative 1 results in a greater extent of disturbance to identified sensitive vegetation than Alternative 2, the affected area remains relatively limited in the context of the overall development, and the impacts can be partly addressed through strict footprint control, pre-construction Search and Rescue, rehabilitation and the long-term protection and management of retained vegetation. Alternative 2 therefore remains preferable from an environmental perspective, but the difference between the alternatives is considered limited when the development as a whole and the proposed mitigation and rehabilitation measures are taken into account.

Accordingly, the EAP considers both Alternative 1 and Alternative 2 environmentally acceptable and capable of being authorised, subject to implementation of the mitigation measures, specialist recommendations, Rehabilitation Plan and EMPr. Where the Competent Authority elects to

authorise the environmentally preferred layout, Alternative 2 is recommended. However, the EAP does not identify an environmental fatal flaw or residual impact of such significance that would warrant recommending against the authorisation of Alternative 1.

The EAP therefore recommends that Environmental Authorisation may be granted for either Alternative 1 or Alternative 2, with Alternative 2 identified as the environmentally preferred alternative. Should Alternative 1 be authorised, the additional encroachment into sensitive vegetation must be strictly limited to the footprint assessed in the BAR and must be accompanied by the rehabilitation, vegetation protection and management measures prescribed in the EMPr and Rehabilitation Plan.

Furthermore, it is recommended that, should Environmental Authorisation be granted, the following conditions be included in the Environmental Authorisation, in addition to the requirements contained in the approved EMPr:

1. Approved development footprint and layout

- Development must be restricted to the development footprint and infrastructure shown on the final layout plan approved as part of the Environmental Authorisation.
- No additional residential units, roads, garages, services or associated infrastructure may be established outside the authorised footprint without the necessary environmental approval.
- All environmentally sensitive areas identified for retention on the final approved layout must be treated as permanent high sensitive areas during construction and operation.
 - However, limited encroachment into sensitive areas will only be permitted to the extent specifically assessed in the BAR and shown on the final approved layout plan. No additional encroachment, clearing or disturbance beyond the authorised footprint will be permitted.
- No temporary construction activities, stockpiling, storage, parking of machinery, construction camps or disposal of material may occur within retained high sensitive areas.
- Any subsequent material amendment to the development footprint must be assessed in accordance with the applicable EIA Regulations before implementation.

2. Terrestrial biodiversity and vegetation

- Impacts on intact St Francis Dune Thicket/Strandveld must be limited to the authorised development footprint and reduced to the minimum practicable extent.
- Vegetation outside the authorised clearing footprint may not be cleared, damaged or disturbed. The terrestrial specialist specifically identifies intact dune thicket as environmentally sensitive and recommends minimising the footprint within intact thicket.
- Prior to vegetation clearing, a Plant Search and Rescue operation must be undertaken by a suitably qualified botanist/ecologist. Suitable indigenous plants occurring within areas authorised for clearing must, where practicable, be rescued and incorporated into rehabilitation or landscaping areas.
- No vegetation clearing may commence until the authorised development footprint and retained high sensitive areas have been clearly demarcated on site.

- Unnecessary disturbance of vegetation, particularly within the coastal dune and eastern portions of the property, must be prohibited.
- 3. Protected plant species and White Milkwood**
 - The identified White Milkwood (*Sideroxylon inerme* subsp. *inerme*), which is protected under the National Forests Act, and other protected plant species identified by the terrestrial specialist must be avoided wherever reasonably practicable.
 - No protected tree or protected plant may be cut, damaged, destroyed, uprooted, transplanted or otherwise disturbed without the applicable permit from DFFE and/or DEDEAT, as relevant.
 - All required protected-species permits must be obtained before vegetation clearing commences.
- 4. Rehabilitation and landscaping**
 - The approved Vegetation and Landscape Rehabilitation Plan must be implemented as a binding condition of the development.
 - Rehabilitation must include disturbed and designated rehabilitation areas, with particular attention to the eastern dune-front areas and areas disturbed during construction.
 - Rehabilitation must utilise suitable indigenous vegetation characteristic of the local dune/thicket environment. Indigenous, locally appropriate and water-wise species should be prioritised for landscaping.
 - Rehabilitation must commence as soon as reasonably practicable following completion of construction within each affected area and must not be postponed until completion of the entire development.
 - Rehabilitation must aim to stabilise disturbed sandy soils, restore vegetation cover, reduce erosion and re-establish ecological functioning.
 - Rehabilitation must be monitored until vegetation has successfully established. The specialist indicates that dune restoration will require several years and that the first-year objective should be stabilisation of the landscape and survival of natural dune vegetation.
- 5. Long-term management of the coastal dune**
 - The coastal dune and associated indigenous vegetation must be managed as a functional natural buffer and must not be unnecessarily disturbed.
 - Pedestrian access through dune vegetation must be controlled so that informal pathways, dune blow-outs and trampling are not created.
 - No bulldozing of new tracks, construction of unauthorised infrastructure, alteration of the natural dune profile, or excavation may take place within the retained coastal-front dune area.
 - The dune condition must be monitored for erosion and destabilisation and remedial rehabilitation must be implemented where required.
- 6. Coastal erosion and coastal protection**
 - No ad hoc hard coastal protection works, including rock revetments, groynes, seawalls or similar structures, may be constructed unless they form part of an appropriately approved coastal protection intervention and all necessary statutory approvals have first been obtained.
 - Any future coastal protection intervention should, where applicable, be coordinated with and take account of the St Francis Bay Long Term Coastal Protection Scheme and broader coastal processes rather than being implemented solely as an isolated property-specific intervention.

- Where future monitoring indicates that sand replenishment or other dune rehabilitation intervention is required, such works must be undertaken in accordance with the applicable approvals and coastal management requirements.

7. Alien and invasive vegetation

- Alien and invasive plant species occurring within the property must be progressively removed and controlled in accordance with applicable legislation and the Rehabilitation Plan.
- Particular attention must be given to Rooikrans (*Acacia cyclops*) and Port Jackson Willow (*Acacia saligna*) and follow-up clearing must be undertaken to prevent re-establishment.
- Alien vegetation management must continue during the operational phase and must not be treated as a once-off construction-phase activity. The rehabilitation specialist recommends indefinite ongoing management, particularly for alien vegetation and beachfront dune stabilisation.

8. Fauna protection

- Construction personnel may not intentionally kill, capture, collect or disturb indigenous fauna.
- Fauna encountered during vegetation clearing or earthworks must be afforded an opportunity to move away from the affected area, or where necessary be safely relocated by an appropriately competent person.
- Open excavations and trenches must not be left in a manner that unnecessarily traps fauna and must be inspected prior to backfilling.

9. Stormwater management

- The final engineering design must incorporate the stormwater management measures contained in the Civil Services Availability Report and Stormwater Management Plan and must be approved by Kouga Municipality prior to implementation.
- Post-development stormwater must remain distributed through the identified drainage system rather than being concentrated at a single discharge point.
- Three detention areas must be provided to attenuate major storm runoff and promote infiltration prior to controlled discharge towards the existing coastal drainage routes, unless an amended stormwater design approved by the Municipality and environmental authorities provides an equivalent or improved environmental outcome.
- The stormwater system must be designed to manage the 1:100-year storm event, in accordance with the engineering assessment.
- Stormwater infrastructure must be maintained for the operational life of the development and must not result in concentrated erosion, scour or sediment transport into the dune or beach environment.
- Any erosion occurring at outlets or downstream of stormwater infrastructure must be rehabilitated without delay.

10. Water supply and fire-flow requirements

- Water infrastructure must be constructed in accordance with the final engineering design approved by Kouga Municipality.
- The development must provide adequate fire-flow capacity. The Civil Services Report recommends a 110 mm connection to the municipal main together with a booster connection because the calculated residual pressure without boosting would be below the required fire-flow pressure.

- Final water infrastructure, including the booster connection, non-return valve, meters and internal reticulation, must comply with municipal requirements.

11. Sewerage infrastructure

- All sewage generated by the development must be discharged to the municipal sewerage system; no untreated sewage may be discharged into the environment.
- The on-site sewer, private pump station and rising main must be constructed and operated in accordance with the final engineering design approved by Kouga Municipality.
- The Civil Services Report proposes a 160 mm gravity sewer, private pump station and rising main discharging to the existing municipal sewer manhole in Diana Crescent.
- Where the rising main traverses the adjacent public open space, the alignment should utilise the existing footpath as recommended by the engineer in order to minimise disturbance of indigenous vegetation, unless an environmentally preferable alignment is approved.
- Appropriate measures must be incorporated into the detailed design to prevent sewage spills and to allow effective maintenance of the private pump station.

12. Traffic and access

- Vehicular access to the development must be from Philippa Place via Erf 2821, substantially in accordance with the access arrangement assessed in the Traffic Impact Assessment and subject to Kouga Municipality's approval.
- The developer must carry the cost of the required access arrangements.
- Where security access control is installed, the gate must be set back a minimum of 6.5 m from the road edge, as recommended in the TIA, and the access-control system must allow entering vehicles to enter without causing queuing within Philippa Place.
- The access-control mechanism must manage opposing vehicle movements through the narrow access so as to prevent congestion and vehicle conflict.
- Vegetation or other obstructions affecting the required sight distance at the access must be appropriately managed, subject to any applicable vegetation-protection requirements.
- Detailed access designs must be approved by the relevant road authority before construction.

13. Heritage – former St Francis Bay Hotel

- No remaining structure or foundation associated with the former St Francis Bay Hotel that is older than 60 years may be demolished, destroyed or altered until the required Section 34 permit has been obtained from the Built Environment Unit of ECPHRA.
- Any conditions imposed by ECPHRA must be complied with and must take precedence where they impose more stringent heritage requirements.

14. Archaeological Chance Finds Protocol

- The Archaeological and Cultural Heritage Chance Finds Protocol must be incorporated into the EMPr and available on site throughout earthworks and construction.

- The ECO, construction manager/foreman and relevant construction personnel must receive heritage-awareness induction regarding the types of archaeological material and human remains that could potentially be encountered.
- If archaeological material, shell middens, cultural material, graves or human remains are uncovered, work in the immediate vicinity must cease, the area must be secured and ECPHRA and an appropriately qualified heritage practitioner must be notified.
- Construction may recommence in the affected area only once the heritage resource has been appropriately investigated/mitigated and the necessary approval or specialist clearance has been obtained.

15. Palaeontological Chance Finds

- The fossil Chance Finds Procedure contained in the Palaeontological Impact Assessment must be incorporated into the EMPr and implemented throughout excavation and earthworks.
- Construction personnel must be made aware of the possibility of fossil discoveries.
- Where possible fossil material is encountered, work must cease in the immediate vicinity, the find must be protected in situ and the responsible heritage authority must be informed.
- No work may recommence within the affected area until the responsible heritage authority has confirmed that work may proceed. - Where specialist palaeontological mitigation is required, it must be undertaken by a suitably qualified palaeontologist and at the developer's cost.

16. Erosion and soil management

- Disturbance of unconsolidated sandy soils must be limited to the minimum area necessary for construction.
- Exposed soils must not remain unvegetated or unstabilised for longer than reasonably necessary.
- Erosion-control measures must be implemented during construction and maintained until disturbed areas are stable.
- Any erosion initiated or exacerbated by construction, stormwater discharge, pedestrian movement or the development must be repaired and rehabilitated.
- Stockpiles must be positioned outside environmentally sensitive and coastal dune high sensitive areas and managed to prevent wind and water erosion.

17. Pollution prevention and waste

- Construction waste, rubble and surplus spoil may not be dumped within the dune, vegetation, beach or surrounding open spaces.
- Suitable spoil should be reused where environmentally appropriate, while excess spoil and general construction waste must be removed to an appropriately authorised facility.
- Fuels, oils, paints, solvents and other potentially polluting substances must be stored and handled so that contamination of soil, groundwater, stormwater or the coastal environment is prevented.
- Spill-response materials must be available on site and any spill must be contained and remediated immediately.
- Portable toilets must be provided during construction and regularly serviced by an appropriate service provider.

- Burning or burying of waste on site must be prohibited.

18. Dust, noise and nuisance

- Construction activities must be undertaken in a manner that minimises dust, noise and disturbance to surrounding residents.
- Dust suppression must be implemented where necessary, particularly during vegetation clearing, earthworks, demolition and movement of construction vehicles.
- Construction activities must comply with applicable municipal requirements relating to construction hours and noise.

19. Fire prevention

- No open fires may be permitted within the construction site or retained natural vegetation areas. This is specifically included among the terrestrial specialist's vegetation-protection mitigation measures.
- Appropriate firefighting equipment must be maintained on site during construction.
- The operational development must maintain the required municipal fire-flow infrastructure.

20. Environmental supervision and compliance

- An appropriately qualified Environmental Control Officer (ECO) must be appointed prior to commencement of construction to monitor compliance with the Environmental Authorisation, EMPr, approved layout and specialist recommendations.
- A pre-construction environmental induction must be undertaken with contractors and construction personnel.
- The approved development footprint, high sensitive areas, protected vegetation and sensitive environmental features must be demarcated before site establishment or clearing.
- Environmental incidents and non-compliances must be recorded, rectified and reported in accordance with the requirements of the Environmental Authorisation and EMPr.

21. Operational environmental management

- The responsibility for maintenance of stormwater infrastructure, sewer infrastructure, retained natural vegetation, rehabilitated areas, dune stabilisation and alien invasive plant control must be clearly assigned to the property owner, homeowners' association/body corporate or other legally responsible management entity before occupation of the development.
- Such environmental management obligations must continue for the lifetime of the development and must not terminate when construction is completed.

22. General condition

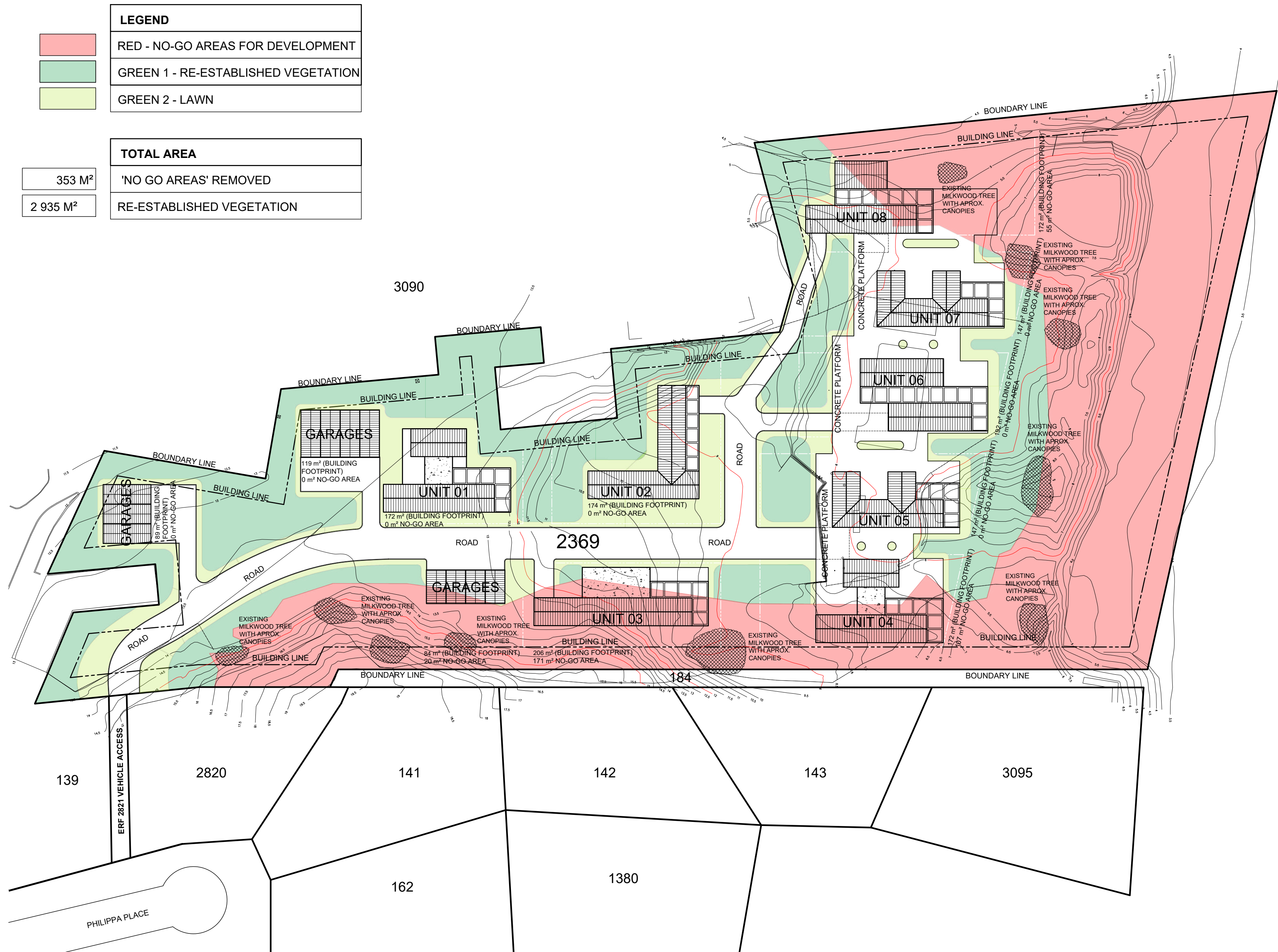
- All mitigation and monitoring measures contained in the approved BAR, EMPr and final specialist reports must be implemented where applicable. Where there is any inconsistency between the Environmental Authorisation, approved layout, EMPr and

specialist recommendations, the requirements of the Environmental Authorisation and any subsequent written direction of the Competent Authority must prevail.

SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

APPENDIX A1: ALTERNATIVE SITE LAYOUT 1



SITE PLAN
SCALE 1:500

NOTES

Rev	By / Date	AMENDMENT	Chk / Date

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SACAP Reg no: PrArch20746

CLIENT

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PTY LTD**

PROJECT

**PROPOSED SITE
DEVELOPMENT FOR ERF
2369, SEA VISTA**

TITLE

**SITE PLAN
PROPOSAL 01**

SCALE @ A2

1:500

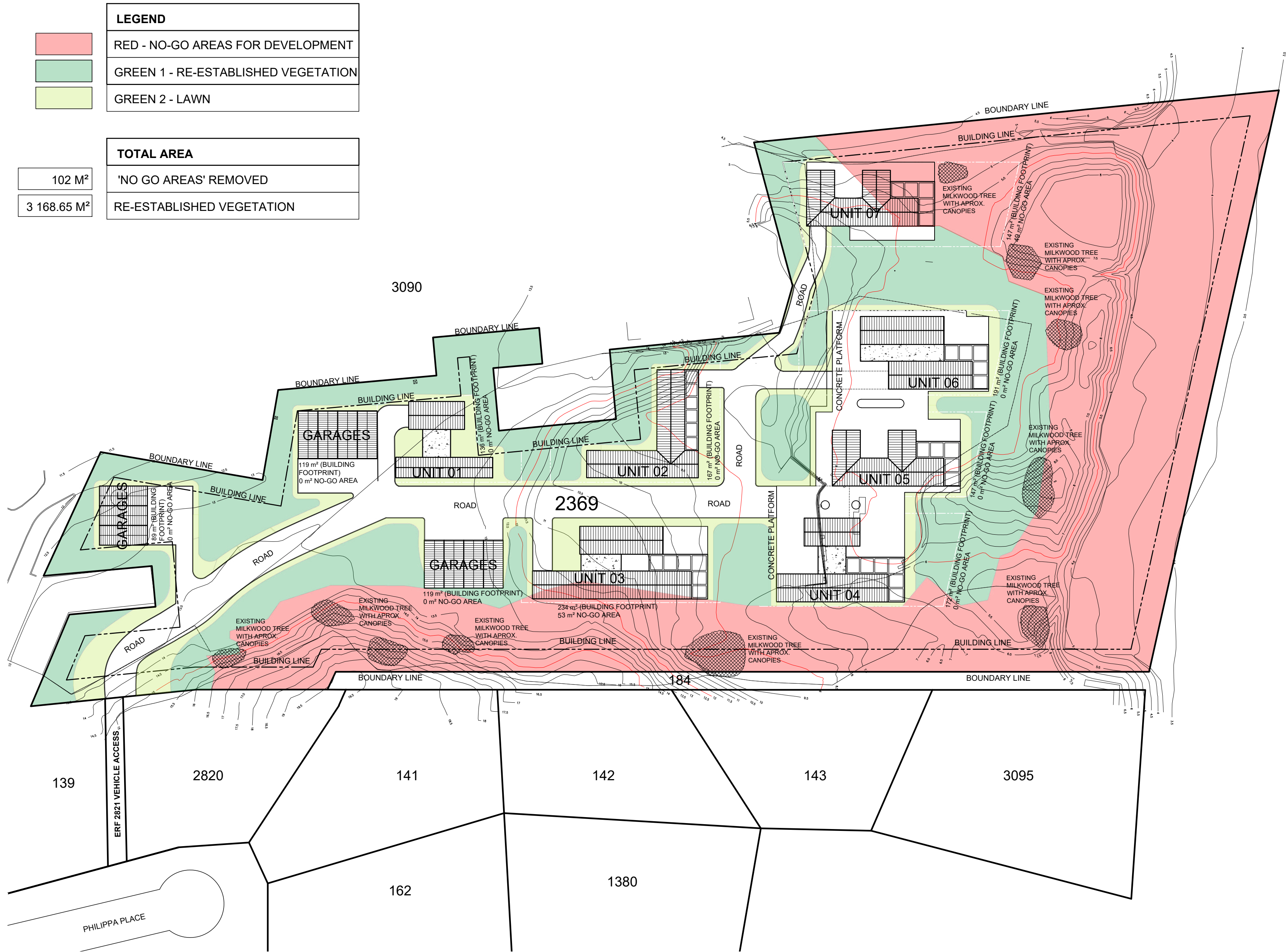
STATUS

PLANNING

NAME	SIGNATURE	DATE
LEVEL 1 DRAWN	CP	- 2026.03.18
LEVEL 2 CHECKED	PHILLIP	- -

DRAWING NUMBER REVISION

2603	L	100	-
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SITE PLAN
SCALE 1:500

LEGEND	
	RED - NO-GO AREAS FOR DEVELOPMENT
	GREEN 1 - RE-ESTABLISHED VEGETATION
	GREEN 2 - LAWN

TOTAL AREA	
102 M ²	'NO GO AREAS' REMOVED
3 168.65 M ²	RE-ESTABLISHED VEGETATION

NOTES

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SACAP Reg no: PrArch20746

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PROJECT

**PROPOSED SITE
DEVELOPMENT FOR ERF
2369, SEA VISTA**

TITLE

**SITE PLAN
PROPOSAL 02**

SCALE @ A2

1:500

STATUS

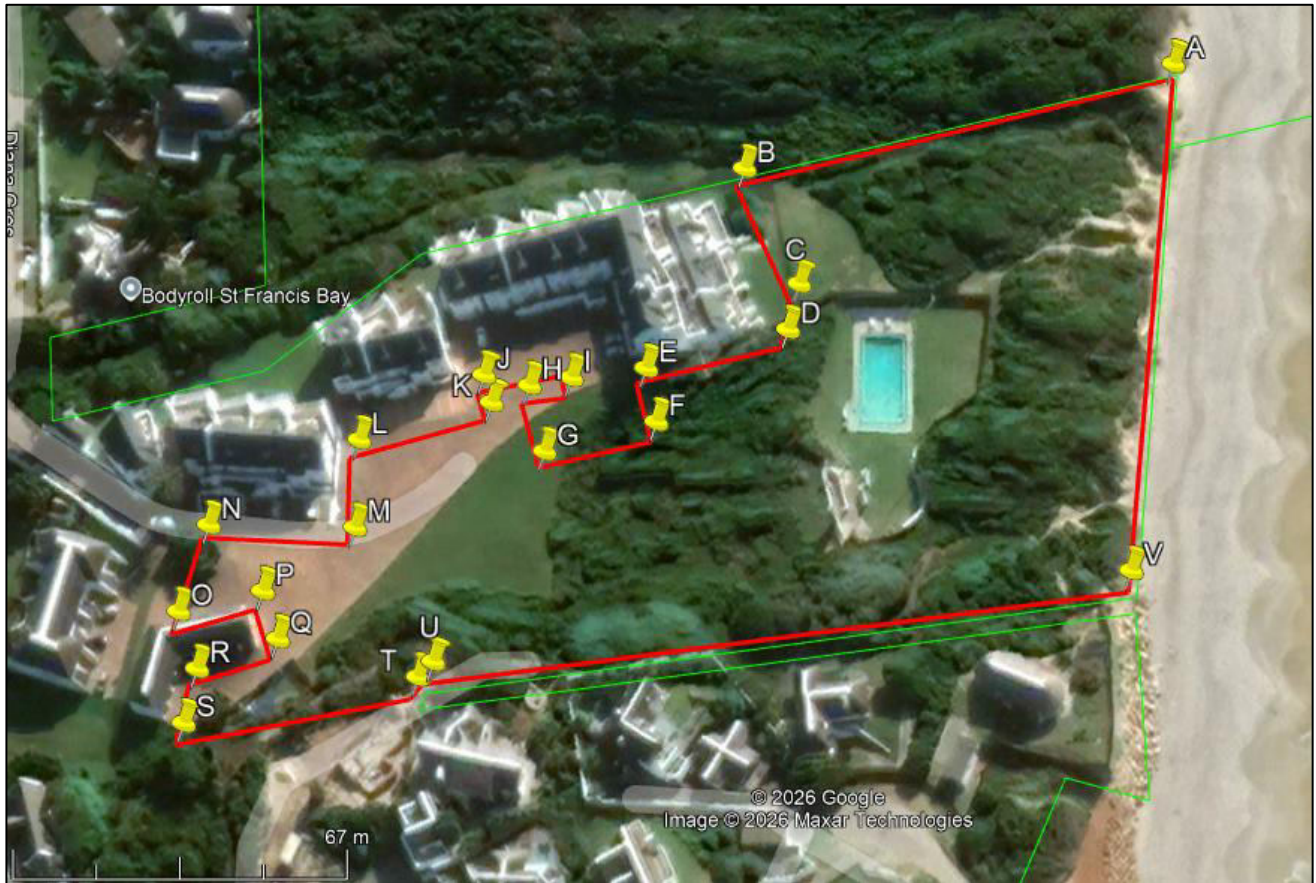
PLANNING

LEVEL 1 DRAWN	NAME	SIGNATURE	DATE
CP	-	-	2026.03.18

LEVEL 2 CHECKED	NAME	SIGNATURE	DATE
PHILLIP	-	-	-

DRAWING NUMBER	REVISION
2603	L 101 -

APPENDIX A3: CO-ORDINATES OF THE SITE



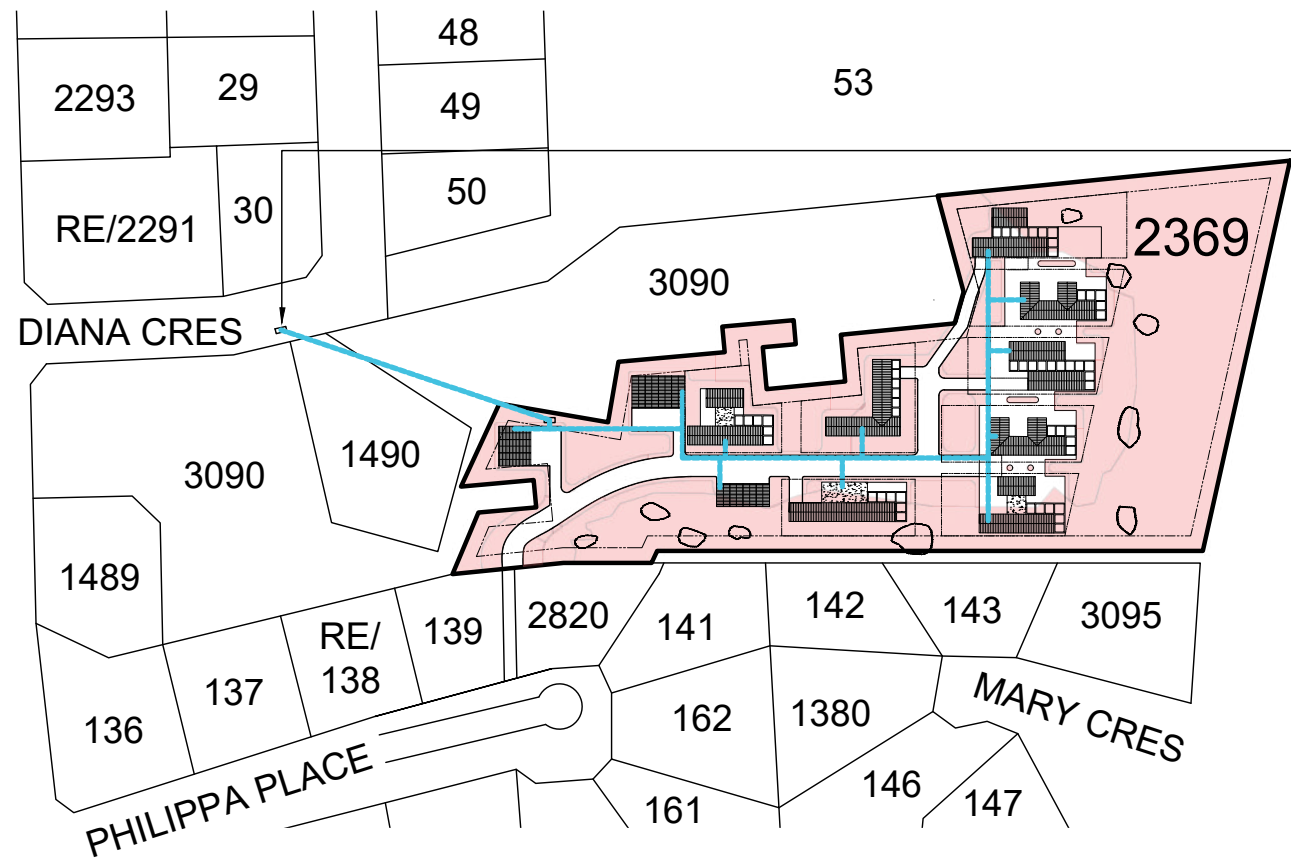
A:	34° 9'51.55"S	24°49'53.89"E	B:	34° 9'52.23"S	24°49'50.48"E
C:	34° 9'52.99"S	24°49'50.91"E	D:	34° 9'53.29"S	24°49'50.82"E
E:	34° 9'53.54"S	24°49'49.70"E	F:	34° 9'53.89"S	24°49'49.78"E
G:	34° 9'54.08"S	24°49'48.90"E	H:	34° 9'53.65"S	24°49'48.78"E
I:	34° 9'53.60"S	24°49'49.11"E	J:	34° 9'53.58"S	24°49'48.42"E
K:	34° 9'53.76"S	24°49'48.48"E	L:	34° 9'54.00"S	24°49'47.44"E
M:	34° 9'54.57"S	24°49'47.41"E	N:	34° 9'54.55"S	24°49'46.26"E
O:	34° 9'55.11"S	24°49'46.03"E	P:	34° 9'54.98"S	24°49'46.69"E
Q:	34° 9'55.29"S	24°49'46.81"E	R:	34° 9'55.48"S	24°49'46.18"E
S:	34° 9'55.83"S	24°49'46.08"E	T:	34° 9'55.54"S	24°49'47.91"E
U:	34° 9'55.44"S	24°49'48.03"E	V:	34° 9'54.87"S	24°49'53.51"E

APPENDIX A4: ACCESS ROAD MAP IN RELATION TO THE SITE



AMENDMENTS				DRAWING STATUS	ORIGINAL PAPER SIZE A3		ENGINEERING ADVICE AND SERVICES 73 Hough Road, Walmer P.O. Box 13967 Hummwood Port Elizabeth 6013 Tel: (041) 581 2421		DESIGN	MM	APPROVED	APPROVED	PROJECT	CONTRACT NO.		
NO.	DATE	DESCRIPTION	APPROVED	FOR REPORT	SCALE 1:1000 0m5m10m20m50m				DRAWN	WMM				TIA FOR A PROPOSED RESIDENTIAL DEVELOPMENT ON ERF 2369, SEA VISTA (ST FRANCIS BAY)	----	
									APPROVED	CH	ENGINEER		DWG DESCRIPTION	DWG NO.		
													FIGURE 11: PROPOSED SITE LAYOUT AND ACCESS CONFIGURATION	2490-P-011		
														REVISION 000 - 1 - 1		
				COORDINATE/DATUM												
				TM - WGS84 - LO 25												

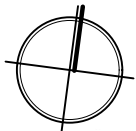
APPENDIX A5: SERVICES POSITION MAP OF ELECTRICITY SUPPLY, WATER SUPPLY PIPELINES, SEWAGE PIPELINES, AND STORMWATER INFRASTRUCTURE.



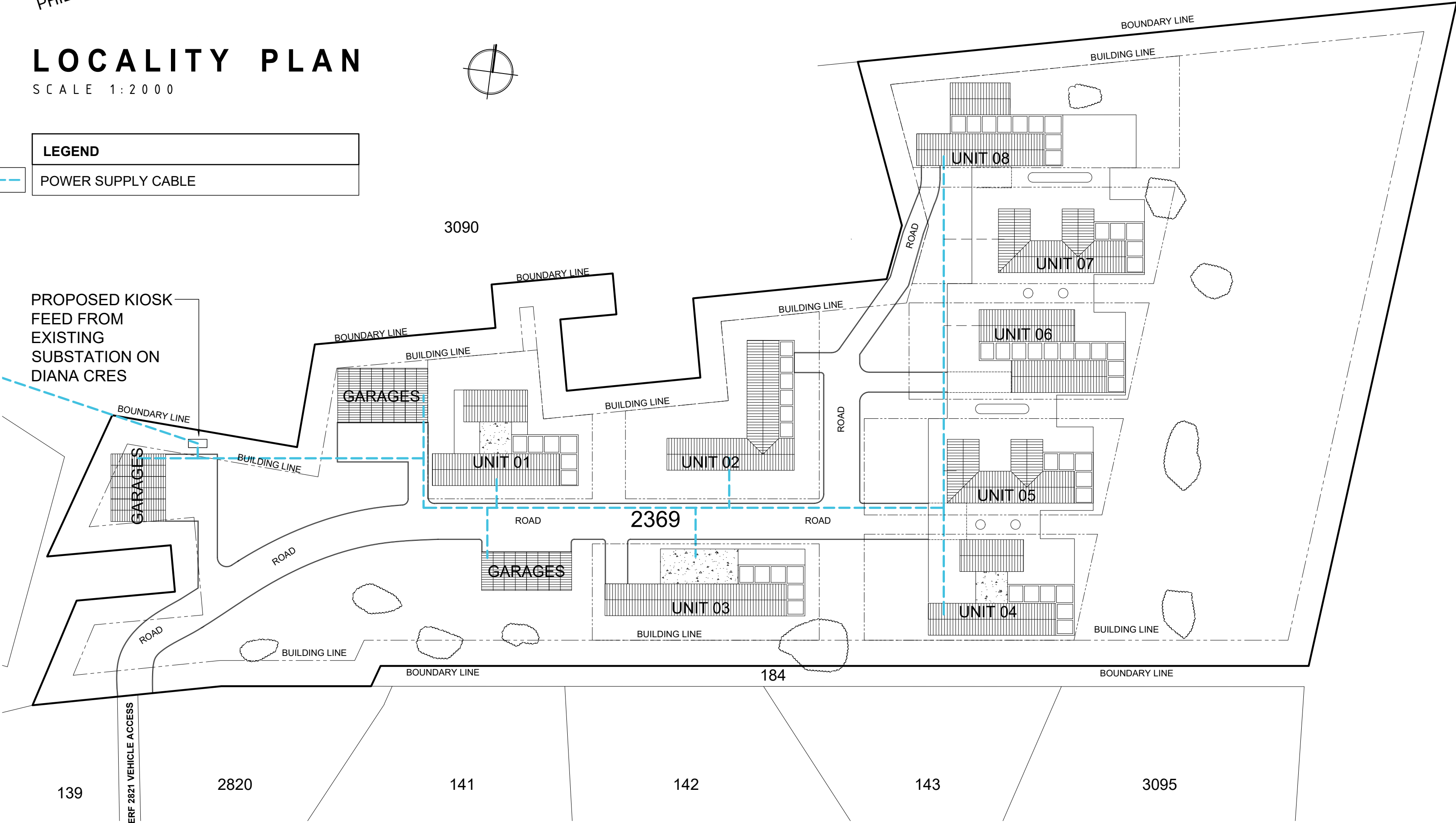
EXISTING
SUBSTATION
500 kVA

LOCALITY PLAN

SCALE 1:2000

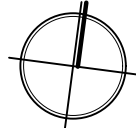


LEGEND	
	POWER SUPPLY CABLE



ELECTRICAL ARTICULATION PLAN

SCALE 1:500



NOTES

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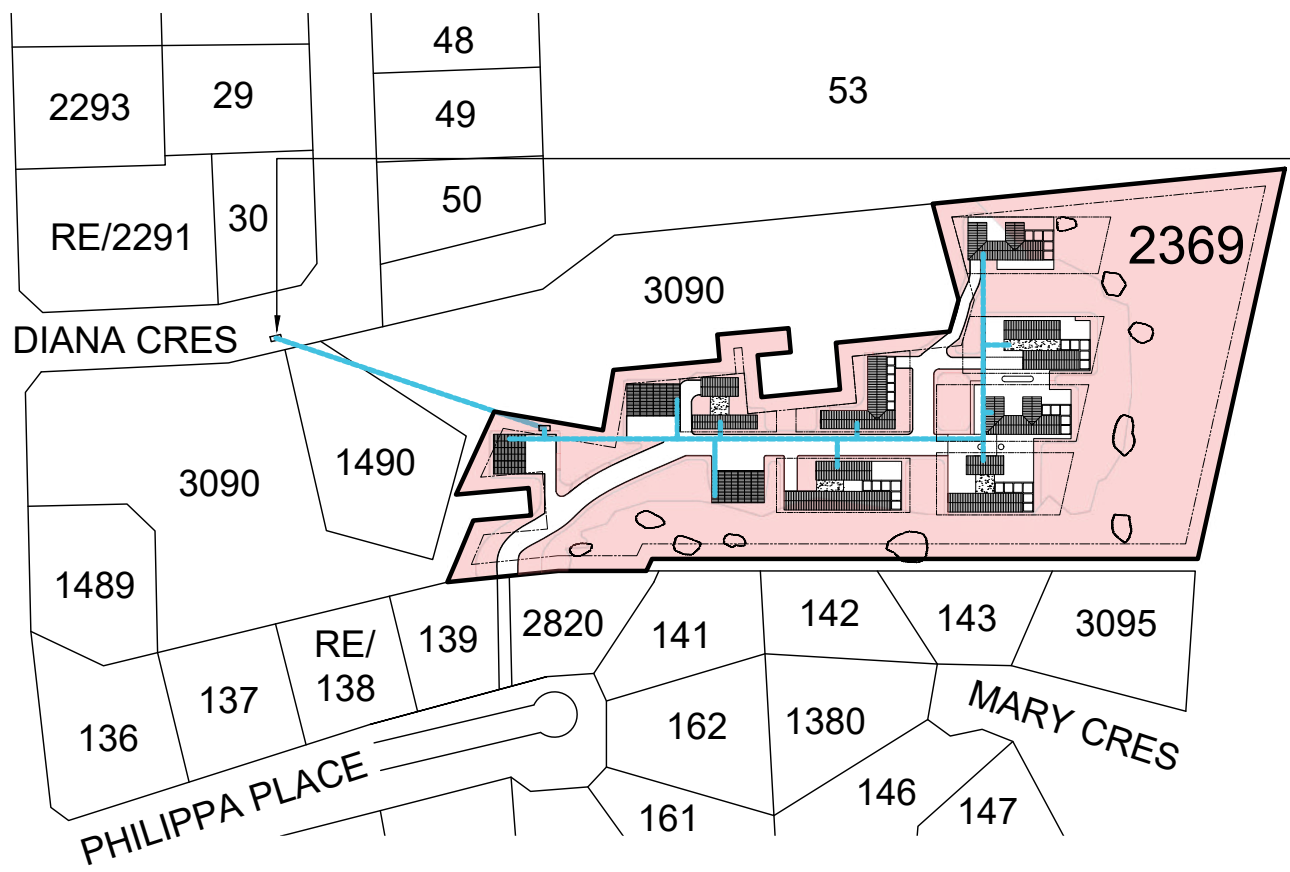
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PROJECT
**PROPOSED SITE
DEVELOPMENT FOR ERF
2369, SEA VISTA**

TITLE
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ARTICULATION PLAN
PROPOSAL 01**

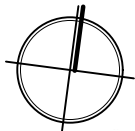
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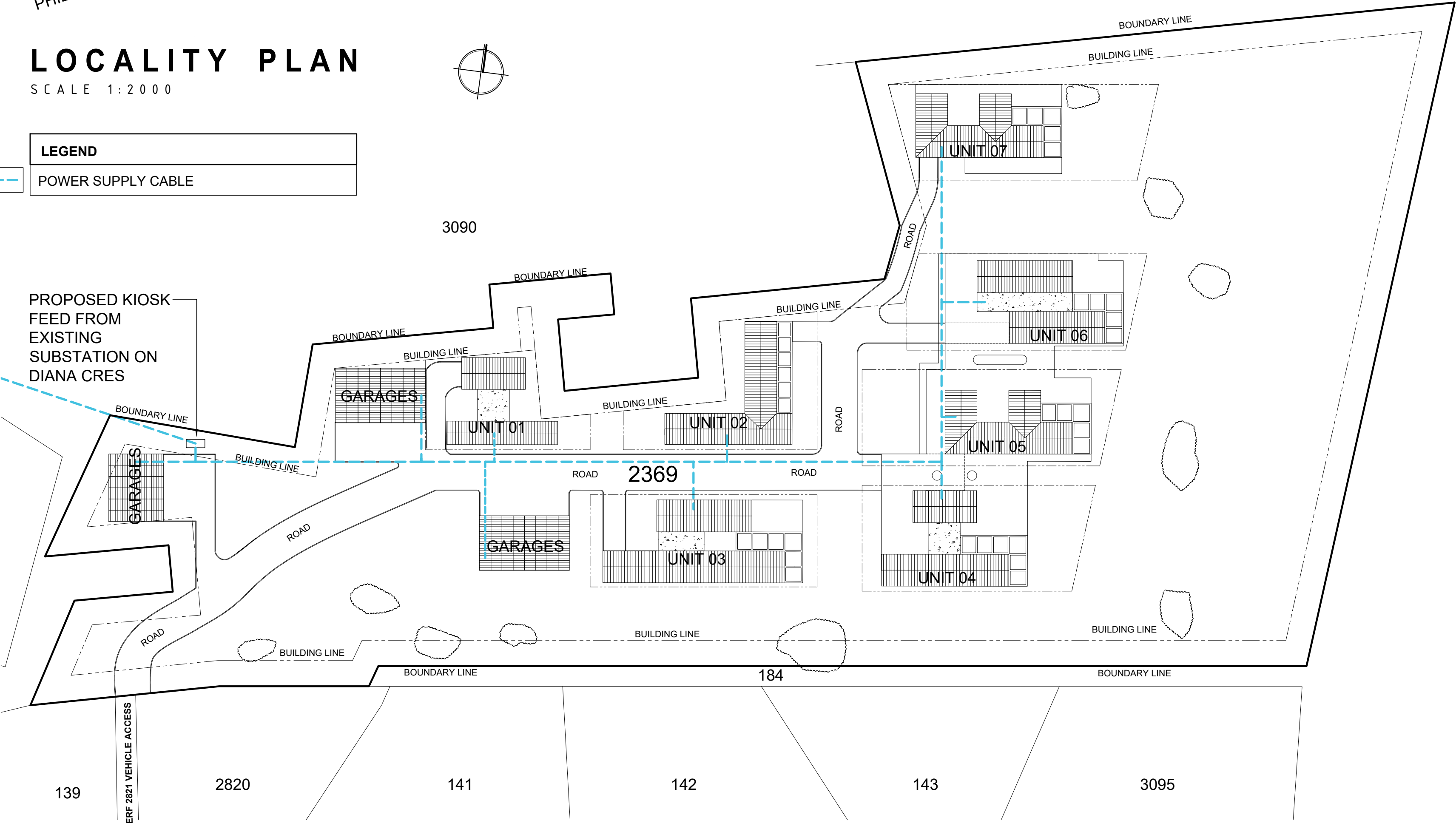
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SUBSTATION
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LOCALITY PLAN

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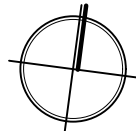


LEGEND	
	POWER SUPPLY CABLE



ELECTRICAL ARTICULATION PLAN

SCALE 1:500



NOTES

Rev	By / Date	AMENDMENT	Chk / Date

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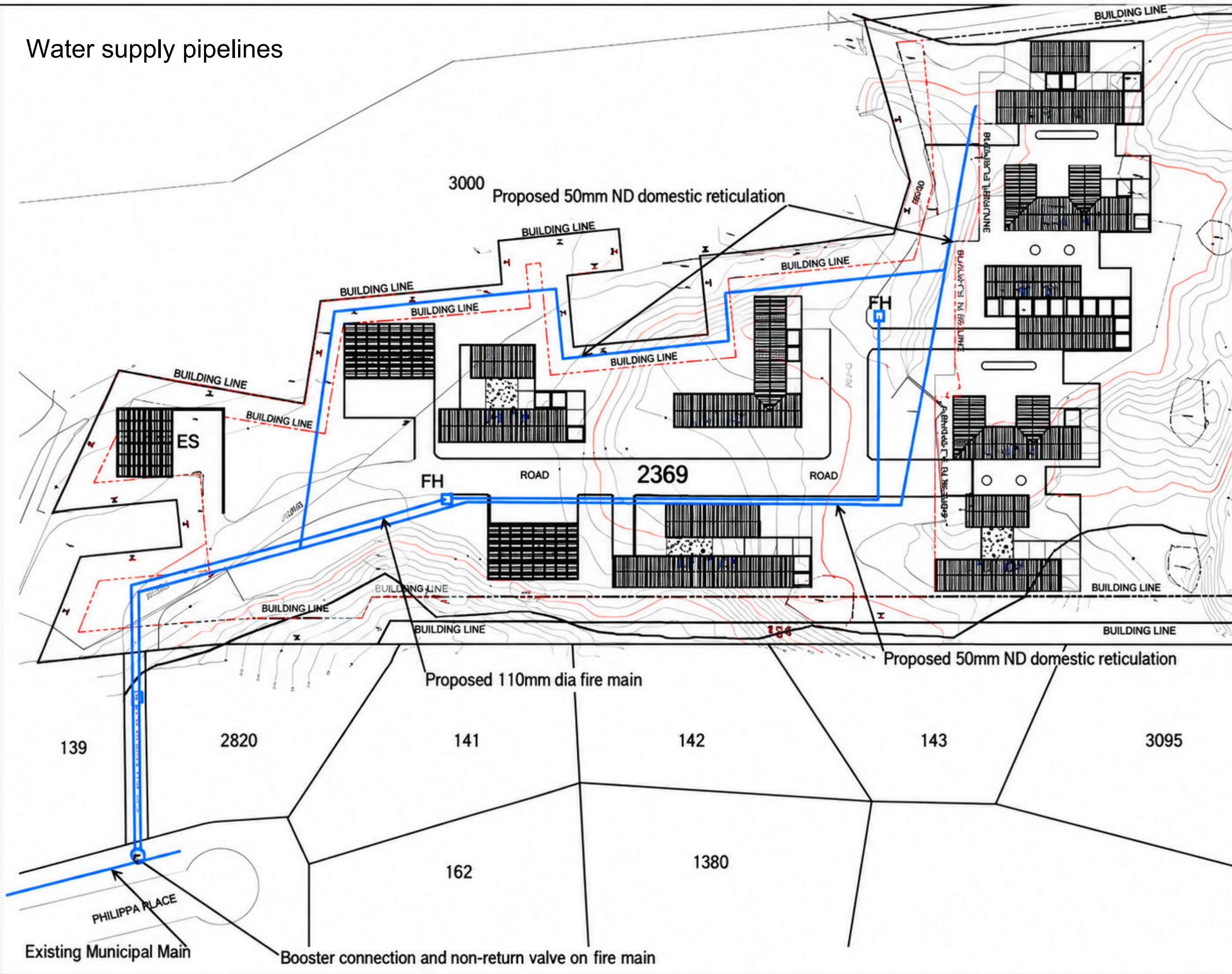
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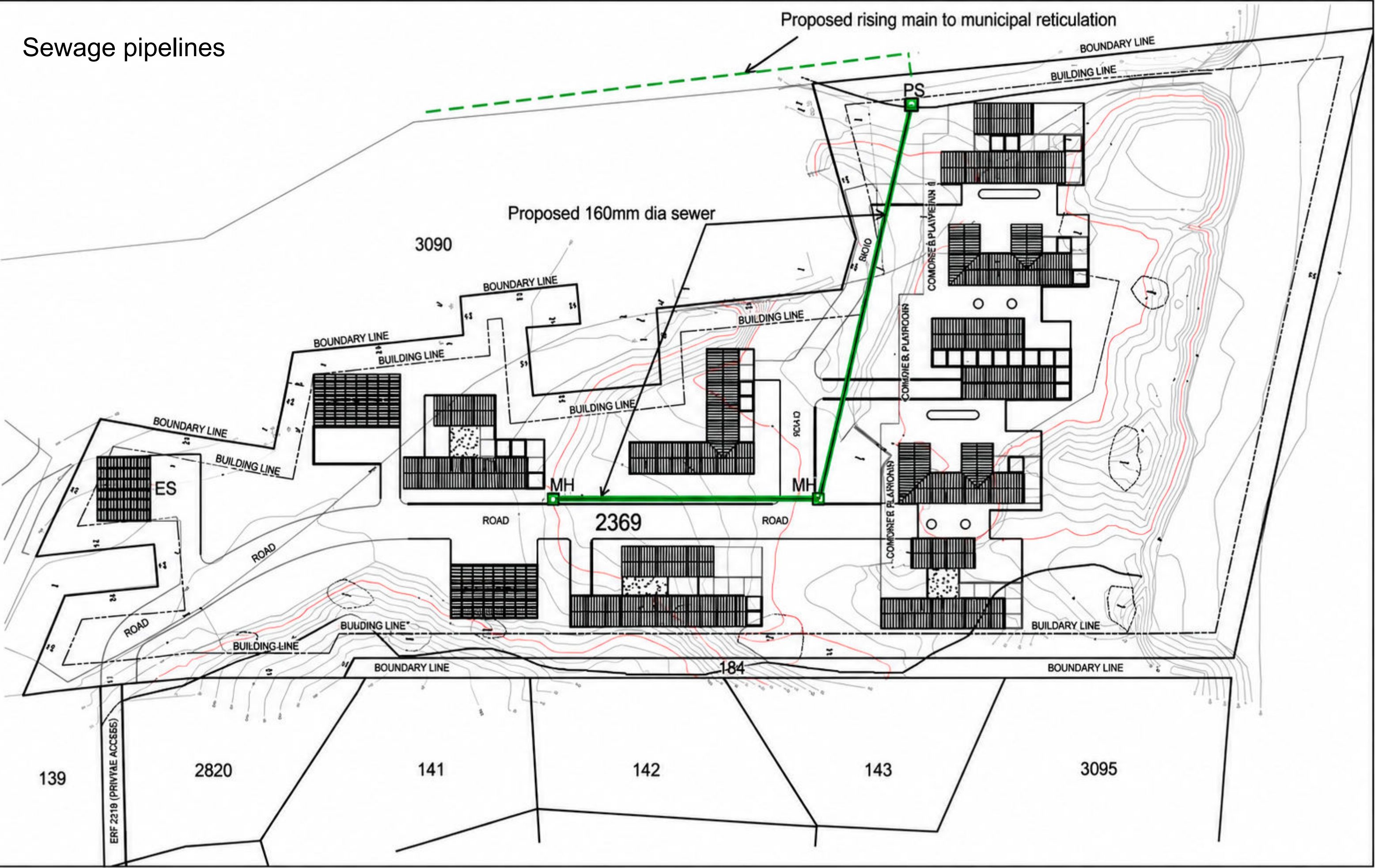
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PROPOSAL 02**

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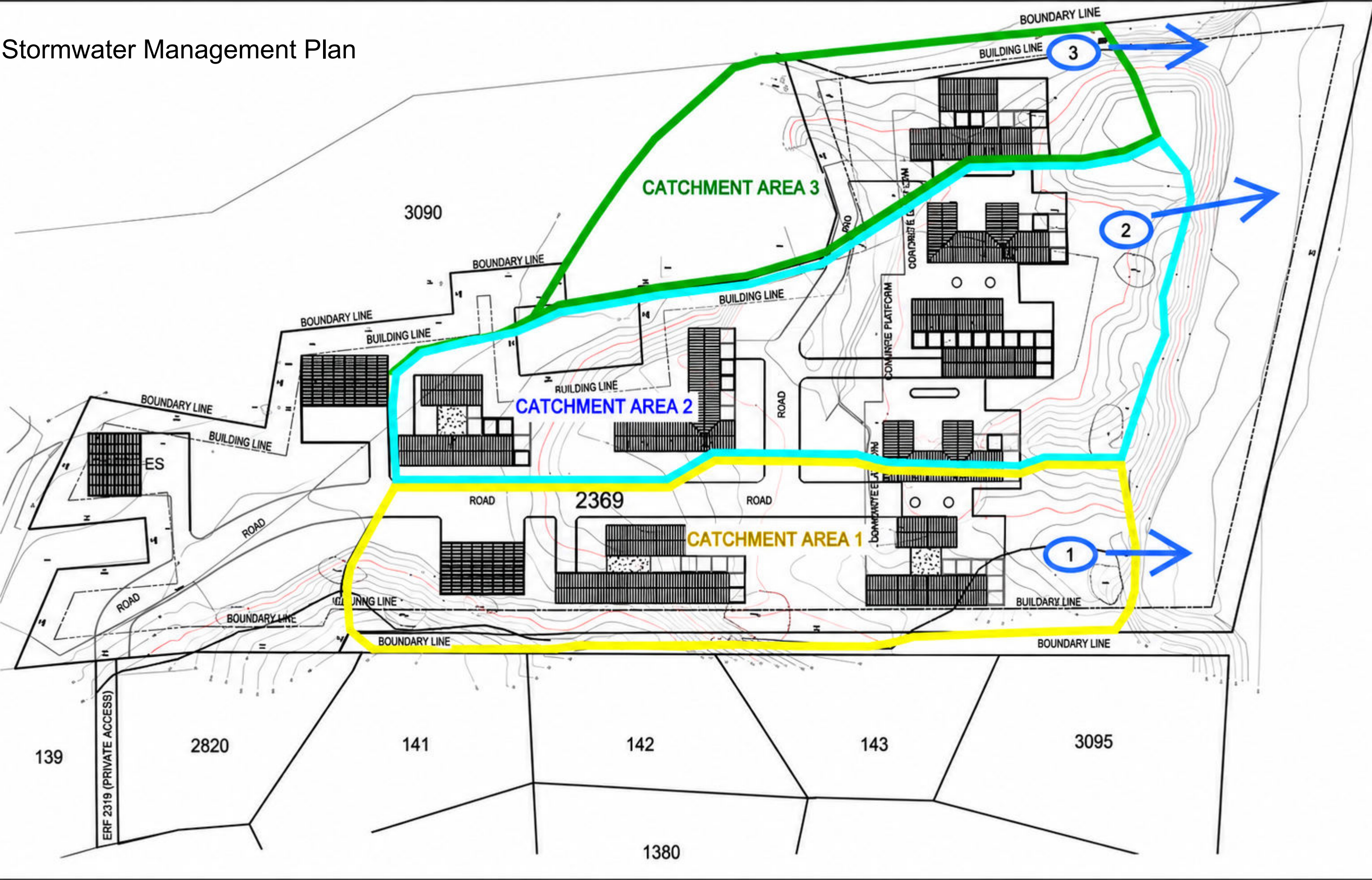
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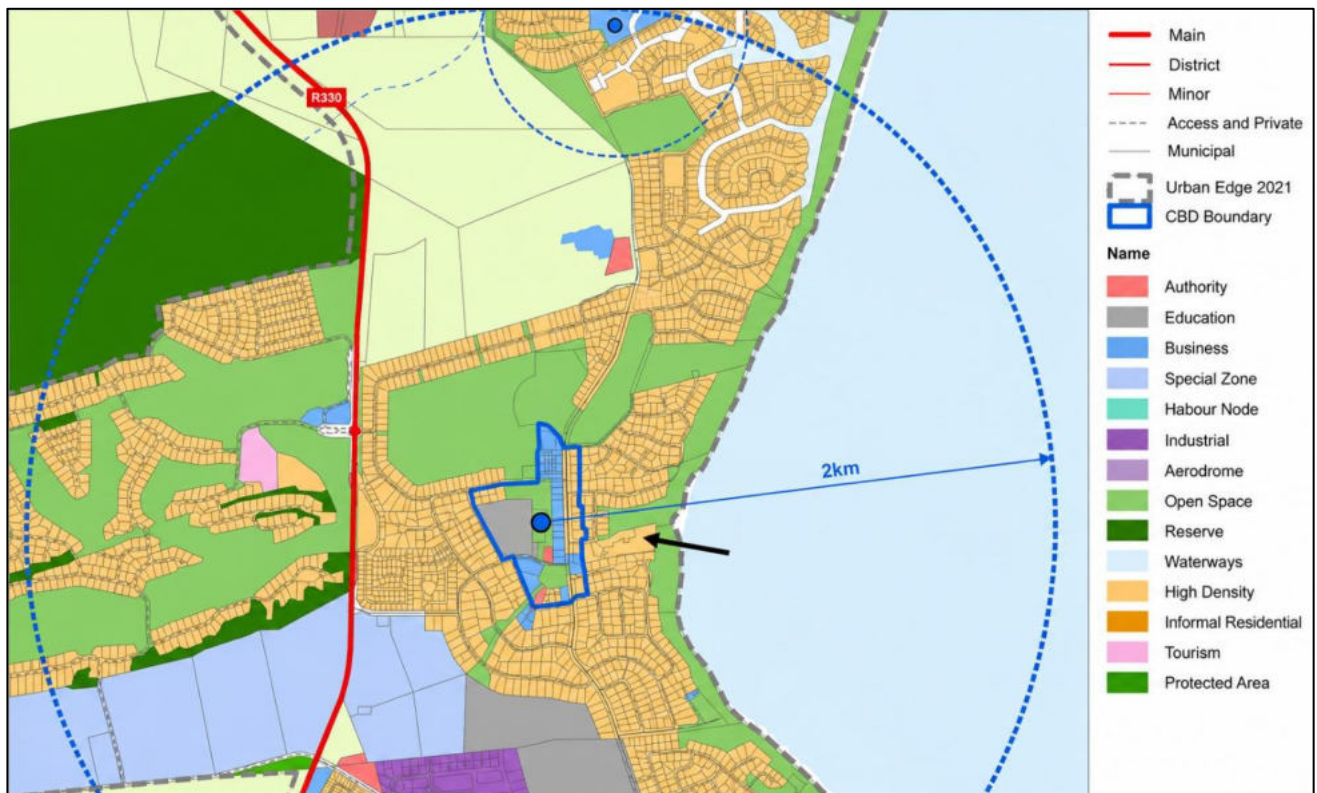
Sewage pipelines



Stormwater Management Plan



APPENDIX A6: LAND USE / ZONING MAP



The black arrow represents the site

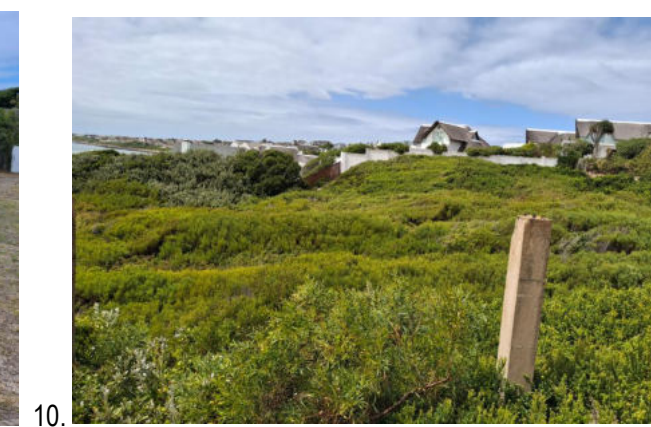
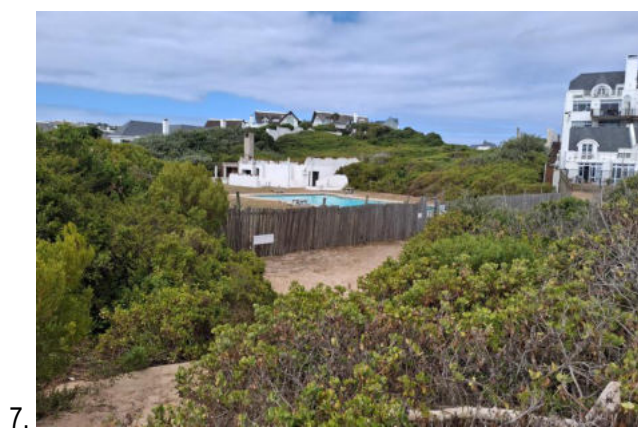
APPENDIX B: PHOTOGRAPHS

Indicate positions from where photographs of the site were taken:



The aerial image above indicates the approximate locations and viewing directions of the site photographs taken during the site assessment. Numbers 1–16 correspond with the numbered photographs presented below/in the photographic record. The position of each number indicates the approximate location from which the photograph was taken, while the orientation of the number indicates the direction in which the photograph was taken (i.e. the direction of view). The photographic record should therefore be read in conjunction with this figure to provide spatial context for the site conditions observed during the site assessment.







11.



12.



13.



14.



15.



16.

APPENDIX C: FACILITY ILLUSTRATION(S)









APPENDIX D: SPECIALIST REPORTS

APPENDIX D1: CIVIL – SERVICES AVAILABILITY REPORT

BORN FREE INVESTMENTS (PTY) LTD

PROPOSED SITE DEVELOPMENT FOR ERF 2369, SEA VISTA

CIVIL SERVICES AVAILABILITY REPORT AND STORMWATER MANAGEMENT PLAN

Report Ref: GE 1003/01

Date: April 2026

Revision: 0



Prepared for:

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ERF2369 SERVICES AVAIL REPORT_

PROJECT NUMBER: GE 1003

CLIENT: BORN FREE INVESTMENTS (PTY) LTD

PROJECT NAME: PROPOSED SITE DEVELOPMENT FOR ERF 2369, SEA VISTA

DOCUMENT TITLE: CIVIL SERVICES AVAILABILITY REPORT AND STORMWATER
MANAGEMENT PLAN

DOCUMENT NUMBER: GE 1003/01

Revision Record

Revision	Date	Description / File name	Prepared	Checked
0	13/4/2026	DRAFT Erf2369 Services Avail Report	GvdM	GvdM
1				
2				

Prepared by: _____

Name G. van de Merwe

Date: 13/3/2026

Pr Tech Eng PMP® FIMESA

Checked by: _____

Name G. van de Merwe

Date: 13/3/2026

Pr Tech Eng PMP® FIMESA

BORN FREE INVESTMENTS (PTY) LTD

PROPOSED SITE DEVELOPMENT FOR ERF 2369, SEA VISTA

CIVIL SERVICES AVAILABILITY REPORT AND STORMWATER MANAGEMENT PLAN

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Table 3: Proposed Pond Size

DEFINITIONS/ABBREVIATIONS

AADD	Average annual daily demand
TAADD	Total average annual daily demand
Drainage Manual	5 th Edition of the SANRAL Drainage Manual
NMBM	Nelson Mandela Bay Municipality
NPDG	Neighbourhood Planning and Design Guide
SANRAL	South African National Roads Agency Limited
SANS	South African National Standard
The Red Book	Guidelines for Human Settlement Planning and Design
ADWF	Average Dry Weather Flow
PDDWF	Peak Daily Dry Weather Flow
IPDWF	Instantaneous Peak Dry Weather Flow
IPWWF	Instantaneous Peak Wet Weather Flow
Kl/d	Kilolitre per day
l/s	Litres per second
PVC-U	Unplasticized Poly Vinyl Chloride
CSIR	Council for Scientific and Industrial Research
IDF	Intensity-Duration-Frequency

BORN FREE INVESTMENTS (PTY) LTD

PROPOSED SITE DEVELOPMENT FOR ERF 2369, SEA VISTA

CIVIL SERVICES AVAILABILITY REPORT AND STORMWATER MANAGEMENT PLAN

1. INTRODUCTION

Ge Elevate Projects (Pty) Ltd has been appointed by Born Free Investments (Pty) Ltd to provide a civil engineering services availability report and for the development of Erf 2369, Sea Vista in St Francis Bay in the Kouga Local Municipality area. The proposed development entails the construction of eight fully serviced luxury houses on the, with separate garage buildings, all connected with a single access road,

The proposed development plan is shown in Figure 1, below.



Figure 2: Erf 2369 Development Plan

The locality map of Erf 2369 in Figure 2 below shows the development site's location, in St Francis Bay, in relation to the business centre and township layout in general.

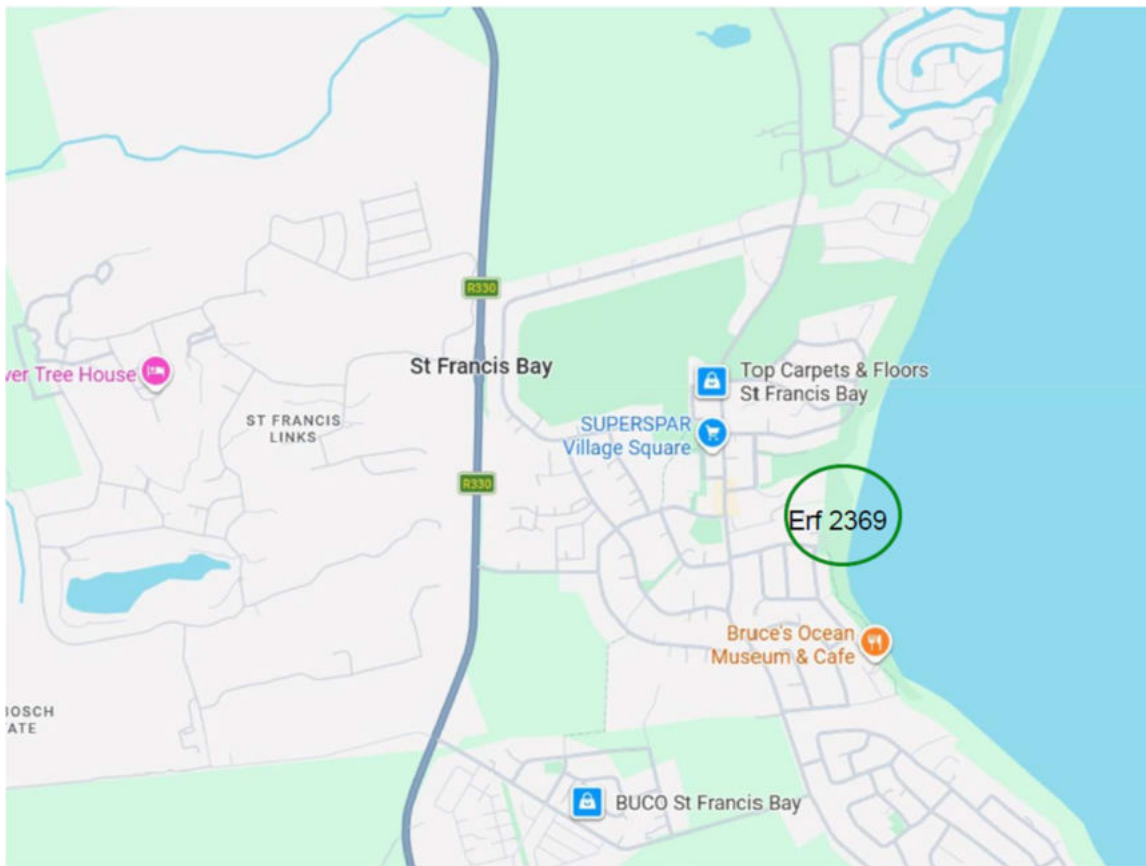


Figure 2: Erf 2369 Locality Map

Ge Elevate Projects (Pty) Ltd's scope of work includes the following:

- Desktop Study
- Site Inspection (one visit)
- Catchment Analysis
- Runoff and Detention Assessment
- Sewer Bulk Connection and Flow Volume Assessment
- Water Bulk Connection and Flow Volume Assessment

The deliverables are intended to satisfy environmental approval requirements and support any Water Use Licence Application related to the proposed development. The appointment, however excludes the Water Use Licence Application (WULA) process, as well as detailed design and preparation of construction drawings for any engineering services.

This Report outlines the engineering approach, feasibility considerations, and preliminary design parameters for the project. Specifically, it assesses the availability of bulk water, sewerage and stormwater services for the development and provides recommendations for integrating these services with existing municipal infrastructure. The report examines the necessary bulk water, bulk sewer, and bulk stormwater connections to ensure efficient service delivery and compliance with municipal requirements.

2. SECTION A: CIVIL ENGINEERING

2.1 DESIGN STANDARDS AND METHODOLOGY

Water demand and sewage flow calculations and design of connections to the municipal reticulation in this report were based on “The Neighbourhood Planning and Design Guide” published by the CSIR on behalf of the Department of Human Settlements, as well as its predecessor, the “Guidelines for Human Settlement and Design” which is commonly known as “The Red Book”.

The Nelson Mandela Bay Municipality (NMBM) water and sewer design requirements were also considered.

Stormwater runoff calculations were done with methods described in the Fifth Edition of the **Drainage Manual** published by the South African Roads Agency Ltd (2006).

2.2 WATER SERVICES

2.2.1 Bulk Water Supply



Figure 3: Existing bulk water supply

Figure 3 above illustrates the layout of existing water infrastructure supplying Erf 2369, Sea Vista. Bulk water supply will be from the reservoir at the St Francis Water Treatment Works at a top water level of approximately 60m. The water supply mains between the reservoir and Erf 2369 are visible in Figure 3.



Figure 4: Existing municipal water reticulation

Figure 4 above is a zoomed in view of the existing municipal water supply pipes in the vicinity of the development site. An existing water main in Philippa Place to the South of Erf 2369 terminates with a fire hydrant, indicated with a blue circle in Figure 4. The fire hydrant is shown in Figure 5 below.

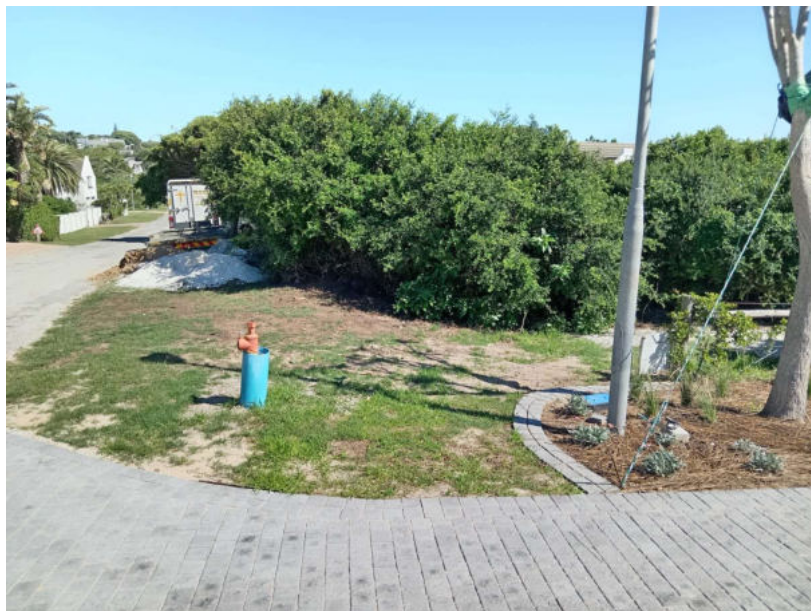


Figure 5: Fire hydrant in Philippa Place

The existence of a functioning fire hydrant in Philippa Place verifies the existence of a water main in the vicinity of Erf 2369 of sufficient size to act as bulk water supply to the proposed development. The site plan in Figure 1, shows a narrow strip, Erf 2821, that will provide vehicular access from

Philippa Place to the proposed development. The proposed bulk water supply connection from the water main in Philippa Place will also be along this access way.

2.2.2 Water Demand

2.2.2.1 Domestic Water Demand

Eight large, luxury dwellings are planned on the development site.

From Table 3.3 and Figure 3.2 in the Red Book design guidelines, an average daily water demand of around 1800 litre per erf per day (l/e/d) may be used in design. From Table J.2 in the Neighbourhood Planning and Design Guide (NPDG), for residential stands of very low density, an annual average daily demand (AADD) of 1.3 to 2.00 kl/unit/d may be expected. This is in line with the 1.8 kl/erf/d from the Red Book guidelines.

The total annual average daily demand (TAADD) for 8 residential units will thus be $8 \times 1800 = 14,400$ l/d (litres per day), or 14.4 kl/d.

From Table J9 in the NPDG, a peak hour peak factor (PF) of 4.6 may be used for a TAADD < 1000 kl/d. A PF of 4.6 will thus be applicable to this analysis.

Thus:

$$\begin{aligned}\text{Peak hour demand} &= 14,400 \times 4.6 \\ &= 66,240 \text{ l/d} \\ &= 0.767 \text{ l/s}\end{aligned}$$

2.2.2.2 Fire Flow

The Neighbourhood Planning and Design Guide (NPDG) provides design criteria for the provision of fire flow in Table J.17. For low-risk residential housing the total fire flow should be a minimum of 15 l/s, with the minimum flow at one hydrant to be 15 l/s as well. Only one hydrant is thus required to flow at any given time. The minimum pressure at the flow hydrant is specified as 10m (1 bar).

At Erf 2369, the static pressure head will be around 45m (4.5 bar). During peak flow conditions a reduction in residual pressure at the proposed development connection point of about 3 bar could be expected. The residual pressure at the development connection could thus be $45\text{m} - 30\text{m} = 15\text{m}$. If a 196m long 110mm diameter fire main is installed to the terminal fire hydrant inside the development, a further pressure loss of 6.8m to the hydrant may be expected. The pressure at the flow hydrant will then be $15 - 6.8 = 8.2\text{m}$. This is less than the required 10m pressure at the flow hydrant. A booster connection to the fire main after the take-off connection from the municipal main will thus be required. Figure 6 shows a similar existing booster connection installed in Diana Crescent at the neighbouring site.



Figure 6: Booster connection and sewer manhole in Diana Crescent.

2.2.2.3 Design Flow and Feeder Pipe Size

The design flow for the bulk water main serving the proposed development is determined by combining the residential instantaneous peak flow with the fire flow requirements detailed in Section 2.2.2.2.

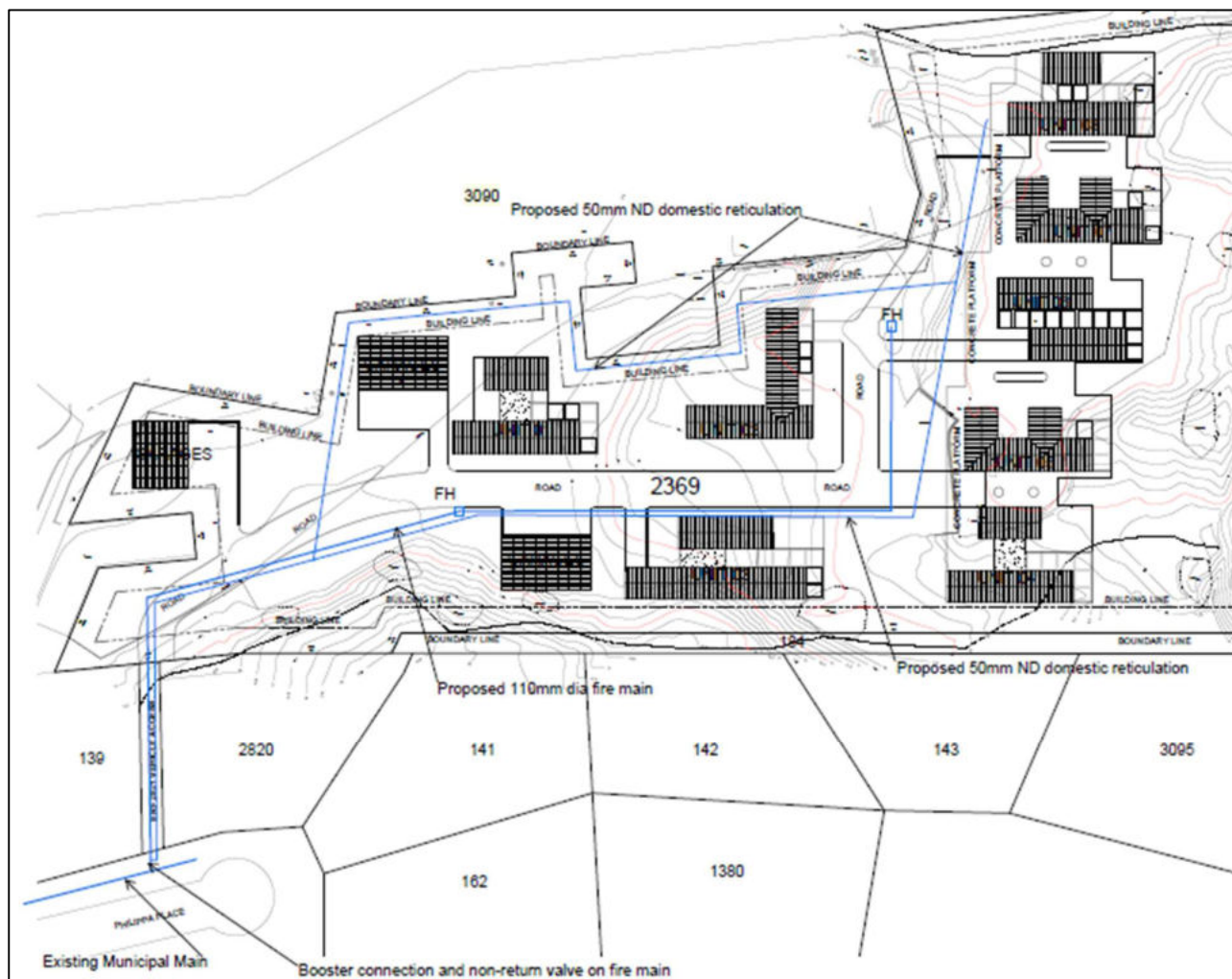
The design flow then is 15.767 l/s (15 l/s for fire flow + 0.767 l/s for peak residential demand) Under these conditions, a 110mm ND PVC-U pipe would be sufficient to maintain a velocity of less than 3 m/s.

2.2.3 Municipal Water Connections

A 110mm diameter connection from the municipal main is thus recommended, based on the analysis detailed in Section 2.2.2.

A non-return valve will be installed prior to the booster connection at the take-off, to prevent backpressure into the municipal system. A separate 50mm ND HDPE domestic reticulation pipe will be connected to the 110mm diameter connection at a location between the bulk water meter and

the fire main non-return valve. The 50mm pipe will have sufficient capacity to serve the domestic demand from the 8 dwellings plus the common property, including gardens and refuse facilities.



2.3 SEWERAGE SERVICES

2.3.1 Bulk Sewer Connection



Figure 8: Existing municipal sewer reticulation

Figure 8 above shows the existing municipal sewer reticulation in the vicinity of the development site. An existing sewer main in Diana Street Northwest of Erf 2369 terminates in a sewer manhole, indicated with a yellow circle in Figure 8. The sewer manhole is shown in Figure 6, above, where the existing booster connection is also located.

The sewage discharge from the proposed development will be collected in the sump of a proposed small private pump station and pumped via a rising main to discharge into the existing manhole in Diana Crescent. The proposed rising main will be located on the adjacent public open space. Due to the dense indigenous vegetation along the existing fenceline, it is recommended that the rising main follow an existing footpath, as shown in Figure 9, below.

The municipal manhole into which the rising main will discharge, is located on an existing municipal gravity main that discharges to the Aida Pump Station, as shown in Figure 8, from where the sewage is pumped to the St Francis Bay Waste Water Treatment Works just over two kilometres away.



Figure 9: Proposed sewer pump station and rising main

2.3.2 Sewage Flow Volumes

The peak sewage flow discharge from the proposed development has been calculated using the figures provided in both the Neighbourhood Planning and Design Guide (NPDG) (Table 3) and the NMBM Sewer Design Requirements document (Table 4).

Flow figures from the Neighbourhood Planning and Design Guide:

From Table K.4 in the Neighbourhood Planning and Design Guide (NPDG), for residential stands of low density and extra-large size, a peak daily dry weather flow PDDWF of 0.80 kl/unit/d may be expected.

The PDDWF for eight houses will be $8 \times 0.8 \text{ kl/unit/d} = 6.4 \text{ kl/d} = 6400 \text{ l/d}$.

The average peak dry weather flow in litres per second is then $6400 / (24 \times 60 \times 60) = 0.074 \text{ l/s}$.

From Figure K.21 in the NPDG, the maximum recommended peak factor (PF) for residential land use is 2.5.

The instantaneous peak dry weather flow (IPDWF) is then:

$$\text{IPDWF} = \text{PF} \times \text{PDDWF} = 2.5 \times 0.074 = 0.185 \text{ l/s}.$$

To allow for infiltration and stormwater spare capacity, the peak wet weather flow is taken as double the peak dry weather flow.

The Instantaneous Peak Wet Weather Flow (IPWWF) is then 2 x IPDWF:

$$\text{IPWWF} = 2 \times 0.185 = 0.370 \text{ l/s}$$

Flow volumes using the NMBM Sewer Design Requirements:

Table 3.1: For high income areas, an average dry weather flow (ADWF) of 750 l/d/e is recommended.

Thus for eight houses: $\text{ADWF} = 8 \times 750 = 6000 \text{ l/d}$

$$\text{Instantaneous ADWF} = 6000 / (24 \times 60 \times 60) = 0.069 \text{ l/s}$$

$$\text{Harmon peak factor (maximum)} = 3.80$$

$$\text{Thus: Instantaneous peak dry weather flow} = 3.8 \times 0.069 = 0.262 \text{ l/s}$$

The Instantaneous Peak Wet Weather Flow (IPWWF) is then 2 x IPDWF:

$$\text{IPWWF} = 2 \times 0.262 = \mathbf{0.524 \text{ l/s}}$$

The more conservative NMBM sewer design requirements results will be accepted, with a peak wet weather flow volume of 0.524 l/s.

2.3.3 Proposed Sewer Reticulation

Figure 10, below, shows the proposed 160mm diameter sewer to serve the 8 proposed houses on site, as well as the proposed pump station and rising main on the adjacent public open space. It is proposed that this sewer will, in line with municipal requirements, have a minimum longitudinal gradient of 1%. This will provide more than ample capacity to drain the PWWF of 0.524 l/s as detailed in paragraph 2.3.2.

The individual houses will drain into this sewer with standard 110mm diameter house drainage pipe systems and connections into the 160mm diameter sewer reticulation pipe.

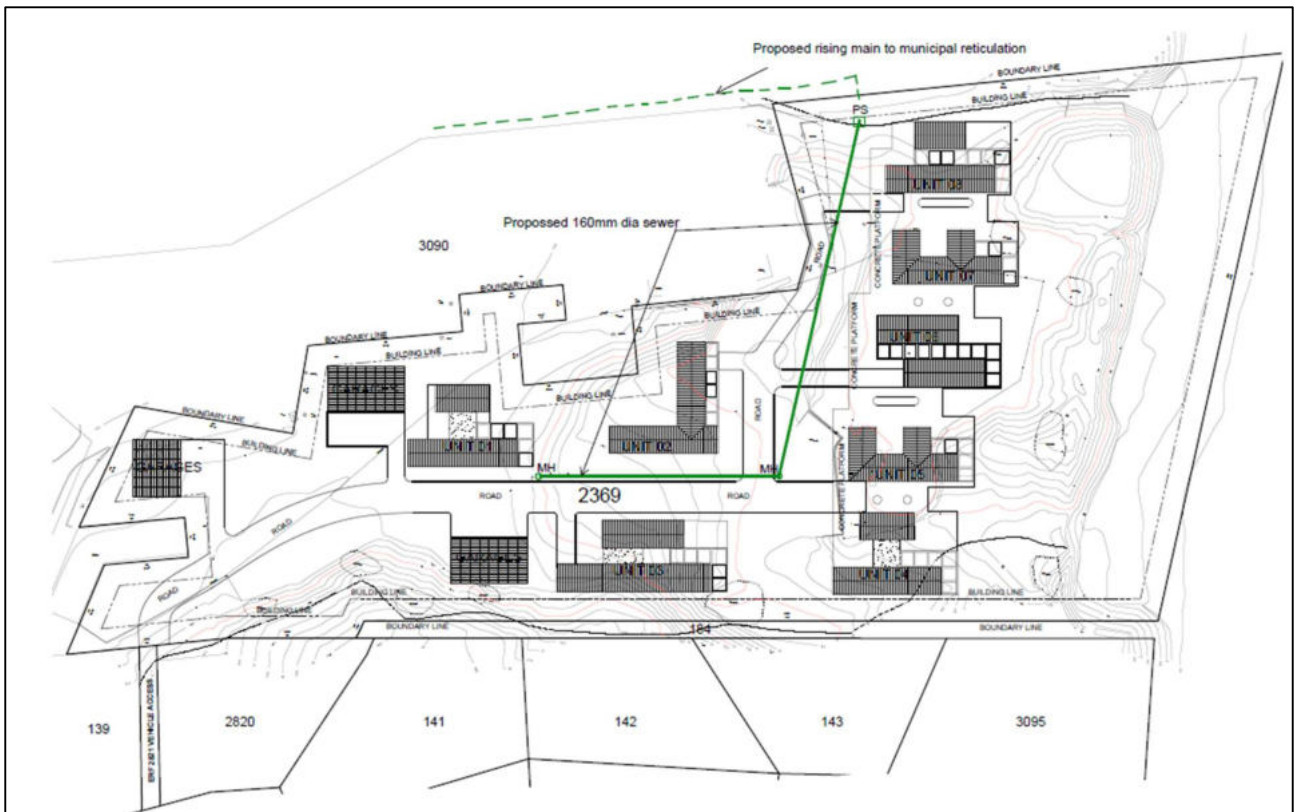


Figure 10: Proposed sewer sewer reticulation, pump station and rising main

2.4 STORMWATER MANAGEMENT

2.4.1 Bulk Stormwater Connection

No bulk stormwater connection to Erf 2369 is available. There is also no minor system reticulation available where minor flow from the development site may be discharged to. Excess runoff from the pre-development site naturally discharges to the beach over three separate channels in the primary dune system, while a large percentage of stormwater runoff dissipates into the sandy beach soil that underlies the development site.

The basic philosophy, in dealing with stormwater runoff from the development site, is to spread the post development runoff over the same three discharge channels and to create three detention pond areas, one for each catchment area, where the major flood may be detained and where the natural dissipation into the sandy soil may be enhanced prior to overflowing through the existing, but upgraded channels to the sandy beach.

This is illustrated in the Stormwater Management Plan detailed in Figure 11, below.

This approach will ensure that the natural system of runoff is maintained and that stormwater runoff from the proposed development site does not concentrate stormwater runoff to the beach at any point. It will also ensure that the major flood event (1:100 years recurrence interval storm) will neither cause flood damage to the development nor to the beach beyond.

2.4.2 Stormwater Catchment Areas

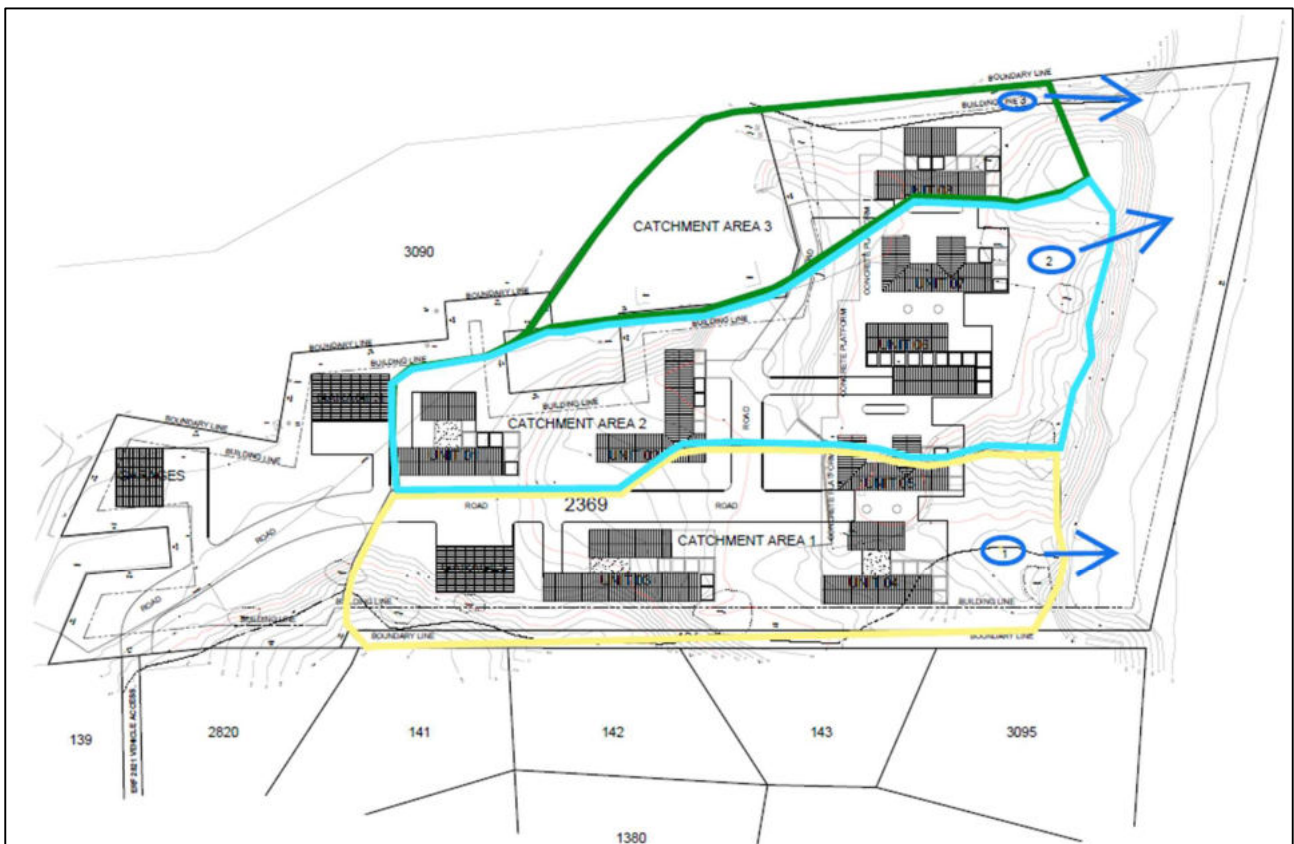


Figure 11: Stormwater Management Plan

The stormwater catchment areas (1, 2 and 3), with proposed detention pond locations (Pond 1, 2 and 3), are shown in the Stormwater management Plan in Figure 11, above. The area has been divided into three catchment areas, each discharging into a small detention pond, with an overflow to the beach.

2.4.3 Stormwater Runoff Volumes

Runoff Volumes were determined through the use of the Rational Method, as detailed in the 5th Edition of the Drainage Manual of The South African National Roads Agency Limited.

The Rational Method determines the peak flow for different recurrence interval rainfall events with the following relationship:

$Q = CIA/3.6$, where

Q = peak flow (m^3/s)

C = dimensionless runoff coefficient

I = average rainfall intensity over the catchment (mm/hr)

A = effective area of the catchment (km^2)

The runoff coefficient (C) was determined using Table 3.7 and Table 3.8 from the Drainage Manual, considering factors such as slope, permeability, and vegetation. Catchment areas were measured from the drawings, and rainfall intensity for various recurrence interval events was estimated using the standard NMBM intensity-duration-frequency (IDF) curves. The determination of the run-off coefficient (C) is detailed in Table 1.

Table 1: C - Factor Calculation

Residential area			
<i>From table 3.7</i>			
	C-factor	% Area	C per area
Lawns (sandy & flat)	0.2	80%	0.160
Houses	0.5	20%	0.100
C-factor			0.260

The results of the stormwater analysis are shown in Table 2 below for Catchment areas 1 to 4:

Table 2: Stormwater Catchment Areas and Runoff Volumes

Catchment 1						
Return period	2 yr	5 yr	10 yr	20 yr	50 yr	100 yr
Combined C factor	0.260	0.260	0.260	0.260	0.260	0.260
I (mm/hr) for Tc = 15min	45.7	66.4	82.8	99.9	117.7	134.3
Catchment Area A (km ²)	0.004	0.004	0.004	0.004	0.004	0.004
Q = CIA/3.6 (m ³ /s)	0.013	0.019	0.024	0.029	0.034	0.039
Catchment 2						
Return period	2 yr	5 yr	10 yr	20 yr	50 yr	100 yr
Combined C factor	0.260	0.260	0.260	0.260	0.260	0.260
I (mm/hr) for Tc = 15min	45.7	66.4	82.8	99.9	117.7	134.3
Catchment Area A (km ²)	0.004	0.004	0.004	0.004	0.004	0.004
Q = CIA/3.6 (m ³ /s)	0.013	0.019	0.024	0.029	0.034	0.039
Catchment 3						
Return period	2 yr	5 yr	10 yr	20 yr	50 yr	100 yr
Combined C factor	0.260	0.260	0.260	0.260	0.260	0.260
I (mm/hr) for Tc = 15min	45.7	66.4	82.8	99.9	117.7	134.3
Catchment Area A (km ²)	0.002	0.002	0.002	0.002	0.002	0.002
Q = CIA/3.6 (m ³ /s)	0.007	0.010	0.012	0.014	0.017	0.019

2.4.4 Stormwater Detention Ponds

The pond sizes to be created in each catchment area (as detailed in Figure 11) to detain the complete 1:100 year storm runoff, is listed in Table 3, below:

Table 3: Proposed Pond Size

Catchment Area	1/100 yr Runoff Volume (m ³ /s)	Required pond size (m ³)
1	0.039	53
2	0.039	53
3	0.019	26

2.5 Conclusions and recommendations

Bulk services' connections are available for water, sewerage and stormwater discharge for the proposed development on Erf 2369, Sea

The following recommendations apply to each service:

- Bulk water demand and municipal connection: The peak hour domestic water demand from the proposed 8 dwelling units is estimated at 0.767 l/s. The minimum fire flow from one hydrant is 15 l/s. The design flow is the combined flow, estimated at 15.767 l/s. A 110mm diameter connection from the municipal main in Philippa Street is recommended, with a booster connection to maintain adequate pressure in case of discharge from a fire hydrant inside the development.

A separate 50mm ND HDPE domestic reticulation pipe will be connected to the 110mm diameter connection at a location between the bulk water meter and the fire main non-return valve. The 50mm pipe will have sufficient capacity to serve the domestic demand from the 8 dwellings plus the common property, including gardens and refuse facilities.

- Bulk sewer connection: The peak sewage flow discharge from the proposed development was estimated at 0.524 l/s. This allows for infiltration and stormwater spare capacity. A 160mm diameter PVCU sewer on site, laid at a minimum of 1% gradient, is proposed to pick up the drainage connections from individual houses. The sewage discharge from the proposed development will be collected in the sump of a proposed small private pump station and pumped via a rising main along a footpath in the adjacent public open space, to discharge into the existing manhole in Diana Crescent.
- Stormwater Management: It is recommended that post development stormwater runoff from the development site, be spread over three existing discharge channels and that three detention pond areas are created, one for each catchment area, where the major flood may be detained and where natural dissipation into the sandy soil may be enhanced prior to overflowing through the existing, upgraded channels to the sandy beach.

The stormwater runoff volumes from the major (1:100 year) flood event from the three catchments were estimated at 0.039 m³/s for both Catchment 1 and Catchment 2 and at 0.019 m³/s for Catchment 3. A 53 m³ pond size will be required at Catchments 1 and 2 and 26 m³ at Catchment 3 to detain the major flood volume. If a 1m deep square ponding area is assumed in all three cases, this translates to a 7.25 x 7.25m pond area for Ponds 1 and 2 and a 5 x 5m pond area for Pond 3.

**PHASE 1 ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT (AIA) FOR THE
PROPOSED RESIDENTIAL DEVELOPMENT, ST FRANCIS BAY, KOUGA LOCAL
MUNICIPALITY, EASTERN CAPE PROVINCE.**

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PHASE 1 ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, ST FRANCIS BAY, KOUGA LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE.

NOTE: The phase 1 archaeological and cultural impact assessment was conducted as a requirement of the ECPHRA (Eastern Cape Provincial Heritage Authority) and National Heritage Resources Act 25 of 1999, Section 38(1):

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –

(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

(b) the construction of a bridge or similar structure exceeding 50 m in length;

(c) any development or other activity which will change the character of the site –

(i) exceeding 5 000 m² in extent,

(d) the re-zoning of a site exceeding 10 000 m² in extent,

This report follows the minimum standard guidelines required by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for compiling a full Phase 1 Archaeological Impact Assessment (AIA). The Eastern Cape Provincial Heritage Resources (ECPHRA) has been the competent authority in the Eastern Cape Province since 2012. All heritage reports must be submitted to the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) for comment and uploaded to the South African Heritage Information System (SAHRIS) database.

DECLARATION OF INDEPENDENCE

Ms Celeste Booth was appointed on a strictly professional basis to conduct the archaeological and cultural heritage assessment for the proposed residential development, St Francis Bay, Kouga Local Municipality, Eastern Cape Province.

This section confirms a declaration of independence that archaeological heritage specialist, Ms Celeste Booth, does not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.

Ms Celeste Booth further declares that she:

- will act as the independent Specialist in this application;
- will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- will declare that there are no circumstances that may compromise her objectivity in performing such work;
- has expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- will comply with the Act, regulations and all other applicable legislation;
- will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- has no, and will not engage in, conflicting interests in the undertaking of the activity;
- undertakes to disclose to the applicant and the competent authority all material information in her possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and

affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;

- will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- will keep a register of all interested and affected parties that participated in a public participation process; and
- will provide the competent authority with access to all information at her disposal regarding the application, whether such information is favourable to the applicant or not
- confirms that all the particulars furnished by the in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- realises that a false declaration is an offence and is punishable in terms of section 24F of the Act.



SUMMARY OF SPECIALIST EXPERTISE

Ms Celeste Booth (BSc Honours: Archaeology) is an archaeologist who has had seventeen (17) years of full-time experience in Cultural Resource Management in the Eastern Cape Province and sections of the Northern Cape and Western Cape Provinces. Ms Booth has conducted several Archaeological Desktop Studies and Phase 1 Archaeological Impact Assessments within the Eastern Cape Province and in the Karoo region across the Eastern Cape, Northern Cape, KwaZulu Natal, and Western Cape Provinces.

EXECUTIVE SUMMARY

Purpose of the Study

The purpose of the study was to conduct a phase 1 archaeological and cultural heritage assessment for the proposed residential development, St Francis Bay, Kouga Local Municipality, Eastern Cape Province.

The survey was conducted to establish the range and importance of the exposed and *in situ* archaeological heritage material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimize possible damage to the archaeological heritage.

Brief Summary of Findings

The property proposed for development is the site of the old St Francis Bay Hotel. The ruins of the built environment structures and the swimming pool (which seem to be well maintained) are still visible within the eastern portion of the property. The ruins of the structure in the western portion of the site have been completely covered by vegetation and are not visible, except for a few pillars that still stand erect next to the apartment block. It seems that the hotel was already built by the beginning of the 1960's as shown in the 1961 aerial map, therefore dating the structural remains older than 60 years.

Built environment structures older than 60 years are protected by Section 34 of the National Heritage Resources Act 25 of 1999 and requires a permit for demolition or destruction. Permit applications are submitted to and issued by the Built Environment Unit of the Eastern Cape Provincial Heritage Resources Authority (ECPHRA).

No archaeological heritage materials including evidence or indication of archaeological shell midden sites were identified within the footprint of the proposed development nor in the dunes situated along the immediate coastline. No other archaeological or historical features, sites, or graves were identified during the survey.

Recommendations and Mitigation

The proposed development area is considered as having a *low archaeological heritage significance*. Owing to the already disturbed nature of the site and surrounding residential development no further archaeological mitigation in the form of archaeological monitoring during the construction phases has been deemed necessary. Development may proceed as planned however the following recommendations and mitigation measures must be implemented prior to and during the course of the construction phases of the development:

1. Built environment structures older than 60 years are protected by Section 34 of the National Heritage Resources Act 25 of 1999 and requires a permit for demolition or

destruction. A destruction permit must be applied for through the Built Environment (BE) Unit of the Eastern Cape Provincial Heritage Resources Authority (ECPHRA).

2. Construction managers/foremen and/or the ECO and/or anyone who may be permanently on-site during pre-construction and construction phases of the project should undergo training before the mining operations starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
3. A Chance Finds Protocol (see Appendix D) for archaeological and cultural heritage finds must be made readily available for the Environmental Control Officer (ECO) and/or construction manager/s and/or anyone who may be permanently on-site during the relevant pre-construction and construction phases of the project to follow the correct procedures when accidentally uncovering archaeological sites and possible unmarked burials.
4. If concentrations of pre-colonial archaeological heritage material (such as below surface dense artefact and marine shell accumulations and associated material) and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 492 1370). Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the archaeological / heritage site may then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue. The costs for the phase 2 mitigation will be on the onus of the developer.

1 INTRODUCTION

1.1 Background Information

The property, Sea Vista No. 2369, St Francis, was previously developed as a hotel which subsequently burned down with the site remaining undeveloped since. The property is currently zoned for high density residential development but the owner has decided to develop 8 single dwelling houses instead.

1.2 Applicant

Born Free Investments 460 (Pty) Ltd.

1.3 Environmental Assessment Practitioner (EAP)

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2 SCOPE OF WORK AND TERMS OF REFERENCE

The purpose of the study was to conduct an archaeological and cultural heritage assessment for the proposed residential development, St Francis Bay, Kouga Local Municipality, Eastern Cape Province.

The survey was conducted to:

- Identify and map possible heritage sites and occurrences using published and database resources;
- Provide a description of the archaeology and cultural heritage of the site and identify and map any sites of archaeology or cultural significance that may be impacted by the proposed project;
- Assess the sensitivity and conservation significance of any sites of archaeological or cultural heritage significance affected by the proposed project;
- Identify and assess the significance of the potential impacts of the proposed project on archaeological and cultural heritage;
- Make recommendations on the protection and maintenance of any significant cultural heritage and/or archaeological sites that may occur on site;
- Identify practicable mitigation measures to reduce negative impacts on the archaeological resources and indicate how these can be incorporated into the construction and management of the proposed project;
- Provide guidance for the requirement of any permits from the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) that might become necessary.

Archaeological and historical material remains, features, and sites were evaluated and assessed based on the following points:

- Type of site;
- Location and environmental surrounds;
- Site category;
- Context and condition;
- Estimated size and depth of deposit;
- Cultural affinities;
- Record site content;
- Record basic information of finds;
- Estimate relative age of sites from cultural material and other information;
- Record and describe graves, graveyards, and informal burials;

- Assess the importance and significance of material remains, features, and sites; and
- Significance ratings based on local to international standards.

3 HERITAGE LEGISLATIVE AND POLICY FRAMEWORK

The phase 1 archaeological and cultural impact assessment was conducted as a requirement of the ECPHRA (Eastern Cape Provincial Heritage Authority) and National Heritage Resources Act 25 of 1999, Section 38 (1):

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –

(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

(b) the construction of a bridge or similar structure exceeding 50 m in length;

(c) any development or other activity which will change the character of the site – (i) exceeding 5 000 m² in extent, or

(d) the re-zoning of a site exceeding 10 000 m² in extent,

This report follows the minimum standard guidelines required by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for compiling a full Phase 1 Archaeological Impact Assessment (AIA). The Eastern Cape Provincial Heritage Resources (ECPHRA) has been the competent authority in the Eastern Cape Province since 2012. All heritage reports must be submitted to the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) for comment and uploaded to the South African Heritage Information System (SAHRIS) database.

4. ARCHAEOLOGICAL BACKGROUND

The Albany Museum Database of archaeological sites showed sites occurring along the coastline, as well as caves and rock shelters containing rock paintings to the north within the mountainous areas. Several relevant archaeological and heritage impact assessments have been conducted within the immediate vicinity, as well as the within wider region towards Humansdorp, Hankey and Patensie and along the coastal areas of Oyster Bay, St Francis Bay, Cape St Francis, and Jeffreys Bay. These impact assessments have identified palaeo-landscapes as well as several Early, Middle, and Later Stone Age stone artefacts, faunal material, as well as more recent cultural material distributed within the regions as well as evidence of Khoekhoen pastoralist occupation and/or interaction by the presence of broken earthenware pot sherds.

In Nilssen (2003a) it was noted that the Cape St Francis region contains remnants of ancient landscapes with associated fossilized remains of animals that died around waterholes. Such remains are important to inform scientists about ancient and altered environments and ecosystems.

Binneman (2010d; see also Binneman 2001) in compiling a desktop assessment for the Oyster Bay Wind Energy Facility highlighted that adjacent to the coast are small dune areas, remnants of far larger system in the past. These include the well-known Geelhoutboom dunes above the Klasies River Caves, Brandewynkop and the large dune field of parallel longitudinal dunes which run in the direction of the prevailing winds (west to east), and are referred to as hairpin dunes (Tinley 1985). These large shifting sand dunes are underlain by ferricretes, calcretes and fossilized dune sands which are situated on top of Table Mountain Sandstones. Due to the continuous movement of the dunes, many archaeological and palaeontological sites are exposed all the time while simultaneously others are covered. The deflation bays are often waterlogged in winter.

Binneman (2011d) remarked that the surrounding coastal areas and Sand River / Goedgeloof dune field, are very rich in archaeological heritage sites dating between the ESA periods to recent times (Binneman 2001, 2005). Of special interests are the MSA stone tool manufacturing sites and associated fossil bone accumulations. There are also many hunter-gatherer shell middens in the dunes dating from some 5 000 years old and a few Khoi pastoralists shell middens. The pastoralist middens are very important and rate among the richest in South Africa and yielded a large number of sheep, goat and cattle.

4.1 Early Stone Age (ESA) - 1.5 million to 250 000 years ago

The Early Stone Age period occurs from between 1.5 million and 250 000 years ago refers to the earliest that *Homo sapiens sapiens* predecessors began making stone tools. The earliest stone tool industry was referred to as the Olduvai Industry originating from stone artefacts recorded at Olduvai Gorge, Tanzania. The Acheulian Industry, the predominant southern African Early Stone Age Industry, replaced the Olduvai Industry approximately 1.5 million years ago, is attested to in diverse environments and over wide geographical areas. The hallmark of the Acheulian Industry is its large cutting tools (LCTs or bifaces), primarily handaxes and cleavers. Bifaces emerged in East Africa more than 1.5 million years ago (mya) but have been reported from a wide range of areas, from South Africa to northern Europe and from India to the Iberian coast. The end products were similar across the geographical and chronological distribution of the Acheulian techno-complex: large flakes that were suitable in size and morphology for the production of handaxes and cleavers perfectly suited to the available raw materials (Sharon 2009).

One of the most well-known Early Stone Age sites in southern Africa is Amanzi Springs, situated about 10km north-east of Uitenhage, near Port Elizabeth (Deacon 1970). In a series of spring deposits, a large number of stone tools were found *in situ* to a depth of 3-4 m. Wood and seed material preserved remarkably very well within the spring deposits, and possibly date to between 800 000 to 250 000 years old. Other Early Stone Age sites that contained preserved bone and plant material include Wonderwerk Cave in the Northern Province, near Kimberly and Montagu Cave in the Western Cape, near the small

town of Montagu (Mitchell 2007). Early Stone Age sites have also been reported in the foothills of the Sneeuberge Mountains (in Prins 2011).

Early Stone Age tools is the earliest evidence for human ancestors occupying this area and occur throughout the coastal region in river gravels that cap hilltops and slopes and on the palaeosols / calcrete floors in the dune systems like those at Geelhoutboom and Brandewynkop (Butzer 1978; Deacon & Geleijnse 1988). One of the largest Early Stone Age sites in the region is situated next to the Kromme River. Hand axes and cleavers are common in the dunes immediately east of Thysbaai, but only few have been observed in the dune system between Oyster Bay and St Francis Bay (Binneman 1996, 2001, 2005). Early Stone Age tools are generally found in secondary context with no associated organic or other cultural material and are most often mixed with Middle and Later Stone Age stone artefacts.

Early Stone Age stone artefacts have been documented along the coastline between Oyster Bay and Van Stadens and it is anticipated that these artefacts occur within this region between the coastline and mountainous areas. Several Heritage and Archaeological Impact Assessments have recorded the occurrence of Early Stone Age stone artefacts between the coast and the mountainous region including Hankey and Patensie (Anderson 2011; Binneman 2006d, 2009b, 2010a, 2011a/d/g/j, 2012a/c, 2013; Nilssen 2013; Van Ryneveld 2010, 2012, 2014).

Binneman (2010d) noted that ESA stone tools can be found scattered throughout the coastal region in the river gravels that cap the hill tops and slopes in the Humansdorp and Kareedouw regions and on the calcrete floors exposed in the dune systems (e.g., on the Farm Geelhoutboom) (Laidler 1947; Butzer 1978; Deacon & Geleijnse 1988). These ESA stone tools are in secondary context and most often mixed with MSA and LSA material.

Just north of the dune fields close to Oyster Bay a large ESA, MSA and LSA site is situated in a palaeo watercourse (Van Ryneveld 2010), while a range of mostly deflated ESA, MSA and LSA scatters seem to be associated with quartzitic outcrops north of the dune system (Anderson 2011; Van Ryneveld 2012a).

Halkett (2010) also reported on ESA occurrences at Thyspunt near Oyster Bay.

4.2 Middle Stone Age (MSA) – 250 000 – 30 000 years ago

The Middle Stone Age spans a period from 250 000 - 30 000 years ago and focuses on the emergence of modern humans through the change in technology, behaviour, physical appearance, art, and symbolism. Various stone artefact industries occur during this time period, although less is known about the time prior to 120 000 years ago, extensive systemic archaeological research is being conducted on sites across southern Africa dating within the last 120 000 years (Thompson & Marean 2008). The large handaxes and cleavers were replaced by smaller stone artefacts called the Middle Stone Age flake and

blade industries. Surface scatters of these flake and blade industries occur widespread across southern Africa although rarely with any associated botanical and faunal remains. It is also common for these stone artefacts to be found between the surface and approximately 50 -80cm below ground. Fossil bone may in rare cases be associated with Middle Stone Age occurrences (Gess 1969). These stone artefacts, like the Earlier Stone Age handaxes are usually observed in secondary context with no other associated archaeological material.

The Middle Stone Age is distinguished from the Early Stone Age by the smaller-sized and distinctly different stone artefacts and *chaîne opératoire* (method) used in manufacture, the introduction of other types of artefacts and evidence of symbolic behaviour. The prepared core technique was used for the manufacture of the stone artefacts which display a characteristic faceted striking platform and includes mainly unifacial and bifacial flake blades and points. The Howiesons Poort Industry (80 000 - 55 000 years ago) is distinguished from the other Middle Stone Age stone artefacts: the size of tools is generally smaller, the range of raw materials include finer-grained rocks such as silcrete, chalcedony, quartz and hornfels, and include segments, backed blades and trapezoids in the stone toolkit which were sometimes hafted (set or glued) onto handles. In addition to stone artefacts, bone was worked into points, possibly hafted, and used as tools for hunting (Deacon & Deacon 1999).

Other types of artefacts that have been encountered in archaeological excavations include tick shell (*Nassarius kraussianus*) beads, the rim pieces of ostrich eggshell (OES) water flasks, ochre-stained pieces of ostrich eggshell and engraved and scratched ochre pieces, as well as the collection of materials for purely aesthetic reasons. Although Middle Stone Age artefacts occur throughout the Eastern Cape, the most well-known Middle Stone Age sites include the type-site for the Howiesons Poort stone tool industry, Howiesons Poort (HP) rock shelter, situated close to Grahamstown and Klasies River Mouth Cave (KRM), situated along the Tsitsikamma coast. Middle Stone Age sites are located both at the coast and in the interior across southern Africa.

The Klasies River Cave complex (caves 1-5), situated 25 km west of Oyster Bay, is the most significant archaeological site with evidence of occupation and human development over the last 120 000 years. Previous excavations at the Klasies River main site exposed anatomically modern human remains dating to about 110 000 years old (Singer & Wymer 1982; Rightmire & Deacon 1991; Deacon 1992, 1993, 1995, 2001; Deacon, H.J. & Shuurman, R. 1992; Henderson 1992; Deacon & Deacon 1999). The Klasies River Cave Complex was declared a National Heritage Site by SAHRA in 2016. In addition, an application has been made to the United Nations Educational, Scientific and Cultural Organization (UNESCO) to declare a series of Middle Stone Age Sites including Klasies River (KR), Blombos Cave (BBC), Border Cave (BC), Diepkloof (DKF), Pinnacle Point (PP), Sibudu Cave (SC) and comparable sites relating to the emergence of modern humans as World Heritage Sites.

Scatters of Middle Stone Age stone artefacts are known to occur within the surrounding area where these have been recorded in archaeological and heritage impact assessments between the coastline and Hankey (Anderson 2011; Binneman 2002, 2009b-c, 2010 a-c, 2011a/d/g, 2012a, 2013; Nilssen 2003a-b, 2013; Van Ryneveld 2010, 2012, 2014)

Webley (2002) noted that there are a number of MSA stone artefacts in the Sand River Dune Fields. Some of these scatters are associated with fossilized bone remains. It is conceivable that some of the bones associated with the above-mentioned MSA sites may include fragments from early modern humans. Such remains are critical to research into the origins of modern humans.

Nilssen (2003a) recorded MSA occurrences during the study conducted for The Links Golf Estate near St. Francis Bay. He recorded a Middle Stone Age flake, a classic upper grindstone, a large core, a small blade in silcrete with Howiesons Poort features and a few fossilized fragments of humerus bone from a size III/IV bovid at Site 1, situated in an exposed and deflated area approximately 150 m x 20 m in extent. At Site 5 he recorded a low-density scatter of MSA and LSA stone artefacts and fossilized as well as non-fossilized bone. Two teeth of large carnivore and two small bladelet cores in quartz. The latter measured about 2 cm in maximum dimension and was situated on an exposed and deflated surface approximate 50 m x 20 m in extent. Some of these sites would later be included as part of the Phase 2 mitigation / rescue excavations which are now housed at the Department of Archaeology, Albany Museum.

Binneman (2010d) notes that the MSA sites in the dune field between Oyster Bay and St Francis Bay, however, are also associated with faunal remains. One such site is situated some two kilometres east of Oyster Bay. Here is a large assemblage of fossilized bone and brown hyena coprolites were found in association with Howiesons Poort stone tools dating between ca 60 – 70 000 years old (Carrion *et al.* 2000). At the eastern end of the dune field are most remarkable MSA 'factory' sites which consisted of large circular piles of flakes and cores. Most of the flake piles represent unique 'moments in time' where large numbers of flakes were produced from a single core.

Halkett (2010) also reported on MSA occurrences at Thyspunt near Oyster Bay.

4.3 Later Stone Age (LSA) – 30 000 years ago – recent (100 years ago)

The Later Stone Age (LSA) spans the period from about 20 000 years ago until the colonial era, about 100 years ago, although some communities continue making stone tools today. The period between 30 000 and 20 000 years ago is referred to as the transition from the Middle Stone Age to Later Stone Age; although there is a lack of crucial sites and evidence that represent this change. By the time of the Later Stone Age the genus *Homo*, in southern Africa, had developed into *Homo sapiens sapiens*, and in Europe, had already replaced *Homo neanderthalensis*.

The period between 20 000 and 14 000 years ago experienced extremely cold climatic conditions (LGM – the last Ice Age). Archaeological and palaeo-environmental evidence from the wider Oyster Bay coast indicate that the cold temperatures created favourable conditions for grassland expansion, which in turn gave rise to large herd of grazing animals. The mammal remains from archaeological sites indicate that there were several large grazing animal species living on the grassland, e.g. giant buffalo, giant hartebeest and the Cape horse. After 14 000 years ago the temperature started to warm up again and caused the previously exposed grassland to disappear, causing the extinction of many grassland animal species including the giant buffalo, hartebeest and Cape Horse (Klein 1976).

Between 10 000 and 8 000 years ago the terrestrial environment became more closed (bushier) giving rise to small browsing territorial animals that lived in small groups or pairs. Recently the remains of an extinct goat-like bovid dating from this period, was identified from several archaeological sites in the area. This was the last of the remaining Last Glacial grazing animals to disappear from the archaeological deposits in the Kouga region.

The Later Stone Age is marked by a series of technological innovations, new tools and artefacts, the development of economic, political, and social systems, and core symbolic beliefs and rituals. The stone toolkits changed over time according to time-specific needs and raw material availability, from smaller microlithic Robberg (20/18 000-14 000ya), Wilton (8 000-the last 500 years) Industries and in between, the larger Albany/Oakhurst (14 000-8 000ya) and the Kabeljous (4 500-the last 500 years) Industries. Bored stones used as part of digging sticks, grooved stones for sharpening and grinding and stone tools fixed to handles with mastic also become more common. Fishing equipment such as hooks, gorges and sinkers also appear within archaeological excavations. Polished bone tools such as eyed needles, awls, linkshafts and arrowheads also become a more common occurrence. Most importantly bows and arrows revolutionized the hunting economy. It was only within the last 2 000 years that earthenware pottery was introduced, before then tortoiseshell bowls were used for cooking and ostrich eggshell (OES) flasks were used for storing water. Decorative items like ostrich eggshell and marine/fresh water shell beads and pendants were made.

Hunting and gathering made up the economic way of life of these communities; therefore, they are normally referred to as hunter-gatherers. Hunter-gatherers hunted both small and large game and gathered edible plantfoods from the veld. For those that lived at or close to the coast, marine shellfish and seals and other edible marine resources were available for the gathering. The political system was mainly egalitarian, and socially, hunter-gatherers lived in bands of up to twenty people during the scarce resource availability dispersal seasons and aggregated according to kinship relations during the abundant resource availability seasons. Symbolic beliefs and rituals are evidenced by the deliberate burial of the dead and in the rock art paintings and engravings scattered across the southern African landscape.

The majority of archaeological sites found in the area would date from the past 10 000 years where San hunter-gatherers inhabited the landscape living in rock shelters and caves as well as on the open landscape. These latter sites are difficult to find because they are in the open veld and often covered by vegetation and sand. Sometimes these sites are only represented by a few stone tools and fragments of bone. The preservation of these sites is poor and it is not always possible to date them (Deacon and Deacon 1999). Caves and rock shelters, however, in most cases, provide a more substantial preservation record of pre-colonial human occupation.

Later Stone Age sites occur both at the coast (caves, rock shelters, open sites, and shell middens) and in the interior (caves, rock shelters, and open sites) across southern Africa. There are more than a few significant Later Stone Age sites in the Eastern Cape. The most popular are the type sites for the above-mentioned stone artefact industries, namely Wilton (for the Wilton Industry), Melkhoutboom (for the Albany Industry), both rock shelters situated to the west of Makhanda (formerly Grahamstown), and Kabeljous Rock Shelter (for the Kabeljous Industry) situated just north of Jeffreys Bay. There are many San hunter-gatherers sites in the interior mountainous region north of the study site. Here, caves and rock shelters were occupied by the San during the Later Stone Age and contain numerous paintings along the walls.

The majority of archaeological sites and material were located within a few hundred metres from the high-water mark, but a large number of shell middens were also situated some five kilometres from the coast in the shifting dune bypass system between Oyster Bay and St Francis Bay.

Later Stone Age stone artefact scatters and sites are known to occur within the immediate area and along the coast and between the coastline and the surrounding area where these have been recorded in archaeological and heritage impact assessments (Anderson 2011; Binneman, 2002, 2009c; Kaplan 1991; Nilssen 2003a-b, 2013; Van Ryneveld 2012, 2014).

During Binneman's research from the 1980's within the area (Binneman 2001), he identified a variety of different material signatures within the dunes and divided the coastal shell middens into groups that are most common in the St Francis / Oyster Bay area:

1. Shell middens with pottery and domesticated fauna and those with pottery only.
2. Shell middens, without pottery, associated with a quartzite stone industry (referred to as the Kabeljous Industry)
3. Shell middens, without pottery, associated with a silcrete or quartz microlithic Wilton Industry.

Nilssen (2003a) noted that in addition to middens, a number of graves were found in the Sand River Dune Field area adjacent to the proposed site for the St Francis Golf Estate. "These generally represent Khoisan individuals who are frequently buried in a flexed (foetal) position. They may be buried with grave goods such as grindstones or OES bead necklaces.

Hart (2010) commented that the pre-colonial heritage within the Eskom Thyspunt Nuclear Power Station study site is extraordinarily prolific. He noted that the area is highly significant in terms of Late Stone pre-colonial archaeology, in particular the large quantity, variety and size of shell middens which are very well preserved (among the best ever seen by himself) referring to them as archives of information about the identity and behaviour of precolonial people, as well as the environment in which they lived.

4.4 Last 2 000 years – Khoekhoen Pastoralism

Until 2 000 years ago, hunter-gatherer communities traded, exchanged goods, encountered, and interacted with other hunter-gatherer communities. From about 2 000 years ago the social dynamics of the southern African landscape started changing with the immigration of two 'other' groups of people, different in physique, political, economic, and social systems, beliefs, and rituals. Relevant to the study area, one of these groups, the Khoekhoen pastoralists or herders entered southern Africa with domestic animals, namely fat-tailed sheep, and goats, travelling through the south towards the coast. They also introduced thin-walled pottery common in the interior and along the coastal regions of southern Africa. Their economic systems were directed by the accumulation of wealth in domestic stock numbers and their political make-up was more hierarchical than that of the hunter-gatherers.

The most significant Khoekhoen pastoralist sites in the Eastern Cape include Scott's Cave near Patensie (Deacon 1967), Goedgeloof shell midden along the St. Francis coast (Binneman 2007) and Oakleigh rock shelter near Queenstown (Derricourt 1977). Often, these archaeological sites are found close to the banks of large streams and rivers.

Many sites were found along the adjacent Cape St Francis coast, with the oldest dating to 1 500 years old (Binneman 1996, 2001, 2005).

Binneman excavated an open-air shell midden in a deflation hollow in the Sand River Dune Fields named Goedgeloof. This pastoralist site represents the oldest dates for sheep and pottery in the Eastern Cape. The pottery has been dated to 1 770 BP (AD180) and the sheep to (1560 BP) (AD 390). Interestingly, the most common shellfish utilized by these peoples was pencil bait (*Solen capensis*) and these were almost certainly collected from the Kromme River estuary which has the highest population of pencil bait in the Eastern Cape. The site of Goedgeloof is situated 5 km from the St Francis Bay coast showing that the occupants of the site were travelling considerable distances to collect their food.

Hart (2010) also noted that the pottery of the Cape Coastal variety is common and that some had been elaborately decorated.

4.5 Unmarked Burials and Exposed Human Remains

It difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually observed when they are exposed through natural erosion or construction activities for development. Several human remains have been rescued eroding out of the dunes along this coastline. In some instances, packed stones or rocks may indicate the presence of informal pre-colonial burials.

The Albany Museum Database holds records of human remains that have been naturally exposed and rescued for conservation and curation. Cultural Resource Management practitioners whilst conducting archaeological heritage impact assessments have also recorded formal historical cemeteries and informal burials (Binneman 2006a – Hankey, Binneman 2008 – Papiesfontein; Sealy 2006 – Jeffreys Bay).

Human remains had been found during the mining operations for the sand quarry on the Farm Welgelegen 735 (Booth 2018), it is highly likely that more burials would occur within the dune systems between Oyster Bay and St Francis Bay as well as the Thyspunt Dune system.

4.6 Rock Art (Paintings and Engravings)

Rock art is generally associated with the Later Stone Age period mostly dating from the last 5 000 years to the historical period. It is difficult to accurately date the rock art without destructive practices. The southern African landscape is exceptionally rich in the distribution of rock art which is determined between paintings and engravings. Rock paintings occur on the walls of caves and rock shelters across southern Africa. Rock engravings, however, are generally distributed on the semi-arid central plateau, with most of the engravings found in the Orange-Vaal basin, the Karoo stretching from the Eastern Cape (Cradock area) into the Northern Cape as well as the Western Cape, and Namibia. At some sites both paintings and engravings occur in close proximity to one another especially in the Karoo and Northern Cape. The greatest concentrations of engravings occur on the andesite basement rocks and the intrusive Karoo dolerites, but sites are also found on about nine other rock types including dolomite, granite, gneiss, and in a few cases on sandstone (Morris 1988). Substantial research has also been conducted in the Western Cape Karoo area around Beaufort West (Parkington 2008). Rock paintings are prolific in the inland mountainous regions situated north of the site.

5 DESCRIPTION OF THE PROPERTY

5.1 Location data

The site is located on Erf Sea Vista No. 2369, St Francis. The property is currently zoned for high density residential development but the owner has decided to develop eight (8) single dwelling houses instead.

The proposed development area is situated on the coastline. The area up to 5 km inland from the coastline is generally considered the sensitive archaeological coastal zone that may yield evidence of precolonial archaeological occupation by the accumulation of marine shell referred to as coastal shell midden sites.

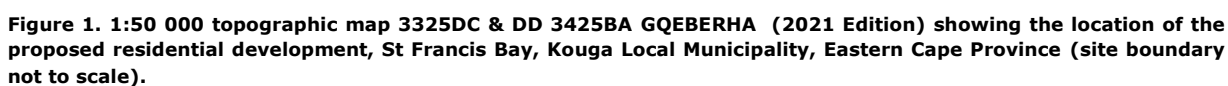
5.2 Maps

1:50 000 Topographic Map: 3424BB HUMANSDORP (2021 edition) (Figure 1)

Figures 2 – 3 are aerial images, acquired from the online CDNGI Geospatial Portal hosted by the Department of Land Reform and Rural Development (www.ngigeoportal.dlrrd.gov), showing the St Francis Bay Hotel on the proposed development area during 1961 and 1971.

Figures 5 – 6 are Google Earth generated maps of the location of the proposed residential development in St Francis Bay, Kouga Local Municipality, Eastern Cape Province.

Figures 7 – 8 show the comparison of the proposed development area in the 2002/2003 and 2026.



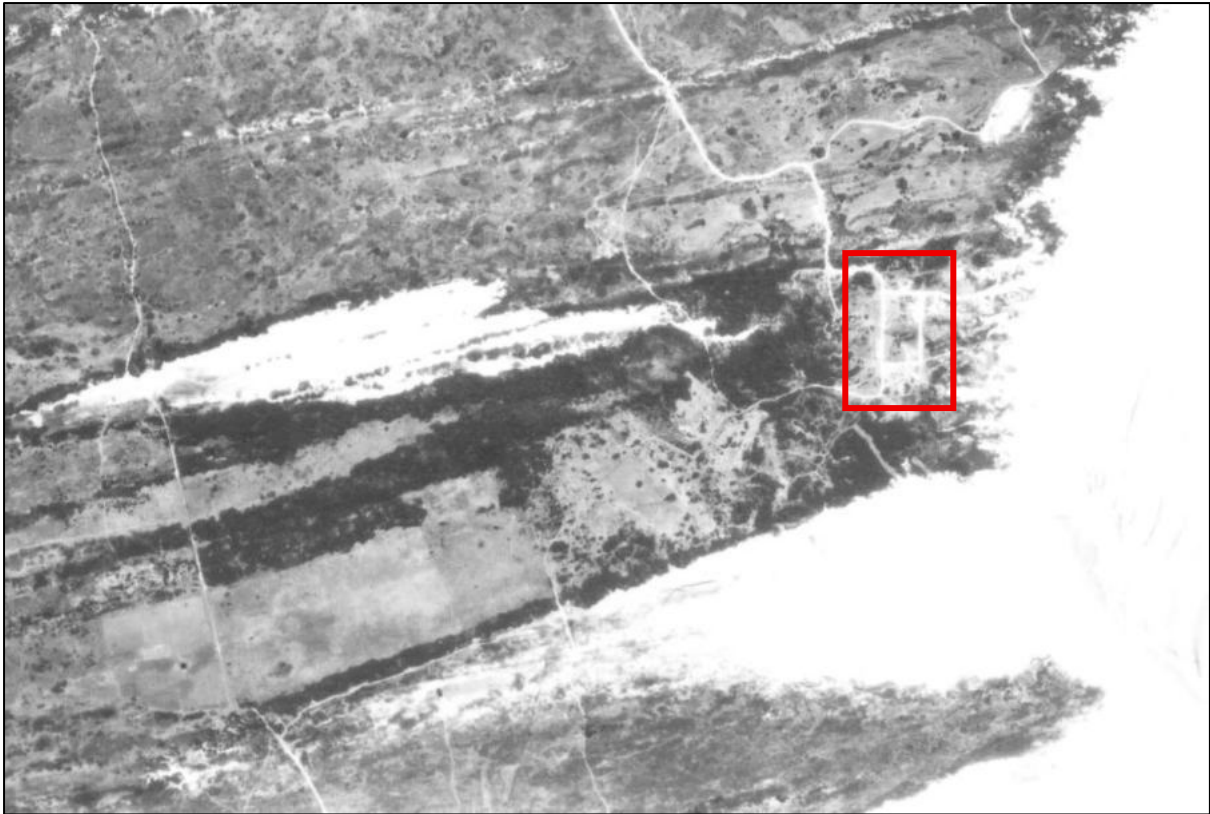


Figure 2. Aerial image view of the proposed development area showing the probable area for the St Francis Bay Hotel during 1961.



Figure 3. Aerial image view of the proposed development area showing the probable area for the St Francis Bay Hotel during 1971.



Figure 4. Google Earth generated map of the location of the proposed residential development, St Francis Bay, Kouga Local Municipality, Eastern Cape Province.



Figure 5. Google Earth generated map of the location of the proposed residential development, St Francis Bay, Koga Local Municipality, Eastern Cape Province.

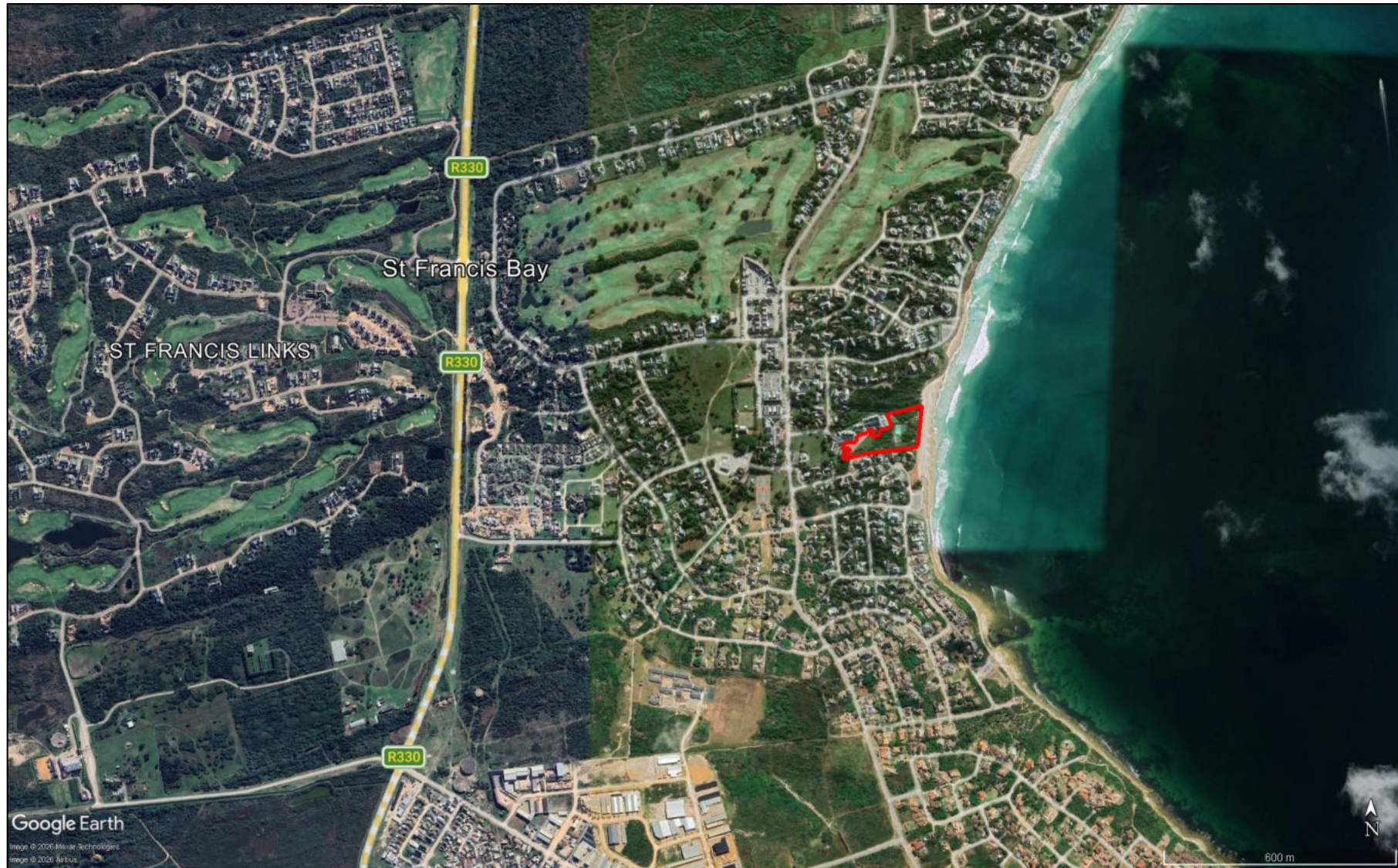


Figure 6. Close up of the proposed residential development, St Francis Bay, showing the location of the area and immediate surrounds.



Figure 7. Close up of the proposed residential development and the ruins of the existing built environment structures (current – 2026).



Figure 8. Close up of the proposed residential development and the ruins of the existing built environment structures (historical – years 2002/2003).



Figure 9. View of the proposed residential development showing the survey tracks.

6 ARCHAEOLOGICAL AND CULTURAL HERITAGE INVESTIGATION

6.1 Methodology

A literature review was conducted prior to the field survey to establish the potential archaeological and cultural heritage sites that may be encountered within the proposed area and provide insight into the archaeological background of the wider region. An archaeological background information chapter has been included in this report.

The area was surveyed on foot by the author of the report and a field assistant. GPS coordinates and sites were plotted using the Avenza Maps application. Figure 9 shows the survey tracks which are limited to accessible areas between the dense vegetation cover.

6.2 Results of the Archaeological Investigation

The proposed development is mostly covered by dense and impenetrable dune vegetation that limited archaeological surface visibility (Figures 10 – 12).

The property proposed for development is the site of the old St Francis Bay Hotel. The ruins of the built environment structures and the swimming pool (which seem to be well maintained) are still visible within the eastern portion of the property (Figures 13 – 14). The ruins of the structure in the western portion of the site have been completely covered by vegetation and are not visible, except for a few pillars that still stand erect next to the apartment block to the north (Figure 15). The hotel was already built by 1960 / 1961 as shown in the 1961 aerial map (Figure 2) with St Francis Bay Village developing at quite a rapid rate over the next ten (10) years (Figure 2 shows an aerial view of the village in 1971). The hotel may have been demolished during the late 1990's to the mid-2000's, but no later than 2010. The hotel would have been younger than 60 years during the demolition and not would have required a destruction / demolition permit under the national heritage legislation. The structural remains of the hotel currently date to 66 years and would require a destruction/demolition permit under the national heritage legislation.

Built environment structures older than 60 years are protected by Section 34 of the National Heritage Resources Act 25 of 1999 and requires a permit for demolition or destruction. Permit applications are submitted to and issued by the Built Environment Unit of the Eastern Cape Provincial Heritage Resources Authority (ECPHRA).

No archaeological heritage materials including evidence or indication of archaeological shell midden sites were identified within the footprint of the proposed development nor in the dunes situated along the immediate coastline. No other archaeological or historical features, sites, or graves were identified during the survey. The proposed development area and surrounds have been severely impacted by development and the construction of residential areas and roads over the past 66 years, from the 1960's. The initial construction of the hotel would have destroyed any archaeological sites that would have occurred there.

However, it is possible that some archaeological material may occur below the current foundations of the hotel.

Generally, such areas situated at the coastline, and up to 5 km inland, are considered archaeologically sensitive due to the attractive food and water resources (the Kromme River Mouth is situated about 2.2 km north of the sites) for precolonial communities. Evidence of their occupation is shown by dense accumulations of edible marine shell possibly mixed with, but not limited to, stone artefacts, animal bone, pottery, metal fragments, and charcoal from fireplaces. The exposed footpaths and dunes on coastline were investigated for any evidence of the coastal sites that have been described above (Figures 16 – 19).

Along this particular coastline extending from Jeffreys Bay to Oyster Bay, it was relatively common for precolonial communities to bury their deceased in the dunes. These burials/graves are mostly always unmarked and are only uncovered during development and erosion. This scenario must be kept in mind when the foundations of the old hotel are demolished and new excavations are dug during the construction process. If human skeletal remains are uncovered during the construction, all work must cease and the appropriate processes followed to protect the human skeletal remains and allow for the removal by a professional archaeologist and/or the forensics unit of the South African Police Services (SAPS).



Figure 10. View of the general landscape of the proposed development area and surrounds (eastern portion of the site).



Figure 11. View of the general landscape of the proposed development area (eastern portion of the site).



Figure 12. View of the general landscape of the proposed development area (western portion of the site).



Figure 13. View of the ruins of the existing built environment structures and swimming pool (eastern portion of the site).



Figure 14. View of the ruins of the existing built environment structures and swimming pool (eastern portion of the site).



Figure 15. View of the ruins of the existing built environment structures and swimming pool (western portion of the site).



Figure 16. Example of one of the footpaths investigated for possible archaeological shell midden remains.



Figure 17. Example of one of the footpaths investigated for possible archaeological shell midden remains.



Figure 18. View of the dunes investigated for possible in situ occurrences of archaeological shell middens (facing north).



Figure 19. View of the dunes investigated for possible in situ occurrences of archaeological shell middens (facing south).

7 CULTURAL LANDSCAPE

Cultural landscapes are a significant considering factor when conducting various archaeological and heritage impact assessments for proposed developments.

This section gives a brief introduction to the concept of cultural landscape and its relation to various aspects of the dynamic interaction of humans as cultural agents and the landscape as a medium. A description of the interwoven relationships of humans with the landscape over time will be given including the archaeological, historical, and contemporary connections. Lastly, the living heritage makes up a small part of the study undertaken; its significance will be highlighted in relation to the communities who still identify with the area and retain a sense of identity to the landscape.

Cultural landscapes are increasingly becoming a significant considering factor when conducting various archaeological and heritage impact assessments for proposed developments. This section gives a brief introduction to the concept of cultural landscape and its relation to various aspects of the dynamic interaction of humans as cultural agents and the landscape as a medium. A description of the interwoven relationships of humans with the landscape over time will be given including the archaeological, historical, and contemporary connections. Lastly, the living heritage makes up a small part of the study undertaken; its significance will be highlighted in relation to the communities who still identify with the area and retain a sense of identity to the landscape.

7.1 Concept of Cultural Landscape

Cultural landscapes can be interpreted as complex and rich extended historical records conceptualised as organisations of space, time, meaning, and communication moulded

through cultural process. The connections between landscape and identity and, hence, memory is fundamental to the understanding of landscape and human sense of place. Cultural landscapes are the interface of culture and nature, tangible and intangible heritage, and biological and cultural diversity. They represent a closely woven net of relationships, the essence of culture and people's identity. They are symbol of the growing recognition of the fundamental links between local communities and their heritage, human kind, and its natural environment. In contemporary society, particular landscapes can be understood by taking into consideration the way in which they have been settled and modified including overall spatial organisation, settlement patterns, land uses, circulation networks, field layout, fencing, buildings, topography, vegetation, and structures. The dynamics and complex nature of cultural landscapes can be regarded as text, written and read by individuals and groups for very different purposes and with very many interpretations. The messages embedded in the landscape can be read as signs about values, beliefs, and practices from various perspectives. Most cultural landscapes are living landscapes where changes over time result in a montage effect or series of layers, each layer able to tell the human story and relationships between people and the natural processes.

The impact of human action of the landscape occurs over time so that a cultural landscape is the result of a complex history and creates the significance of place in shaping historical identities by examining a community's presence or sense of place. The deeply social nature of relationships to place has always mediated people's understanding of their environment and their movements within it, and is a process which continues to inform the construction of people's social identity today. Social and spatial relationships are dialectically interactive and interdependent. Cultural landscape reflects social relations and institutions and they shape subsequent social relations.

Cultural landscapes tell the story of people, events, and places through time, offering a sense of continuity, a sense of the stream of time. Landscapes reflect human activity and are imbued with cultural values. They combine elements of space and time, and represent political as well as social and cultural constructs. Culture shapes the landscape through day-to-day routine and these practices become traditions incorporated with a collective memory the ultimate embodiments of memorial consciousness', examples such as monuments, annual events and archives. As they have evolved over time, and as human activity has changed, they have acquired many layers of meaning that can be analysed through archaeological, historical, geographical, and sociological study.

Indigenous people, European explorers, missionaries, pastoralists, international and domestic travellers all looked or look at similar landscapes and experience different versions of reality. Regardless of the power of different cultural groups, however, all groups create cultural landscape and interpret them from their own perspectives. This gives rise to tensions and contradictions between groups, invariably expressed in landscape forms as well.

Most cultural landscapes are living landscapes where changes over time result in a montage effect or series of layers, each layer able to tell the human story and relationships between people and the natural processes. A common theme underpinning the concept of ideology of landscape itself is the setting for everything we do is that of the landscape as a repository of intangible values and human meaning that nurture our very existence. Intangible elements are the foundation of the existence of cultural landscapes, and that are still occupied by contemporary communities, Landscape, culture and collective memory of a social group are intertwined and that this binds the individuals to their community. Culture shapes their everyday life, the values bind gradually, change slowly, and transfer from generation to generation – culture is a form of memory. We see landscapes as a result of our shared system of beliefs and ideologies. In this way landscape is a cultural construct, a mirror of our memories and myths encoded with meanings which can be read and interpreted. Pivotal to the significance of cultural landscapes and the ideas of the ordinarily sacred is the realisation that it is the places, traditions, and activities of ordinary people that create a rich cultural tapestry of life, particularly through our recognition of the values people attach to their everyday places and concomitant sense of place and identity.

Living heritage means cultural expressions and practices that form a body of knowledge and provide for continuity, dynamism, and meaning of social life to generations of people as individuals, social groups, and communities. It also allows for identity and sense of belonging for people as well as an accumulation of intellectual capital current and future generation in the context of mutual respect for human, social and cultural rights.

Protection of these cultural landscapes involves some management issues such as successful conservation is based on the continuing vital link between people and their landscapes. This link can be disrupted or affected by for instance economic reasons. Other threats can also be attributed to urban expansion and development, tourism, war and looting and something beyond our human intervention: natural disasters and climate change. Cultural landscape management and conservation processes bring people together in caring for their collective identity and heritage, and provide a shared local vision within a global context. Local communities need, therefore, to be involved in every aspect of identification, planning and management of the areas as they are the most effective guardians of landscape heritage.

Most elements of living heritage are under threat of extinction due to neglect, modernisation, urbanisation, globalisation, and environmental degradation. Living heritage is at the centre of people's culture and identity, it is important to provide space for its continued existence. Living heritage must not be seen as merely safeguarding the past, but it must be seen as safeguarding the logic of continuity of what all communities or social groups regard as their valuable heritage, shared or exclusive.

In some instances, villages may capitalise on local landscape assets in order to promote tourism. Travel and tourism activities are built around the quest for experience, and the

experience of place and landscape is a core element of that quest. It is a constant desire for new experiences that drives tourism, rather than a quest for authenticity. It is, therefore, important to engage actively with the tourism industry so that aspects of life and landscape important to cultural identity, including connection with place are maintained.

7.2 Archaeological Cultural Landscape

In reading through the research and relevant heritage and archaeological impact assessment a quote in Hart (2010) made by Goodwin (1946) sums up the archaeological landscape of this area taking it out of an oscillated pocket and seeing it as it is, the southern tip of the continent. He states (as from Hart 2010): "The Southern Cape, from Port Elizabeth to Swellendam, is by far the most important archaeological area in Southern Africa...This is the southern wall of the continent, against which culture after culture has made its last stand before inevitably disappearing under the next wave of peoples...Here South Africa has evidence of value to the world of prehistory and it is essential that it should be protected so far as humanly possible".

This is evident in the archaeological remains that have been identified on the landscape surrounding the proposed sand mining area. The area was once part of an ancient landscape inhabited by various families of genus *Homo*. Various studies recording archaeological sites and occurrences within the wider region stretching along the coastline from the Tsitsikamma just west of Oyster Bay to Algoa Bay have reported on the evidence of the presence of *Homo erectus* (Early Stone Age), *Homo sapiens* (Middle Stone Age), and *Homo sapiens sapiens* (Later Stone Age). The only remains dating to the Early and Middle Stone Ages are stone artefacts as the organic evidence and sites have not been preserved. However, the Klasies River Cave Complex is unsurpassed in its contribution to the knowledge of the emergence of modern human, similarly to Pinnacle Point, Mossel Bay and the Blombos sites (and other sites that have not yet been researched) located within the area mentioned by Goodwin (1946). The influence of climatic conditions and the rising and falling of the sea levels may also attribute to much archaeological site information being lost.

The preservation of archaeological sites in the form of marine shell middens, marine shell scatters and associated cultural material remains shows that the natural and edible resources of the area made the area an attraction over the last 10 000 years. This region would have been attractive to those hunter-gatherer communities who visited the area to harvest shellfish along the coastline over time.

The pastoralists were driven by locating enough food to feed their domestic stock herds. The area was also attractive to later Khoekhoen pastoralists who also occupied and moved along this coastline. Their archaeological signature is evident in the remains of pottery sherds that are distributed on the dunes along the coast showing their presence on the

landscape. This evidence also unlocks a potentially dynamic social landscape with possible interaction between the hunter-gathers and pastoralists.

Pre-colonial human remains are mostly unmarked and invisible on the landscape, however, in some instances, they may be marked by organised piles of stones. The surrounding area contains many unmarked pre-colonial burials.

7.3 Historical Cultural Landscape

The archaeological interpretation of the cultural landscape relies solely on the presence and surface visibility of artefacts left behind on the landscape by the populations who occupied and migrated through the proposed development area. A more comprehensive historical layer is able to be fitted onto the cultural landscape owing to the availability of written documents and the continuing existence of the traces left behind by European Settlers and the moulding of these traces used to shape the contemporary communities that occupies and regards itself attached to its present cultural landscape.

7.4 Contemporary Landscape

The contemporary cultural landscape is the product of millennia and centuries of human interaction, more so when the European Settlers entered the area. Remnants of these cultural interactions remain on the landscape, such as the built environment, features, artefacts, and marked and unmarked graves / burials with only oral histories and stories handed down from one generation to the next to remain in the collective memory of the community/ies living on the landscape.

The development of St Francis Bay has boomed since the late 1960's and 1970's. The coastline is dominated by residential dwellings (houses and aptment buildings) and the village is developed from the coastline to the R330 regional road that links Humansdorp and St Francis Bay. Very little untouched or undeveloped coastal areas are left. However, the village can be charcxaterised as slow-paced and charming as well as modern and bustling. The village is a hub for tourism and adventure activities such as whale watching, fishing, surfing, and the St Francis Links golf course is a world class golf destination.

Intangible elements are the foundation of the existence of cultural landscapes, and that are still occupied by contemporary communities, Landscape, culture and collective memory of a social group are intertwined and that this binds the individuals to their community. This sums up the attitude of the local indigenous community/ies who have vested interests in preserving the cultural heritage and landscape from Bloukrans River in the West and the Van Stadens River in the East to ensure that contemporary developments do not impede or destroy significant heritage resources, be they archaeological, aesthetic, or heritage that they themselves perceive should be conserved.

Cultural landscape management and conservation processes bring people together in caring for their collective identity and heritage, and provide a shared local vision within a global context. Local communities need, therefore, to be involved in every aspect of identification, planning and management of the areas as they are the most effective guardians of landscape heritage.

8 COORDINATES AND SITES FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, ST FRANCIS BAY, KOGA LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE.

Table 1. Coordinates and sites for the proposed residential development, St Francis Bay, Kouga Local Municipality, Eastern Cape Province.

REFERENCE	DESCRIPTION	CO-ORDINATE	HERITAGE GRADING
Proposed Residential Development	Centre point of the proposed residential development area	34° 9'54.36"S; 24°49'50.01"E	N/A

9 DESCRIPTION AND GRADING OF SITES

9.1 Ruins of the St Francis Bay Hotel

The hotel was already built by 1960 / 1961 and may have been demolished during the late 1990's to the mid-2000's, but no later than 2010. The structural remains and foundations of the hotel currently date to 66 years and would require a destruction/demolition permit under the national heritage legislation.

Built environment structures older than 60 years are protected by Section 34 of the National Heritage Resources Act 25 of 1999 and requires a permit for demolition or destruction. Permit applications are submitted to and issued by the Built Environment Unit of the Eastern Cape Provincial Heritage Resources Authority (ECPHRA).

The remaining structures have not been graded but are considered as being not conservation worthy due to the demolition of the structures previously.

9.2 Cultural Landscape

The impact on the current cultural landscape is considered as low. The area has been developing over the past 66 years into the current St Francis Bay Village. The village has its own characteristic feel and aesthetic.

9.3 Living Heritage

The living heritage is considered as low as no sites were identified. The value of the living landscape within this specific area lies in the preservation of the quaint characteristic aesthetic St Francis Village for the landowners, families and visitors to the area.

10 ASSESSMENTS OF IMPACTS ON THE ARCHAEOLOGICAL AND CULTURAL HERITAGE RESOURCES

Negative impact on the archaeological and cultural landscape is considered high without mitigation and between low and very low with mitigation.

10.1 Ruins of the St Francis Bay Hotel

Impact on the remaining structures of the previously demolished St Francis Bay hotel is considered as low.

10.2 Cultural Landscape

The impact on the current cultural landscape is considered as low. The area is suburban and a development keeping in theme with area would only add to the character of village.

10.3 Living Heritage

The impact on the living heritage is considered as low as no sites were identified. Impact on the unknown spiritual or ritual spaces may be negative if such activities did occur within the property, however, the area has been a privately owned hotel since the 1960's and has been vacant for almost 20 years or more.

11 LIMITATIONS AND GAPS IN KNOWLEDGE

11.1 Literature Review

The gathering of information, consultation and research is limited to archaeological heritage data that is known and has been recorded over time. Little systematic archaeological research has been conducted within the immediate area of the proposed development.

However, several relevant archaeological and heritage impact assessments have been conducted within the region. These impact assessments have identified several Early, Middle, and Later Stone Age artefact scatters and sites, coastal archaeological sites, historical artefacts and built environment structures, as well as evidence of Iron Age agropastoralist occupation and/or interaction by the presence of broken earthenware pot sherds and associated material culture and settlement patterns.

11.2 Fieldwork

It is ideal for the entire area to be surveyed on foot, especially areas that have not been researched extensively or at all. The identification of archaeological / historical heritage sites is limited to the surface and in areas where archaeological visibility may be hindered by dense vegetation cover, limited to the investigation of disturbed surface areas. The state of archaeological remains can only be determined by surface observation which in itself is limited and does not expose the true state of archaeological evidence. However, a physical survey observation is able to assess the environment where a desktop assessment cannot do justice in determining the significance of the archaeological sensitivity of the proposed development area.

Most importantly, archaeological and heritage resources are a non-renewable resource that cannot be replaced once lost or destroyed, therefore, every effort should be taken to preserve or conserve the most significant of heritage resources. Mitigation measures have been recommended by the author and should be respected and implemented prior to the commencement of the proposed development.

12 RECOMMENDATIONS AND MITIGATION

The proposed development area is considered as having a *low archaeological heritage significance*. Owing to the already disturbed nature of the site and surrounding residential development no further archaeological mitigation in the form of archaeological monitoring during the construction phases has been deemed necessary. Development may proceed as planned however the following recommendations and mitigation measures must be implemented prior to and during the course of the construction phases of the development:

1. Built environment structures older than 60 years are protected by Section 34 of the National Heritage Resources Act 25 of 1999 and requires a permit for demolition or destruction. A destruction permit must be applied for through the Built Environment (BE) Unit of the Eastern Cape Provincial Heritage Resources Authority (ECPHRA).
2. Construction managers/foremen and/or the ECO and/or anyone who may be permanently on-site during pre-construction and construction phases of the project should undergo training before the mining operations starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
3. A Chance Finds Protocol (see Appendix D) for archaeological and cultural heritage finds must be made readily available for the Environmental Control Officer (ECO) and/or construction manager/s and/or anyone who may be permanently on-site during the relevant pre-construction and construction phases of the project to follow the correct procedures when accidentally uncovering archaeological sites and possible unmarked burials.

4. If concentrations of pre-colonial archaeological heritage material (such as below surface dense artefact and marine shell accumulations and associated material) and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 492 1370). Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the archaeological / heritage site may then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue. The costs for the phase 2 mitigation will be on the onus of the developer.

13 CONCLUSION

The purpose of the study was to conduct a phase 1 archaeological and cultural heritage assessment for the proposed residential development, St Francis Bay, Kouga Local Municipality, Eastern Cape Province. The survey was conducted to establish the range and importance of the exposed and *in situ* archaeological heritage material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimize possible damage to the archaeological heritage.

The property proposed for development is the site of the old St Francis Bay Hotel. The hotel may have been demolished during the late 1990's to the mid-2000's, but no later than 2010. The structural remains of the hotel currently date to 66 years and would require a destruction/demolition permit under the national heritage legislation.

Built environment structures older than 60 years are protected by Section 34 of the National Heritage Resources Act 25 of 1999 and requires a permit for demolition or destruction. Permit applications are submitted to and issued by the Built Environment Unit of the Eastern Cape Provincial Heritage Resources Authority (ECPHRA).

No archaeological heritage materials including evidence or indication of archaeological shell midden sites were identified within the footprint of the proposed development nor in the dunes situated along the immediate coastline. No other archaeological or historical features, sites, or graves were identified during the survey. However, it is possible that some archaeological material may occur below the current foundations of the hotel.

Development may proceed as planned however the recommendations must be considered prior to the commencement of development and be included as part of the environmental management plan for the project.

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15 RELEVANT ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENTS

and surrounding areas for the proposed development and associated infrastructure therefore, Cultural Resource Management (CRM) Reports, such as archaeological and heritage impact assessments, assist in attempting to predict the archaeological and heritage resources that may be found within the proposed development areas. The following reports are considered relevant to the current project:

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- Binneman, JNF. 2006b. Letter of recommendation (with conditions for the exemption of a full phase 1 archaeological heritage impact assessment for the rezoning of portion 4 of the farm "Kleurkloof" No. 56, in the Patensie District (Kouga Municipality), from agricultural use to open space zone III and the development of +- 40 footprints of resort zone II on the property.
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16 GENERAL REMARKS AND CONDITIONS

NOTE: This report is a phase 1 archaeological and cultural heritage impact assessment only and does not include or exempt other required specialist assessments as part of the heritage impact assessments (HIAs).

The National Heritage Resources Act (Act No. 25 of 1999, Section 35 [Brief Legislative Requirements]) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources including all places or objects of aesthetics, architectural, historic, scientific, social, spiritual, linguistic, or technological value or significance are protected. Thus, any assessment should make provision for the protection of all these heritage components including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

It must be emphasized that the conclusions and recommendations expressed in this phase 1 archaeological impact assessment (AIA) are based on the visibility of archaeological remains, features and, sites and may not reflect the true state of affairs. Many archaeological remains, features and sites may be covered by soil and vegetation and will only be located once this has been removed. In the event of such archaeological heritage being uncovered (such as during any phase of construction activities), archaeologists or the relevant heritage authority must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed. The onus is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Resources Act No. 25 of 1999 (NHRA 25 of 1999).

Archaeological Specialist Reports (desktops and AIA's) will be assessed by the relevant heritage resources authority. The final comment/decision rests with the heritage resources authority that may confirm the recommendations in the archaeological specialist report and grant a permit or a formal letter of permission for the destruction of any cultural sites.

APPENDIX A: HERITAGE LEGISLATIVE REQUIREMENTS

Sections 3, 34, 35, 36, 38, 48, 49 and 51 of the National Heritage Resources Act 25 of 1999 apply:

S3. National estate

(1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.

(2) Without limiting the generality of subsection (1), the national estate may include –

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including –
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves and victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the Gazette;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including –
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act (Act No. 43 of 1996).

(3) Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of ¹⁹ national estate if it has cultural significance or other special value because of –

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.

S34. Structures

- (1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
- (2) Within three months of the refusal of the provincial heritage resources authority to issue a permit, consideration must be given to the protection of the place concerned in terms of one of the formal designations provided for in Part 1 of this Chapter.
- (3) The provincial heritage resources authority may at its discretion, by notice in the Provincial Gazette, make an exemption from the requirements of subsection (1) within a defined geographical area, provided that it is satisfied that heritage resources falling into the defined area or category have been identified and adequately provided for in terms of the provisions of Part 1 of this Chapter.
- (4) Should the provincial heritage resources authority believe it to be necessary if by, following a three-month notice period published in the Provincial Gazette, withdraw or amend a notice under subsection (3).

S35. Archaeology, palaeontology and meteorites

- (1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and maritime cultural zone shall be the responsibility of SAHRA.
- (2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collation policy acceptable to the heritage resources authority and may in doing so establish such terms and conditions as it sees fit for the conservation of such objects.
- (3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority or museum, which must immediately notify such heritage resources authority.
- (4) No person may, without a permit issued by the responsible heritage resources authority—
 - (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
 - (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
 - (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
 - (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- (5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and not heritage resources management procedure in terms of section 38 has been followed, it may –
 - (a) Serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
 - (b) Carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
 - (c) If mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
 - (d) Recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

- (5) The responsible heritage resources authority may, after consultation with the owner of the land on which archaeological or palaeontological site or a meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.
- (6)(a) Within a period of two years from the commencement of this Act, any person in possession of any archaeological or palaeontological material or object or any meteorite which was acquired other than in terms of a permit issued in terms of this Act, equivalent provincial legislation or the National Monuments Act, 1969 (Act No. 28 of 1969), must lodge with the responsible heritage resources authority lists of such objects and other information prescribed period shall be deemed to have been recovered after the date on which this Act came into effect.
- (b) Paragraph (a) does not apply to any public museum or university.
- (c) The responsible authority may at its discretion, by notice in the Gazette or the Provincial Gazette, as the case may be, exempt any institution from the requirements of paragraph (a) subject to such conditions as may be specified in the notice, and may by similar notice withdraw or amend such exemption.
- (8) and object or collection listed under subsection (7) –
 - (a) remains in the ownership of the possessor for the duration of his or her lifetime, and SAHRA must be notified who the successor is; and
- (9) must be regularly monitored in accordance with regulations by the responsible heritage authority.

S36. Burial grounds and graves

- (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
- (2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.
- (3)(a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—
 - (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
 - (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
 - (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- (3) SAHRA or provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- (4) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –
 - (a) Made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
 - (b) Reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- (5) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority –
 - (a) Carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - (b) If such grave is protected or is of significance, assist any person who or community which is the direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(6)(a) SAHRA must, over a period of five years from the commencement of this Act, submit to Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agent's provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(c) The Minister must publish such lists as he or she approved in the Gazette.

(6) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(7) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may reinter the remains of that person in a prominent place in the capital of the Republic.

S.37 Public monuments and memorials

Public monuments and memorials must, without the need to publish a notice to this effect, be protected in the same manner as places which are entered in a heritage register referred to in section 30.

S38. Heritage resources management

(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –

(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

(b) the construction of a bridge or similar structure exceeding 50 m in length;

(c) any development or other activity which will change the character of the site –

(i) exceeding 5 000 m² in extent, or

(ii) involving three or more erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA, or a provincial resources authority;

(d) the re-zoning of a site exceeding 10 000 m² in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

(2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1) –

(a) if there is a reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or

(b) notify the person concerned that this section does not apply.

(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:

(a) The identification and mapping of all heritage resources in the area affected;

(b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;

(c) An assessment of the impact of development on such heritage resources;

(d) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;

(e) The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;

- (f) If heritage resources will be adversely affected by the proposed development, the consideration of alternative; and
 - (g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.
- (4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide –
- (a) whether or not the development may proceed;
 - (b) any limitations or conditions to be applied to the development;
 - (c) what the general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
 - (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of development; and
 - (e) whether the appointment of specialists is required as a condition of approval of the proposal.
- (5) A provincial heritage resources authority may not make any decision under subsection (4) with respect to any development with impacts on a heritage resource protected at national level unless it has consulted SAHRA.
- (6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who –
- (a) must consider the views of both parties; and
 - (b) may at his or her discretion –
 - (i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage resources authority;

And

 - (ii) consult SAHRA; and
 - (c) must uphold, amend or overturn such decision.
- (7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.
- (8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the impact of such development of heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environmental Affairs and Tourism, or the Mineral Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regards to such development have been taken into account prior to the granting of the consent.
- (9) The provincial heritage resources authority, with the approval of the MEC, may, by the notice in the Provincial Gazette, exempt from the requirements of this section any place specified in the notice.
- (10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this part, but any existing heritage agreements made in terms of section 42 continue to apply.

S48. Permits

- (1) A heritage resources authority may prescribe the manner in which an application is made to it for any permit in terms of this Act and other requirements for permit applications, including –
- (a) any particulars or information to be furnished in the application and any documents, drawings, plans, photographs and fees which should accompany the application;
 - (b) minimum qualifications and standards of practice required of persons making application for a permit to perform specified actions in relation to particular categories of protected heritage resources;
 - (c) standards and conditions for the excavation and curation of archaeological and palaeontological objects and material and meteorites recovered by authority of a permit;

- (d) the conditions under which, bore a permit is issued, a financial deposit must be lodged and held in trust for the duration of the permit or such period as the heritage resources authority may specify, and conditions of forfeiture of such deposit;
 - (e) conditions for the temporary export and return of objects under section 32 or section 35;
 - (f) the submission of reports on work done under authority of a permit; and
 - (g) the responsibilities of the heritage resources authority regarding monitoring of work done under authority of a permit.
- (2) On application by any person in the manner prescribed under subsection (1), a heritage resources authority may in its discretion issue to such person a permit to perform such actions at such time and subject to such terms, conditions and restrictions or directions as may be specified in the permit, including a condition –
- (a) that the applicant give security in such form and such amount determined by the heritage resources authority concerned, having regard to the nature and extent of the work referred to in the permit, to ensure the satisfactory completion of such work or the curation of objects and material recovered during the course of the work; or
 - (b) providing for the recycling or deposit in a materials bank of historical building materials; or
 - (c) stipulating that design proposals be revised; or
 - (d) regarding the qualifications and expertise required to perform those actions for which the permit is issued.
- (3) A heritage resources authority may at its discretion, in respect of any heritage resource protected by it in terms of the provisions of Chapter II, by notice in the Gazette or the Provincial Gazette, as the case may be, grant an exemption from the requirement to obtain a permit from it for such activities or class of activities by such persons or class of persons in such circumstances as are specified in the notice.

S49. Appeals

- (1) Regulations by the Minister and the MEC must provide for a system of appeal to the SAHRA Council for a provincial heritage resources council against a decision of a committee or other delegated representative of SAHRA or a provincial heritage resources body authority.
- (2) Anybody wishing to appeal against a decision of the SAHRA Council or the council of a provincial heritage resources authority must notify the Minister or MEC in writing within 30 days. The Minister or MEC, must have due regards to –
- (a) the cultural significance of the heritage resources in question;
 - (b) heritage conservation principles; and
 - (c) any other relevant factor which is brought to its attention by the appellant or the heritage resources authority.

S51. Offences and penalties

- (1) Notwithstanding the provisions of any other law, any person who contravenes –
- (a) sections 27(18), 29(10), 32(13) OR 32(19) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 1 of the Schedule;
 - (b) sections 33(2), 35(4) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 2 of the Schedule;
 - (c) sections 28(3) or 34(1) are guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 3 of the Schedule;
 - (d) sections 27(22), 32(15), 35(6), or 44(3) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 4 of the Schedule;
 - (e) sections 27(23)(b), 32(17), 35(3) or 51(8) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 5 of the Schedule;
 - (f) sections 32(13), 32(16), 32(20), 35(7)(a), 44(2), 50(5) or 50(12) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 6 of the Schedule.
- (2) The Minister, with the concurrence of the relevant MEC, may prescribe a penalty of a fine or of imprisonment for a period not exceeding six months for any contravention or failure to comply with regulations by heritage resources authorities or by-laws by local authorities.
- (3) The Minister or the MEC, as the case may be, may make regulations in terms of which the magistrate of the district concerned may –

- (a) levy admission of guild fines up to a maximum amount of R10 000 for infringement of the terms of this Act for which such heritage resources authority is responsible; and
 - (b) serve a notice upon a person who is contravening a specified provision of this Act or has not complied with the terms of a permit issued by such authority, imposing a daily fine of R50 for the duration of the contravention, subject to a maximum period of 365 days.
- (4) The Minister may from time to time by regulation adjust the amounts referred to in subsection (3) in order to account for the effect of inflation.
- (5) Any person who-
- (a) fails to provide any information that is required to be given, whether or not on the request of a heritage resources authority, in terms of this Act;
 - (b) for the purpose of obtaining, whether for himself or herself or for any other person, any permit, consent or authority in terms of this Act, makes any statement or representation knowing it to be false or not knowing or believing it to be true;
 - (c) fails to comply with or perform any act contrary to the terms, conditions, restrictions or directions subject to which any permit, consent or authority has been issued to him or her in terms of this Act;
 - (d) obstructs the holder of a permit in terms of this Act in exercising a right granted to him or her by means of such a permit;
 - (e) damages, takes, or removes, or causes to be damaged, taken or removed from a place protected in terms of this Act any badge or sign erected by a heritage authority or a local authority under section 25(2)(j) or section 27(17), any interpretive display or any other property or thing.
 - (f) receives any badge, emblem or any other property or thing unlawfully taken or removed from a place protected in terms of this Act; and
 - (g) within the terms of this Act, commits or attempts to commit any other unlawful act, violates any prohibition or fails to perform any obligation imposed upon him or by its terms, or who counsels, procures, solicits or employs any other person to do so.
- shall be guilty of an offence and upon conviction shall be liable to such maximum penalties, in the form of a fine or imprisonment or both such fine and such imprisonment, as shall be specified in the regulations under subsection (3).
- (6) Any person who believes that there has been an infringement of any provision of this Act, may lay a charge with the South African Police Service or notify a heritage resources authority.
- (7) A magistrate's court shall, notwithstanding the provisions of any other law, be competent to impose any penalty under this Act.
- (8) When any person has been convicted of any contravention of this Act which has resulted in damage or to alteration of a protected heritage resource the court may -
- (a) order such person to put right the result of the act of which he or she was guilty, in the manner so specified and within such period as may be so specified, and upon failure of such person to comply with the terms of such order, order such person to pay to the heritage resources authority responsible for the protection of such resource a sum equivalent to the cost of making good; or
 - (b) when it is of the opinion that such a person is not in a position to make good damage done to a heritage resources by virtue of the offender not being the owner or occupier of a heritage resources or for any other reason, or when it is advised by the heritage resources authority responsible for the protection of such resource that it is unrealistic or undesirable to require that the results of the act be made good, order such person to pay the heritage resources authority a sum equivalent to the cost of making good.
- (9) In addition to other penalties, if the owner of a place has been convicted of an offence in terms of this Act involving the destruction of, or damage to, the place, the Minister on the advice of SAHRA or the MEC on the advice of a provincial heritage resources authority, may serve on the owner an order that no development of such place may be undertaken, except when making good the damage and maintaining the cultural value of the place, or for a period not exceeding 10 years specified in the order.
- (10) Before making the order, the local authority and any person with a registered interest in the land must be given a reasonable period to make submissions on whether the order should be made and for how long.
- (11) An order of no development under subsection (9) attaches to the land and is binding not only on the owner as at the date of the order, but also on any person who becomes an owner of the place while the order remains in force.
- (12) The Minister on the advice of SAHRA, may reconsider an order of no development and may in writing amend or repeal such order.

(13) In any case involving vandalism, and whenever else a court deems it appropriate, community service involving conservation of heritage resources may be substituted for, or instituted in addition to, a fine or imprisonment.

(14) Where a court convicts a person of an offence in terms of this Act, it may order for forfeiture to SAHRA or the provincial heritage resources authority concerned, as the case may be, of a vehicle, craft, equipment or any other thing used or otherwise involved in the committing of the offence.

(15) A vehicle, craft, equipment or other thing forfeited under subsection (14) may be sold or otherwise disposed of as the heritage resources authority concerned deems fit.

APPENDIX B: GRADING SYSTEM

The National Heritage Resources Act 25 of 1999 stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act and the South African Heritage Resources Agency:

- National: This site is suggested to be considered of Grade 1 significance and should be nominated as such. Heritage resources with qualities so exceptional that they are of special national significance.
- Provincial: This site is suggested to be considered of Grade II significance and should be nominated as such. Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region
- Local: This site is suggested to be Grade IIIA significance. This site should be retained as a heritage register site (High significance) and so mitigation as part of the development process is not advised.
- Local: This site is suggested to be Grade IIIB significance. It could be mitigated and (part) retained as a heritage register site (High significance).
- 'General' Protection A (Field Rating IV A): This site should be mitigated before destruction (usually High/Medium significance).
- 'General' Protection B (Field Rating IV B): This site should be recorded before destruction (usually medium significance).
- 'General' Protection C (Field Rating IV C): This site has been sufficiently recorded (in the Phase 1). It requires no further recording before destruction (usually Low significance).

APPENDIX C: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM COASTAL AND INLAND AREAS: guidelines and procedures for developers

1. Stone artefacts

Stone artefacts are the most common and identifiable precolonial artefacts occurring on the South Africa landscape. Early Stone Age, Middle Stone Age and Later Stone Age stone artefacts occur in various concentrations on the South Africa landscape. Stone artefacts are very commonly found occurring on flat floodplains in a mostly secondary or disturbed context. However, stone artefacts can be also be found in an *in situ* or undisturbed context in areas where little human or animal impact happens such as open sites mostly near rocky outcrops, amongst boulders and caves.

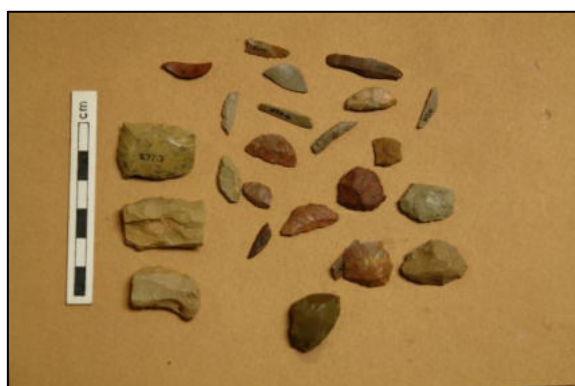
These may be difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified.



Early Stone Age (ESA) stone artefact
(1.5 million years ago – 250 000 years ago)



Middle Stone Age stone artefacts
(250 000 – 30 000 years ago)



Later Stone Age stone artefacts
(30 000 years ago – historical times)

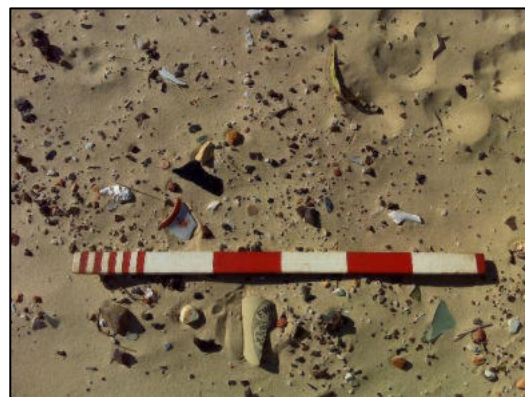
2. Pottery scatters

Pottery scatters can be associated with either Khoekhoen pastoralists, the Nguni first farming communities (referred to as the South African Iron Age) or colonial settlement and can be dated to within the last 2 000 years which occur both at the coast and inland. Pottery associated with Bushmen / hunter-gatherers is generally thought to occur in the Karoo region. The most obvious difference between Khoekhoen and Nguni pottery are the decorations, shapes, sizes and wall thickness. Khoekhoen pottery is generally thinner than the thicker walled and robust Nguni pottery. Colonial ceramics ranges from earthenware, stoneware, porcelain and European glazed and unglazed ceramics.

Precolonial pottery and colonial ceramics are more easily identifiable by the layman and should be reported.



Khoekhoen earthenware pottery
(last 2 000 years)



Iron Age earthenware pottery
(last 2 000 years)



Examples of 19th century European ceramics

3. Historical artefacts and features

These are easy to identify and include colonial artefacts (such as ceramics, glass, metal, etc.), foundations of buildings or other construction features and items from domestic and military activities associated with early travellers' encounters on the landscape and European settlement.



**Example of a Fortified Structure
(Fort Double Drift)**



Ruin of stone packed dwelling



Glass artefacts

4. Shell middens (marine and freshwater)

Shell middens can be defined as an accumulation of marine or freshwater shell deposited by past human populations rather than the result of natural or animal activity. Marine shell middens occur all along the coast and may extend within 5 km of the coastline. This area is generally regarded as being archaeologically sensitive. The shells are concentrated in a specific locality above the high-water mark and frequently contain various edible and sometimes inedible marine shells, stone tools, pottery, bone (fish and animal) and occasionally also human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m² in extent, should be reported to an archaeologist. Freshwater shell middens occur along river banks and comprise freshwater shell, fish and animal bone, stone tools, pottery, and sometimes human remains.



Examples of the occurrence of coastal shell middens

5. Large stone features

They come in different forms and sizes, but are easy to identify. The most common are roughly circular stone walls (mostly collapsed) and may represent stock enclosures, remains of wind breaks or cooking shelters. Others consist of large piles of stones of different sizes and heights and are known as *isisivane*. They are usually near river and mountain crossings. Their purpose and meaning are not fully understood; however, some are thought to represent burial cairns while others may have symbolic value.



Examples of stone packed features

6. Graves, Burials and Human Skeletal material

Formal historical graves are easily identifiable as they are in most cases fenced off or marked with engraved headstones. Informal stone packed graves in several instances also occur within these fenced off areas.

It is difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually observed when they are exposed through erosion or construction activities for development. Several human remains have been rescued eroding out of the dunes along this coastline and dongas in inland areas. In some instances, packed stones or rocks may indicate the presence of informal pre-colonial burials.

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general, the remains are buried in a flexed position on their sides, but are also found buried in a sitting position with a flat stone capping and developers are requested to be on the alert for this.



Exposed human remains eroding out a coastal shell midden.



Exposed human remains eroding out an inland donga

APPENDIX D: CHANCE FINDS PROTOCOL

SITES UNCOVERED DURING THE PRE-CONSTRUCTION / CONSTRUCTION / POST-CONSTRUCTION PHASES OF THE DEVELOPMENT UNDER SECTIONS 34, 35, AND 36 OF THE NATIONAL HERITAGE RESOURCES ACT (NHRA) 25 OF 1999

The Chance Finds Protocol may include but not be limited to the following:

- A heritage practitioner should be appointed to develop a heritage induction program and conduct training for the ECO, as well as team leaders, in the identification of heritage resources and artefacts.
- The project / monitoring archaeologist should be called upon if any possible heritage resources or artefacts or exposed burial are identified.
- Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities be halted.
- The project / monitoring archaeologist will then need to come out to the site and evaluate the extent and importance of the heritage resources and make the necessary recommendations for mitigating the find and impact on the heritage resource.
- The contractor therefore should have some sort of contingency plan so that operations could move elsewhere temporarily while the material and data are recovered.
- Should the heritage consultant conclude that the find is a heritage resource protected in terms of the NHRA (1999) Sections 34, 35, 37 and NHRA (1999) Regulations (Regulation 38, 39, 40), he or she should notify the relevant PHRA. In this case the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) –

Ms Lungiswa Mzazi - lungiswam@ecphra.org.za - (043) 492 1940/1/2 or 081 434 3544 /

OR

Ms Ayanda Mncwabe-Mama - Ayanda.mncwabe-mama@ecsrac.gov.za / (043) 492 1370 / 077 603 3035.

- Based on the comments received from the ECPHRA, the heritage consultant would present the relevant terms of reference to the client for implementation.

- Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the archaeological / heritage site may then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue. The project / monitoring / newly appointed professional archaeologist will make all the necessary permit applications to the ECPHRA. The costs for the phase 2 mitigation will be on the onus of the developer.
- Construction/Operational activities can commence as soon as the site has been cleared and signed off by the archaeologist.

SECTIONS 34, 35, AND 36 OF THE NATIONAL HERITAGE RESOURCES ACT (NHRA) 25 OF 1999 RELEVANT TO THE CHANCE FINDS PROTOCOL

S34. Structures

- (11) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
- (12) Within three months of the refusal of the provincial heritage resources authority to issue a permit, consideration must be given to the protection of the place concerned in terms of one of the formal designations provided for in Part 1 of this Chapter.
- (13) The provincial heritage resources authority may at its discretion, by notice in the Provincial Gazette, make an exemption from the requirements of subsection (1) within a defined geographical area, provided that it is satisfied that heritage resources falling into the defined area or category have been identified and adequately provided for in terms of the provisions of Part 1 of this Chapter.
- (14) Should the provincial heritage resources authority believe it to be necessary if by, following a three-month notice period published in the Provincial Gazette, withdraw or amend a notice under subsection (3).

S35. Archaeology, palaeontology and meteorites

- (6) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and maritime cultural zone shall be the responsibility of SAHRA.
- (7) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a

collation policy acceptable to the heritage resources authority and may in doing so establish such terms and conditions as it sees fit for the conservation of such objects.

- (8) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority or museum, which must immediately notify such heritage resources authority.
- (9) No person may, without a permit issued by the responsible heritage resources authority—
 - (e) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
 - (f) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
 - (g) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
 - (h) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- (5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and not heritage resources management procedure in terms of section 38 has been followed, it may –
 - (e) Serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
 - (f) Carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
 - (g) If mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
 - (h) Recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.
- (10) The responsible heritage resources authority may, after consultation with the owner of the land on which archaeological or palaeontological site or a meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.
- (6)(a) Within a period of two years from the commencement of this Act, any person in possession of any archaeological or palaeontological material or object or any

meteorite which was acquired other than in terms of a permit issued in terms of this Act, equivalent provincial legislation or the National Monuments Act, 1969 (Act No. 28 of 1969), must lodge with the responsible heritage resources authority lists of such objects and other information prescribed period shall be deemed to have been recovered after the date on which this Act came into effect.

- (b) Paragraph (a) does not apply to any public museum or university.
- (c) The responsible authority may at its discretion, by notice in the Gazette or the Provincial Gazette, as the case may be, exempt any institution from the requirements of paragraph (a) subject to such conditions as may be specified in the notice, and may by similar notice withdraw or amend such exemption.
- (8) and object or collection listed under subsection (7) –
 - (a) remains in the ownership of the possessor for the duration of his or her lifetime, and SAHRA must be notified who the successor is; and
- (9) must be regularly monitored in accordance with regulations by the responsible heritage authority.

S36. Burial grounds and graves

- (8) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
- (9) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.
- (3)(a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—
 - (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
 - (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
 - (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- (10) SAHRA or provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- (11) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority -

- (c) Made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
 - (d) Reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- (12) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority –
- (d) Carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - (e) If such grave is protected or is of significance, assist any person who or community which is the direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.
- (6)(a) SAHRA must, over a period of five years from the commencement of this Act, submit to Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agent's provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.
- (f) The Minister must publish such lists as he or she approved in the Gazette.
- (13) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.
- (14) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may reinter the remains of that person in a prominent place in the capital of the Republic.

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

File Reference Number:

NEAS Reference Number:

Date Received:

(For official use only)

Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of 4 May 2026.

PROJECT TITLE

Residential Development on the Remainder of Erf 2369 of Farm Sea Vista, St Francis.

SPECIALIST ¹

Celeste Booth

Postal address:

8 Frances Street, Oatlands, Makhanda

Postal code:

6139

Cell:

082 062 4655

Telephone:

082 062 4655

Fax:

N/A

E-mail:

Cbooth670@gmail.com

Professional affiliation(s) (if any)

N/A

Project Consultant:
Contact person:
Postal address:
Postal code:

Digital Soils Africa (Pty) Ltd		
Natalie Sharp		
45 Church Street, Walmer		
6070	Cell:	082 414 0472
082 414 0472	Fax:	
natalie@dsafrica.co.za		

Telephone:
E-mail:

4.2 The SPECIALIST

I, **Celeste Booth**, declare that –

General declaration:

- I act as the independent Specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;

- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.



Signature of the environmental assessment practitioner:

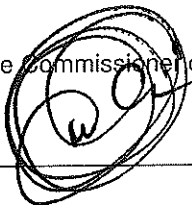
Booth Heritage Consulting

Name of company:

27/05/2026

Date:

Signature of the Commissioner of Oaths:



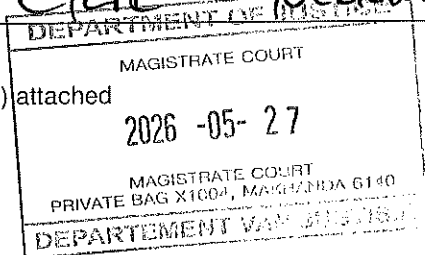
Date:

Snr Admin Clerk Nerswa Cofats

Designation:

¹ Curriculum Vitae (CV) attached

Official stamp (below).



MAGISTRATE COURT
HIGH STREET
PRIVATE BAG X1004
GRAHAMSTOWN
6140 ©

Annexure 1

CV

CURRICULUM VITAE

NAME: Celeste Booth
IDENTITY NUMBER: 8001290110089
DATE OF BIRTH: 29 January 1980
GENDER: Female
NATIONALITY: South African

QUALIFICATIONS:

1997: Matric Senior Certificate (Lawson Brown High School)
2005: Bachelor of Administration (B. Admin: Public Administration and Political Science as undergraduate majors)
University of Port Elizabeth/Nelson Mandela Metropolitan University
2006: Occasional Student for non-degree purposes focusing on the undergraduate Archaeology programme – completed the three years in one year. University of Cape Town
2007: Bachelor of Science Honours (BSc Archaeology), University of Cape Town

MERITS AWARDED:

2004: Golden Key Member
2006: Merit Award for Archaeology in Practice

TERTIARY FIELD EXPERIENCE:

2006:

1. Clanwilliam Field School: Excavation of historical labourer's cottage at Warmhoek (Cedric Poggenpoel), rock art survey of areas in and around Clanwilliam (Tony Manhire).
2. Middle Stone Age (MSA) excavation at Diepkloof Rock Shelter (Pierre-Jean Texier & Jean-Philippe Rigaud)
3. Survey for signs of pastoralism along the Breede River, Swellendam (Charlie Arthur)

2007:

1. Excavation at Hoffman's / Robberg Cave, Robberg Peninsula, Plettenberg Bay (Catharine Kyriaku & Judy Sealy)
2. Middle Stone Age (MSA) Excavation at Diepkloof Rock Shelter (Pierre-Jean Texier)

ARCHAEOLOGICAL / HERITAGE RESEARCH EXPERIENCE:

Five years archaeological research on the Western Cape focusing on the west coast of the south-western Cape and seventeen (17) years archaeological research in the Eastern Cape. This includes the fields of Early Stone Age, Middle Stone Age, Later Stone Age, Coastal, pastoralism within the last 2000 years, Rock Art, Iron Age, and historical.

CONFERENCES ATTENDED AND PRESENTATIONS MADE:

2004:

1. Anthropology of South Africa (ASA) Conference, Durban, South Africa.
Presentation: "Indigenous Knowledge and Sustainable Development in the 21st Century".

2008:

1. Association of South African Professional Archaeologists (ASAPA) Biennial Conference, Cape Town, South Africa.

2009:

1. South African Museum Association (SAMA) National Conference, Port Elizabeth, South Africa.

Joint Presentation (with Dr J.N.F. Binneman): "Heritage Management and Conservation".

2011:

1. South African Museum Association (SAMA) Eastern Cape Conference, Port Elizabeth, South Africa.

Presentation: "Respecting Human Remains in Removal, Research and Repatriation".

2. Association of South African Professional Archaeologists (ASAPA) Biennial Conference, Mbabane, Swaziland.

Presentation: "The Last 2000 Years of Diepkloof Rock Shelter, Verlorenvlei, southwestern Cape".

2012:

1. South African Museum Association (SAMA) National Conference, Paarl, South Africa.

Presentation: "The Evolving Heritage Sector and Adaptation for Success"

2013:

1. South African Museum Association (SAMA) Eastern Cape Conference, Port Alfred, Eastern Cape, South Africa.

Presentation: "The Evolving Heritage Sector and Adaptation for Success"

2016:

1. First National Cultural Observatory Conference, Port Elizabeth, Eastern Cape, South Africa.

2. South African Museum Association (SAMA) Eastern Cape Regional Conference, Grahamstown, Eastern Cape, South Africa.

Presentation: "Cultural Landscapes"

3. South African Museum Association (SAMA) 80th National Conference, 1-3 November 2016, Pretoria, Gauteng, South Africa.

Presentation: "Cultural Landscapes"

2017:

1. South African Museum Association (SAMA) Eastern Cape Regional Conference, Uitenhage, Eastern Cape, South Africa.

Presentation: "The Silence is Deafening: Rescue Mitigation of a Disturbed Burial Ground Near Addo".

2019:

1. Association of Southern African Archaeologists (ASAPA) Conference 2019, Sol Plaatje University, Kimberly, Northern Cape, South Africa.

Presentation: "A Social Justice Approach to Human Remains Management".

2. South African Museums Association (SAMA) National Conference, Pietermaritzburg, KwaZulu Natal, South Africa.

2020:

1. International Summit Nelson Mandela Museum, Mthatha, 10 & 11 February 2020.

Presentation: "A Unique Narrative".

2. Commonwealth Association of Museums Conference. Living Forward, Looking Back: Museum Practice for Postcolonial Futures. Cape Town, South Africa, 9 – 15 March 2020

Presentation: Development of an Ethical Human Remains Policy, Albany Museum, Eastern Cape, South Africa

2021:

1. World Archaeology Congress 9 (WAC9) 2022, Prague, Czech Republic, July 03-08, 2022, attended virtually.

Presentation: Ethics and Human Remains Management in A Provincial Museum in The Eastern Cape, South Africa.

2022:

1. Grahamstown History Society, Keynote Speaker.

Presentation: Rock Art of The Koonap River Valley and The Winterberg, Eastern Cape Province

2. Wildlife and Environmental Society of South Africa (WESSA) (Makhanda Branch) AGM, Keynote Speaker.

Presentation: Carter, The Curse, Tutankhamun, and How an 18th Dynasty Mummy Came to the Albany Museum.

2024:

1. Association of Southern African Professional Archaeologist (ASAPA) Conference in Lesotho from 24 June – 3 July.

Presentation: LA Café: A Coffee Shop occupying a British Settler Prison, Grahamstown, Makhanda, Eastern Cape, South Africa

2. South African Museums Association (SAMA) National Conference 2024 (2 – 5 September)

Presentation: LA Café: A Coffee Shop occupying a British Settler Prison, Grahamstown, Makhanda, Eastern Cape, South Africa

2025:

1. Society of Africanist Archaeologists (SAFA) conference (21 July and 26 July 2025), presented virtually.

Presentation: LA Café: A Coffee Shop occupying a British Settler Prison, Grahamstown, Makhanda, Eastern Cape, South Africa

WORKSHOPS ATTENDED**2008:**

1. Rock Art Management Workshop, Mapungubwe, Limpopo Province. Presented by the Getty Conservation Institute in collaboration with the South African Rock Art Project (SARAP), the South African National Parks (SANParks) and the South African Heritage Resources Agency (SAHRA).

2009:

1. Rock Art Conservation, Treatment and Interventions, Clanwilliam. Presented by the Getty Conservation Institute in collaboration with the South African Heritage Resources Agency (SAHRA), Living Landscape Project, the Rock Art Research Institute (RARI) and Cape Nature.

2010:

1. Ceramics in Archaeology. Presented by the Department of Anthropology and Archaeology, University of Pretoria, Pretoria.
2. Geographical Information Systems (GIS) in Archaeology. Presented by the School of Geography, Archaeology and Environmental Studies (GAES), University of the Witwatersrand, Johannesburg.

2012:

1. The Association of Professional Archaeologists Cultural Resource Management (CRM) Workshop, University of Cape Town.

2014:

1. Bone Pathology / Palaeopathology Symposium, Forensic Anthropology Research Centre, University of Pretoria, Pretoria.

2016:

1. Palaeosciences Centre of Excellence Education Workshop, Centre of Excellence, Wits University, 13-15 September 2016.

2017:

1. Commonwealth Association of Museums: Human Remains Management and Repatriation Workshop, 13th -14th February 2017, Iziko Museum, Cape Town, South Africa.

2018:

1. Exhibitions Workshop and the SAMA EC Annual General Meeting at the National English Literary Museum, Grahamstown, on the 15th and 16th of May 2018.

2019:

1. Human Remains Management: Extending the Conversation Workshop', University of Botswana, Gaborone, Botswana, 11 to 13 March 2019.
2. Forensic Archaeology - Excavating buried remains, 2 - 3 September 2019. The Human Variation and Identification Research Unit (HVIRU), School of Anatomical

Sciences, University of the Witwatersrand, Johannesburg, Gauteng, South Africa.

3. Taphonomy and Decomposition - 4 - 6 September 2019. The Human Variation and Identification Research Unit (HVIRU), School of Anatomical Sciences, University of the Witwatersrand, Johannesburg, Gauteng, South Africa.
4. Department of Arts and Culture (DAC) National Workshop on the National Policy on the Repatriation and Restitution of Human Remains and Heritage Objects, 26 September, Gauteng.
5. Draft national policy on the repatriation of human remains and heritage objects National Curator Workshop, 25 October 2019, Pietermaritzburg. Department of Sports, Arts and Culture (DSAC)

2023:

1. Museums Policy Workshop 2-3 March 2023, ICC East London, presented by the Department of Sport, Recreation, Arts and Culture

2024:

1. SAHRIS Training organized for the ECPHRA APM-BG Committee, hosted by the South African Heritage Resources Agency (SAHRIS) IT / SAHRIS Unit.

2025:

1. Labour Relations Workshop, presented by the Department of Sport, Recreation, Arts, and Culture (DSAC).
2. Presentation Skills and Communications workshop hosted by the Department of Sport, Recreation, Arts, and Culture (DSAC).

COURSES ATTENDED

2014:

1. Introduction to Museology, Presented by Historical Homes South Africa Ltd. Held at the National English Literature Museum (NELM), Grahamstown.
2. Heritage Conservation. Presented by Historical Homes South Africa Ltd. Held at the National English Literature Museum (NELM), Grahamstown.

2017:

1. Introduction to Paper Conservation (books and paper), Africana Library Kimberley, 14-17 August 2017

COMMITTEES:

2021-CURRENT: Member of The Eastern Cape Provincial Heritage Resources Authority (ECPHRA) Archaeology, Palaeontology and Meteorites and Burial Grounds Permit Committee.

CULTURAL RESOURCE MANAGEMENT EXPERIENCE:

Conducted more than 250 archaeological assessments including phase 1 archaeological and cultural heritage impact assessments and phase 2 archaeological monitoring over the past 17 years.

The assessments are conducted to:

- Identify and map possible heritage sites and occurrences using published and database resources;
- Provide a description of the archaeology and cultural heritage of the site and identify and map any sites of archaeology or cultural significance that may be impacted by the proposed project;
- Assess the sensitivity and conservation significance of any sites of archaeological or cultural heritage significance affected by the proposed project;
- Identify and assess the significance of the potential impacts of the proposed project on archaeological and cultural heritage;
- Make recommendations on the protection and maintenance of any significant cultural heritage and/or archaeological sites that may occur on site;
- Identify practicable mitigation measures to reduce negative impacts on the archaeological resources and indicate how these can be incorporated into the construction and management of the proposed project;
- Provide guidance for the requirement of any permits from the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) that might become necessary.

Archaeological and historical material remains, features, and sites are evaluated and assessed based on the following points:

- Type of site;
- Location and environmental surrounds;
- Site category;
- Context and condition;
- Estimated size and depth of deposit;
- Cultural affinities;
- Record site content;
- Record basic information of finds;
- Estimate relative age of sites from cultural material and other information;
- Record and describe graves, graveyards, and informal burials;
- Assess the importance and significance of material remains, features, and sites; and
- Significance ratings based on local to international standards.

CULTURAL RESOURCE MANAGEMENT DESKTOP STUDIES AND ARCHAEOLOGICAL IMPACT ASSESSMENTS:

2008:

Binneman, J.N.F. & Booth, C. 2008. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Granite Mine on The Farm Castleton

- No. 53, Komgha, Amathole District Council, Eastern Cape Province.
Prepared for Terreco cc.
- Binneman, J.N.F. & Booth, C. 2008. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Open Pit Mining Operation at Borrow pit 5, Kirkwood, Eastern Cape. Prepared For Terreco Cc.
- Binneman, J.N.F. & Booth, C. 2008. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Open Pit Mining Operation at Borrow pit 3, On Farm 537, Kirkwood, Eastern Cape
- Binneman, J.N.F. & Booth, C. 2008. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Limestone Mine on the Farm Patos Kop No. 219, Peddie District, Amathole District Municipality, Eastern Cape Province. Prepared for Imbewu Mineral Resources (Pty) Ltd.
- Binneman, J.N.F. & Booth, C. 2008. A Phase 1 Archaeological Heritage Impact Assessment for the Proposed Construction and Operation of an Ethanol Production Plant on Erven 31, 32, 33 and the Remaining Extent of Erf 1, Cradock, Inxuba Yethemba Local Municipality, Eastern Cape Province. Prepared for AGES South Africa.
- Binneman, J.N.F. & Booth, C. 2008. A Phase 1 Archaeological Impact Assessment: The Proposed Kei Beach Hotel and Apartment Development, Erven 160, 161, 162 and 163, Kei River, Amathole District Municipality, Eastern Cape Province. Prepared for ARCUS GIBB ENGINEERING AND SCIENCE.
- Binneman, J.N.F. & Booth, C. 2008. A Phase 1 Archaeological Heritage Impact Assessment of the Proposed Subdivision and Rezoning of Portions Off Garden Lot, Portion 20 of Farm No. 397 South Gorah, Kenton-On-Sea, Ndlambe Municipality, Eastern Cape. Prepared for Conservation Support Services.
- Binneman, J.N.F. & Booth, C. 2008. A Phase 1 Archaeological Impact Assessment: South African Police Services (Saps) 10111 Call Centre, Erven 530 And 4162, Central Hill, Port Elizabeth, Eastern Cape Province. Prepared for The Matrix...cc Urban Designers and Architects on behalf of the Department of Public Works.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Mining of Granite on Farm 269, District East London, Buffalo City, Amathole District Municipality, Eastern Cape Province. Prepared for Stellenryck Environmental Solutions.

2009:

- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Granite Mine at Idutywa, Mazammisa

- Community Area, Mbashe Municipality, Amathole District Municipality, Eastern Cape Province. Prepared for Stellenryck Environmental Solutions.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Granite Mine at Idutywa, Colossa Community Area, Mbashe Municipality, Amathole District Municipality, Eastern Cape Province. Prepared for Stellenryck Environmental Solutions
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Dolerite Mine on Portions 3 And 61 of Farm No. 648, Wilsonia Industrial Area, East London, Amathole District Municipality, Eastern Cape Province. Prepared For Stellenryck Environmental Solutions Cc.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Sand Mine on Portion 1 (Lemoenfontein) of the Farm Die Woud No. 500, District of Humansdorp, Eastern Cape Province. Prepared for Clean Stream Environmental Services: Coalfields Cc.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Sand Mine on Portion 20 Of Farm Strandfontein No. 442, District of Humansdorp, Eastern Cape Province. Prepared for Clean Stream Environmental Services: Coalfields cc.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Weathered Dolerite (Sabunga) Mine on Portion 1 Of Farm No. 800, Gonubie, East London, Amathole District Municipality, Eastern Cape Province. Prepared For Veduba Investments Cc.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Sand Mine on the Farm Happy Rest, Portion 1 of 696, Komgha, Amathole District, Eastern Cape Province. Prepared for Amatola Quarry Products Cc
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Granite Mine on the Farm Holme Park, Remainder 203, Komgha, Amathole District Council, Eastern Cape Province. Prepared for Stellenryck Environmental Solutions.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Clay Mine on the Farm Burnside, Kwelera, Buffalo City, Amathole District Municipality, Eastern Cape Province. Prepared for Stellenryck Environmental Solutions.

- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Hard Rock Quarry on Portion 14 of the Farm Waggie No. 110, Paterson, Sunday's River Valley Municipality, Alexandria District, Eastern Cape Province. Prepared for Arcus Gibb (Pty) Ltd.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Sand Quarry on Farm No's. 1323 and 1286, Kayser's Beach, Amathole District Municipality, Eastern Cape Province. Prepared for Stellenryck Environmental Solutions.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Mining of Gypsum on a Portion of Portion 1 (Thorndale) of the Farm East of Gous Kraal, No. 257, Division of Jansenville in the Magisterial Area of Ikwezi, Cacadu District of the Eastern Province. Prepared for Algoa Consulting Engineers cc.
- Binneman, J.N.F. & Booth, C. 2009. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Heritage Impact Assessment for the Proposed Mining of Dolerite on Erf No. 702, Port St Johns District, O.R. Tambo District Municipality, Eastern Cape Province. Prepared for Terreco cc.
- Binneman, J.N.F. & Booth, C. 2009. A Phase 1 Archaeological Heritage Impact Assessment for the Proposed Subdivision and Rezoning of Erf 8517, Grahamstown, Makana Municipality, Cacadu District Municipality, for the Purposes of Constructing Residential and Town Housing, and Business Centre. Prepared for Conservation Support Services.
- Binneman, J.N.F. & Booth, C. 2009. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Installation of A 132kv Electricity Supply Line, Bloemendal to Tembani T-Off, Nelson Mandela Metropolitan Municipality, Port Elizabeth, Eastern Cape Province. Prepared for SRK Consulting.

2010:

- Binneman, J.N.F. & Booth, C. 2010. A Letter of Recommendation (with conditions) for the Exemption of a Full Phase 1 Archaeological Impact Assessment for the Proposed Opencast Clay Mine, Erf's 20 and 21 (Erf 561) of Wells Estate, Port Elizabeth, Nelson Mandela Metropolitan Municipality, Eastern Cape Province. Prepared for Algoa Consulting Mining Engineers Cc (ACME).
- Binneman, J.N.F. & Booth, C. 2010. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Upgrading of the N2 Highway between Coega and Colchester as well as the Construction of the New Sundays River Bridge, and Four Borrow Pits, Nelson Mandela Metropolitan Municipality, Port Elizabeth, Eastern Cape Province. Prepared for SRK Consulting.
- Binneman, J.N.F. & Booth, C. 2010. A Phase 1 Archaeological Impact Assessment

- (AIA) for the Proposed Construction and Upgrading of the New Glenhurd Road as well as the Construction of the Baakens River Bridge, Nelson Mandela Metropolitan Municipality, Port Elizabeth, Eastern Cape Province. Prepared for CEN Integrated Environmental Management Unit.
- Binneman, J.N.F. & Booth, C. 2010. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Motherwell NU 31 Housing Development, Portion 2 of 316, Uitenhage, Nelson Mandela Metropolitan Municipality, Port Elizabeth, Eastern Cape Province. Prepared for Arcus Gibb
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Booth, C. 2016. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Sand Mining Permit Application on Remainder of Farm 1090 Drummore, Cosy Corner, in the District of East London, Amathole District Municipality, Eastern Cape Province. Prepared for: Stellenryck Environmental Solutions.

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Booth, C. 2017 (March). A Letter of Recommendation (With Conditions) for the Exemption of a Full Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Mining Permit Application on a Portion of Zadungeni Administrative Area No. 27, Zadungeni Allotment Area, Encgobo Municipality, District of Encgobo, Eastern Cape Province. Prepared for: Stellenryck Environmental Solutions.

Booth, C. 2017 (March). A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Mining Permit Application for a Hard Rock Quarry on a Portion Colosa Commonage, Municipality of Idutwya, Mbashe Municipality, Amatola District Council, Eastern Cape Province. Prepared for: Stellenryck Environmental Solutions.

Booth, C. 2017 (March). A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Sand Mining Permit Application on Remainder of Farm 1090 Drummore, Cosy Corner, in the District of East London, Amathole District Municipality, Eastern Cape Province. Prepared for: Comply 360 (Pty) Ltd.

Booth, C. 2017. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Nelson Mandela Bay Municipality (NMBM) Seaview Low Income Housing Development, Seaview, Nelson Mandela Bay Metropolitan, Eastern Cape Province. Prepared for: SRK Consulting.

Booth, C. 2017. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Housing Development on a Portion of Erf 8709, Wells Estate, Port Elizabeth, Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: EOH Coastal & Environmental Services.

Booth, C. 2017. A Phase 1 Archaeological Impact Assessment (AIA) for the Scarlet Ibis Wind Energy Facility and Distribution Line on the Farms Grassridge 226

- and Welbedacht 300, near Port Elizabeth, Nelson Mandela Metropolitan Municipality (NMMM), Eastern Cape Province. Prepared for: EOH Coastal & Environmental Services.
- Booth, C. 2017. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Mining Permit Application on the Southern Portion of Erf 118, Victoria Drive, Schoenmakerskop, Port Elizabeth, Nelson Mandela Metropolitan Municipality, Eastern Cape Province. Prepared for: Algoa Consulting Mining Engineers (ACME).
- Booth, C. 2017 (May). An Archaeological Heritage Ground Truthing Walk-Through For The Final Layout of the 75 Mw Collett Photovoltaic Power Station and Associated Infrastructure at Collett Substation, On Farm 335/0 And Farm 180/0, Near Rosmead, Middelburg, Eastern Cape Province. Prepared for: Skypower Services ULC and AMDA Developments (Pty) Ltd.
- Booth, C. 2017. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Power Line Alternatives for the Scarlet Ibis Wind Energy Facility (WEF), near Port Elizabeth, Nelson Mandela Metropolitan Municipality (NMMM), Eastern Cape Province. Prepared for: EOH Coastal & Environmental Services.
- Booth, C. 2017. An Archaeological Assessment for the Amendment to Turbine Specifications and the Revised Layout of the Soetwater Wind Energy Facility Situated on The Farms: The Remainder of Portion 1, 2 And 4 of Farm Orange Fontein 203 and Annex Orange Fontein 185, Farm Leeuwe Hoek 183 and Farm Zwanepoelshoek 184, near Sutherland, Karoo Hoogland Local Municipality, Namakwa District Municipality, Northern Cape Province. Prepared for: Savannah Environmental (Pty) Ltd.
- Booth, C. 2017. An Archaeological Assessment for the Amendment to Turbine Specifications and the Revised Layout of the Karusa Wind Energy Facility Situated on the Farms: De Hoop 202, Standvastigheid 210, Portion 1 of the Farm Rheebokke Fontein 209, Portion 2 of the Farm Rheebokke Fontein 209, Portion 3 of the Farm Rheebokke Fontein 209 and the Remainder of the Farm Rheebokke Fontein 209, near Sutherland, Karoo Hoogland Local Municipality, Namakwa District Municipality, Northern Cape Province. Prepared for: Savannah Environmental (Pty) Ltd.
- Booth, C. 2017. A Phase 1 Archaeological Impact Assessment (AIA) for the Clearance of Vegetation on the Remainder of Portion 12 (Lupus Den) of the Farm Tregaron No. 92 in the Sundays River Municipality, in the Eastern Cape. Prepared for: Adri Barkhuizen.
- Booth, C. 2017 (November). Survey Conducted for a Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Sand Mining on the Farm Fairview, in the Port Alfred District, Ndlambe Local Municipality, Eastern Cape Province. Prepared for: Mr Malcolm Cock.
- Booth, C. 2017 (December). A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Filling Station and Supporting Amenities as well as Associated Business Land Use Portions on Erf 8473, situated outside

Grahamstown, Makana Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. Prepared For: Indwe Environmental Consulting Cc.

Booth, C. 2017 (December). A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Mining Permit Application on Portion 3 and 5 of Farm Zeekoe Gat No. 87, District of Steynsburg, Gariep Local Municipality, Joe Gqabi District Municipality, Eastern Cape Province. Prepared for: Stellenryck Environmental Solutions.

2018:

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Booth, C. 2018. A Phase 1 Archaeological Impact Assessment (AIA) for the Mining Permit Application to Mine Sand on the Farm Welgelegen 735, near Oyster Bay, Kouga Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. Prepared for: Earth Science Solutions.

Booth, C. 2018. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Raising Main Pipeline between Boknes Strand and Cannon Rocks, Ndlambe Local Municipality, Sarah Baartman District, Eastern Cape Province. Prepared for: P & S Consulting Engineers.

Booth, C. 2018 (February). A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Upgrade and Maintenance of National Roads R335 & R342 Between Addo and Paterson, Sarah Baartman District Municipality, Eastern Cape Province. Prepared For: SRK Consulting.

Booth, C. 2018. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Construction of a Grit Washing Facility and Associated Infrastructure Adjacent to Fish Water Flats Waste Water Treatment Works, Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: Gibb (Pty) Ltd.

Booth, C. 2018. A Phase 1 Archaeological Impact Assessment (AIA) for the

Proposed Pipeline and Elevated Tank for Valencia Settlement in Addo, Sundays River Local Municipality, Eastern Cape Province. Prepared for: SRK Consulting.

Booth, C. 2018. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Albany Wind Energy Facility (WEF) and Associated Infrastructure, Situated near Grahamstown, Makana Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. EOH Coastal & Environmental Services.

Booth, C. 2018. An Archaeological Walk-Through Assessment for the Mining Permit Application on Portion 37 of the Farm Kleinfontein 172, Kouga Local Municipality, Eastern Cape Province. Prepared for: Algoa Consulting Mining Engineers (ACME).

2019:

Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Mine Permit Application, On A Site West of Alice, Nkonkobe Local Municipality, Eastern Cape Province. Prepared For: Algoa Consulting Mining Engineers

Booth, C. 2019. Archaeological Monitoring Progress Report for The Bush Flattening and Geotech Test Pit Excavations for the DHL/Mondelez New Logistics Facility in Zone 1 CDC, Coega Industrial Development Zone (IDZ), Nelson Mandela Metropolitan Municipality, Eastern Cape Province. Prepared for: IX Engineers.

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Booth, C. 2019. Phase 1 Archaeological Impact Assessment for the Proposed Lowcost Housing Development on Portions 21, 22, And 23 Of the Farm 807, Gonubie, East London, Buffalo City Metropolitan Municipality, Eastern Cape Province. Prepared For: Indwe Environmental Consulting Cc

Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Bush Clearing for The Establishment of Citrus Orchards on The Farm Eindelik 186, Kirkwood, Sundays River Local Municipality, Eastern Cape. Prepared For: East Cape Diverse Consultants

Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Subdivision and Rezoning of The Remainder of The Farm Hogsback Plateau No. 21, Victoria East Division, Raymond Mhlaba Municipality, Eastern Cape Province. Prepared For: Habitat Link Consulting.

Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Breidbach Cross Catchment Transfer Pumping Scheme (Sewer Pipeline), Breidbach, King Williams Town, Amathole District Municipality. Prepared For: Makhetha Environmental

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- Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Drought Relief Project, Mtshezi Village, Elundini Local Municipality, Eastern Cape Province. Prepared For: Makhetha Environmental
- Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Residential/Business Development on Erf 178 And Erf 2643, Kabega Park, Nelson Mandela Bay Municipality. Prepared For: JG Afrika
- Booth, C. 2019. A Phase 1 Archaeological Impact Assessment (AIA) For the Proposed Citrus Farm Development on Portion 2 Of Farm 144 (Doorndraai), Near Cookhouse, Blue Crane Route Municipality, Eastern Cape Province. Prepared For: Ectheca Environmental Services
- Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Replacement of Perimeter and Internal Security Fencing Of 6 Sai Battalion: Military Base in Makhanda /Grahamstown, Eastern Cape. Prepared For: Lwethuma Environmental Consultants
- Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Extension of The Mount Coke Quarry, Near King Williams Town, Amathole District Municipality. Prepared For: Algoa Consulting Mining Engineers
- Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Mining Right Application on Several Erven in The Driftsands Area, Port Elizabeth, Nelson Mandela Bay Municipality (NMBM), Eastern Cape Province. Prepared For: Algoa Consulting Mining Engineers
- Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Road Upgrade - Sterkspruit to Mlamli Hospital (Road Dr08606, +1-12km) And Three Associated Borrow Pits, Senqu Local Municipality, Joe Qabi District Municipality, Eastern Cape Province. Prepared For: Environmental Impact Assessment Services (EIMS) Coastal and Environmental Services (Pty) Ltd
- Booth, C. 2019. An Archaeological Heritage Walk-Through (Final Layout and Power Line) For the Proposed Golden Valley II Wind Energy Facility, Blue Crane Route Local Municipality, Eastern Cape Province. Prepared For: Coastal and Environmental Services (Pty) Ltd
- Booth, C. 2019. Phase 1 Archaeological Impact Assessment for The Proposed Coffee Bay Regional Water Supply Scheme (Phase 3b), O.R. Tambo District Municipality, Eastern Cape Province. Prepared For: Makheta Environmental Consultants
- Booth, C. 2019. A Phase 1 Archaeological Impact Assessment (AIA) For the Proposed Extension of Matanzima Cemetery, Uitenhage, Nelson Mandela Metropolitan Municipality, Eastern Cape Province. Prepared For: SRK Consulting
- Booth, C. 2019. Archaeological Monitoring Progress Report for the Construction of the Nqura Tank Farm, Coega Industrial Development Zone (IDZ), Nelson Mandela Metropolitan Municipality, Eastern Cape Province. Prepared For: Phila Environmental Health and Safety Consultants

Booth, C. 2019. Archaeological Monitoring Progress Report for the OTGC Development Coega Industrial Development Zone (IDZ), Nelson Mandela Metropolitan Municipality, Eastern Cape Province: Human Remains Exposed During Construction. Prepared For: Phila Environmental Health and Safety Consultants

Booth, C. 2019. Archaeological Monitoring Conducted During the Construction of Landslide Structures and Infrastructure to the Bulk Liquid Storage and Handling Facility in the Port of Ngqura Within the Coega Industrial Development Zone (IDZ), Nelson Mandela Bay Municipality – October – December 2019. Prepared For: Environmental Impact Management Services (EIMS)

2020:

Booth, C. 2020. Phase 1 Archaeological Impact Assessment for the Proposed Mine Permit Application, on a Site West of Alice, Raymond Mhlaba Local Municipality, Eastern Cape Province. Prepared For: Algoa Consulting Mining Engineers.

Booth, C. 2020. Revised Report: Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Albany Wind Energy Facility (WEF) and Associated Infrastructure, situated near Grahamstown, Makana Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. Prepared For: EOH Coastal & Environmental Services

Booth, C. 2020. A Phase 1 Archaeological Impact Assessment for the Proposed New Link Road and Box Culvert Within Ward 46, East London, Buffalo City Metropolitan Municipality, Eastern Cape Province. Prepared For: Indwe Environmental Consulting CC

Booth, C. 2020. Phase 1 Archaeological Impact Assessment for the Proposed Extension of an Existing Quarry on the R72, near Hamburg, Amathole District Municipality, Eastern Cape Province. Prepared For: Coastal and Environmental Services (CES) Environmental and Social Advisory Services.

Booth, C. 2020. Phase 1 Archaeological Impact Assessment for the Proposed Mining Operation on Remainder of the Farm Coldstream No. 970 Within the Magisterial District of Indwe, under Emalahleni Local Municipality within Chris District Municipality in the Eastern Cape Province. Prepared For: Lwethuma Environmental Consultants

Booth, C. 2020. Phase 1 Archaeological Impact Assessment for the Proposed Extension of a Quarry on the Farm Edendale 185, near Matatiele, Matatiele Local Municipality, Alfred Nzo District Municipality, Eastern Cape Province. Prepared For: Coastal and Environmental Services (CES) Environmental and Social Advisory Services

Booth, C. 2020. Phase 1 Archaeological Impact Assessment for the Proposed Extension of the Oudtshoorn Cemetery, Oudtshoorn, Oudtshoorn Local Municipality, Western Cape Province. Prepared For: EOH Coastal & Environmental Services

Booth, C. 2020. Phase 1 Archaeological Impact Assessment for the Proposed Development of the Refele Village Sports Facility, Mount Fletcher, Elundini Local Municipality,

Eastern Cape Province. Prepared For: Coastal and Environmental Services (CES)
Environmental and Social Advisory Services

Booth, C. 2020. Phase 1 Archaeological Impact Assessment for the Proposed Agricultural Development on Portion 1 & 2 Of the Farm Kwade Hoek 52 and the Remaining Extent of the Farm Schelm Drift 53, Makana Local Municipality, Eastern Cape Province Prepared For: Habitat Link Consulting

Booth, C. 2020. A Phase 1 Archaeological Impact Assessment for the Proposed Hewu PH9 Raw Water Supply to Sada Water Treatment Works (WTW), Enoch Mgijima Local Municipality, Eastern Cape Province. Prepared For: Indwe Environmental Consulting CC

Booth, C. 2020. Report on the Site Visit and Assessment of a Stone Packed Feature Identified During the Construction of the Powerline for the Soetwater Wind Energy Facility, near Sutherland, Karoo Hoogland Municipality, Northern Cape Province. Prepared For: EIMS

2021:

Booth, C. 2021. Phase 1 Archaeological Impact Assessment for the Proposed Office Buildings on Erf No. 944 and Erf No. 945, Holland Street, Addo, Sundays River Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. Prepared For: Indwe Environmental Consulting Cc

Booth, C. 2021. An Archaeological Desktop Assessment for the Proposed Construction of The BNN Fuel Service Station and Associated Mini Shopping Complex, Berlin, Buffalo City Metropolitan Municipality, Eastern Cape Province. Prepared For: Earth Free Environmental Consulting

Booth, C. 2021. A Phase 1 Archaeological Impact Assessment (AIA) For Bush Clearing on Bosfontein Farm Trading as "Just Milk", Alexandria Magisterial District, Ndlambe Municipality, Eastern Cape Province. Prepared For: Hortcouture Architects and Planning

Booth, C. 2021. An Archaeological Desktop Assessment for the Proposed Construction of the Rebbelskloof Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province. Prepared For: All Green Environmental Consultant

Booth, C. 2021. An Archaeological Desktop Assessment for the Proposed Construction of The Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province. Prepared For: All Green Environmental Consultant

Booth, C. 2021. Phase 1 Archaeological Impact Assessment for the Proposed Upgrading Of 35km of the DR08344 and DR08429 District Roads, between Ebika and Willowvale via Nqadu in the Mnquma Local Municipality and Mbhashe Local Municipality, Amatole District Municipality, Eastern Cape Province. Prepared For: Kimopax

Booth, C. 2021. Phase 1 Archaeological Impact Assessment for the Proposed

Establishment of Cattle Pastures on the Farm Bonavista (Portion 9 and 12 of Farm Platterug 303) near Kinkelbos, Sundays River Valley Municipality, Eastern Cape.
Prepared For: Algoa Consulting Mining Engineers

Booth, C. 2021. Phase 1 Archaeological Impact Assessment for the Proposed Mining Right Application on Allotment 50 Of Mdlankomo, near Libode, Nyandeni Local Municipality, OR Tambo District Municipality, Eastern Cape Province. Prepared For: Algoa Consulting Mining Engineers

Booth, C. 2021. An Archaeological Desktop Assessment for the Proposed Construction of Mpume to Gate Access Road (2.3 Km), Ward 29, Mbashe Local Municipality, Amathole District Municipality, Eastern Cape Province. Prepared For: All Green Environmental Consultant

Booth, C. 2021. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Construction of Mpume to Gate Access Road (2.3 Km), Ward 29, Mbashe Local Municipality, Amathole District Municipality, Eastern Cape Province. Prepared For: All Green Environmental Consultant

Booth, C. 2021. Phase 1 Archaeological Impact Assessment for the Proposed Social Housing Development on the Remaining Extent of Erf 8709, Wells Estate, Gqeberha / Port Elizabeth, Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared For: JG Afrika

2022:

Booth, C. 2022. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Memorial Park and Private Cemetery on Portion 50 of Farm 821, East London, Buffalo City Metropolitan Municipality, Eastern Cape Province. Prepared for: Indwe Environmental Consulting CC.

Booth, C. 2022. Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Buffalo Kloof Airstrip Development on the Remainder of the Farm 1/294, Re/294, Holling Grove North Farm No 180 and Farm 467, Ndlambe Municipality, Eastern Cape. Prepared for: Hortcouture Architects and Planning.

Booth, C. 2022. A Pre-Construction Archaeological Heritage Walk-Through for Coega Mining Right Application, Erf 220 And Erf 221 Coega, In Zone 10 of the Coega Special Economic Zone (Sez), Nelson Mandela Bay Municipality (NMBM), Eastern Cape Province. Prepared for: Glendore Sand and Stone.

Booth, C. 2022. Archaeological Monitoring During Topsoil Removal and Trenching Activities for the MSC Site Development in the Coega Industrial Development Zone (IDZ), Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: Rand Civils

Booth, C. 2022. A Phase 1 Archaeological and Cultural Heritage Impact Assessment (AIA) for the Proposed Upgrade of The R61 Section 6- Tsojana (Km 7.4) To Qumanco (Km 42.2) Between Cofimvaba and Engcobo, Intsika Yethu Local Municipality, Eastern Cape Province. Prepared for: Indwe Environmental Consulting CC.

Booth, C. 2022. Phase 1 Archaeological Impact Assessment for the Proposed Establishment of Cattle Pastures on the Farm Bonavista (Portion 9 And 12 Of Farm Platterug 303) near Kinkelbos, Sundays River Valley Municipality, Eastern Cape. Prepared for: Algoa Consulting Mining Engineers.

- Booth, C. 2022. Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Mining Permit Application Situated on the Remainder of Farm Elva Heights 102, Division of Alexandria, Sunday River Local Municipality, Eastern Cape Province. Prepared for: Stellenryck Environmental Solutions.
- Booth, C. 2022. Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Draaibosch Quarry Mining Permit Application on Remainder of the Farm Draaibosch 45, near Komga, Great Kei Local Municipality, Eastern Cape Province. Prepared for: Algoa Mining Consulting Engineers (ACME).
- Booth, C. 2022. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Liv Lukhanyisa Village, Situated on a Portion of the Remaining Extent (Re) of the Farm Brakkefontein 24, Makhandla (Formerly Grahamstown), Makana Local Municipality, Eastern Cape Province. Prepared for: JG Afrika.
- Booth, C. 2022. Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Mining Permit Application on the Farm No. 86, near Lusikisiki, Ingquza Hill Local Municipality, Eastern Cape Province. Prepared for: Stellenryck Environmental Solutions.
- Booth, C. 2022. An Archaeological Assessment and Recommendation for Archaeological Sites Identified Within the Footprint of the Concrete Batch Plant and Pre-Cast Facility in Middelburg, Chris Hani District Municipality, Eastern Cape Province. Prepared for: InClover Consulting.
- Booth, C. 2022. Addendum To: An Archaeological Assessment and Recommendation for Archaeological Sites Identified Within the Footprint of the Concrete Batch Plant and Pre-Cast Facility in Middelburg, Chris Hani District Municipality, Eastern Cape Province: Mitigation of Site BULT_SP1. Prepared for: InClover Consulting.
- Booth, C. 2022. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Indlovu Prospecting Right Between Oyster Bay and Cape St Francis, Kouga Local Municipality, Eastern Cape Province. Prepared for: Algoa Consulting Mining Engineers.
- Booth, C. 2022. Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Mining Permit Application Situated on the Remainder of Farm Elva Heights 102, Division of Alexandria, Sunday River Local Municipality, Eastern Cape Province. Prepared for: Stellenryck Environmental Solutions.
- Booth, C. 2022. Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Mining Permit Application Situated on a Portion of Portions 42 & 43 Of Farm 807, Division of East London, Buffalo City Metropolitan Municipality, Eastern Cape Province. Prepared for: Stellenryck Environmental Solutions.
- Booth, C. 2022. A Phase 1 Archaeological and Cultural Heritage Impact Assessment (AIA) for the Proposed Tsomo 66kv OHL, Chris Hani and Amathole District Municipality, Eastern Cape Province. Prepared for: Indwe Environmental Consulting CC.
- Booth, C. 2022. Phase 1 Archaeological Impact Assessment (AIA) For the Proposed Brakfontein Residential Settlement, Alexandria, Ndlambe Local Municipality, Eastern Cape Province. Prepared for: Hortcuture Architects and Planning

2023:

- Booth, C. 2023. A Phase 1 Archaeological and Cultural Heritage Assessment for The Proposed Tankatara 600 Mw Solar PV Facility, Portion 1 Of Farm Tankatara Trust No. 643, And Associated Overhead Powerlines Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: SLR Consulting
- Booth, C. 2023. Archaeological Monitoring After Bush Clearing Activities for the MSc Phase 4 Site Development in The Coega Industrial Development Zone (IDZ), Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: Rand Civils.
- Booth, C. 2023. Compliance Statement: Exemption of A Phase 1 Archaeological and Cultural Impact Assessment (AIA) For the Construction of A 5m X 5m Laboratory Room Within the Existing IGT Factory, Burman Road in Deal Party, Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: Blue Leaf Environmental
- Booth, C. 2023. Phase 1 Archaeological Impact Assessment (AIA) Proposed Construction of Westbank Harbour Arterial Road, East London, Buffalo City Metropolitan Municipality (BCMM), Eastern Cape Province. Prepared for: AYAMPA SUSTAINABLE PROJECTS (PTY) LTD.
- Booth, C. 2023. A Phase 1 Archaeological and Cultural Heritage Assessment for The Proposed Development of Student Accommodation on Erf 9623, Makhanda, Makana Local Municipality, Eastern Cape Province. Prepared for: Habitat Link Consulting.
- Booth, C. 2023. Phase 1 Archaeological Impact Assessment (AIA) For the Proposed Settlement Rezoning and Service Infrastructure on Erf 79 (Ezidonkini), Nemato, Port Alfred, Ndlambe Local Municipality, Eastern Cape Province. Prepared for: DLine8 Landscape Architects and Planning CC.
- Booth, C. 2023. Phase 1 Archaeological Impact Assessment (AIA) For the Proposed Settlement Re-Zoning and Service Infrastructure Installation on Erf 556 Nemato (New Rest), Port Alfred, Ndlambe Local Municipality Eastern Cape Province. Prepared for: DLine8 Landscape Architects and Planning CC
- Booth, C. 2023. Phase 1 Archaeological Impact Assessment (AIA) For the Proposed Construction of a Sewage Grit and Sludge Washing Facility and Associated Infrastructure Adjacent to Fish Water Flats Waste Water Treatment Works, Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: Gibb Environmental Port Elizabeth
- Booth, C. 2023. A Phase 1 Archaeological and Cultural Heritage Assessment for The Proposed Port Alfred Sewerage Infrastructure Upgrade: Phase 1, Ndlambe Municipality, Eastern Cape Province. Prepared for: DLINE8 PTY (LTD).
- Booth, C. 2023. Phase 1 Archaeological and Cultural Impact Assessment (AIA) For the Proposed Development of Existing Residential Erven and Associated Infrastructure for Erf Numbers 6889 To 7106, And the Subdivision and Development of New Residential Erven and Associated Infrastructure for Parcel Number 6850 Rosehill, Port Alfred, Ndlambe Local Municipality, Eastern Cape Province. Prepared for: Hortcouture Architects and Planning.
- Booth, C. 2023. Phase 1 Archaeological Impact Assessment (AIA) For the Proposed Mining Permit Application Situated on Portion 4 (Portion of Portion 1) Of the Farm

- Walsingham No. 287, Ndlambe Local Municipality, A Division of Bathurst, Eastern Cape Province. Prepared for: Algoa Mining Consulting Engineers (ACME).
- Booth, C. 2023. A Phase 1 Archaeological and Cultural Heritage Assessment for The Proposed Integrated Housing Precinct Development on Erf 10144, King Williams Town, Buffalo City Metropolitan Municipality, Eastern Cape Province. Prepared for: Lwethuma Environmental Consultants.
- Booth, C. 2023. Phase 1 Archaeological and Cultural Impact Assessment for The Proposed Development and Construction of Sustainable Housing Development, Associated Facilities and Infrastructure, Remainder of Portion 4 Of the Farm Thornhill No 388, Port Alfred, Ndlambe Local Municipality, Eastern Cape Province. Prepared for: Hortcuture Landscape Architects and Planning.
- Booth, C. 2023. A Phase 1 Archaeological and Cultural Impact Assessment for The Transnet Ngqura Manganese Export Terminal, Coega Special Economic Zone, Port of Ngqura, Nelson Mandela Bay Municipality, Eastern Cape. Prepared for: CEN Integrated Environmental Management Unit.
- Booth, C. 2023. A Phase 1 Archaeological and Cultural Heritage Assessment for The Proposed Burnside Sand Mining on Portion of The Farm Lower Hlabathi 162 Magisterial Division of Lusikisiki Within the Ingquza Hill Local Municipality, Eastern Cape Province, South Africa. Prepared for: Lwethuma Environmental Consultants.

2024:

- Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (AIA) For the Proposed Arlington Multiple-Use Development, Walmer, Gqeberha, Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: JG Afrika
- Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (AIA) For the Proposed Development of a Resort & Supporting Infrastructure on Erf 1618, Colchester, Sundays River Valley Local Municipality, Eastern Cape Province. Prepared for: CEN Integrated Environmental Management Unit.
- Booth, C. 2024. Archaeological And Cultural Impact Assessment (AIA) For the Proposed Ibhino Sand Mining Permit Application on Portion 4 Of the Farm Schelmhoek 311, Uitenhage, Near Colchester, Nelson Mandela Bay Municipality, Eastern Cape Province. Prepared for: Ectheca Environmental Services Pty Ltd.
- Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (AIA) For The Proposed Poultry Layer Facility on The Remaining Extent of The Farm Nieuw Jaars Kop 300, Kinkelbos, Within the Sundays River Valley Local Municipality, Eastern Cape Province. Prepared for: Habitat Link Consulting.
- Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (AIA) For The Proposed Chicken Layer and Hatchery Facility on The Farm Grassdale 729, Stutterheim, Eastern Cape Province. Prepared For: Terreco Environmental
- Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (Aia) For The Proposed Construction of The Gutsche Boathouse, Geelhoutboom River, Farm 711 Humansdorp, Kouga Local Municipality, Near St. Francis Bay, Eastern Cape Province Prepared For: SRK Consulting (South Africa) (Pty) Ltd
- Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (AIA) For The

Proposed Exhibition Complex for The Nelson Mandela Museum in Qunu, King Sabata Dalindyebo Local Municipality, Eastern Cape Province. Prepared For: Abantu Environmental Services

Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (Aia) For The Proposed Construction of Nelsig Bridge in Pearston, Blue Crane Route Local Municipality, Eastern Cape Province. Prepared For: Abantu Environmental Services.

Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (AIA) For The Proposed Construction of Khanyiso Bridge in Pearston, Blue Crane Route Local Municipality, Eastern Cape Province. Prepared For: Abantu Environmental Services.

Booth, C. 2024. Phase 1 Archaeological and Cultural Impact Assessment (Aia) Proposed Bushmanskrantz Water Treatment Works and Associated Infrastructure, Enoch Mgijima Local Municipality, Eastern Cape Province. Prepared For: Indwe Environmental Consulting.

2025:

Booth, C. 2025. Phase 1 Archaeological and Cultural Impact Assessment (AIA) For Proposed Housing Development on Carolina Farm No. 217, Great Kei Local Municipality, Eastern Cape Province. Prepared For: Abantu Environmental Services

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2026:

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PALAEONTOLOGICAL SPECIALIST STUDY

In terms of Section 38(8) of the NHRA

Palaeontological Impact Assessment for the Construction of a
Residential Development, Erf 2369 Sea Vista, St Francis,
Kouga Local Municipality, Eastern Cape Province.



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23 February 2026

THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I, **Dewald Wilken**, as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any 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 required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 (as amended) and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2014 (specifically in terms of regulation 13 of GN No. R. 326) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favorable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 14 of GN No. R. 326.

Signed



Name

Dewald Wilken Pr. Sci. Nat.

Date

23 February 2026

EXECUTIVE SUMMARY

A palaeontological impact assessment was requested for the construction of a residential development, Erf 2369 Sea Vista, Cape St Francis, Kouga Local Municipality, Eastern Cape Province. A palaeontological impact assessment was conducted to comply with the South African Heritage Resources Agency (SAHRA) in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

The area under investigation is underlain by the Nanaga Formation of the Algoa Group. The Nanaga Formation is rated as very highly sensitive. Although this formation has the potential to contain scientifically valuable fossil material, fossils within it are typically sparse. It is therefore unlikely that the proposed construction of the residential development will result in the loss or damage of palaeontological heritage resources.

There is no objection to the development of the property, provided that the fossil-find procedure outlined at the end of this document is followed in the unlikely event that fossil material is encountered

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List of Abbreviations

- ECO – Environmental control officer
- ECPHRA – Eastern Cape Province Heritage Resources Authority
- EIA – Environmental Impact Assessment
- HWC – Heritage Western Cape
- Ma – mega annum (i.e. one million years)
- NEMA - National Environmental Management Act
- NHRA - National Heritage Resources Act
- PIA – Palaeontologic Impact Assessment
- SAHRA - South African Heritage Resources Agency
- SAHRIS - South African Heritage Resources Information System

1. Introduction

1.1 Background Information on Project

A palaeontological impact assessment was requested for the construction of a residential development, Erf 2369 Sea Vista, St Francis, Kouga Local Municipality, Eastern Cape Province. A palaeontological impact assessment was conducted to comply with the South African Heritage Resources Agency (SAHRA) in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

Figure 1 shows the area under investigation in relation to St Francis Bay and Figure 2 shows a closer view of the same area. Figure 3 relates the palaeo-sensitivity to the area of interest.



Figure 1. The study site in relation to St Francis Bay, Eastern Cape, South Africa.



Figure 2 a Closer view of the area of interest.



Figure 3 Palaeo-sensitivity Map. Adapted from <https://sahris.sahra.org.za/map/palaeo> and 3324 Port Elizabeth geologic map. Indicating the fossil sensitivity underlying the study area in the Eastern Cape. The Nanaga Formation in red (very high sensitivity).

1.2 Study approach

This PIA report provides a record of the inferred palaeontological heritage resources within the study area. The identified resources have been assessed to evaluate their heritage significance in terms of the grading system outlined in Section 3 of the NHRA (Act 25 of 1999). Recommendations for specialist palaeontological mitigation are made where this is considered necessary. The report is based on (1) a review of the relevant scientific literature in the broader study region, (2) published geological maps and accompanying sheet explanations (e.g., Toerien, D.K. (1984)).

2. Geological and Palaeontological context of the study area

The following section will provide a basic review of the geology and palaeontology in the study area.

2.1. Algoa Group

The Algoa Group consists of aeolian deposits of the Southeast coast of South Africa. The Algoa Group is split into 6 formations based on their lithology and age. These formations are the Schelm Hoek Formation, Nahoon Formation, Salnova Formation, Nanaga Formation, Alexandria Formation, Bathurst Formation. The Algoa Group and its subdivisions can be seen in Figure 4. These formations are related to transgressive/regressive seas. For this project, only the Nanaga Formation will be further disused.

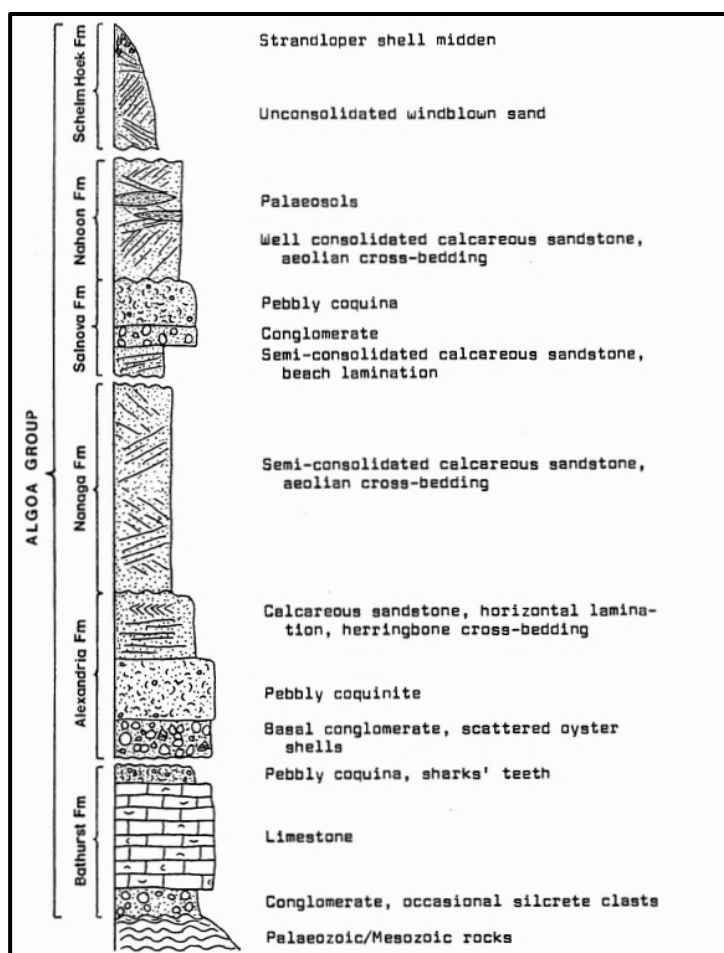


Figure 4 Idealised composite section of Algoa Group showing relative stratigraphic positions and lithology of formations (not to scale) Le Roux (1989).

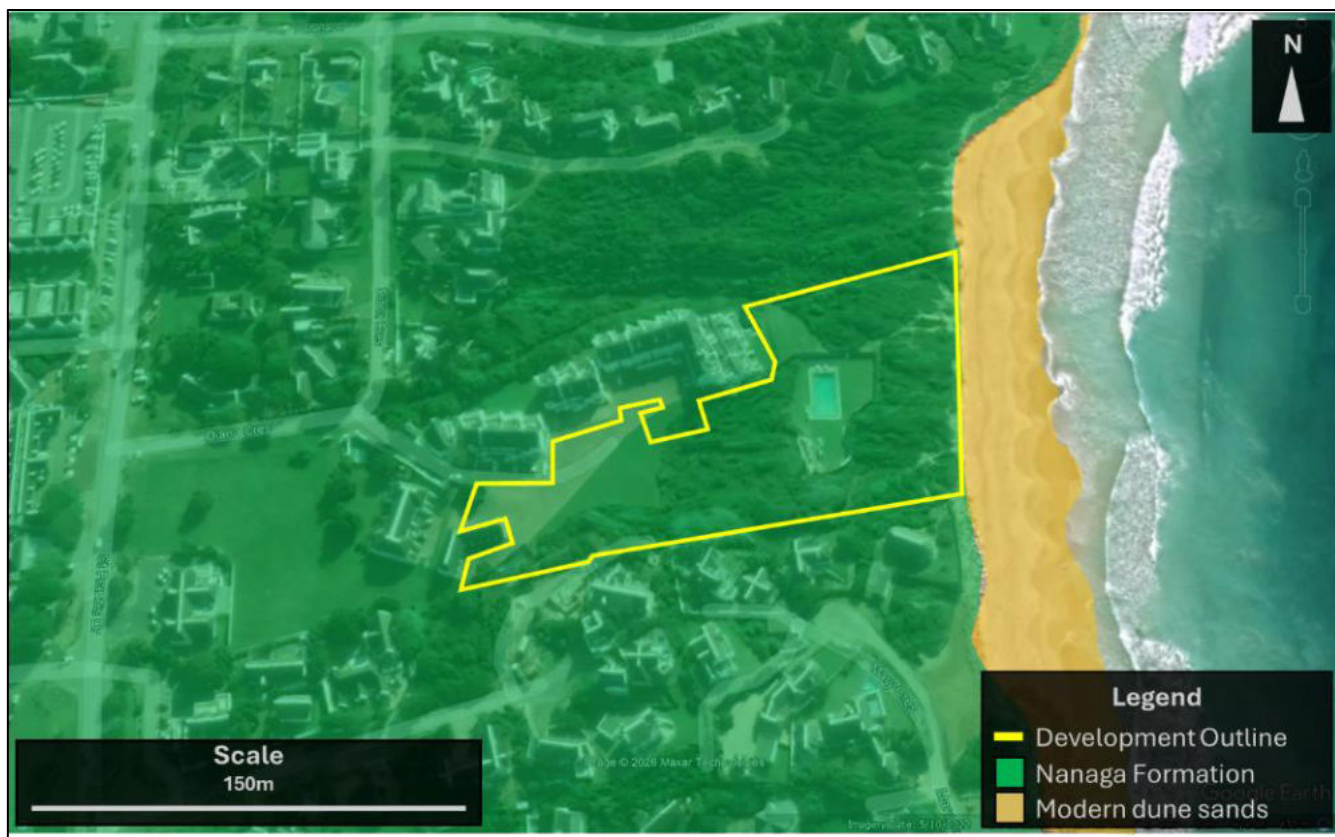


Figure 5 Geologic map underlying the study area in the Eastern Cape. Adapted from 3324 Port Elizabeth. Proposed development area marked yellow.

Nanaga Formation – Very High Palaeo-Sensitivity

The Nanaga Formation overlies Alexandria Formation mostly para-conformably and overlies the Cape Supergroup and the Uitenhage Group unconformably. In some areas it is overlain by the Kinkelbos and Schelm Hoek Formations.

The formation is named after the farm Nanaga (Nanaga 166) where it is well exposed in road cuttings.

This formation occurs extensively on the northern hinterland of Algoa Bay, and on the coast to the east of Port Elizabeth, this can be seen in Figure 6. It is composed of aeolian sediment from palaeo – dune fields which formed during the regression of the “Alexandria sea”. The formation is medium – grained, with typical large-scale cross-bedded, calcareous sandstone, sandy limestones and calcretes up to 250m (thick Le Roux (1989)). It can be structureless in some areas. The colour can range from very light grey to greyish yellow to yellowish grey.

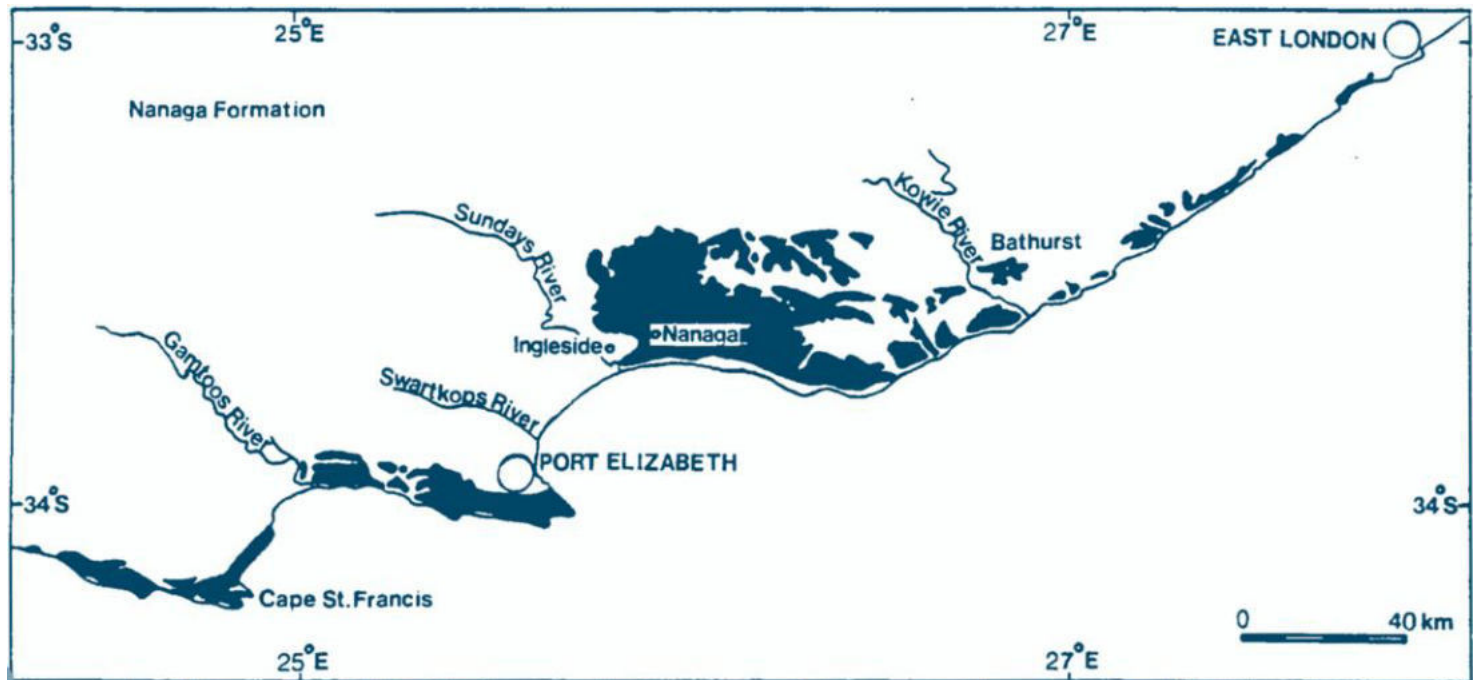


Figure 6. The extent of the Nanaga Formation on the East Coast of South Africa. (Le Roux, 1989)

This formation is probably Pliocene to Early Pleistocene in age (Le Roux (1990a), Bamford (2018) SACS, (1980)). "It is distinguished from the underlying Cape Supergroup and Uitenhage Group by its calcareous nature and poorer consolidation, and from the Alexandria Formation by its aeolian cross-bedding and lack of pebbles and/or coarse fragments of marine shells exceeding about 0,5 cm in diameter. Regarding the Kinkelbos Formation it is distinguished from the (locally) overlying formation by its aeolian cross-bedding, coarser-grained lithologies, lack of clasts and whitish colour (as opposed to the reddish-brown colour of the Kinkelbos Formation)" Le Roux (1989). Geomorphologically, the formation occurs as smooth rounded hills within undulating ridges, trending sub-parallel to the present shoreline.

The formation is mostly devoid of significant fossils, however minute fragments of marine macro-organisms (mainly shells), foraminifera (sometimes constituting up to 80 per cent of the rock), and occasional extant land gastropods such as *Achatina* spp., *Tropidophora* spp., *Trigonephris* spp. and *Natalina* spp. are present (Figure 7).



Figure 7 *Natalina* sp. top left, *Achatina zebra* top right, *Tropidophora* spp. bottom pseudo fossils (Wilken (2017))

3. Assumptions and Uncertainties

Based on the palaeontological record and the geology of the area, it is assumed that the Nanaga Formation could contain valuable fossils, however these fossils are sparse and the chance of finding scientifically significant fossils in this formation is low.

Groenewald (2016) made the following relevant statement: “The key assumption for these scoping studies is that the existing geological maps and datasets used to assess site sensitivity are correct and reliable. However, the geological maps used were not intended for fine scale planning work and are largely based on aerial photographs alone, without ground-truthing. When ground-truthing is done, work is often hampered by sediment and vegetation cover. There is also an inadequate database for fossil heritage for much of the RSA, due to the small number of professional palaeontologists carrying out fieldwork in RSA. Most development study areas have never been surveyed by a palaeontologist.

These factors may have a major influence on the assessment of the fossil heritage significance of a given development and without supporting field assessments may lead to either:

an underestimation of the palaeontological significance of a given study area due to ignorance of significant recorded or unrecorded fossils preserved there, or

an overestimation of the palaeontological sensitivity of a study area, for example when originally rich fossil assemblages inferred from geological maps have in fact been destroyed by weathering or are buried beneath a thick mantle of unfossiliferous “drift” (soil, alluvium etc.).”

It is important to note that field assessments are often hampered by vegetation and thick sediment cover (as in this case), and it is often the case that fossil material is only uncovered and discovered during excavation.

4. Assessment of impact of the development

The area lies over the Nanaga Formation of the Algoa Group. The Nanaga Formation contains sparse fossils of foraminifera, rhizo-creations (root concretions) and root casts. Figure 8 and Figure 9 show the very lush dune vegetation cover on site. Figure 10 shows the thick grass cover over areas not covered by the dune vegetation. Figure 11 and Figure 12 show the site from the seaward side with dunes covered in dune vegetation.



Figure 8. The site covered in dune vegetation.



Figure 9. The site covered in dune vegetation.



Figure 10. Areas not covered in dune vegetation are covered in grass.



Figure 11 The site from the seaward side, showing dunes and dune vegetations.



Figure 12 The site from the seaward side, showing dunes and dune vegetations.

Table 1. Impact Assessment Criteria pre and post Mitigation.

	Pre-Mitigation		Post-Mitigation	
Criteria	Category	Explanation	Category	Explanation
Overall Nature	<i>Slightly Negative</i>	Fossil find is highly unlikely	<i>Slightly Negative</i>	Fossil find is highly unlikely
Type	<i>Direct</i>	The development will directly impact these resources	<i>Direct</i>	The development will directly impact these resources
Extent	<i>Site</i>	Impact is limited to the site footprint	<i>Site</i>	Impact is limited to the site footprint
Duration	<i>Short term</i>	Only during Construction	<i>Short term t</i>	Only during Construction
Severity	<i>Negative</i>	Fossil find is highly unlikely	<i>Negative</i>	Fossil find is highly unlikely
Reversibility	<i>Completely reversable</i>	If Fossil Find procedure is followed in case of fossil find.	<i>Completely reversable</i>	If Fossil Find procedure is followed in case of fossil find.
Irreplaceable Loss	<i>Resources may be partially destroyed.</i>	Fossil find is highly unlikely. Impact will remain negligible if the Chance Fossil Find Procedure is followed in the case of any fossil finds.	<i>Resources may be partially destroyed.</i>	Fossil find is highly unlikely. Impact will remain negligible if the Chance Fossil Find Procedure is followed in the case of any fossil finds.
Probability	<i>Unlikely</i>	Fossil find is highly unlikely	<i>Unlikely</i>	Fossil find is highly unlikely
Mitigation Potential	<i>High</i>	If the Chance Fossil Find Procedure is followed in the case of any fossil finds.	<i>High</i>	If the Chance Fossil Find Procedure is followed in the case of any fossil finds.
Impact Significance	<i>Negligible</i>	Fossil find is highly unlikely	<i>Negligible</i>	Fossil find is highly unlikely
Overall significance	<i>Low</i>		<i>Low</i>	

Table 2. Assessment criteria on the NO GO option.

	No Go	
Criteria	Category	Explanation
Overall Nature	<i>Negative</i>	No fossils could be discovered.
Type	<i>Direct</i>	There will be no impact
Extent	<i>Site (0)</i>	No development negates the possibility of finding Fossils.
Duration	<i>Very short term (0)</i>	No development negates the possibility of finding Fossils.
Severity	<i>Negative (0)</i>	No development negates the possibility of finding Fossils.
Reversibility	<i>Completely reversable (0)</i>	No development negates the possibility of finding Fossils.
Irreplaceable Loss	<i>Resources will not be lost. (0)</i>	But resources can also not be discovered.
Probability	<i>Unlikely (0)</i>	Fossil find is highly unlikely
Mitigation Potential	<i>High</i>	No mitigation required.
Impact Significance	<i>Negligible</i>	No development negates the possibility of finding Fossils.
Overall significance	<i>Negligible</i>	

5. Conclusion and Recommendations

The area under investigation lays over the Nanaga Formation of the Algoa Group. This formation has the potential to contain fossil material. However, fossils in this formation are very sparsely distributed, and it is very unlikely that the construction of the residential development will cause loss or damage to the palaeontological heritage of the area. There would be no objection to the development on the condition that the fossil-find procedure at the end of this document is followed in the unlikely event of fossil material being found.

Should important new fossil remains be found the finder should alert ECPHRA (i.e. The Eastern Cape Provincial Heritage Resources Authority. Contact details: Ms. Lungiswa Mzaza, 16 Commissioner Street, East London; lungiswam@ecphra.org.za, (081 434 3544) as soon as possible. This is so that appropriate action can be taken in good time by a professional palaeontologist at the developer's expense. Palaeontological mitigation would normally involve the scientific recording and judicious sampling or collection of fossil material as well as associated geological data (e.g. stratigraphy, sedimentology, taphonomy). The palaeontologist concerned with mitigation work will need a valid fossil collection permit from ECPHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection). All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies recently developed by SAHRA (2013). These recommendations are summarised in tabular form in Appendix 1 (Chance Fossil Finds Procedure) and should be incorporated into the Environmental Management Programme (EMPr) for the proposed development.

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Appendix 1

Chance Fossil Finds Procedure

(Adopted from the HWC Chance Fossils Finds Procedure: June 2016)

Introduction

This document is aimed to inform workmen and foremen working on a construction and/or mining site. It describes the procedure to follow in instances of accidental discovery of palaeontological material (please see attached poster with descriptions of palaeontological material) during construction/mining activities. This protocol does not apply to resources already identified under an assessment undertaken under s. 38 of the National Heritage Resources Act (no 25 of 1999).

Fossils are rare and irreplaceable. Fossils tell us about the environmental conditions that existed in a specific geographical area millions of years ago. As heritage resources that inform us of the history of a place, fossils are public property that the State is required to manage and conserve on behalf of all the citizens of South Africa. Fossils are therefore protected by the National Heritage Resources Act and are the property of the State. Ideally, a qualified person should be responsible for the recovery of fossils noticed during construction/mining to ensure that all relevant contextual information is recorded.

Heritage Authorities often rely on workmen and foremen to report finds, and thereby contribute to our knowledge of South Africa's past and contribute to its conservation for future generations.

Training

Workmen and foremen need to be trained in the procedure to follow in instances of accidental discovery of fossil material, in a similar way to the Health and Safety protocol. A brief introduction to the process to follow in the event of possible accidental discovery of fossils should be conducted by the designated Environmental Control Officer (ECO) for the project, or the foreman or site agent in the absence of the ECO. It is recommended that copies of the attached poster and procedure are printed out and displayed at the site office so that workmen may familiarise themselves with them and are thereby prepared in the event that accidental discovery of fossil material takes place.

Actions to be taken

One person in the staff must be identified and appointed as responsible for the implementation of the attached protocol in instances of accidental fossil discovery and must report to the ECO or site agent. If the ECO or site agent is not present on site, then the responsible person on site should follow the protocol correctly in order to not jeopardize the conservation and well-being of the fossil material. Once a workman notices possible fossil material, he/she should report this to the ECO or site agent.

Procedure to follow if it is likely that the material identified is a fossil:

- The ECO or site agent must ensure that all work ceases immediately in the vicinity of the area where the fossil or fossils have been found;
- The ECO or site agent must inform SAHRA of the find immediately. This information must include photographs of the findings and GPS co-ordinates;
- The ECO or site agent must compile a Preliminary Report and fill in the attached Fossil Discoveries: Preliminary Record Form within 24 hours without removing the fossil from its original position. The Preliminary Report records basic information about the find including:
 - The date
 - A description of the discovery
 - A description of the fossil and its context (e.g. position and depth of find)
 - Where and how the find has been stored
 - Photographs to accompany the preliminary report (the more the better):
 - A scale must be used
 - Photos of location from several angles
 - Photos of vertical section should be provided
 - Digital images of hole showing vertical section (side);
 - Digital images of fossil or fossils.

Upon receipt of this Preliminary Report, SAHRA will inform the ECO or site agent whether a rescue excavation or rescue collection by a palaeontologist is necessary.

- Exposed finds must be stabilised where they are unstable and the site capped, e.g., with a plastic sheet or sandbags. This protection should allow for the later excavation of the finds with due scientific care and diligence. SAHRA can advise on the most appropriate method for stabilisation.
- If the find cannot be stabilised, the fossil may be collected with extreme care by the ECO or the site agent and put aside and protected until SAHRA advises on further action. Finds collected in this way must be safely and securely stored in tissue paper and an appropriate box. Care must be taken to remove all the fossil material and any breakage of fossil material must be avoided at all costs.

No work may continue in the vicinity of the find until SAHRA has indicated, in writing, that it is appropriate to proceed.

FOSSIL DISCOVERIES: PRELIMINARY RECORDING FORM		
Name of project:		
Name of fossil location:		
Date of discovery:		
Description of situation in which the fossil was found:		
Description of context in which the fossil was found:		
Description and condition of fossil identified:		
GPS coordinates:	Lat:	Long:
If no co-ordinates available then please describe the location:		
Time of discovery:		
Depth of find in hole		
Photographs (tick as appropriate and indicate number of the photograph)	Digital image of vertical section (side)	
	Fossil from different angles	
	Wider context of the find	
Wider context of the find. Temporary storage (where it is located and how it is conserved)		
Person identifying the fossil Name:		
Contact:		
Recorder Name:		
Contact:		
Photographer Name:		
Contact:		



DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

(For official use only)

File Reference Number:

NEAS Reference Number:

Date Received:

Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of 4 May 2026.

PROJECT TITLE

Residential Development on the Remainder of Erf 2369 of Farm Sea Vista, St Francis.

SPECIALIST ¹

Dewald Wilken

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SACNASP

Project Consultant:
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Natalie Sharp		
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082 414 0472	Fax:	
natalie@dsafrica.co.za		

Telephone:
E-mail:

4.2 The SPECIALIST

I, **Dewald Wilken**, declare that –

General declaration:

- I act as the independent Specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;

- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.



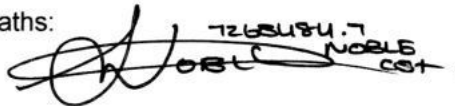
Signature of the environmental assessment practitioner:

Dewald Wilken

Name of company:

Date: 18/05/2026

Signature of the Commissioner of Oaths:



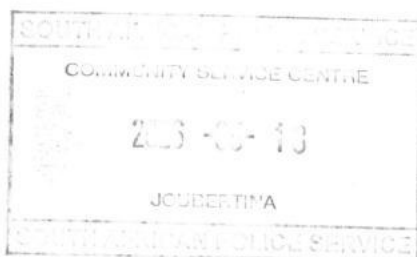
2026.05.18.

Date:

Designation: Joubertina

¹ Curriculum Vitae (CV) attached

Official stamp (below).



Annexure 1 CV Dewald Wilken - Palaeontologist | Geologist

Profile

Palaeontologist and geologist with experience in palaeontological impact assessments (PIAs), fossil excavation, and heritage resource management. Strong background in fieldwork, monitoring, and technical reporting, with a focus on compliance with South African heritage legislation.

Professional Registration

- Pr.Sci.Nat. – SACNASP Reg. No: 115344/11

Key Skills

PIAs • Fossil Finds Procedures • Excavation & stabilisation • Heritage compliance (NHRA)
Field mapping & logging • Environmental monitoring • GIS • Technical reporting

Professional Experience

Environmental Assessment Practitioner (Geologist / Palaeontologist) 2018 – Present

- Conduct PIAs and compile specialist reports
- Implement Fossil Finds Procedures and monitoring programmes
- Undertake fossil excavation, stabilisation, and preservation

SRK Consulting – Geologist / Palaeontologist / ECO 2015 – 2017

- Environmental and palaeontological assessments
- Site monitoring and regulatory compliance
- Data collection, analysis, and reporting

Nelson Mandela Metropolitan University – Lecturer 2004 – 2015

- Lectured Geology, Palaeontology, GIS, and related subjects (undergrad & honours)

Additional Experience

AngloGold Ashanti (Facilitator, 2009–2013) • Council for Geoscience (2005) • NMMU Demonstrator (2002–2005)

Education

MSc (Palaeontology) – Nelson Mandela Metropolitan University, 2011

BSc Honours (GIS) – NMMU, 2012

BSc Honours (Geology) – NMMU, 2005

BSc (Geosciences) – NMMU, 2005

Selected Experience

- PIAs and Fossil Finds Procedures for infrastructure, housing, and agricultural, mining, renewable energy projects across Eastern, Western & Northern Cape.
- Palaeontological monitoring: Coega Zone 1, Kirkwood–Addo road upgrade
 - Fossil excavations: Coega bulk services, Kirkwood–Addo



Terrestrial Biodiversity, Plant and Animal Species Assessment

Proposed development of erf 2369, Sea Vista, St Francis Bay in the Eastern Cape

Prepared for:

Ms Natalie Sharp
Environmental Assessment Practitioner
Digital Soils Africa
Email: natalie@dsafrica.co.za

Date submitted: 31 August 2026

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DECLARATION OF INDEPENDENCE

I, Roy de Kock, as duly authorised representative of BlueLeaf Environmental (Pty) Ltd, hereby confirm my independence (as well as that of BlueLeaf) as a specialist and declare that neither I nor BlueLeaf have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which BlueLeaf Environmental (Pty) Ltd was appointed as environmental assessment practitioner in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), other than fair remuneration for work performed, specifically in connection with the specialist assessment for the proposed development of erf 2369, located in St Francis Bay in the Eastern Cape. I further declare that I am confident in the results of the studies undertaken and conclusions drawn because of it – as is described in this report.

AUTHOR

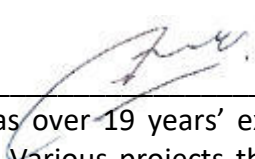
Full Name: Mr Roy de Kock

Title / Position: Ecologist

Qualification(s): BSc (Hons) Geology; MSc Botany; Candidate PhD Botany

Experience (years/months): 19 years

Registration(s): SACNASP (400216/16)



Roy has over 19 years' experience in environmental consulting and specialist services in South Africa. Various projects throughout Africa have also been undertaken. Projects include baseline studies, impact assessments and compliance auditing for various large-scale projects including numerous wind farms, roads (National and Provincial), and infrastructure development projects. Blue Leaf also offers a wide range of in-house specialities including but not limited to Ecological and Botanical assessments, Biodiversity studies, Plant and Animal Search and Rescue, Fauna and Flora permits, Aquatic Assessments, Agricultural and Soil Assessments and Environmental and Venomous animals training workshops.

Roy holds a BSc Honours in Geology and an MSc in Botany from the Nelson Mandela University in Port Elizabeth. He is currently busy with his PhD (Doctorate degree) in Botany and Soil Science. He has over 19 years' experience in the environmental consulting focussing on Ecological and Agricultural Assessments, Geological and Geotechnical analysis, Environmental Management Plans, mining applications and various environmental impact studies.

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1. Introduction

BlueLeaf Environmental Consulting (Pty) Ltd (BlueLeaf) has been appointed by Born free investments (Pty) Ltd, the landowner of Erf 2369, Sea Vista located in St Francis Bay in the Eastern Cape Province to conduct an ecological assessment as part of an Environmental Impact Assessment (EIA) for the proposed development erf 2369, Sea Vista located in St Francis Bay in the Kouga Local Municipality in the Eastern Cape Province (Figure 1.1).

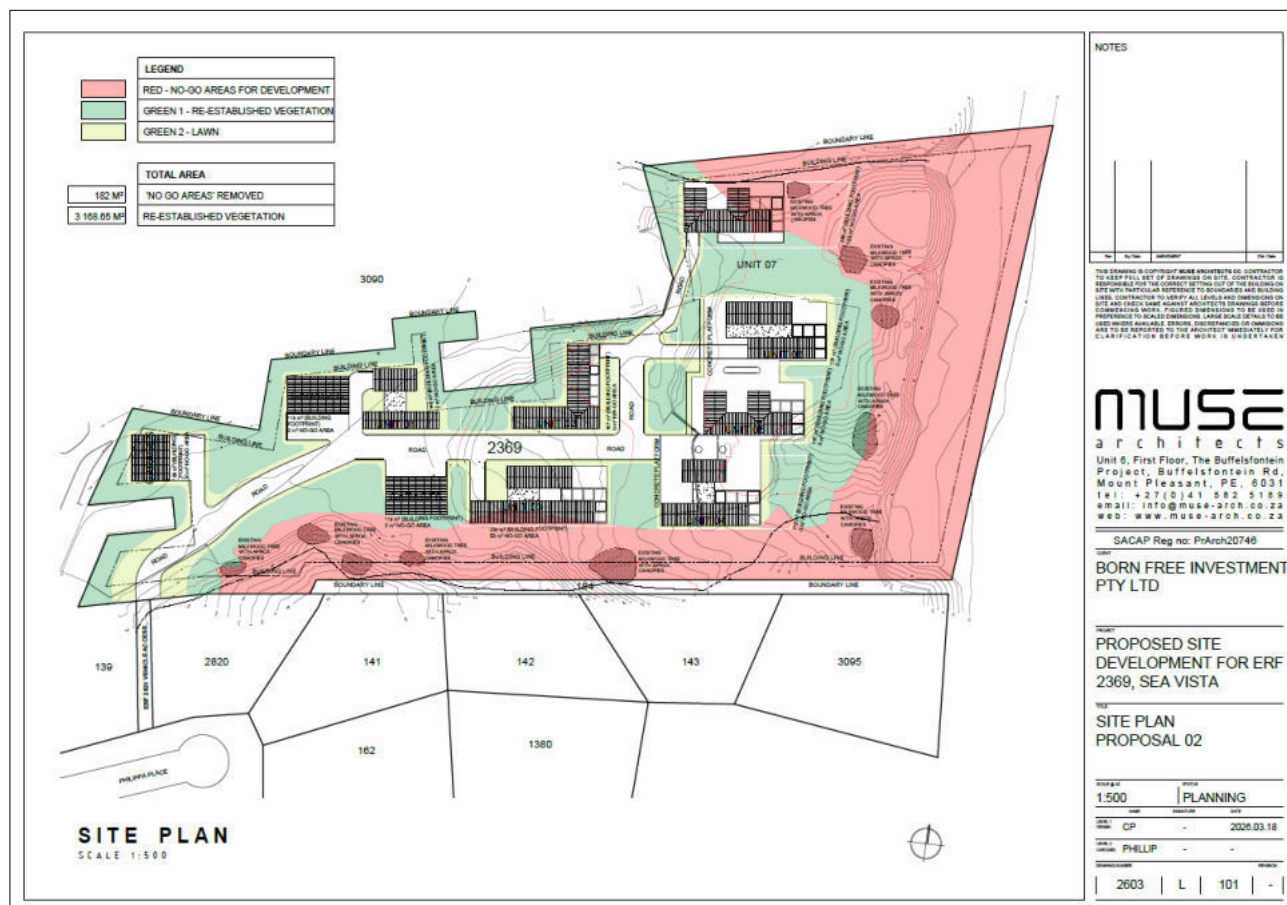


Figure 1.1: Location and layout of erf 2369 in St Francis Bay in the Eastern Cape Province

The proposed development entails the construction of ten fully serviced luxury houses, with separate garage buildings, all connected with a single access road.

The development site consists predominantly of dune thicket vegetation in the eastern portions with an existing swimming pool that will be decommissioned and removed, and urban infrastructure in the west.

1.1. Project description

Only 4 914 m² (0.49 ha) of the 1.29 ha total size of Erf 2369 is proposed for development (Figure 1.1). While a total of 8 102 m² (0.81 ha) of the erf is currently covered by naturally vegetated dune thicket, only 1 266 m² (0.13 ha) will be impacted by the proposed development. The remainder will remain.

1.2. Legislative context

The following legislation is directly relevant when assessing the ecological environment relating to the proposed Terrestrial Biodiversity, Plant and Animal Species Specialist Assessment.

National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) and the Specialist Assessment Protocols (GNR 320 of 2020):

The National Web-based Environmental Screening Tool (<https://screening.environment.gov.za/screeningtool/>) is a geographically based web-enabled application which allows a proponent intending to apply for environmental authorization in terms of the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended), to screen their proposed site for any environmental sensitivity.

The Screening Tool also provides site specific EIA process and review information. For example, the Screening Tool may identify if an industrial development zone, minimum information requirement, Environmental Management Framework or bioregional plan applies to a specific area.

Further to this, the Screening Tool identifies related exclusions and/or specific requirements including specialist studies applicable to the proposed site and/or development, based on the national sector classification and the environmental sensitivity of the site.

Finally, the Screening Tool allows for the generation of a Screening Report referred to in Regulation 16(1)(v) of the Environmental Impact Assessment Regulations, 2014 (as amended), whereby a Screening Report is required to accompany any application for Environmental Authorization. As such, the tool has been developed in a manner that is user friendly and no specific software or specialized GIS skills are required to operate this system.

Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorization, have been Gazetted (GN. R 320 of 20 March 2020). These procedures prescribe general requirements for undertaking site sensitivity verification and for protocols for the assessment and minimum report content requirements of environmental impacts for environmental themes for activities requiring environmental authorization, as contained in the Schedule therein. When the requirements of a protocol apply, the requirements of Appendix 6 of the Environmental Impact Assessment Regulations, as amended, promulgated under Sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), are replaced by these requirements.

The contents of this specialist report comply with the legislated requirements as described in the following environmental theme and associated specialist assessment protocols as listed in the projects' Screening Tool Report:

- Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity.
- Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Plant Species.

- Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Animal Species.

The Species Environmental Assessment Guidelines published in 2022 were used for the implementation of the Terrestrial Plant and Animal Species Protocols in this report.

National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) and the EIA Regulations, 2014 (as amended):

Although the Specialist Assessment Protocols (as listed above) supersede this legislative requirement, the contents of this specialist report still comply with the legislated requirements as described in Appendix 6 of the National Environmental Management Act (No. 107 of 1998): EIA Regulations, 2014, and updated in 2017 (GN R. 326 of 2017).

Other national legislation

Other national legislation relevant to this project includes:

Title of legislation or guideline	Administering authority	Applicability to the project
National Environmental Management Act (NEMA) (Act No. 107 of 1998): Environmental Impact Assessment (EIA) Regulations, 2014, as amended	DEDEAT	The activity triggers activities listed in NEMA EIA Regulations GN R. 327.
National Water Act, 1998 (Act No. 36 of 1998)	Department of Water and Sanitation (DWS)	Infrastructure may impact on existing surface water systems. This impact is only mentioned in this report (if relevant) and NOT discussed in detail.
National Environment Management: Biodiversity Act (NEMBA) (Act No. 10 of 2004)	DEDEAT	The proposed development must: – Conserve endangered ecosystems and protect and promote biodiversity. – Assess the impacts of the proposed development on endangered ecosystems. – No protected species may be removed or damaged without a permit. – The proposed site must be cleared of alien vegetation using appropriate means.
National Forest Act (Act No. 84 of 1998)	Provincial Department of Forestry	Requires that a permit be obtained should any forests or protected trees be removed during the construction phase of the project.

Relevant Provincial and Municipal legislation includes:

Title of legislation or guideline	Administering authority	Applicability to the project
Kouga Local Municipality Spatial Development Framework (Kouga LM SDF Review, 2020)	Kouga Local Municipality; DEDEAT	The Kouga LM SDF is a framework which determines the spatial distribution of current and future land use in the Kouga LM to achieve the objectives of the municipal

Title of legislation or guideline	Administering authority	Applicability to the project
		Integrated Development Plan (IDP). The site falls within the Tarragona Road/Sea Vista Precinct Planning area in the St Francis Framework Plan. This precinct area is intended to address the need for coordinated planning of development along Homestead Road as a link from the CBD to Sea Vista and the R330. This area displays opportunity to be developed as industrial and manufacturing 'hives', as well as warehousing and storage facilities. Development parameters include mixed use, retail, service industries, warehousing and high density residential.
Nature and Environmental Conservation Ordinance (No. 19 of 1974)	DEDEAT	Listing of protected plant and animal species. Permits are required for removal and relocating any of these listed species in the EC.
Eastern Cape Biodiversity Conservation Plan (2007, revised and updated 2019)	DEDEAT	The site is in the Eastern Cape and the ECBP (2019) is the only bioregional plan available and gazetted for the Eastern Cape.

1.3. Alternatives

No site alternatives or layouts are proposed.

1.4. Public consultation

No consultation requirements were identified during the drafting of this specialist report. The findings of this report can be presented to stakeholders and I&APs as part of the Basic Assessment Public Participation Process (PPP).

No comments were received to date on this report.

1.5. Objectives

The objectives of the project are listed below. These objectives are based on the requirements of each specialist protocol as listed in the DFFE Screening Report:

- Describe both the existing area as well as the area prior to development in terms of its current ecological characteristics and the general sensitivity of these components to change.
- Confirm if there are any outright fatal flaws to the establishment of the proposal at its current location from a biodiversity perspective.
- Map all existing areas to be directly affected by the proposals in terms of its current and previous biodiversity sensitivity (constraints).
- Map all 'No-Go' areas.
- Describe the likely scope, scale, and significance of impacts (positive and negative) on biodiversity components of the area associated with the construction of the proposals.
- Make recommendations on the scope of any mitigation measures that may be applied during construction to avoid/reduce the significance of the identified construction-related impacts.

- Describe the likely scope, scale and significance of impacts (positive or negative) on the biodiversity components associated with the operation or use of the proposals.
- Make recommendations on the scope of any mitigation measures that may be applied to avoid/reduce the significance of the operations-related impacts. These mitigation measures could also be design recommendations as well as operational controls, monitoring programmes, management procedures and the like.
- It will be particularly important to identify any rehabilitation measures that can be reasonably applied on the completion of the construction works.
- Broadly comment on the cumulative ecological impacts (positive or negative) associated with the construction and/or operation of the proposals.

It should be noted that only datasets and base data relevant to the study area and affected environmental features are discussed below.

1.6. Assumptions and limitations

- The report is based on currently available information and is, as a result, limited by the information provided by the Proponent/Client.
- The report is limited by seasonality as the presented data will be based on a single site survey of plant and animal species conducted within a single season (autumn/April) of a single year (2026).

1.7. Project Area of Influence

The Project Area of Influence (PAOI) is defined according to important ecosystem processes and functions that may plausibly be affected by the proposed development and its associated activities. The PAOI sets the minimum spatial extent of the study area, and the assessment will be focused within this area.

The following site descriptors were used to delineate each PAOI (Figure 1.3):

PAOI	Area	Description	Probability of impact occurring
Primary PAOI	1.29 ha	The Primary PAOI includes the total size of erf 2369.	Definite
Secondary PAOI	1.29 ha	The Secondary PAOI represents a <u>100 m buffer</u> placed around the Primary PAOI.	Likely
Total PAOI	37.9 ha	The Primary and Secondary PAOI's are collectively referred to as the Total PAOI (or just the PAOI) in this report and demarcates the extent of the area that will be assessed.	Likely

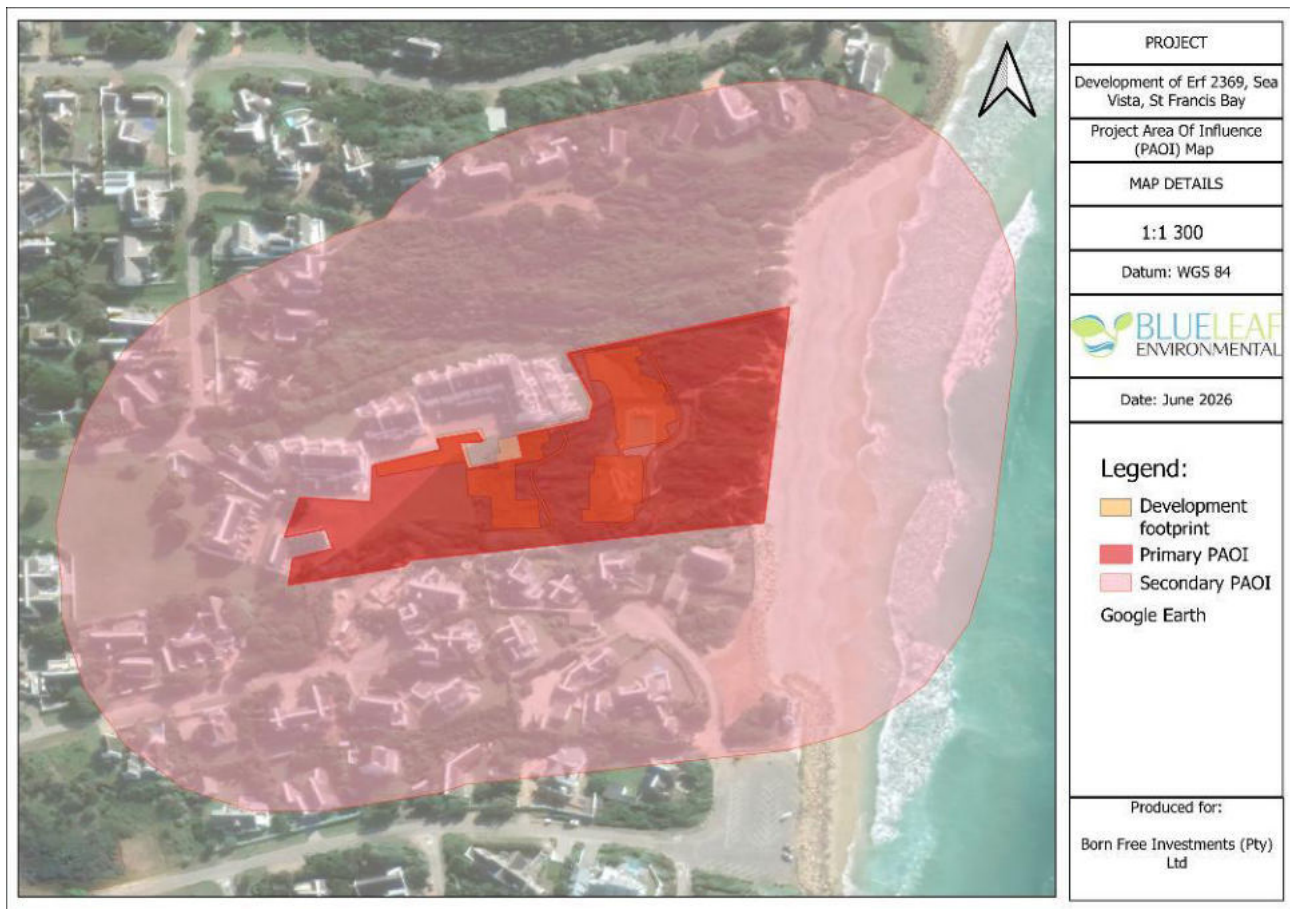


Figure 1.4: PAOI map erf 2369 and surroundings

2. Approach and Methodology

The aim of this assessment is to identify areas of ecological importance and to evaluate these in terms of their conservation importance. To do so, the ecological sensitivity of the area is assessed, as well as an identification of potential plant and animal Species of Conservation Concern (SCC) that may occur in habitats present in the area. The condition and sensitivity of the vegetation, habitat and connectivity, as well as the presence of plant and animal SCC, will determine biodiversity sensitivities for the study site.

The study site was assessed using a two-phased approach. Firstly, a desktop assessment of the site was conducted in terms of current biodiversity programmes and plans.

Further to the above, a site visit was conducted on **5 February 2026**. The single day site visit was conducted in early autumn. The site survey may have missed plant species that were not visible (not flowering or latent below ground during this time) or animal species that were not present on site. The site visit served to inform potential impacts of the proposed project and how significantly it would impact on the surrounding terrestrial environment.

2.1. Plant species classification

To identify plant species that potentially occur naturally in the project area, firstly required an understanding of the broad botanical habitats in the area. These habitats were identified according to various ecological characteristics, including vegetation type (SANBI VegMap, 2019); the degree of transformation of the vegetation; geology and soil type, and topography.

The potential occurrence of plants that are considered Species of Conservation Concern (SCC) within the project area was identified through a detailed assessment of the site. Published literature and online resources that are continuously updated with new species observations were consulted to compile lists of plant, including:

- The Vegetation of South Africa, Lesotho and Swaziland (Mucina and Rutherford, 2006).
- SANBI National VegMap, (Dayaram et al; 2019 and Unpubl. 2024)
- iNaturalist online database (inaturalist.org).
- Plants of South Africa/New POSA online database (posa.sanbi.org).
- SANBI Red List of South African Plants online database.
- National Web-based Screening Tool (screening.environment.gov.za).
- Global Biodiversity Information Facility online database (gbif.org).

Plant Species of Conservation Concern (SCC) were limited to endemic flora and were defined to include:

- Red Data species identified using the IUCN Red List of Threatened Species.
- Red Data species identified using the Red List of South African Plants. This includes all threatened species that are assessed according to the IUCN Red List Criteria as Critically Endangered, Endangered, Vulnerable, Near Threatened, Rare, Extremely Rare or Data Deficient.

- Plants listed in terms of Section 56 of the National Environmental Management: Biodiversity Act, 2004 (NEMBA) (Act No. 10 of 2004, as amended), and regulated by the Threatened or Protected Species (TOPS) Regulations, 2007. This includes threatened species that are Critically Endangered, Endangered, Vulnerable and Protected.
- All tree species listed by the National Forests Act (No. 84 of 1984; NFA) as protected by law.

In addition to plant SCC, the following plants were also identified:

- Plants protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- Plants listed in terms of the Nature and Environmental Conservation Ordinance (NECO) (No. 19 of 1974).

The inclusion of plant species on CITES Appendices (I–III) and NECO Schedules (1–2) are not necessarily equivalent to the species' conservation status. Many common species are pragmatically included on these lists even though their conservation status may not be of demonstrated concern. A permit is, however, required for the removal of species that occur on CITES and NECO lists.

Several sensitive plant species, identified by the Department of Forestry, Fisheries and the Environment's (DFFE) National Web-based Environmental Screening Tool as important, required specific consideration. These species include:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Achyranthemum sordescens
Medium	Hyobanche robusta
Medium	Aspalathus recurvispina
Medium	Sensitive species 1188
Medium	Sensitive species 460
Medium	Cotyledon adscendens
Medium	Sensitive species 291
Medium	Sensitive species 854
Medium	Sensitive species 1121
Medium	Sensitive species 85

Where only a sensitive plant unique number is provided instead of a name, the species may be prone to illegal harvesting and must be protected. The name will therefore not be made public.

The following criteria were evaluated during the site visit to assess habitat suitability for these species:

1. Vegetation type and cover.
2. Geology and soil type.
3. Rock cover, and
4. Topography.

Sensitive habitats were identified as those habitats that are vulnerable to disturbances and supporting SCC in the project area.

A visit to the project area was conducted on 5 February to:

1. Assess the micro-positioning for infrastructure.
2. Confirm the occurrence of sensitive vegetation habitats.
3. Note any occurrence of plant SCC and other indicator species occurrences, and
4. Assess the extent of current threats (not project related) on vegetation and plant SCC (e.g. evidence for direct exploitation, habitat transformation, etc.).

2.2. Animal species classification

The potential occurrence of fauna (amphibians, reptiles, mammals, birds and butterflies) in the vicinity of the project area was determined according to the habitat characteristics of the area and the species' habitat requirements. Published literature and online resources that are continuously updated with new species observations were consulted to compile lists of fauna, including:

- Du Preez & Carruthers (2017), Frog Atlas of Southern Africa (FrogMap) for amphibians.
- Alexander & Marais (2007), Reptile Atlas of Southern Africa (ReptileMap1) for reptiles.
- Skinner & Chimimba (2005), Mammal Atlas of Southern Africa (MammalMap1) for mammals.
- Southern African Bird Atlas Project 2 (SABAP2) for birds (Harrison *et al.*, 1997).
- Woodhall (2020), Atlas of African Lepidoptera (LepiMap1) for butterflies.
- iNaturalist online database, and
- Global Biodiversity Information Facility (GBIF).

Faunal Species of Conservation Concern (SCC) were defined to include:

- Fauna with their distribution ranges limited to the Eastern Cape Province.
- Red Data species identified using the IUCN Red List of Threatened Species.
- Red Data species identified using the Red List of South African Species. Includes all species that are assessed according to the IUCN Red List Criteria as Critically Endangered, Endangered, Vulnerable, Near Threatened, Rare, Extremely Rare or Data Deficient. Listings were corroborated with data from the South African amphibian (Measey 2011), reptile (Bates *et al.*, 2013), mammal (Child *et al.*, 2016), bird (Taylor *et al.*, 2015), and butterfly (Mecenero *et al.*, 2020) conservation assessments.
- Species listed in terms of Section 56 of the National Environmental Management: Biodiversity Act, 2004 (NEMBA) (Act No. 10 of 2004, as amended), and regulated by the Threatened or Protected Species (TOPS) Regulations, 2007. Includes species that are Critically Endangered, Endangered, Vulnerable and Protected.

In addition to Faunal SCC, the assessment also identified:

- Species protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- Species listed in terms of the Nature and Environmental Conservation Ordinance (NECO) (No. 19 of 1974).

The inclusion of faunal species on CITES Appendices (I–III) and NECO Schedules (1–2) is not necessarily equivalent to the species' conservation status. Many common species are pragmatically included on these lists even though their conservation status may not be of demonstrated concern. A permit is required for the removal of species that occur on CITES and NECO lists.

Expected Faunal SCC with very low detection probabilities were assessed according to the following criteria:

1. Probability of occurrence in the project area (4 categories: confirmed [observed during the site visit], high, medium and low).
2. Potential distribution within the project area, and
3. Current threats (not project related).

Several sensitive animal species, identified by the Department of Forestry, Fisheries and the Environment's (DFFE) National Web-based Environmental Screening Tool as important, required specific consideration. These species include:

Sensitivity	Feature(s)
Medium	Sensitive species 13
Medium	Invertebrate-Aneuryphymus montanus
Very High	Actinopterygii-Pseudobarbus senticeps

Where only a sensitive animal unique number is provided instead of a name, the species may be prone to illegal harvesting and must be protected. The name will therefore not be made public.

Because the likelihood of detecting animal SCC during environmental authorisation assessments is extremely low (even with optimal search methods and during optimal seasonal sampling), a precautionary principle was applied in the following way when assessing habitat suitability for species in the project area:

- If potentially suitable habitat exists in proximity of known locations for the species, then the species is assigned a high probability of occurrence and assumed to be present.

The following criteria were evaluated during the site visit to assess habitat suitability for these species:

1. Vegetation type and cover.
2. Presence of host plants (in the case of butterflies).
3. Geology and soil type.
4. Rock cover.
5. Topography.
6. Habitat disturbance, and
7. Habitat connectivity.

2.3. Biodiversity classification

Critical Biodiversity Areas (CBAs) are features critical for the conservation of biodiversity and maintenance of ecosystem functioning and should remain in a natural state as far as possible. CBAs also include freshwater components.

To assist in the development of these CBAs, each planning unit is classified by C-Plan and Marxan based on a combination of factors including vegetation type, connectivity, habitat condition and presence of Red List Threatened species.

All features were grouped into the following CBA categories as listed in the Eastern Cape Biodiversity Conservation Plan (ECBCP, 2019) Handbook:

Critical Biodiversity Area Category	Critical Biodiversity Area Name
Protected areas (PA)	Areas that are proclaimed as protected areas under national or provincial legislation.
Critical Biodiversity Area 1 (CBA 1)	Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.
Critical Biodiversity Area 2 (CBA 2)	Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems, or ecological processes and infrastructure.
Ecological Support Area 1 (ESA 1)	Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services.
Ecological Support Area 2 (ESA 2)	Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services.
Natural to Near-Natural (ONA)	Areas that have not been identified as a priority in the current systematic biodiversity plan but retain most of their natural character and perform a range of biodiversity and ecological infrastructure functions. Although they have not been prioritised for biodiversity, they are still an important part of the natural ecosystem.
No Natural Remaining	Areas that have been modified by human activity to the extent that they are no longer natural, and do not contribute to biodiversity targets. These areas may still provide limited biodiversity and ecological infrastructure functions, even if they are never prioritized for conservation action.

2.4. Vegetation mapping

Mucina and Rutherford (2006) developed the National Vegetation Map (VegMap) – first published as a print book in 2006 and updated and published as a CD-ROM set in 2010. The further updated VegMap (2018) was published under Dayaram *et al.* (2019). The ecosystem threat status of these vegetation types, based on the Mucina and Rutherford (2006) and Dayaram *et al.* (2019) vegetation types, were gazetted in 2022 (NEMBA Revised National List of Ecosystems that are Threatened and in need of Protection, G. NR. 2747, 18 November 2022). This is the latest gazetted list of threatened ecosystems available for the country. The vegetation present on site according to the VegMap (2018) i.e. AT57 St Francis Dune Thicket (Dayaram *et al.*, 2019), was classified as a Least Concern ecosystem on the NEMBA National List of Threatened Ecosystems (2022).

However, the latest updated vegetation classification and map is the VegMap (2024), available as a dataset on the SANBI website (sanbi.org.). The VegMap (2024) classification of vegetation types has

not yet been published or gazetted. This update describes 465 national vegetation types that provided the main basis for delineating terrestrial ecosystem types in the National Biodiversity Assessment (2025; <https://nba.sanbi.org.za>). Changes to the VegMap (2024) included the addition of five new Strandveld types in the Fynbos Biome i.e. FS10 Southwestern Strandveld, FS11 Grootbos Strandveld, FS12 Southeastern Strandveld, FS13 Goukamma Strandveld and FS14 St Francis Strandveld. The project site is mapped as hosting FS14 St Francis Strandveld.

The National Biodiversity Assessment (Scowno et al; 2025), published on the NBA website classifies FS14 St Francis Strandveld as a *Critically Endangered* ecosystem (Harris et al; 2026). However, as the FS14 St Francis Strandveld vegetation classification, under the VegMap (2024), has not yet been published or gazetted, vegetation present on site will be referred to as AT57 St Francis Dune Thicket (or *dune thicket*, only) in this report – with a threat status of *Critically Endangered*, as per the NBA (2025) (Harris et al., 2026).

2.5. Protected areas

The National Environmental Management Protected Areas Act (NEMPAA) (Act No. 57 of 2003) was developed to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes. Refer to Section 3.9.5. for more detail on this matter.

2.6. Site ecological importance

The Screening Tool has identified species and ecosystem spatial triggers likely to indicate environmental sensitivity associated with a particular proposed development site, which in turn determined the necessity and requirements for conducting Specialist Assessments. The Species Environmental Assessment Guideline (SANBI; 2022) provided methodology for the identification of environmental sensitive areas within the PAOI.

Site Ecological Importance (SEI) is a function of the biodiversity importance (BI) of the identified receptor (e.g. species of conservation concern, the vegetation/fauna community or habitat type present on the site) and its resilience to impacts (receptor resilience [RR]):

$$SEI = BI + RR$$

BI in turn is a function of conservation importance (CI) and the functional integrity (FI) of the receptor:

$$BI = CI + FI$$

Conservation Importance

CI is defined as '*The importance of a site for supporting biodiversity features of conservation concern present, rare species, range-restricted species, globally significant populations of congregatory species, and areas of threatened ecosystem types, through predominantly natural processes.*' These criteria are defined as follow:

- **IUCN threatened and Near Threatened species** (CR, EN, VU and NT). Where the global (IUCN) and national assessments (SANBI Red List) differ for the same taxon, the national evaluation of status should be used in calculating SEI unless the global assessment is both more recent and of a more threatened category.
- **Rare species** are those included on South Africa's National Red List as Rare or Critically Rare or Extremely Rare.
- **Range-restricted species** – the presence of terrestrial flora, vertebrate and invertebrate fauna with a global population extent of occurrence (EOO) of 10 000 km² or less.
- **Globally significant populations of congregatory species** – a roughly estimated proportion (%) of the global population of a fauna species that congregate for breeding/feeding/hibernation/other reasons.
- **Significant areas of threatened vegetation types** – this is a function of both the area (size) being considered in relation to the total extent of that vegetation type (i.e. proportion) and how threatened (CR, EN, VU) the vegetation types are.
- **Natural processes** – natural unmanaged areas with low levels of ecological disturbance have largely intact natural processes such as pollination, seed dispersal and migration, and thus have greater intrinsic conservation importance than those that are modified through ecological disturbance.

While most of the features in the CI will be provided by the screening tool, it is important to note that CI is evaluated at a much finer spatial scale and based on fieldwork data collection and comprehensive desktop analyses performed during the site visit. CI is determined for each identified habitat/vegetation unit within the entire PAOI.

The following table was used to determine CI for each receptor:

Table 2.1: Conservation importance (CI) criteria.

CI	Criteria
Very high	➤ Confirmed or highly likely occurrence of CR, EN, VU or Extremely Rare or Critically Rare species that have a global EOO of < 10 km². ➤ Any area of natural habitat of a CR ecosystem type or large area (> 0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type. ➤ Globally significant populations of congregatory species (> 10% of global population).
High	➤ Confirmed or highly likely occurrence of CR, EN, VU species that have a global EOO of > 10 km². Include if there are less than 10 locations or < 10 000 mature individuals remaining. ➤ Small area (> 0.01% but < 0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type or large area (> 0.1%) of natural habitat of VU ecosystem type. ➤ Presence of Rare species. ➤ Globally significant populations of congregatory species (> 1% but < 10% of global population).
Medium	➤ Confirmed or highly likely occurrence of populations of NT species, threatened species (CR, EN, VU) and which have more than 10 locations or more than 10 000 mature individuals. ➤ Any area of natural habitat of threatened ecosystem type with status of VU. ➤ Presence of range-restricted species. ➤ > 50% of receptor contains natural habitat with potential to support SCC.
Low	➤ No confirmed or highly likely populations of SCC. ➤ No confirmed or highly likely populations of range-restricted species. ➤ < 50% of receptor contains natural habitat with limited potential to support SCC.
Very low	➤ No confirmed and highly unlikely populations of SCC. ➤ No confirmed and highly unlikely populations of range-restricted species. ➤ No natural habitat remaining.

Functional Integrity

FI is defined as “A measure of the ecological condition of the impact receptor as determined by its remaining intact and functional area, its connectivity to other natural areas and the degree of current persistent ecological impacts.” These criteria are defined as follow:

Connectivity to other natural areas – connectivity, which can also be measured conversely as the degree of habitat fragmentation, refers to how connected habitat patches are to each other, which has a significant influence on numerous ecological processes, such as migration and dispersal opportunities of biota and therefore genetic exchange between populations. Connectivity to other similar habitats becomes more important as the remaining intact and functional area of a habitat decreases, mainly because population sizes decrease and are therefore at greater risk from ecological perturbations and inbreeding effects. The degree of connectivity between habitat patches varies greatly with the dispersal ability of the taxon or taxon group (e.g. fossorial reptiles) in question.

Degree of current persistent negative ecological impacts – persistent negative impacts such as uncontrolled spread of alien and invasive flora effectively decreases both the remaining intact area and ecosystem functioning of a particular habitat.

Remaining intact and functional area – the proportion of the receptor that supports natural habitat with intact ecological processes – small areas are less likely to withstand ecological degradation compared to large areas, and the latter are therefore better able to maintain structure and function allowing for intact ecological processes. Ecological processes can be mostly intact and functional if the receptor area has low levels of current ecological disruptors, has good connectivity to other areas and is a relatively large area.

The following table was used to determine FI for each receptor:

Table 2.2: Functionality integrity (FI) criteria.

GI	Criteria
Very high	➤ Very large (> 100 ha) intact area for any conservation status of ecosystem type or > 5 ha for CR ecosystem types. ➤ High habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches. ➤ No or minimal current negative ecological impacts with no signs of major past disturbance (e.g. ploughing).
High	➤ Large (> 20 ha but < 100 ha) intact area for any conservation status of ecosystem type or > 10 ha for EN ecosystem types. ➤ Good habitat connectivity with potentially functional ecological corridors and a regularly used road network between intact habitat patches. ➤ Only minor current negative ecological impacts (e.g. few livestock utilising area) with no signs of major past disturbance (e.g. ploughing) and good rehabilitation potential.
Medium	➤ Medium (> 5 ha but < 20 ha) semi-intact area for any conservation status of ecosystem type or > 20 ha for VU ecosystem types. ➤ Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches. ➤ Mostly minor current negative ecological impacts with some major impacts (e.g. established population of alien and invasive flora) and a few signs of minor past disturbance. Moderate rehabilitation potential.
Low	➤ Small (> 1 ha but < 5 ha) area.

GI	Criteria
	➤ Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat and a very busy used road network surrounds the area. Low rehabilitation potential. ➤ Several minor and major current negative ecological impacts.
Very low	➤ Very small (< 1 ha) area. ➤ No habitat connectivity except for flying species or flora with wind-dispersed seeds. ➤ Several major current negative ecological impacts.

Biodiversity Importance

Recalling that BI is a function of CI and the FI of a receptor. BI can be derived from the following matrix of CI and FI:

Table 2.3: Biodiversity importance (BI) matrix.

Biodiversity Integrity (BI)		Conservation Importance (CI)				
		Very high	High	Medium	Low	Very low
Functional integrity (FI)	Very high	Very high	Very High	High	Medium	Low
	High	Very high	High	Medium	Medium	Low
	Medium	High	Medium	Medium	Low	Very low
	Low	Medium	Medium	Low	Low	Very low
	Very low	Medium	Low	Very low	Very low	Very low

Receptor Resilience

RR is defined as “*The intrinsic capacity of the receptor to resist major damage from disturbance and/or to recover to its original state with limited or no human intervention.*”

The fulfilling criteria to evaluate RR are based on the estimated recovery time required to restore an appreciable portion of functionality to the receptor and require justification. RR will be evaluated and justified for each evaluation based on the criteria below.

Table 2.4: Receptor resilience (RR) criteria.

RR	Criteria
Very high	➤ Habitat that can recover rapidly (~ less than 5 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a very high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a very high likelihood of returning to a site once the disturbance or impact has been removed.
High	➤ Habitat that can recover relatively quickly (~ 5–10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a high likelihood of returning to a site once the disturbance or impact has been removed.
Medium	➤ Will recover slowly (~ more than 10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a moderate likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a moderate likelihood of returning to a site once the disturbance or impact has been removed.
Low	➤ Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor functionality, or species that have a low likelihood of remaining at a site even

RR	Criteria
	when a disturbance or impact is occurring, or species that have a low likelihood of returning to a site once the disturbance or impact has been removed.
Very low	➤ Habitat that is unable to recover from major impacts, or species that are unlikely to remain at a site even when a disturbance or impact is occurring, or species that are unlikely to return to a site once the disturbance or impact has been removed.

After evaluation of both BI and RR as described above, it is possible to evaluate SEI from the final matrix in Figure 2.3.

SEI description

The SEI was described in the above manner for each impact receptor identified within the PAOI and mapped in Section 5 of this report. The guidelines below (Figure 2.5) were used to interpret the SEI outcomes:

Table 2.5: Guidelines for interpreting SEI in the context of the proposed development activities

SEI	Interpretation in relation to proposed development activities
Very high	➤ Avoidance mitigation – no destructive development activities should be considered. Offset mitigation not acceptable/not possible (i.e. last remaining populations of species, last remaining good condition patches of ecosystems/unique species assemblages). Destructive impacts for species/ecosystems where persistence target remains.
High	➤ Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted; limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Medium	➤ Minimisation and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities
Low	➤ Minimisation and restoration mitigation – development activities of medium to high impact acceptable followed ➤ by appropriate restoration activities
Very low	➤ Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities ➤ may not be required

2.7. Impact assessment

The impacts that may result from the planning and design phase, construction phase and operational phase of the proposed development(s) were assessed according to several criteria to arrive at an overall significance rating. The criteria used were as follows (based on DEAT 2002 – Impact Significance, IEM Information Series 5; and DEAT 2006 – Assessment of Alternatives and Impacts in support of the EIA Regulations, IEM Guideline Series 5):

Table 2.6: Criteria used in determining significance ratings to potential impacts.

ASPECT	IMPACT RATING
Status of the Impact	A statement of whether the impact is positive (a benefit), negative (a cost), or neutral
Direct impact	Impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
Indirect Impacts	Indirect impacts are not a direct result of the project but are often produced away from or because of a complex impact pathway related to the project.

ASPECT	IMPACT RATING		
Cumulative Impacts	Impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of the past, present, or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.		
Nature of the Impact	The evaluation of the nature is impact specific. Most negative impacts will remain negative, however, after mitigation, significance should reduce to: ➤ Positive ➤ Negative		
Extent	A description of whether the impact would occur on a scale limited to within the study area (local), limited to within 5 km of the study area (area) on a regional scale. i.e. the Kouga Municipality & Eastern Cape (Region); or would occur on a national or international scale.		
	Local		1
	Area		2
	Regional		3
	National		4
	International		5
Duration	A prediction of whether the duration of the impact would be immediate and once-off (less than one month), more than once, but short term (less than one year), regular, medium term (1 to 5 years), long term (6 to 15 years), project life/permanent (> 15 years, with the impact ceasing after the operational life of the development or should be considered as permanent).		
	Immediate		1
	Short term		2
	Medium term		3
	Long term		4
	Project life/permanent		5
Intensity	This provides an order of magnitude of whether or not the intensity (magnitude/size/frequency) of the impact would be negligible, low, medium, high or very high. This is based on the following aspects: ➤ An assessment of the reversibility of the impact (permanent loss of resources, or impact is reversible after project life; ➤ Whether or not the aspect is controversial; ➤ An assessment of the irreplaceability of the resource loss cause by the activity (whether the project will destroy the resources which are easily replaceable, or the project will destroy the resources which are irreplaceable and cannot be replaced; ➤ The level of alteration to the natural system, processes or systems.		
	Negligible	The impact does not affect physical, biophysical or socio-economic functions and processes.	1
	Low/potential harmful	The impact has limited impacts on physical, biophysical or socio-economic functions and processes.	2
	Medium/slightly harmful	The impact has an effect on physical, biophysical or socio-economic functions and processes, but in such a way that these processes can still continue to function albeit in a modified fashion.	3
	High/harmful	Where the physical, biophysical or socio-economic functions and processes are impacted on in such a way as to cause them to temporarily or permanently cease.	4
	Very high/disastrous	Where the physical, biophysical or socio-economic functions and processes are highly impacted on in such a way as to cause them to permanently cease.	5
	Severity (extent + duration + intensity)		

ASPECT	IMPACT RATING		
Frequency	This provides a description of any repetitive, continuous or time-linked characteristics of the impact: Once-off (occurring any time during construction or operation); intermittent (occurring from time to time, without specific periodicity); periodic (occurring at more or less regular intervals); continuous (without interruption).		
	Once-off	Once	1
	Rare	1/5 to 1/10 years	2
	Frequent	Once a year	3
	Very frequent	Once a month	4
	Continuous	≥ once a day/per shift	5
Probability of occurrence	A description of the chance that consequences of that selected level of severity could occur during the exposure.		
	Highly unlikely	The probability of the impact occurring is highly unlikely due to its design or historic experience.	1
	Improbable	The probability of the impact occurring is low due to its design or historic experience.	2
	Probable	There is a distinct probability of the impact occurring.	3
	Almost certain	It is most likely that the impact will occur	4
	Definite	The impact will occur regardless of any prevention measures.	5
Incidence (frequency + probability)			
Risk rating	The risk rating is calculated based on input from the above assessments. The incidence of occurrence is calculated by adding the extent of the impact to the duration of the impact. The severity of the impact is calculated based on input from the extent of the impact, the duration and the intensity.		
	Risk = Severity (extent + duration + intensity) x Incidence (frequency + probability)		
	Significance: The significance of the risk based in the identified impacts has been expressed qualitatively as follows:		
	➤ Low – the impact is of little importance/insignificant but may/may not require minimal management. ➤ Medium – the impact is important; management is required to reduce negative impacts to acceptable levels. ➤ High – the impact is of great importance, negative impacts could render development options or the entire project unacceptable if they cannot reduce to acceptable levels and/or if they are not balanced by significant positive impact, management of impacts is essential.		

Based on a synthesis or combination of the information contained in the above-described criteria, and drawing on legal policies and guidelines as well as the status of the impacts and potential risks, the overall significance were determined as follows:

Table 2.7: Definition of significance ratings (positive and negative)

Significance	Description
Very high (VH) (150+)	An impact of very high significance will mean that the project cannot proceed, and that impacts are irreversible, regardless of available mitigation options.
High (H) (101-149)	An impact of high significance which could influence a decision about whether to proceed with the proposed project, regardless of available mitigation options.

Significance	Description
Medium (M) (51-100)	If left unmanaged, an impact of medium-high significance could influence a decision about whether to proceed with a proposed project. An impact of Low-medium significance would have some effect during decision making about whether to proceed with a proposed project, however, mitigation for this type of impact is manageable.
Low (L) (25-50)	An impact of low significance would have little effect on decision making and only a small influence on project design or alternative motivation.
Very low (VL) (1-24)	An impact of very low significance is likely to contribute to positive decisions about whether to proceed with the project. It will have little effect and is unlikely to have an influence on project design or alternative motivation.
Negligible / zero impact	There will be no impact, or any impact identified can be viewed as negligible. This rating will be unlikely to have an influence on project design or alternative motivation.
Positive impact (+)	A positive impact is likely to result in a positive consequence/effect and is likely to contribute to positive decisions about whether to proceed with the project.

3. Site assessment

This chapter compares baseline information with field survey data collected. Data collected during the site visit was then compared to existing literature on the site which included vegetation classifications and biodiversity programmes and plans.

3.1. Site Sensitivity Verification

The DFFE Screening Tool Report indicated the following relevant sensitivities for the site:

Plant Species Theme:

The proposed development area's environmental sensitivity for the plant species theme is **identified as medium sensitivity** in the DFFE Screening Tool Report (Figure 3.1).

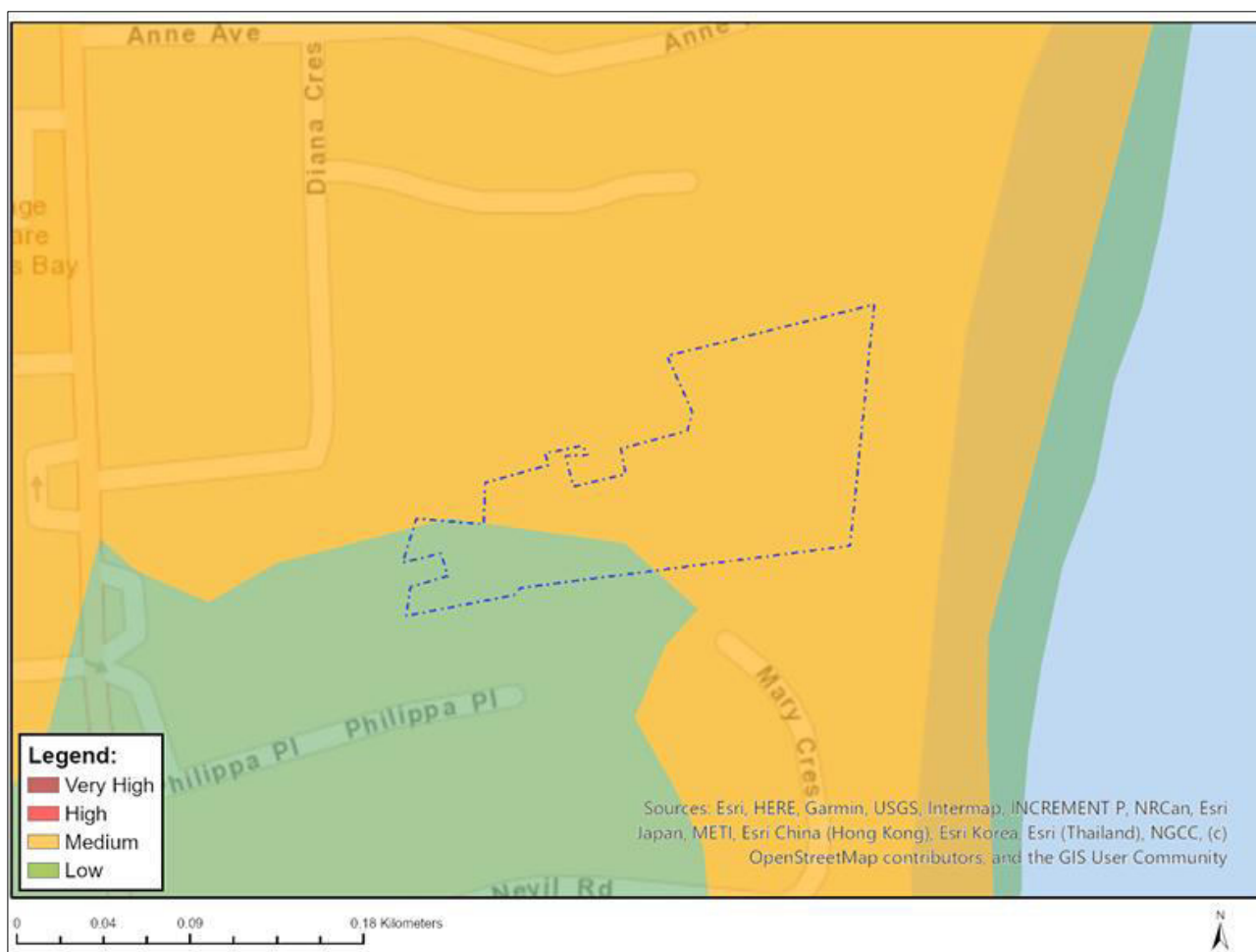


Figure 3.1: Map of the relative plant species theme sensitivity for the Primary PAOI.

Based on the site sensitivity verification (shown below) the site sensitivity is **maintained as medium sensitivity**. This is due to the following reasons:

1. No threatened species were identified on site.

2. As per the Terrestrial Plant Species Protocol (2020): A **medium sensitivity rating** indicates the suspected presence of Species of Conservation Concern (SCC) based on pre-2002 records or habitat suitability modelling.
3. One protected tree i.e. *Sideroxylon inerme* subsp. *inerme* (White Milkwood), and three (3) protected plants were identified on site (listed as Schedule 4: Protected Flora under the Nature and Environmental Conservation Ordinance (NECO, 1974)). Protected plants and trees require permits from DEDEAT and DFFE before removal, as well as plant search and rescue efforts conducted before development commences. Refer to **Appendix A** for the list of plant species identified on site.
4. The proposed development will have no impact on surrounding landscapes. All surrounding natural areas are considered as No-Go areas.

Based on the medium sensitivity classification, the plant species theme will be assessed as a **Terrestrial Plant Species Compliance Statement** in this report. The Terrestrial Plant Species Protocols (GN.R. 1150 of 2020) for a Terrestrial Plant Species Compliance Statement (medium sensitivity) were therefore followed for the theme.

Animal Species Theme:

The proposed development area's environmental sensitivity for the animal species theme is **identified as very high sensitivity** in the DFFE Screening Tool Report (Figure 3.2).



Figure 3.2: Map of the relative animal species theme sensitivity for the Primary PAOI.

Based on the site sensitivity verification (shown below) the site sensitivity is **reduced to medium sensitivity**. This is due to the following reasons:

1. As per the Terrestrial Animal Species Protocol (2020): A **medium sensitivity rating** for terrestrial animal species applies to areas where there is: '1. *Suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model for this species*' or '2. *SCC listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare*'.
2. None of the three (3) sensitive animal species listed in the Screening Tool Report (refer to Section 2.2) were observed on site at the time of the site survey. This includes one invertebrate, one mammal and one fish species.
3. The *mammal species*, Sensitive species 13 (listed Vulnerable), may plausibly visit the site to forage or seek shelter. It is, however, unlikely to reside on site given the high degree of development, noise and disturbance in the surrounding areas.
4. The invertebrate species, the Yellow-Winged Agile Grasshopper (listed Vulnerable), is highly unlikely to occur on site. The only observations of this species on iNaturalist are located in the Western Cape.
5. The fish species, the Krom River Redfin (listed Critically Endangered), is highly unlikely to occur on site given the absence of perennial rivers or streams. This species is also not known to occur in wetlands.
6. All other animal species observed on site during the site survey are relatively common are not listed as threatened species i.e. birds and insects.
7. No other sensitive animal species nor tracks/traces of such species were observed on site.

As no animal SCC were found on site during the site survey and as the presence of such species is confirmed to be unlikely, the animal species theme was assessed as a **Terrestrial Animal Species Compliance Statement** in this report. The Terrestrial Animal Species Protocols (GN.R. 1150 of 2020) for a Terrestrial Animal Species Compliance Statement (medium or low sensitivity) were therefore followed for the theme.

Terrestrial Biodiversity Theme:

The proposed development area's environmental sensitivity for the terrestrial biodiversity theme is **identified as very high sensitivity** in the DFFE Screening Tool Report (see Figure 3.3).

Based on the site sensitivity verification (shown below) the site sensitivity **remains as very high sensitivity**. This is due to the following reasons:

1. The development site is located within a Critically Endangered ecosystem (Harris *et al.* Ecosystem threat status: Coastal zone, published 13 April 2026; NBA, 2025).
2. A section of the development site is classified as a Terrestrial CBA 1 (ECBCP, 2019).
3. The development site is predominantly located in a CBA as per the Garden Route Biodiversity Sector Plan (2012).

4. The ecological functioning of the areas impacted by the direct development footprint – within a Terrestrial CBA 1 - will be permanently impacted during the construction and operational phases.
5. The ecological functioning of the direct development footprint – in terms of providing refugia for animals, and the migration of animals and the genetic material of plants (via wind-borne pollen and birds, insects and other pollinators and fruit/seedeaters) between stands of intact vegetation – will largely cease. Ecological functions within the Terrestrial CBA 1 area will, therefore, cease during the operational phase.

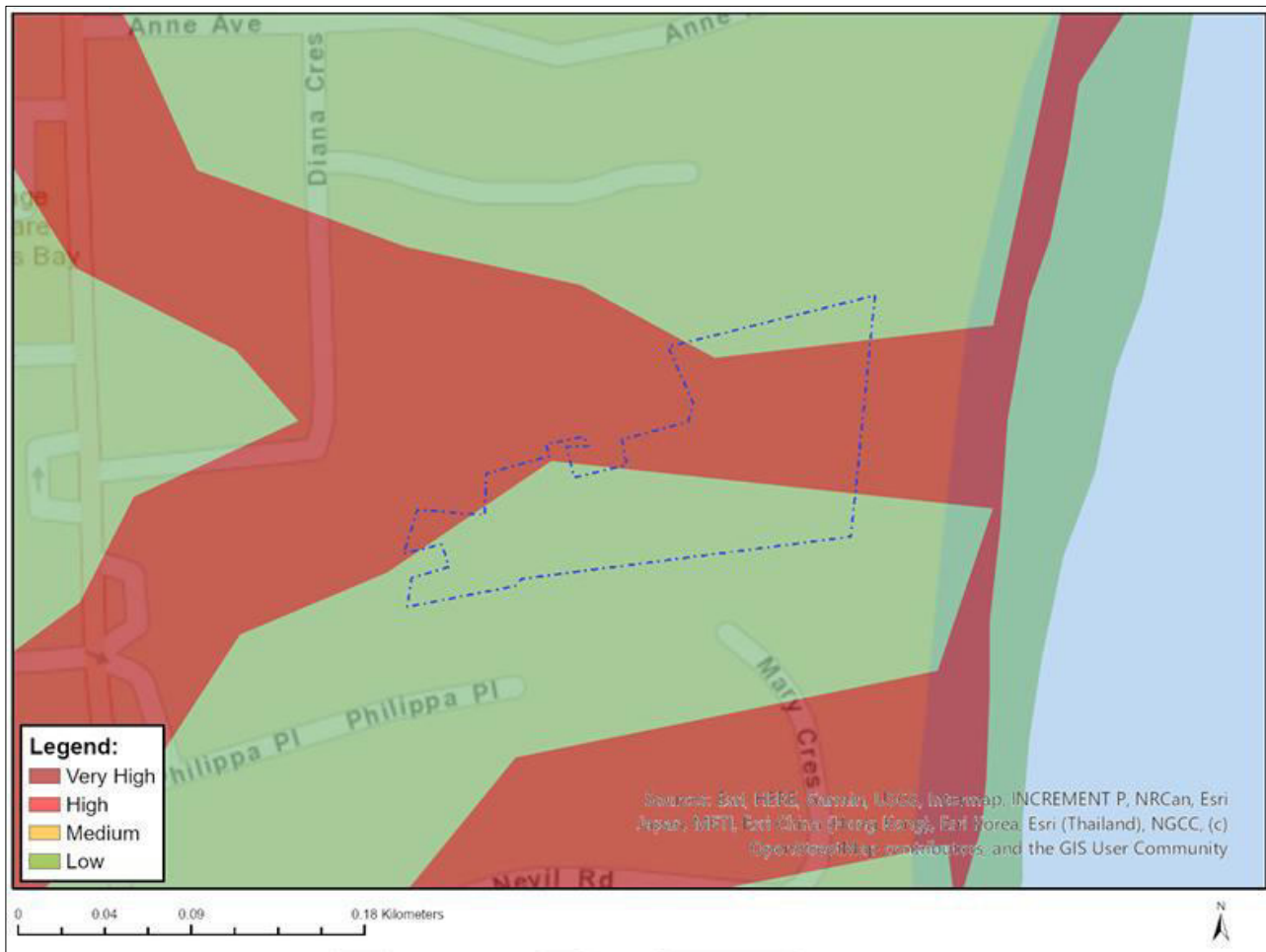


Figure 3.3: Map of the relative terrestrial biodiversity theme sensitivity for the Primary PAOI.

Based on the very high sensitivity classification, the terrestrial biodiversity theme was assessed as a **Terrestrial Biodiversity Specialist Assessment** in this report. The Terrestrial Biodiversity Protocols (GN. 320 of 2020) for a Terrestrial Biodiversity Specialist Assessment (very high sensitivity) were therefore followed for the theme.

3.2. Topography

The project sites are located immediately adjacent to the coastline which is located immediately east of the project site. A vegetated dune forms the boundary between the beach and the rest of the site and form an undulating landscape throughout the Naturally vegetated sections. Elevation is between 5 m to 15 m.

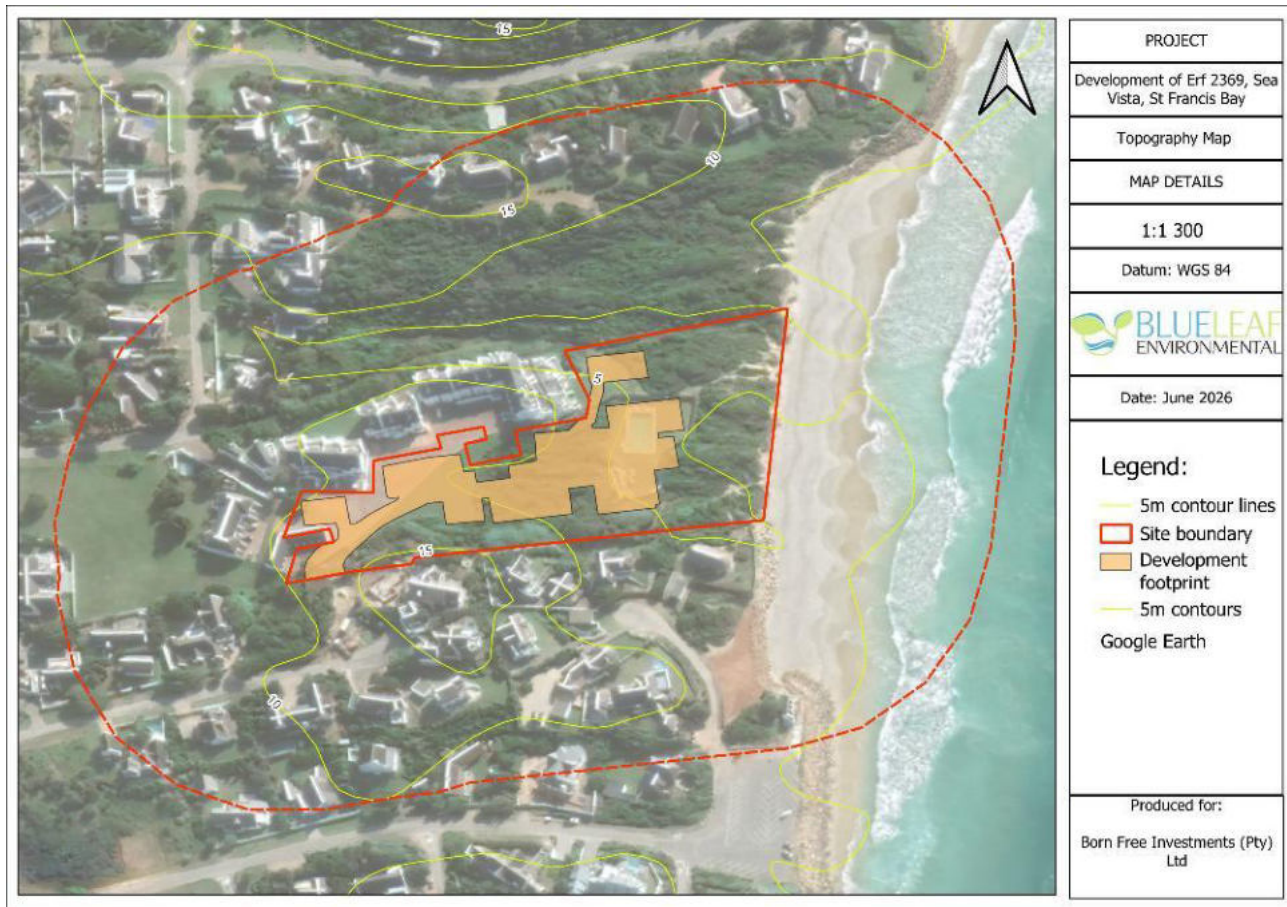


Figure 3.4: Topography of the project sites.

3.3. Local climate

The climate of St Francis Bay is considered as *temperate, no dry season, warm summers* (Cape Farm Mapper, ver. 3). St Francis Bay receives year-round rainfall, with a mean annual rainfall of 609 mm. The highest rainfall occurs during August (winter), with a monthly mean of 62 to 66 mm. The lowest rainfall occurs during January to February (summer), with a monthly mean of 26 to 40 mm.

The mean annual temperature is 22°C. December to February are the warmest months of the year, with mean monthly averages of 24 to 26°C – often reaching higher than 30°C. June to August are the coldest months at 8 to 11°C. Due to its proximity to the coast, it does not receive frost or snow.

3.4. Geology and soils

The geology of the project area is that of the Schelm Hoek Formation within the Algoa Group. The Algoa Group includes marine terrace conglomerate, coquinite, aeolianite, alluvial gravel, sand, silt, calc-tufa and minor gravel.

The Schelm Hoek Formation is the most recent of all the geological formations, overlying the Nanaga, Salnova and Nahoon Formation rocks. It consists of unconsolidated calcareous sand (coastal dunes) and minor palaeosols (Cape Farm Mapper, v. 3). The unconsolidated calcareous sand consists of wind-blown (aeolian) sand on the present-day coastline, which is still being deposited.

The general description for soils on site is *Greyish, sandy soils or imperfectly drained sandy soils* (National soils – General Soil Descriptions; SANBI BGIS website). These soils may have favourable water-holding properties but may also be highly erodible.

Soils are classed as FAO Soil Unit AR3: *Arenosols* (SOTER Procedures Manual, FAO, 1995). Arenosols have the texture of loamy sand or coarser to a depth of more than 100 cm with little to no soil profile development. They consist of deep, sandy soils characterized by a lack of diagnostic horizons other than a thin, poorly developed surface horizon that is low in humus (fine organic matter). These soils are highly permeable and have a very low nutrient content (very low soil fertility).

3.5. Land use

The entire site is formal residential areas with some woodland (naturally vegetated thickets). Residential areas consist of roads, a pool and entertainment area, parking areas and lawn.

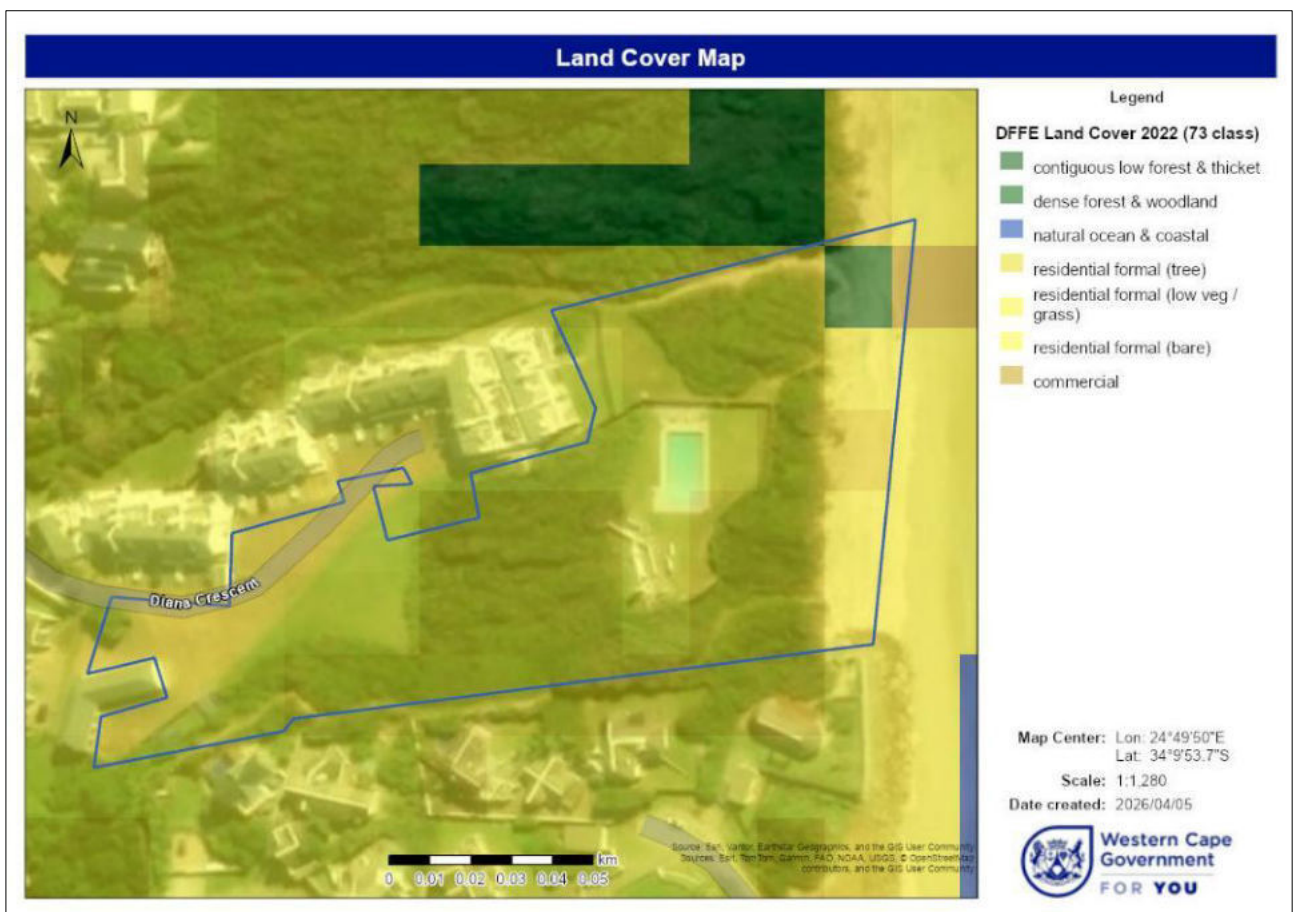


Figure 3.5: Land cover map for the project sites. Primary PAOI: white solid line; Secondary PAOI: white dashed line.

Below are site photographs illustrating the land cover and land uses for the proposed development sites and surrounding areas:

The swimming pool and entertainment area:	Naturally vegetated dune thicket surrounds the pool area:
	
Short mowed lawns:	Neighbouring residence in the background:
	
Dense thicket vegetation in the eastern section:	Beachfront showing the foredune covered by dune thicket:
	

3.6. Vegetation

The site was first described according to available literature and databases. A site visit was then conducted to confirm and describe the vegetation as well as the condition of the vegetation unit(s) identified.

3.6.1. Regional-scale vegetation mapping

3.6.1.1. SANBI VegMap (2021)

The SANBI VegMap (2021; Dayaram *et al.*, 2019) lists the development site within a single vegetation type i.e. **St Francis Dune Thicket (AT57)** in the Albany Thicket Biome.

St Francis Dune Thicket occurs in coastal stretches from near the Tsitsikamma River Mouth (west of Oyster Bay) eastward to the Sundays River Mouth. It is described as occurring on ‘flat to moderately undulating coastal dunes. A mosaic of low (1 - 3 m) thicket, occurring in small bush clumps dominated by small trees and woody shrubs, in a mosaic of low (1 - 2 m) asteraceous fynbos. Thicket clumps are best developed in fire-protected dune slacks, and the fynbos shrubland occurs on upper dune slopes and crests. The fynbos component in the vegetation diminishes from west to east, with *Portulacaria afra* occurring occasionally east of Port Elizabeth’ (Grobler *et al.*, 2018).

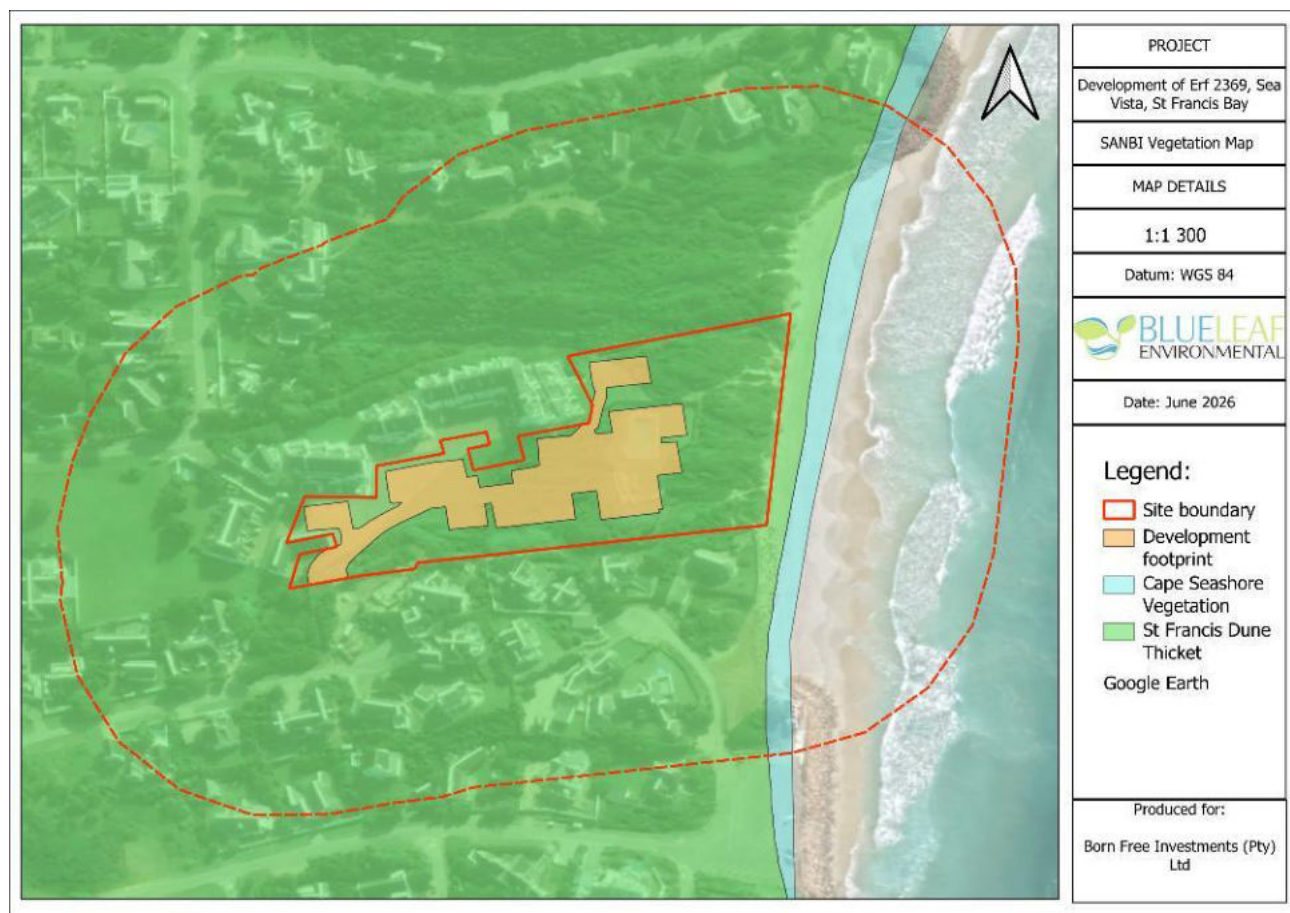


Figure 3.6: SANBI VegMap (2021) for the project sites.

This vegetation type is assigned a threat status of *Least Concern* and a protection level of Poorly Protected. A conservation target of 19% is set for this vegetation type. Threats include mining, invasion by *Acacia cyclops* (Rooikrans) and urban sprawl (Grobler *et al.*, 2018).

Important Taxa (d=dominant, e=South African endemic, et=possibly endemic to a vegetation type):

Small tree: *Olea capensis*, *Pterocelastrus tricuspidatus* (d), *Sideroxylon inerme* (d), *Tarchonanthus littoralis* (d)

Succulent shrub: *Cotyledon adscendens*, *Carpobrotus acinaciformis* (e), *Cotyledon orbiculata* (e), *Crassula nudicaulis*, *Euphorbia mauritanica*, *Gasteria acinacifolia* (e), *Portulacaria afra*, *Zygophyllum morskana*, *Aloe africana* (d)

Low shrub: *Coleonema pulchellum* (d), *Erica chloroloma*, (e), *Erica glumiflora* (d), *Erica zeyheriana* (e), *Eriocephalus africanus* var. *paniculatus* (e), *Felicia echinata* (e), *Morella cordifolia* (d), *Muraltia spinosa* (d), *Phyllica ericoides* (d), *Syncarpha sordescens* (d)

Graminoid: *Andropogon eucomus*, *Cymbopogon pospischilii*, *Cynodon dactylon* (d), *Ehrharta calycina*, *Eustachys paspaloides*, *Digitaria eriantha*, *Pentasmeris heptameris*, *Pentameris pallida*, *Restio eleocharis* (d), *Stenotaphrum secundatum*, *Thamnochortus cinereus* (e), *Themeda triandra* (d), *Tristachya leucothrix*, *Imperata cylindrica* (d)

Tall shrub: *Azima tetraacantha* (d), *Carissa bispinosa* (d), *Mystroxydon aethiopicum* subsp. *aethiopicum* (e), *Cassine peragua*, *Cussonia thyrsiflora* (d), *Euclea racemosa* (d), *Grewia occidentalis*, *Gymnosporia buxifolia*, *Gymnosporia capitata* (e), *Lycium cinereum*, *Lycium ferocissimum*, *Maytenus procumbens*, *Metalasia muricata* (d), *Olea exasperata* (d), *Osteospermum moniliferum* (d), *Passerina rigida* (d), *Putterlickia pyracantha* (d), *Robsonodendron maritimum* (e), *Searsia crenata* (d), *Searsia glauca* (e), *Searsia pterota* (e),), *Rapanea gilliana* (d)

Geophytic herb: *Brunsvigia litoralis* (e)

Herb: *Pelargonium suburbanum* subsp. *suburbanum* (e), *Agathosma stenopetala* (e). *Aspalathus cliffortiifolia* (et), *Aspalathus recurvispina* (et), *Othonna rufibarbis* (et)

Herbaceous climber: *Cynanchum natalitium* (e), *Rhoicissus digitata*, *Solanum africanum* (e)

Woody succulent climber: *Cynanchum viminalis* (e)

Woody climber: *Asparagus aethiopicus*.

3.6.1.2. SANBI VegMap (2024)

The 2024 update of the SANBI VegMap (VegMap, 2024) lists the development site within a newly described vegetation type i.e. **St Francis Strandveld (FS14)**. St Francis Strandveld falls within the South Strandveld Bioregion in the Fynbos Biome. It occurs between the Kromme River in St Francis Bay to the Klasies River in the eastern Tsitsikamma, as well as a smaller section located north of the Maitland River towards the Gamtoos River Mouth – covering an area of 97 km².

St Francis Strandveld is assigned a threat status of *Critically Endangered* (Harris *et al.*, Ecosystem threat status: Coastal zone, published 13 April 2026; National Biodiversity Assessment, 2025).

This vegetation type occurs on sand dunes that take on a parabolic shape, with parallel ridges of dunes that are occasionally broken up by wide or narrow troughs. Some of the troughs host wetlands. Vegetation consists predominantly of a grassy variation of Sand Fynbos, with dense thickets and forest elements. There are Mesic Dune Thicket patches that occupy the St Francis Strandveld where they are associated with moist dune troughs (Cowling *et al.*, 2023).

The following **Important Taxa** are listed for St Francis Strandveld (d=dominant, e=South African endemic, et=possibly endemic to a vegetation type, r=rare):

Tree: *Mystroxydon aethiopicum*, *Sideroxydon inerme* (in the mesic thicket).

Shrub: *Agathosma stenopetala* (d), *Phylica litoralis* (d), *Pterocelastrus tricuspidatus* (d), *Passerina corymbosa* (d), *Restio leptoclados* (d), *Schoenus australis* (d), *Olea exasperata* (d), *Agathosma stenopetala* (d), *Phylica litoralis* (d), *Erica chloroloma* (r), *Cullumia decurrens*, *Indigofera sulcata*.

Forb: *Manulea obovata*, *Hebenstretia integrifolia*.

Low shrub: *Indigofera stricta*, *Tephrosia capensis*, *Satyrium princeps*, *Othonna rufibarbis* – frequent but not dominant).

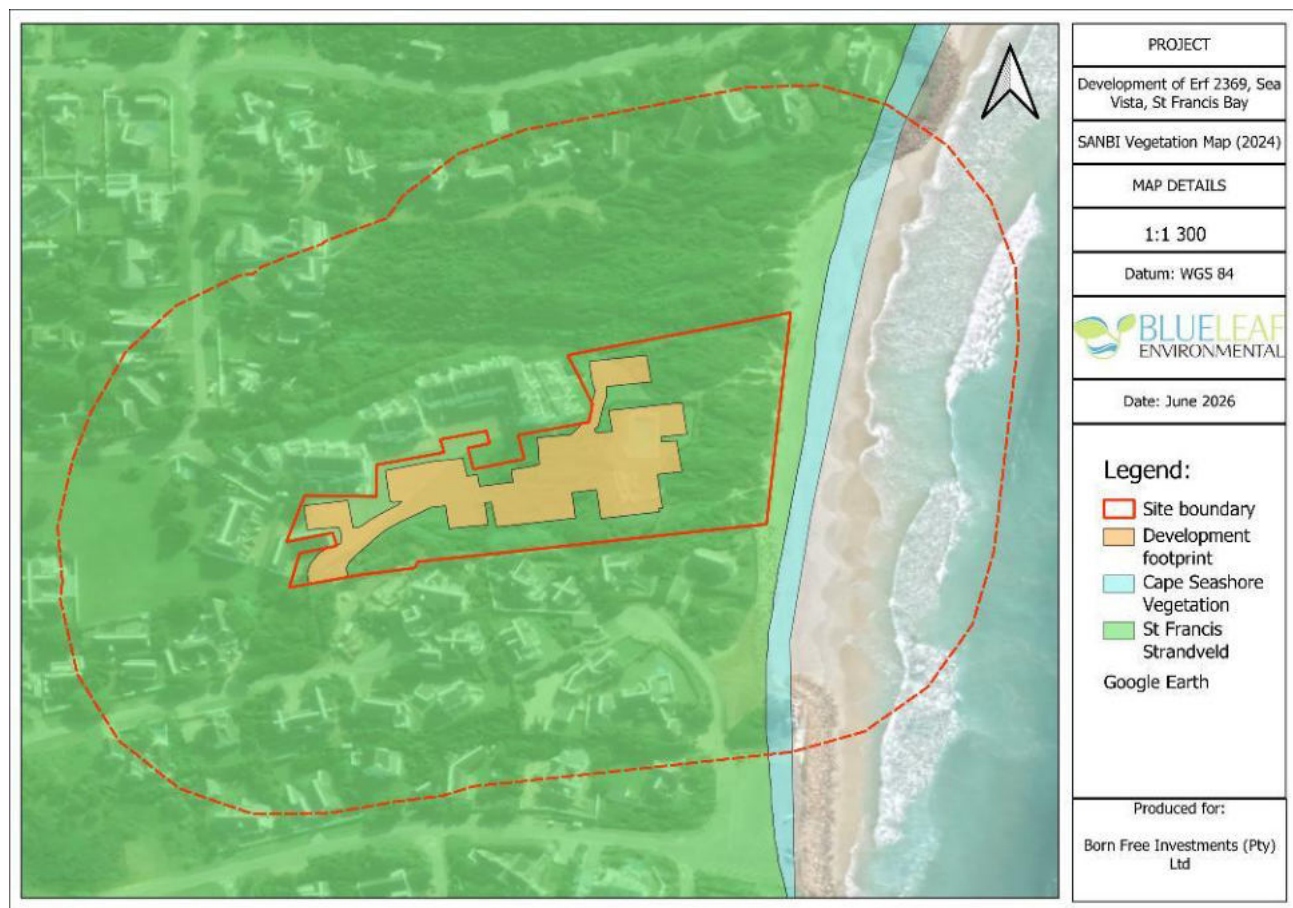


Figure 3.7: SANBI VegMap (2024) for the project sites.

3.6.2. Fine-scale vegetation mapping

The following land cover classes or vegetation units were identified and mapped on a fine scale for the proposed project sites (Figure 3.8). These classes/units are summarised below.

1. Dune thicket
2. Transformed (residential)

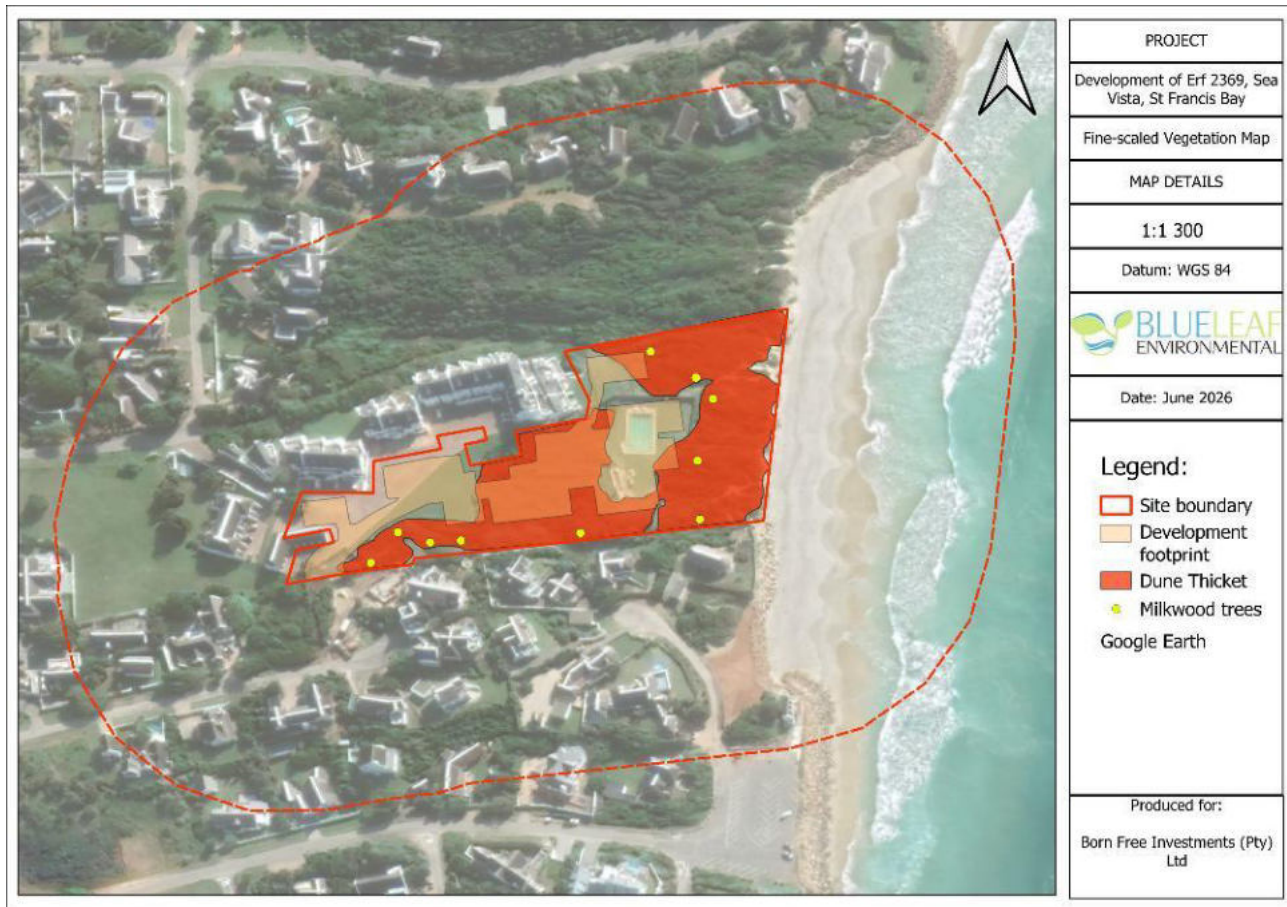


Figure 3.8: Fine-scale vegetation map for the project site.

1. Dune thicket

Intact dune thicket consists of large, tall growing (>1 m), continuous stands of thicket vegetation, characteristic of the Mesic Dune Thicket component of AT57 St Francis Dune Thicket. Intact dune thicket is the predominant vegetation unit present and covers 8 102 m² (0.81 ha) of the 12 900 m² (1.29 ha) total size of Erf 2369. The remainder is transformed. The proposed development will only impact 1 266 m² (0.13 ha) of this natural vegetation.

Thicket-type trees and shrubs present in Dune Thicket include: *Searsia glauca*, *Carissa bispinosa*, *Putterlickia pyracantha*, *Grewia occidentalis* var. *occidentalis*, and *Sideroxylon inerme* (shown in Fig 3.8). Shrubs and forbs present at the thicket edge include: *Lauridia tetragona*, *Leonotis leonurus*, *Hypoestes aristata*, *Adenocline acuta*, *Chasmanthe aethiopica* and *Eulophia speciosa*. No climbers were observed.

2. Transformed (residential)

The remainder of the site covering 4 798 m² (or 0.48 ha) is completely transformed by residential development and include lawn, buildings, paved areas and parking lots. No natural dune thicket remains.

3.7. Plant species

Appendix A lists all the plant species that may occur on site. This includes:

1. species that were observed on site at the time of the site survey (February 2026);
2. species that were not observed at the time of the site survey but may occur on site – based on observations made by other users on the iNaturalist.org website, and
3. threatened species identified in the DFFE Screening Tool Report.

Table 3.1 below lists all plant Species of Conservation Concern (SCC) that may occur on site and includes all species listed in the Screening Tool Report regardless of being found on site or not. According to SANBI, the names of some of the species identified in the Screening Tool Report may not appear in the Final BAR/EIA nor any of the specialist reports released into the public domain and are therefore just referred to as “Sensitive species #”. More than 45 plant species were observed on site during the site survey. No plant SCC were observed.

Table 3.1: List of plant SCC that may occur in the project area according to the Screening Tool Report.

Family	Scientific name	Common name	Red List (2024)	Observed (Y/N)	Occurrence on site
Not provided	Sensitive species 85*	Not provided	Endangered	N	Unlikely
Not provided	Sensitive species 460*	Not provided	Vulnerable	N	Unlikely
Not provided	Sensitive species 854*	Not provided	Endangered	N	Unlikely
Not provided	Sensitive species 1121*	Not provided	Vulnerable	N	Unlikely
Not provided	Sensitive species 1188*	Not provided	Vulnerable	N	Unlikely
Not provided	Sensitive species 291*	Not provided	Vulnerable	N	Unlikely
Ericaceae	<i>Erica glumiflora</i>	Lantern Heath	Vulnerable	N	Unlikely
Ericaceae	<i>Erica chloroloma</i>	Red Heath	Vulnerable	N	Unlikely

* As per the best practice guideline that accompanies the protocol and screening tool, the name of these sensitive species may not appear in the Final BAR/EIA report nor any of the specialist reports released into the public domain.

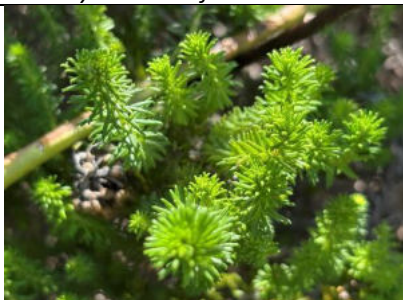
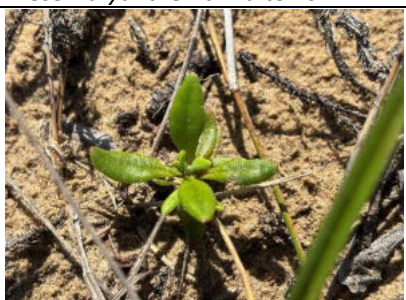
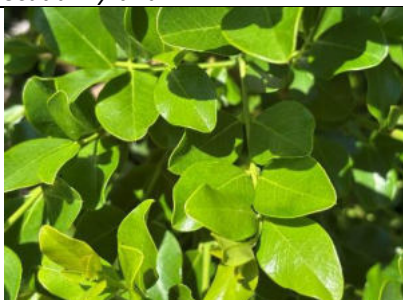
Table 3.2 below lists protected plants and trees that were observed on site which require permits from DEDEAT and/or DFFE before removal and clearing. Sensitive plants and/or SCC observed on site are also included in this list. Species not considered as SCC but still requiring permits are also included in this list.

Four (4) protected plants were observed on site, including: mesembs and vygies; an iris, and a tree species. One protected tree was observed i.e. *Sideroxylon inerme* subsp. *inerme* (White Milkwood), protected under the National Forests Act (Act No. 84 of 1998).

Table 3.2: List of protected plants and SCC observed on site.

Family	Scientific name	Common name	Red List (2024)	NECO (1974)	Observed (Y/N)
Aizoaceae	<i>Aizoon rigidum</i>	Skaapvygie	LC	Protected	Y
	<i>Mesembryanthemum aitonis</i>	Brakslaai	LC	Protected	Y
Iridaceae	<i>Chasmanthe aethiopica</i>	Small Cobra Lily	LC	Protected	Y
Sapotaceae	<i>Sideroxylon inerme</i> subsp. <i>inerme</i>	White Milkwood	LC	NFA Protected Tree (2022)	Y

Below is a photo sequence of some of the plants that were observed on site. All these species were listed on iNaturalist:

<i>Thamnocortus insignus</i>	<i>Aizoon glinoides</i>	<i>Brachylaena discolor</i>
		
<i>Cynanchum obtusifolium</i>	<i>Grewia occidentalis</i>	<i>Helichrysum teretifolium</i>
		
<i>Mesembryanthemum aitonis</i>	<i>Osteospermum moniliferum</i>	<i>Scutia myrtina</i>
		
<i>Searsia crenata</i>	<i>Senecio angulatus</i>	<i>Sideroxylon inerme</i>
		

3.8. Animal species

Table 3.3 below lists the animal Species of Conservation Concern (SCC) identified in the Screening Tool Report as potentially present within the project area. If any traces of a specific animal were observed within the site, like droppings, spoor and burrows, the animals that made them would be listed as present on site. However, no animal SCC were observed on site and no other sensitive animal species were observed in the general project area.

According to SANBI, the names of certain of the species identified in the Screening Tool Report may not appear in the Final BAR/EIA nor any of the specialist reports released into the public domain and are therefore just referred to as “Sensitive species #”.

Table 3.3: List of animal SCC that may occur in the project area according to the Screening Tool Report.

Photograph	Scientific name	Common name	Sensitivity status	Occurrence on site
Invertebrates:				
	<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	Vulnerable	Highly unlikely
Mammals:				
Not provided	Sensitive species 13*	Not provided	Vulnerable	May plausibly visit the site
Fish:				
	<i>Pseudobarbus senticeps</i>	Krom River Redfin	Critically Endangered	Highly unlikely

* As per the best practice guideline that accompanies the protocol and screening tool, the name of these sensitive species may not appear in the Final BAR/EIA report nor any of the specialist reports released into the public domain.

3.8.1. Birds

No birds were observed in site. Various birds may still occur still due to the site proximity to the ocean. A list of bird species that may potentially occur in the general region is provided in Appendix B. This list is sourced from the Southern African Bird Atlas Project 2 (SABAP2) and lists all species that were observed in the 3424BB quaternary. No sensitive bird species were identified in the Screening Tool Report.

3.8.2. Reptiles

A list of reptiles that occur in the region are listed in Appendix B. No reptile species were observed during the site survey. No sensitive reptile species were identified in the Screening Tool Report.

3.8.3. Amphibians

No amphibians were observed on site, and no sensitive species were identified. No sensitive amphibian species were identified in the Screening Tool Report.

3.8.4. Invertebrates

It is difficult to ascertain which invertebrates occur within or could possibly occur within the project site. What needs to be stated is that several invertebrates are protected under the NEMBA (ToPS) Act. ALL baboon spider species in South Africa, (*Harpactirinae*) are protected under NEMBA. Certain scorpions, under the *Opisthacanthus* genus, are also protected under NEMBA. Both spiders and scorpions have a moderate likelihood of occurring on site.

One insect (bee) species was identified during the site survey. The Cape Honeybee is not listed as threatened in South Africa. The Yellow-winged Agile Grasshopper was the only sensitive invertebrate listed in the Screening Tool Report.

Aneuryphymus montanus, commonly known as the Yellow-winged Agile Grasshopper, is an insect endemic to the Cape region of South Africa. Listed as Vulnerable on the SANBI Red List, this insect is threatened by habitat transformation and invasive alien vegetation. It is heavily associated with sclerophyllous fynbos vegetation, particularly in rocky foothills and on cool, south-facing slopes. No suitable habitat occurs on site, so it is highly unlikely that this species occurs on site.

3.8.5. Fish

The Krom River Redfin was the only sensitive invertebrate listed in the Screening Tool Report. There are no rivers or streams on site, so it is unlikely that this species will be found on site.

3.9. Terrestrial biodiversity

This report makes use of various spatial databases to define the terrestrial ecology of the area associated with the proposed development sites. These include (but are not limited to):

1. Eastern Cape Biodiversity Conservation Plan (ECBCP, 2019)
2. The Garden Route Biodiversity Sector Plan (2012)
3. Strategic Water Source Areas
4. National Freshwater Ecosystem Priority Areas (NFEPA, 2011)
5. NEMBA Threatened Ecosystems
6. Protected Areas.

3.9.1. Eastern Cape Biodiversity Conservation Plan

The northern portion (5 684 m²) of the proposed development site is in a CBA 1 (Figure 3.9). Of this, only 2 970 m² or 52% is still covered by natural dune vegetation. The other 48% is urbanized to lawn, infrastructure and paved surfaces. The remainder of the site is not located in any sensitive CBA or ESA.

Critical Biodiversity Areas or CBA's are defined as areas representing the terrestrial and aquatic features in the landscape that are critical for conserving biodiversity and maintaining ecosystem functioning. CBA 1's are areas that are in a natural condition and are required to meet biodiversity targets. They should, therefore, be maintained in a natural condition and managed in a way in which conservation areas would be managed. (ECBCP, 2019).



Figure 3.9: Eastern Cape Conservation Biodiversity Plan (2019) – Terrestrial CBA map for the project site.

Various environmental features and planning layers are used to map or define CBA's and ESA's in the ECBCP (2019). The reasons for the CBA 1 classification of a portion of the project site are most likely due to the presence of sensitive vegetation within a drainage, which provide important ecosystem services and habitat connectivity and therefore act as an ecological corridor. Most of the corridor has historically been reduced by the development of the St Francis Villas (residential development bordering the northern section, and the previously developed St Francis Hotel that burned down a few years ago). The corridor has also been further reduced inland by the expansion of St Francis Bay itself. Sufficient natural ecosystem extent remains to the north of the site to allow for current ecosystem functioning to continue. The foredune with vegetation cover in the eastern section of the site will be excluded from development and is classified a No-Go area. Refer to the sensitivity map further down for details.

3.9.2. Garden Route Biodiversity Sector Plan

The Garden Route Biodiversity Sector Plan (BSP, 2012) is a strategic spatial framework guiding land-use and conservation in the George, Knysna and Bitou municipalities. It maps out Critical Biodiversity Areas (CBAs) to support sustainable development, conserve natural resources, and protect ecosystems from inappropriate development. Critical Biodiversity Areas are areas that must remain in a natural state to meet biodiversity thresholds, protect rare species and maintain ecosystem services. Such areas should be maintained as natural land, rehabilitated if degraded – to a natural or near-natural condition – and undergo no further degradation.

Ecological Support Areas are zones that are not necessarily pristine but are essential for supporting the ecological integrity of CBAs and ensuring landscape connectivity.

The site does not fall within any CBA as defined in the Garden Route BSP.

3.9.3. Strategic Water Source Areas

Strategic Water Source Areas or SWSA's are national ecological infrastructure assets that are essential for water security. These areas of high rainfall make up just 10% of the land area of South Africa, Lesotho and Eswatini but supply 50% of water to these countries. What happens within the boundaries of SWSAs has an impact on water quality and quantity for millions of people and for economic and agricultural activity downstream. A total of 20 SWSA's were identified. SWSA can also be separated into surface water sources (SWSAsw) and groundwater sources (SWSAgw). Groundwater SWASs are areas which have a high groundwater recharge/availability and are classified as a nationally important resource.

The proposed project site is not located within any SWSAsw or SWSAgw. The site is located 860 m east of a Tsitsikamma surface water SWSA.

3.9.4. National Freshwater Ecosystem Priority Areas

The project site is situated in Sub-Water Management Area 22: Tsitsikamma in Water Management Area 16: Fish to Tsitsikamma.

The project site is located within the catchment of the Krom River/Estuary system – 2 km south of the channel of the Krom River/Estuary, itself.

The National Freshwater Ecosystem Priority Areas (NFEPA) project is a collaborative effort aimed at identifying Freshwater Ecosystem Priority Areas (FEPAs) to meet national biodiversity goals for freshwater ecosystems, and to develop a basis for enabling effective implementation of measures to protect FEPAs, including free flowing rivers (Nel et al. 2011). Freshwater Ecosystem Priority Areas achieve biodiversity targets for river ecosystems and threatened/near threatened fish species and are identified in rivers that are currently in a good condition (A or B ecological category). Their FEPA status indicates that they should remain in a good condition to contribute to national biodiversity goals and support sustainable use of water resources.

The project site is not included within a National Freshwater Ecosystem Priority Area (FEPA, Driver et al., 2011).

3.9.5. Threatened Ecosystems

The vegetation type most recently mapped as present in the project site is St Francis Strandveld (FS14) (SANBI VegMap, 2024; unpubl.) is assigned an ecosystem threat status of *Critically Endangered (B1i)* (NBA, 2025; Harris et al., 2026). It is also listed as Poorly Protected with a conservation target of 36%. The reasons for the classification of St Francis Strandveld as a Critically Endangered ecosystem is '*restricted distribution coupled with exposure to various degrading pressures including invasion of alien plant species*'.

The older vegetation type classification for the site, published under the 2018 SANBI VegMap (Dayaram *et al.*, 2019; NBA, 2018) i.e. St Francis Dune Thicket (AT57), was assessed and gazetted as having an ecosystem threat status of *Least Concern* (Revised National List of Ecosystems that are Threatened and in need of Protection, Government Gazette No. 47526, Notice No. 2747, 18 November 2022).

3.9.6. Protected Areas

The site is included in the Garden Route Biosphere Reserve project. It is located within the Cape Floristic Region along the southern coast of South Africa and includes the St Francis Bay and Jeffreys Bay areas. The Garden Route Biosphere Reserve project works to unite government agencies, conservation groups and local communities to protect the environment while supporting a robust local tourism economy and improving the livelihoods of the region's residents. It is a conservation coordination project rather than a declared protected area or nature reserve.

The project site is not located in a declared nature reserve or protected area. The project site is also not included in a priority focus area in the National Protected Areas Expansion Strategy (NPAES, 2010).

The following protected areas were identified within 5 km of the project site boundary:

Name of protected area	Distance from project site	Direction from project site
Sand River Private Nature Reserve	1.02 km	West
Kromme River Mouth Private Nature Reserve	2.7 km	North
Kromensee Nature Reserve	3.05 km	North
Thula Moya Nature Reserve	2.5 km	South-southwest
Irma Booysen Flora Reserve	4.1 km	South
Seal Bay Local Authority Nature Reserve	3.6 km	South
Cape St. Francis Provincial Nature Reserve	4 km	South-southeast

3.10. Alien and Invasive Species

It should be noted that the CARA Regulations for the legal obligations regarding alien invasive plants in South Africa have been superseded by the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) – Alien and Invasive Species (AIS) Regulations, promulgated on 1 October 2014. However, CARA has not been repealed and is still included as a reference point to use in terms of the management of AIS on agricultural land.

The NEM:BA (Act No. 10 of 2004) provides a list of Alien and Invasive Species for management (GN. R. 898 of 2014, as amended in 2016). AIS are classified into the following categories:

- **Category 1a:** species which must be combatted or eradicated.
- **Category 1b:** species which must be controlled.
- **Category 2:** species which require a permit to carry out a restricted activity within an area specified in the Notice or an area specified in the permit.
- **Category 3:** as species which are subject to exemptions.

The following exotic and/or invasive plants were observed in the proposed development areas:

Family	Scientific name	Common name	AIS Category
Asparagaceae	<i>Yucca aloifolia</i>	Aloe Yucca	-
Fabaceae	<i>Acacia cyclops</i>	Rooikrans	1b
Poaceae	<i>Cenchrus clandestinus</i>	Kikuyu Grass	-

A total of three (3) exotic plants were identified – of which a single species is listed as a Category 1b Invasive.

Exotic species with no AIS classification are not considered as problem species as they do not require specific management measures. They should however be monitored and managed on site to ensure that they do not become problematic.

Below is a photo sequence of some of the exotic plants that were observed on site:



4. Site Ecological Importance

The Site Ecological Importance (SEI) is determined separately for each environmental theme. The Terrestrial Animal Species Theme was reduced to *medium sensitivity* during the site sensitivity verification process (Section 3.1). As no animal SCC were observed on site and as such species have a low likelihood of occurring on site on a frequent or permanent basis, the Terrestrial Animal Species Theme was assessed as a Compliance Statement.

The Terrestrial Plant Species Theme was maintained as *medium sensitivity* during the site sensitivity verification process. Therefore, the Terrestrial Plant Species Theme was assessed as a Terrestrial Plant Species Specialist Assessment.

The Terrestrial Biodiversity Theme was maintained as *very high sensitivity* during the site sensitivity verification process – due to classification of the site as a Terrestrial CBA 1 (ECBCP, 2019) and a Critically Endangered ecosystem (FS14 St Francis Strandveld – VegMap, 2024; NBA, 2025; Harris *et al.*, 2026) – which required that a Terrestrial Biodiversity Specialist Assessment be done for this theme.

Terrestrial biodiversity sensitivity

An SEI rating and an impact assessment was therefore done for the proposed development sites in terms of the *terrestrial biodiversity theme*. The terrestrial biodiversity theme Site Ecological Importance (SEI) sensitivity ratings for areas that host threatened plants were determined using the methodology prescribed by the Species Environmental Assessment Guideline (SANBI, 2022) and summarised in Section 2.6 of this report. The site sensitivity ratings were determined for the Primary PAOI (1.29 ha in extent), as the loss of CBA 1 areas, areas hosting Critically Endangered ecosystems, and plant SCC would be restricted to the development footprint or Primary PAOI. Sensitive plants or SCC are present in ‘Intact dune thicket’ vegetation units on site.

Environmental constraints were identified and aligned with specific characteristics of the site. The following site characteristics contributed to determining an overall (combined) SEI or sensitivity rating for the terrestrial biodiversity and plant species present on site:

Components assessed	Sensitivity allocation	Justification
Conservation Importance (CI)	Low for Transformed areas	Confirmed presence of only white milkwood trees present in intact dune thicket vegetation. These threatened species are present at more than 10 locations in South Africa. Natural habitat (1.29 ha in size) in a threatened ecosystem (FS14 St Francis Strandveld, listed Critically Endangered, present on site). Absence of range-restricted species on site. almost 50% Transformed landscape.
	Medium for Intact dune thicket	
Functional Integrity (FI)	Low for Transformed areas	Small (<5 ha) area. Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat and a very busy used road network surrounds the area. Low rehabilitation

Components assessed	Sensitivity allocation	Justification
		potential. Several minor and major current negative ecological impacts (cleared and continually brush-cut, habitat fragmentation, sand excavations).
	Medium for Intact dune thicket	Medium semi-intact area (0.54 ha of dune thicket) for any conservation status of ecosystem type (Critically Endangered). Moderate rehabilitation potential.
Biodiversity Importance (BI)	Low for Transformed vegetation	CI x FI
	Medium for Intact dune thicket	
Receptor Resilience (RR)	Low for transformed areas	Habitat that is unlikely to be able to recover fully after a relatively long period: >15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor functionality (thicket vegetation, in general, is not easy to rehabilitate – more than 30 years, min.), or species that have a low likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a low likelihood of returning to a site once the disturbance or impact has been removed.
	High for intact dune thicket	Habitat that can recover relatively quickly (~5-10 years) to restore >75% of the original species composition and functionality of the receptor functionality (Transformed vegetation consists of: 1) regularly mown/maintained lawns or 2) surfaced parking areas, or species that have a high likelihood of remaining at a site even when a disturbance or impact is occurring (grass species are pioneers and spread easily; or species that have a high likelihood of returning to a site once the disturbance or impact has been removed.
Site Ecological Importance (SEI) (BI x RR)	No sensitivity for transformed areas	No mitigations proposed. Areas available for restoration.
	Low for secondary thickets with no plant SCC	Minimisation mitigation – development activities of medium to high impact acceptable with areas available for restoration.
	High for Intact dune thicket with protected trees	Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted; limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.

A SEI sensitivity map was developed for the terrestrial biodiversity theme assessed in this report (Figure 4.1). This map was developed based on the identified environmental characteristics found within the Primary PAOI and listed in the Table, above.

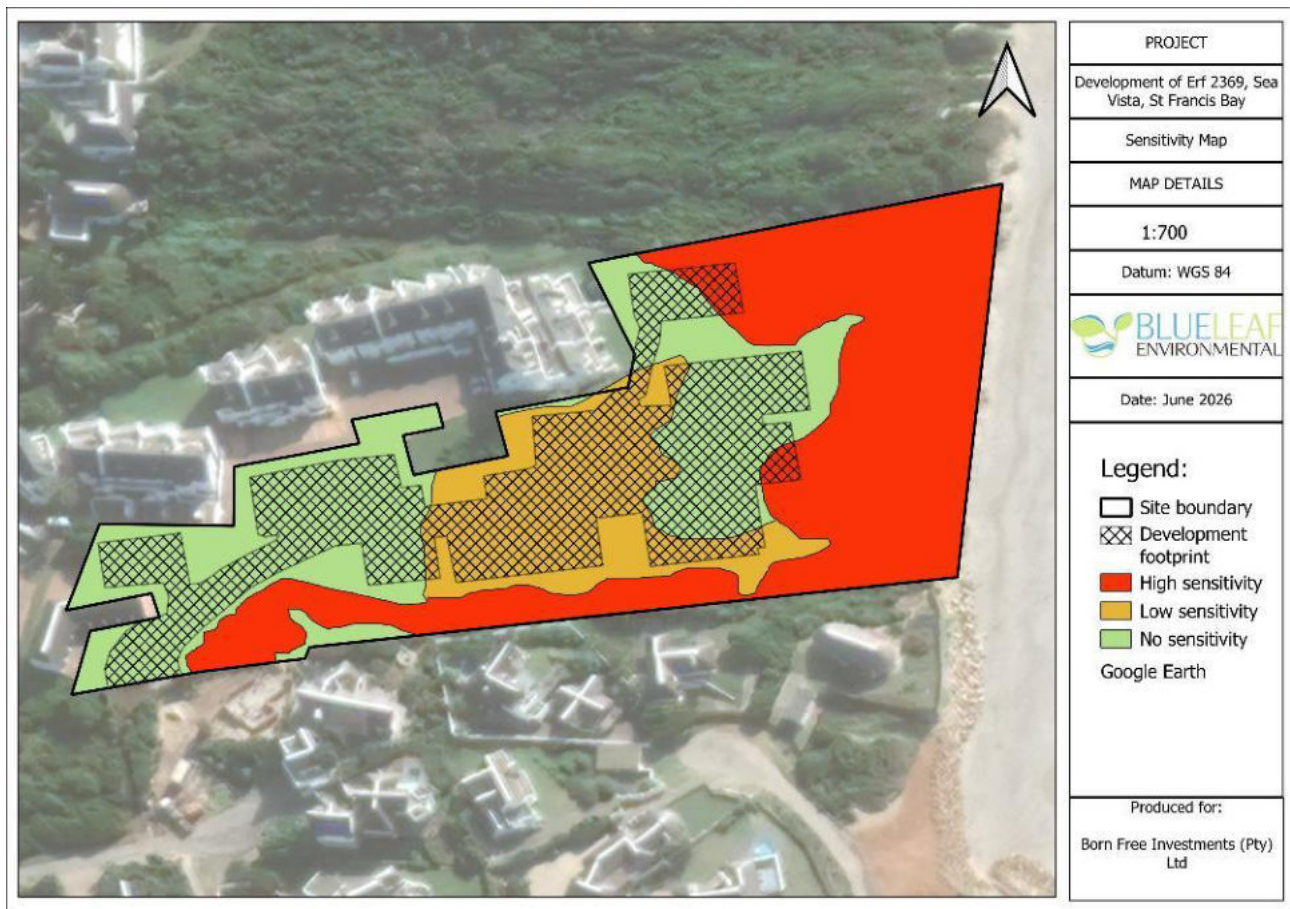


Figure 4.1: Site Ecological Importance sensitivity map for the proposed project sites to be developed.

5. Impact assessment

The following issues were identified during the assessment of the three proposed developments.

5.1. Identified impacts

The following ecological issues were identified during the assessment of the proposed developments:

Number	Activity causing impact (Issue)	Description of impact
1	Non-compliance with existing legislation	1.1. Legal compliance Non-compliance with ecological laws and policies of South Africa could lead to unnecessary delays in establishment activities, and potentially criminal cases, based on the severity of the non-compliance, being brought against the proponent and his/her contractors.
2	Vegetation clearing for development	2.1. Loss of natural vegetation Clearing will result in the loss of approx. 1 266 m ² ha of intact dune thicket vegetation during construction of the developments. Vegetation is classified as St Francis Dune Thicket/Strandveld.
		2.2. Loss of plant SCC Clearing may result in the loss of identified and non-identified plant SCC.
3	Loss of biodiversity	3.1. Loss of biodiversity value Clearing will result in the loss of CBA 1 -valued areas (ECBCP, 2019) during construction and will reduce ecological connectivity and functioning in the landscape. Clearing will also result in the loss of approx. 1 266 m ² of a vegetation/ecosystem type classified as Critically Endangered.

All impacts identified above were assessed as per the assessment methodology described in Section 2.7 of this report. Each impact was described based on how it would affect the project site during each specific phase of the project, namely Planning and Design, Construction and Operations.

Issue 1:	Non-compliance with existing legislation
Consequence of Issue	Non-compliance with ecological laws and policies of South Africa could lead to unnecessary delays in establishment activities, and potentially criminal cases, based on the severity of the non-compliance, being brought against the proponent(s) and their contractors. Permits will be required for the removal of any protected plant and/or animal species present on site.
Number of impacts identified associated with this issue	Only 1 (Impact 1.1.)

Impact 1.1.: Legal compliance
Phase of expansion: Planning and Design Phase/Construction Phase

Nature of impact	Negative. Non-compliance with ecological laws and policies of South Africa could lead to unnecessary delays in establishment activities, and potentially criminal cases, based on the severity of the non-compliance, being brought against the proponent(s) and their contractors. Permits will be required for the removal of any protected plant and animal species present on site.		
Cumulative impact	None		
Indirect impacts	None		
Residual impacts	None		
Classification of impact	Before mitigating	After mitigating	Consequence of Impact
Duration of impact	5	2	Only during construction phase.
Extent of impact	3	1	Provincial approval will be required.
Intensity of impact	5	2	Legislated approval is required to impact on any protected plants, animals or environments.
Severity	13	5	Duration + extent + intensity
Probability of impact occurring	5	2	Impact will occur on commencement of construction.
Frequency	1	1	
Incidence	6	3	Frequency + Probability
Degree of reversibility	High		Permits and authorisations may be required.
Irreplaceability	Low		No resource will be lost.
Mitigations	Mitigatory potential		Recommended mitigations
	High		- All relevant plant and animal removal/relocation permits must be obtained from the competent authorities to remove any protected plant and animal species. - A relevant tree removal permit must be obtained for the protected tree (<i>Sideroxylon inerme</i>) from the competent authorities.
Significance of impact (Severity x Incidence)	Pre-mitigation significance Medium negative (78)		Post-mitigation significance Very low negative (15)

Issue 2:	Vegetation clearing for development
Consequence of issue	Clearing of natural vegetation will result in a range of issues, including increasing the risk of soil erosion; reducing endemic vegetation types; reducing threatened and protected plants.
Number of impacts	3 (Impacts 2.1. to 2.3.)

Impact 2.1.: Loss of natural vegetation	
Phase of expansion: Construction Phase	
Nature of impact	Negative. Clearing will result in the loss of approx. 1 266 m ² of dune thicket vegetation during construction of the developments.
Cumulative impact	Reduction in St Francis Dune Thicket/Strandveld vegetation – further increasing its threat status in the local St Francis Bay area.
Indirect impacts	Loss of biodiversity, habitats and ecological functioning in adjacent areas.
Residual impacts	Reduction in St Francis Dune Thicket/Strandveld vegetation – further increasing its threat status in the region.

Classification of impact	Before mitigating	After mitigating	Consequence of Impact
Duration of impact	5	5	Clearing will result in the permanent loss of approx. 1 266 m ² of dune thicket/strandveld vegetation in the direct development footprint.
Extent of impact	2	1	Clearing will be restricted to the development footprint.
Intensity of impact	5	3	Ecological functions and processes will continue to function in significantly reduced or modified fashion.
Severity	12	8	Duration + extent + intensity
Probability of impact occurring	5	3	Impact will occur on commencement of construction.
Frequency	5	5	Vegetation will be permanently removed.
Incidence	10	8	Frequency + Probability
Degree of reversibility	Low		Impact can be partially reversed through mitigation measures.
Irreplaceability	High		Vegetation will be permanently lost.
Mitigations	Mitigatory potential		Recommended mitigations
	Medium		- Impact on intact thickets must be kept to a minimum. All thicket areas outside the demarcated development boundary are considered No-Go areas. - The coastal foredune area (approx. 35m distance from the beachfront) is classified as a No-Go areas. - No construction activities (temporary or permanent) will be allowed in the No-Go areas. - No vegetation may be cleared in the No-Go areas. - No on-site fires will be permitted. - Plant Search & Rescue will be required to remove all protected species prior to vegetation clearing. - No biodiversity offsetting is recommended.
Significance of impact (Severity x Incidence)	Pre-mitigation significance High negative (120)		Post-mitigation significance Medium negative (64)

Impact 2.2.: Loss of plant SCC	
Phase of expansion: Construction Phase	
Nature of impact	Negative. Clearing will may result in the loss of identified and non-identified plant SCC
Cumulative impact	Reduction in the number of individuals in the local population of a specific plant SCC.
Indirect impacts	Loss in genetic variability within the local population of a specific plant SCC.
Residual impacts	Potential localized loss of populations of plant SCC over time.

Classification of impact	Before mitigating	After mitigating	Consequence of Impact
Duration of impact	5	5	Removal of SCC will only occur during the initial stages of clearing but will be permanent due to the nature of clearing (avoidance of individual plants or populations is impractical) and size of the development (the greatest portion of the three properties).
Extent of impact	2	1	Only the construction footprint and immediate surrounds will be impacted.
Intensity of impact	5	3	Genetic viability will be permanently lost.
Severity	12	9	Duration + extent + intensity
Probability of impact occurring	5	4	Impact will occur on commencement of construction.
Frequency	4	4	Throughout construction.
Incidence	9	8	Frequency + Probability
Degree of reversibility	Low		Impact can be partially reversed through mitigation measures.
Irreplaceability	High		The local (site specific) populations of certain plant SCC will be permanently lost or significantly reduced in size.
Mitigations	Mitigatory potential		Recommended mitigations
	Medium		- All relevant plant permits must be obtained prior to commencement of clearing. - A qualified botanist must be appointed to oversee plant removal. - No plant harvesting by construction staff will be allowed.
Significance of impact (Severity x Incidence)	Pre-mitigation significance High negative (108)		Post-mitigation significance Medium negative (72)

Issue 3:	Loss of biodiversity
Consequence of issue	Development of the site may result in the loss of biodiversity value in terms of available habitat of CBA's, ESA's and threatened vegetation/ecosystem types, and habitat fragmentation resulting in a potential reduction in population size or localized extinctions of populations of plant and animal SCC.
Number of impacts	2 (Impacts 3.1. to 3.2.)

Impact 3.1.: Loss of biodiversity value	
Phase of expansion: Construction Phase/Operations	
Nature of impact	Negative. Clearing will result in the loss of CBA 1 -valued areas (ECBCP, 2019) during construction and will reduce ecological connectivity and functioning in the landscape.
Cumulative impact	Further loss of CBA 1 -valued areas and a Critically Endangered ecosystem type in the general St Francis Bay area.
Indirect impacts	Decreased ecological functioning and ecosystem service delivery (carbon sequestration, soil conservation/stabilization, provision of food sources to seed dispersers and pollinators).
Residual impacts	Decreased resilience/increased vulnerability to natural and anthropogenic environmental change e.g. climate change, disease, AIS etc.

Classification of impact	Before mitigating	After mitigating	Consequence of Impact
Duration of impact	5	5	CBA 1 -valued areas and available habitat of a Critically Endangered ecosystem will be permanently lost.
Extent of impact	3	1	Will impact the development footprint and surrounding areas – in terms of the presence of dune thicket/strandveld and plant SCC.
Intensity of impact	5	3	Ecological functions and processes will continue to function in significantly reduced or modified fashion.
Severity	13	9	Duration + extent + intensity
Probability of impact occurring	5	4	Impact will occur on commencement of construction.
Frequency	5	5	Impact will occur on commencement of construction and will be permanent.
Incidence	10	9	Frequency + Probability
Degree of reversibility	Low		Impact can be partially reversed through mitigation measures.
Irreplaceability	High		CBA 1 and 2-valued areas and available habitat of a Critically Endangered ecosystem will be permanently lost.
Mitigations	Mitigatory potential		Recommended mitigations
	Low		- All areas outside the demarcated footprint will be considered as No-Go areas. - Biodiversity offsetting is not required. However, it must be confirmed that the intact thicket north of the site will be conserved.
Significance of impact (Severity x Incidence)	Pre-mitigation significance		Post-mitigation significance
	High negative (130)		Medium negative (81)

6. Conclusion

6.1. Assessment summary

The Proponents of erf 2369, Sea Vista in St Francis Bay wish to undertake the development of a new residential development on the property. The development will result in the permanent loss of 1 266 m² of intact and highly sensitive St Francis Dune Thicket (also called St Francis Strandveld – thicket component).

BlueLeaf Environmental (Pty) Ltd was appointed to conduct a full Terrestrial Biodiversity, Animal and Plant Species Specialist Assessment as part of the applications for Basic Assessments/EIA's for the proposed developments. This report will inform the applications for the proposed development.

The total size of the properties to be developed is 1.29 ha of which only 1 266 m² of thicket vegetation will be impacted. Assuming that this is the total area of vegetation to be cleared and impacted by the three developments, the development footprint is 3 403 m² while the Primary PAOI considered the entire 1.29 ha of the erf.

The National Biodiversity Assessment (NBA, 2025; Harris *et al.*, 2026) has classified vegetation on site as FS14 St Francis Strandveld, which classified as a Critically Endangered ecosystem. However, as the FS14 St Francis Strandveld vegetation classification, as described in the SANBI VegMap (2024), has not yet been published or gazetted, vegetation present on site is referred to as AT57 St Francis Dune Thicket in the report, as per the VegMap (2018; Dayaram *et al.*, 2019), with an ecosystem threat status of *Critically Endangered*, as per the NBA (2025). AT57 St Francis Dune Thicket is classified as Least Concern, as per the NBA (2018; Dayaram *et al.*, 2019), and gazetted under the Revised National List of Ecosystems that are Threatened and in need of Protection (GN 2747, 2022).

The following fine-scale land cover classes or vegetation units were identified and mapped for the proposed development sites, based on the site survey:

1. Transformed areas

Areas not containing any natural dune thicket vegetation. these areas include paved areas, swimming pool and entertainment area, and lawn.

2. Dune thicket

Dune thicket consists of large, tall growing (>1 m), continuous stands of thicket vegetation, characteristic of the Mesic Dune Thicket component of AT57 St Francis Dune Thicket.

The northern portion (5 684 m²) of the proposed development site is in a CBA 1 (as per ECBCP2019). Of this, only 2 970 m² or 52% is still covered by natural dune vegetation. The other 48% is urbanized to lawn, infrastructure and paved surfaces. The remainder of the site is not located in any sensitive CBA or ESA.

More than 45 plant species were identified on site. One protected tree, *Sideroxylon inerme* subsp. *inerme* (White Milkwood), occur. Plant S&R by a qualified botanist is therefore recommended before clearing of vegetation starts. Three exotic plants were identified, of which one species is listed as a Category 1b Invasive.

No animal SCC were observed on site and no other sensitive animal species were observed in the general project area.

6.2. Site Ecological Importance

The development sites have an overall high sensitivity allocation, as the property host a Critically Endangered ecosystem i.e. FS14 St Francis Strandveld, and a portion (5 384 m²) of the development site is classified as Terrestrial CBA 1 (ECBCP, 2019). The remainder of the erf is residential with regularly mown and grassed areas, paved parking, pool and recreation and buildings and is not classified as a CBA. The sites also host protected *Sideroxylon inerme* (White Milkwood) trees in the dense thicket portions.

Areas classified as 'Transformed area' achieved a no sensitivity rating of **low**.

Areas classified as 'dune thicket, with no plant SCC' achieved a sensitivity rating of **low**.

Areas classified as 'Intact dune thicket with protected milkwood trees' achieved a sensitivity rating of **high**.

Overall, approx. 43% (0.56 ha) of the Primary PAOI has a sensitivity rating of *high* but only 1.4% (190 m²) of the sensitive and intact dune thicket vegetation will be impacted by the proposed development. This loss can be offset by restoring all areas outside the development footprint but still within the erf to thickets. There is approx. 1700 m² of land available for restoration.

Vegetation clearing and the subsequent loss of plant and animal diversity will be limited to the direct development or construction footprint only.

A high level of mitigation *is recommended* on site prior to vegetation clearing, including Plant Search & Rescue activities.

No Biodiversity offsetting is recommended due to the small cover of sensitive dune thicket impacted.

The mitigation measures provided in this report were designed to mitigate the impacts on the development sites or construction footprint in an acceptable manner to ensure minimal negative impacts on the environment.

6.3. Alternatives

No site alternatives or layout alternatives are proposed. The proposed development is NOT considered as fatally flawed provided that all mitigation measures provided in this report are implemented.

6.4. Cumulative impacts

In terms of a Basic Assessment/EIA, a cumulative impact is defined as:

“Means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities”.

The following cumulative impacts were identified:

1. Reduction in the area occupied by St Francis Dune Thicket/Strandveld vegetation – a Critically Endangered ecosystem type – further increasing its rarity and threat status in the local St Francis Bay area.
2. Reduction in the number of individuals in the local population of a specific plant SCC.
3. Further loss of CBA 1 -valued areas (ECBCP, 2019) in the general St Francis Bay area.

6.5. Levels of acceptable change

The proposed developments are considered an acceptable change to the environment provided that all the proposed mitigation measures are implemented.

6.6. Levels to be avoided

Due to the conversion of a vegetated area to hard and impenetrable surfaces, the proposed developments may result in the presence of a larger volume of runoff, with an increased risk of poor stormwater management and soil erosion on site, as well in surrounding areas. Provided that all mitigation measures proposed in this report are implemented, these risks (as identified in this report) are considered as acceptable changes to the local environment.

6.7. No-development areas

No-development areas include:

- The vegetated foredune area (35m area from the beachfront inland).
- Dune thicket areas outside the erf boundary.

6.8. Biodiversity offsetting

The amount of natural dune thicket lost is very small (only 190 m²). It is recommended that the proposed footprint in intact thicket be reduced if possible. As mentioned earlier, approx. 1700 m² is available for restoration. Biodiversity offset mitigation is not required.

6.9. Current impacts

The following impacts are currently occurring on site and will be increased/exacerbated by the proposed developments:

- Historical activities like vegetation clearing through the construction of roads, parking areas and residential units, resulting in the degradation of St Francis Dune Thicket/Strandveld vegetation.
- The site is currently experiencing the impacts of habitat fragmentation. Left unmitigated, alien invasive species may spread and displace indigenous plant species. Plant and animal diversity may be further reduced.

6.10. General rehabilitation measures

The following general rehabilitation measures are recommended for inclusion into the EMPr:

Vegetation Search & Rescue

- Except to the extent necessary for the carrying out of the construction works, flora shall not be removed, damaged, or disturbed, nor shall any vegetation be removed.
- The search and rescue of rare, endemic, or endangered species, prior to site clearance must be carried out by a competent and qualified service provider. Translocation of these species shall take place strictly in accordance with the industry best practice.
- All plant species identified for re-vegetation purposes, must be relocated prior to clearing of the vegetation to a suitable holding site/nursery or directly to areas being landscaped.

6.11. Specialist opinion

The proposed residential development, mixed-use commercial retail centre development (Lifestyle Centre) and warehouse and storage facility development are NOT considered to be Fatally Flawed. No components of the proposed project have been identified as flawed. No site or layout alternatives are proposed.

As per the outcome of the SEI rating process, biodiversity offsetting is not required for the proposed developments. It is however recommended that, if possible, the footprint in intact thicket be reduced. If not possible, the proposed 1700 m² of available land must be resorted to natural dune thicket.

The ecological impacts of all aspects for the proposed development(s) were assessed and considered to be acceptable, provided that all mitigation measures provided in this report are implemented.

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8. Appendix A – Plant species list

Family	Scientific name	Common name	Red List (2024)	PNCO (1974)	Other status	Occurrence
Not provided	Sensitive species 291		Vulnerable			Unlikely
Not provided	Sensitive species 854		Endangered			Unlikely
Not provided	Sensitive species 1121		Vulnerable			Unlikely
Not provided	Sensitive species 1188		Vulnerable			Unlikely
Not provided	Sensitive species 460		Vulnerable			Unlikely
Not provided	Sensitive species 85		Endangered			Unlikely
Acanthaceae	<i>Hypoestes aristata</i>	Ribbon Plant	LC			Plausible
Aizoaceae	<i>Aizoon rigidum</i>	Skaapvygie	LC	Category 4		Observed
Aizoaceae	<i>Mesembryanthemum aitonis</i>	Brakslaa	LC	Category 4		Observed
Anacardiaceae	<i>Searsia crenata</i>	Dune Crowberry	LC			Observed
Apiaceae	<i>Centella asiatica</i>	Pennywort	LC			Observed
Apocynaceae	<i>Carissa bispinosa</i>	Karoo Num-num	LC			Observed
Apocynaceae	<i>Cynanchum obtusifolium</i>	Melktou	LC			Observed
Asparagaceae	<i>Yucca aloifolia</i>	Aloe Yucca	Not evaluated			Observed
Asteraceae	<i>Brachylaena discolor</i>	Coast Silver Oak	LC			Observed
Asteraceae	<i>Felicia echinata</i>	Dune Daisy	LC			Observed
Asteraceae	<i>Gazania rigens</i>	Trailing Gazania	LC			Observed
Asteraceae	<i>Helichrysum teretifolium</i>	Dune Schrub Everlasting	LC			Observed
Asteraceae	<i>Metalasia muricata</i>	Blombos/White bristle bush	LC			Observed
Asteraceae	<i>Nidorella ivifolia</i>	Ivy Vleiweed	LC			Observed
Asteraceae	<i>Osteospermum moniliferum</i>	Bietou	LC			Observed
Asteraceae	<i>Senecio angulatus</i>	Cape Ivy	LC			Observed
Celastraceae	<i>Lauridia tetragona</i>	Climbing Saffron	LC			Observed
Celastraceae	<i>Putterlickia pyracantha</i>	False Spike-thorn	LC			Observed
Ericaceae	<i>Erica chloroloma</i>	Red Heath	Vulnerable			Unlikely

Family	Scientific name	Common name	Red List (2024)	PNCO (1974)	Other status	Occurrence
Ericaceae	<i>Erica glumiflora</i>	Lantern Heath	Vulnerable			Unlikely
Fabaceae	<i>Acacia cyclops</i>	Rooikrans	Not evaluated			Observed
Geraniaceae	<i>Pelargonium capitatum</i>	Rose-scented Geranium	LC			Observed
Hypoxidaceae	<i>Hypoxis villosa</i>	Golden Winter Star	LC			Observed
Iridaceae	<i>Chasmanthe aethiopica</i>	Small Cobra Lily	LC	Category 4		Observed
Malvaceae	<i>Grewia occidentalis</i> var. <i>occidentalis</i>	Crossberry	LC			Observed
Malvaceae	<i>Hermannia althaeoides</i>	Doll's Rose	LC			Observed
Myricaceae	<i>Morella cordifolia</i>	Dune Waxberry	LC			Plausible
Oxalidaceae	<i>Oxalis depressa</i>	Sorrel	LC			Observed
Oxalidaceae	<i>Oxalis smithiana</i>	Star-leaved Sorrel	LC			Observed
Plantaginaceae	<i>Plantago lanceolata</i>	Narrow-leaved Plantain	LC			Observed
Poaceae	<i>Cenchrus clandestinus</i>	Kikuyu Grass	Not evaluated			Observed
Poaceae	<i>Cynodon dactylon</i>	Kweek	LC			Observed
Restionaceae	<i>Thamnochortus insignis</i>	Dekriet	LC			Observed
Restionaceae	<i>Restio eleocharis</i>	Katstert	LC			Observed
Rhamnaceae	<i>Phylica ericoides</i>	Heath Hardleaf	LC			Observed
Rhamnaceae	<i>Scutia myrtina</i>	Cat-thorn	LC			Observed
Rutaceae	<i>Coleonema pulchellum</i>	Confetti Bush	LC			Observed
Sapotaceae	<i>Sideroxylon inerme</i> sp. <i>inerme</i>	White Milkwood	LC		Protected tree	Observed
Thymelaceae	<i>Passerina corymbosa</i>	Common Cluster-flower Gonna	LC			Observed

9. Appendix B – Lists of animal species

Amphibians:

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
Bufonidae	<i>Sclerophrys capensis</i>	Raucous Toad	Least Concern
	<i>Sclerophrys pardalis</i>	Eastern Leopard Toad	Least Concern
Hyperoliidae	<i>Hyperolius horstockii</i>	Arum Lily Frog	Least Concern
	<i>Hyperolius marmoratus</i>	Painted Reed Frog	Least Concern
	<i>Semnodactylus wealii</i>	Rattling Frog	Least Concern
Pipidae	<i>Xenopus laevis</i>	Common Platanna	Least Concern
Pyxicephalidae	<i>Amietia delalandii</i>	Delalande's River Frog	Least Concern
	<i>Amietia fuscigula</i>	Cape River Frog	Least Concern
	<i>Cacosternum boettgeri</i>	Common Caco	Least Concern
	<i>Cacosternum nanum</i>	Bronze Caco	Least Concern
	<i>Strongylopus fasciatus</i>	Striped Stream Frog	Least Concern
	<i>Strongylopus grayii</i>	Clicking Stream Frog	Least Concern
	<i>Tomopterna delalandii</i>	Cape Sand Frog	Least Concern

Butterflies:

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
Crambidae	<i>Duponchelia fovealis</i>	-	-
	<i>Palpita elealis</i>	-	-
	<i>Spoladea recurvalis</i>	-	-
Erebidae	<i>Achaea finita</i>	-	-
	<i>Asota speciosa</i>	-	-
	<i>Cyligramma latona</i>	-	-
	<i>Eudocima phalonia</i>	-	-
	<i>Grammodes stolidia</i>	-	-
Geometridae	<i>Acanthoalva focularia</i>	-	Least Concern
Hesperiidae	<i>Afrogegenes letterstedti</i>	Brown dodger	Least Concern
	<i>Afrogegenes ocrea</i>	Yellow dodger	-
	<i>Borbo borbonica borbonica</i>	Olive-haired swift	Least Concern
	<i>Coeliades forestan forestan</i>	Striped policeman	Least Concern
	<i>Kedestes lenis alba</i>	Unique ranger	Least Concern
	<i>Metisella malgacha malgacha</i>	Grassveld sylph	Least Concern
	<i>Metisella metis paris</i>	Gold-spotted sylph	Least Concern
	<i>Pelopidas thrax</i>	White-branded swift	Least Concern
	<i>Spialia spio</i>	Mountain sandman	Least Concern
	<i>Zophopetes dysmephila</i>	Palm-tree night-fighter	Least Concern
Lycaenidae	<i>Aloeides aranda</i>	Yellow russet	Least Concern
	<i>Aloeides depicta</i>	Depicta russet	Least Concern
	<i>Aloeides pallida pallida</i>	Giant russet	Least Concern
	<i>Anthene amarah amarah</i>	Black-striped ciliate blue	Least Concern
	<i>Anthene definita definita</i>	Steel-blue-ciliate blue	Least Concern
	<i>Cacyreus fracta fracta</i>	Water geranium bronze	Least Concern

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
	<i>Cacyreus lingeus</i>	Bush bronze	Least Concern
	<i>Cacyreus marshalli</i>	Common geranium bronze	Least Concern
	<i>Chilades trochylus</i>	Grass jewel blue	Least Concern
	<i>Chrysoritis chrysaor</i>	Burnished opal	Least Concern
	<i>Chrysoritis midas</i>	Midas opal	Least Concern
	<i>Chrysoritis palmus margueritae</i>	Water opal	Least Concern
	<i>Chrysoritis pyroeis hersaleki</i>	Sand-dune opal	Vulnerable
	<i>Durbaniella clarki jenniferae</i>	Little rocksitter	Least Concern
	<i>Eicochrysops messapus messapus</i>	Cupreous ash blue	Least Concern
	<i>Lampides boeticus</i>	Pea blue	Least Concern
	<i>Leptomyrina lara</i>	Cape black-eye	Least Concern
	<i>Leptotes pirithous pirithous</i>	Common zebra blue	Least Concern
	<i>Tarucus thespis</i>	Vivid pierrot	Least Concern
	<i>Trimenia argyroplaga argyroplaga</i>	Large silver-spotted copper	Least Concern
	<i>Zizeeria knysna knysna</i>	African grass blue	Least Concern
Noctuidae	<i>Brephos decora</i>	-	-
	<i>Helicoverpa armigera</i>	-	-
	<i>Leucotrachea melanodonta</i>	-	-
Nymphalidae	<i>Acraea horta</i>	Garden acraea	Least Concern
	<i>Acraea neobule neobule</i>	Wandering donkey acraea	Least Concern
	<i>Cassionympha cassius</i>	Rainforest dull brown	Least Concern
	<i>Cassionympha detecta</i>	Cape dull brown	Least Concern
	<i>Catacroptera cloanthe cloanthe</i>	Pirate	Least Concern
	<i>Charaxes varanes varanes</i>	Pearl charaxes	Least Concern
	<i>Danaus chrysippus orientis</i>	African plain tiger	Least Concern
	<i>Dira clytus eurina</i>	Cape autumn widow	Least Concern
	<i>Hypolimnas misippus</i>	Common diadem	Least Concern
	<i>Junonia hierta cebrene</i>	Yellow pansy	Least Concern
	<i>Junonia oenone oenone</i>	Dark blue pansy	Least Concern
	<i>Junonia orithya madagascariensis</i>	African blue pansy	Least Concern
	<i>Pardopsis punctatissima</i>	Polka dot	Least Concern
	<i>Pseudonympha magoides</i>	False silver-bottom brown	Least Concern
	<i>Pseudonympha magus</i>	Silver-bottom brown	Least Concern
	<i>Telchinia cabira</i>	Yellow-banded telchinia	Least Concern
	<i>Vanessa cardui</i>	Painted lady	Least Concern
	<i>Vanessa hippomene hippomene</i>	Southern short-tailed admiral	Least Concern
Papilionidae	<i>Papilio demodocus demodocus</i>	Citrus swallowtail	Least Concern
	<i>Papilio nireus lyaeus</i>	Narrow green-banded swallowtail	Least Concern
Pieridae	<i>Belenois creona severina</i>	African caper white	Least Concern
	<i>Belenois gidica abyssinica</i>	African veined white	Least Concern
	<i>Belenois zochalia zochalia</i>	Forest caper white	Least Concern
	<i>Catopsilia florella</i>	African migrant	Least Concern
	<i>Colias electo electo</i>	African clouded yellow	Least Concern

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
	<i>Colotis euippe omphale</i>	Southern round-winged orange tip	Least Concern
	<i>Dixeia charina charina</i>	African ant-heap white	Least Concern
	<i>Eurema brigitta brigitta</i>	Broad-bordered grass yellow	Least Concern
	<i>Mylothris agathina agathina</i>	Eastern dotted border	Least Concern
	<i>Pinacopteryx eriphia eriphia</i>	Zebra white	Least Concern
	<i>Pontia helice helice</i>	Southern meadow white	Least Concern
Pyralidae	<i>Aglossa incultalis</i>	-	-
Saturniidae	<i>Bunaea alcinoe</i>	-	-
	<i>Nudaurelia cytherea</i>	-	-
Sphingidae	<i>Hippotion eson</i>	-	-
	<i>Macroglossum trochilus</i>	-	-
	<i>Temnora pylas</i>	-	-

Mammals:

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
Bathyergidae	<i>Georchus capensis</i>	Cape Mole-rat	Least Concern
Chrysochloridae	<i>Amblysomus hottentotus</i>	Hottentot Golden Mole	Least Concern
Herpestidae	<i>Atilax paludinosus</i>	Marsh Mongoose	Least Concern
	<i>Herpestes pulverulentus</i>	Cape Gray Mongoose	Least Concern
Hystriidae	<i>Hystrix africae australis</i>	Cape Porcupine	Least Concern
Molossidae	<i>Tadarida aegyptiaca</i>	Egyptian Free-tailed Bat	Least Concern
Muridae	<i>Mastomys natalensis</i>	Natal Mastomys	Least Concern
	<i>Mus (Nannomys) minutoides</i>	Southern African Pygmy Mouse	Least Concern
	<i>Otomys auratus</i>	Southern African Vlei Rat (Grassland type)	Near Threatened
	<i>Otomys irroratus</i>	Southern African Vlei Rat (Fynbos type)	Least Concern
	<i>Otomys laminatus</i>	KwaZulu Vlei Rat	Near Threatened
	<i>Rhabdomys pumilio</i>	Xeric Four-striped Grass Rat	Least Concern
Pteropodidae	<i>Epomophorus wahlbergi</i>	Wahlberg's Epauletted Fruit Bat	Least Concern
	<i>Rousettus (Rousettus) aegyptiacus</i>	Egyptian Rousette	Least Concern
Rhinolophidae	<i>Rhinolophus capensis</i>	Cape Horseshoe Bat	Least Concern
	<i>Rhinolophus clivus</i>	Geoffroy's Horseshoe Bat	Least Concern
Soricidae	<i>Myosorex longicaudatus</i>	Long-tailed Forest Shrew	Endangered
	<i>Myosorex varius</i>	Forest Shrew	Least Concern
Vespertilionidae	<i>Eptesicus (Eptesicus) hottentotus</i>	Long-tailed Serotine	Least Concern
	<i>Miniopterus natalensis</i>	Natal Long-fingered Bat	Least Concern
	<i>Myotis tricolor</i>	Temminck's Myotis	Least Concern
	<i>Neoromicia capensis</i>	Cape Serotine	Least Concern
	<i>Pipistrellus (Pipistrellus) hesperidus</i>	Dusky Pipistrelle	Least Concern
Viverridae	<i>Genetta tigrina</i>	Cape Genet (Cape Large-spotted Genet)	Least Concern

Reptiles:

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
Colubridae	<i>Crotaphopeltis hotamboeia</i>	Red-lipped Snake	Least Concern
	<i>Dasypeltis scabra</i>	Rhombic Egg-eater	Least Concern
	<i>Philothamnus hoplogaster</i>	South Eastern Green Snake	Least Concern
	<i>Philothamnus occidentalis</i>	Western Natal Green Snake	Least Concern
	<i>Philothamnus semivariegatus</i>	Spotted Bush Snake	Least Concern
	<i>Cordylus cordylus</i>	Cape Girdled Lizard	Least Concern
Elapidae	<i>Hemachatus haemachatus</i>	Rinkhals	Least Concern
	<i>Hydrophis platurus</i>	Yellow-bellied Sea Snake	Least Concern
Gekkonidae	<i>Afrogecko porphyreus</i>	Marbled Leaf-toed Gecko	Least Concern
	<i>Hemidactylus mabouia</i>	Common Tropical House Gecko	Least Concern
	<i>Lygodactylus capensis</i>	Common Dwarf Gecko	Least Concern
	<i>Pachydactylus maculatus</i>	Spotted Gecko	Least Concern
Gerrhosauridae	<i>Tetradactylus seps</i>	Short-legged Seps	Least Concern
Lacertidae	<i>Nucras lalandii</i>	Delalande's Sandveld Lizard	Least Concern
Lamprophiidae	<i>Boaedon capensis</i>	Brown House Snake	Least Concern
	<i>Duberria lutrix lutrix</i>	South African Slug-eater	Least Concern
	<i>Homoroselaps lacteus</i>	Spotted Harlequin Snake	Least Concern
	<i>Lamprophis aurora</i>	Aurora House Snake	Least Concern
	<i>Lycodonomorphus inornatus</i>	Olive House Snake	Least Concern
	<i>Lycodonomorphus rufulus</i>	Brown Water Snake	Least Concern
	<i>Lycophidion capense capense</i>	Cape Wolf Snake	Least Concern
	<i>Psammophis crucifer</i>	Cross-marked Grass Snake	Least Concern
	<i>Psammophylax rhombeatus</i>	Spotted Grass Snake	Least Concern
	<i>Pseudaspis cana</i>	Mole Snake	Least Concern
Leptotyphlopidae	<i>Leptotyphlops nigricans</i>	Black Thread Snake	Least Concern
Pelomedusidae	<i>Pelomedusa galeata</i>	South African Marsh Terrapin	Not evaluated
Scincidae	<i>Acontias lineicauda</i>	Algoa Bay Legless Skink	Least Concern
	<i>Acontias meleagris</i>	Cape Legless Skink	Least Concern
	<i>Acontias orientalis</i>	Eastern Legless Skink	Least Concern
	<i>Scelotes anguinus</i>	Algoa Dwarf Burrowing Skink	Least Concern
	<i>Trachylepis capensis</i>	Cape Skink	Least Concern
	<i>Trachylepis homalocephala</i>	Red-sided Skink	Least Concern
	<i>Trachylepis varia sensu stricto</i>	Common Variable Skink	-
Testudinidae	<i>Chersina angulata</i>	Angulate Tortoise	Least Concern
Typhlopidae	<i>Homopus areolatus</i>	Parrot-beaked Tortoise	Least Concern
	<i>Stigmochelys pardalis</i>	Leopard Tortoise	Least Concern
	<i>Rhinotyphlops lalandei</i>	Delalande's Beaked Blind Snake	Least Concern
Varanidae	<i>Varanus albigularis albigularis</i>	Rock Monitor	Least Concern
Viperidae	<i>Bitis arietans arietans</i>	Puff Adder	Least Concern
	<i>Causus rhombeatus</i>	Rhombic Night Adder	Least Concern

Spiders:

FAMILY	SCIENTIFIC NAME	COMMON NAME	RED LIST
Aranaeidae	<i>Nephila fenestrata</i>	Black legged golden orb-web spider	-
Sparassidae	<i>Palystes superciliosus</i>	Common rain spiders	-
Theraphosidae	<i>Harpactira tigrina</i>	Golden baboon spider	-
Thomisidae	FAMILY Thomisidae	Crab spiders	-

Scorpions:

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
Buthidae	<i>Uroplectes formosus</i>	-	-
	<i>Uroplectes triangulifer</i>	-	-
Hormuridae	<i>Opisthacanthus capensis</i>	-	-

10. Appendix C – List of bird species

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
Accipitridae	<i>Accipiter melanoleucus</i>	Black Sparrowhawk (Goshawk)	Least Concern
	<i>Buteo [augur] rufofuscus</i>	Jackal Buzzard	
	<i>Buteo trizonatus</i>	Forest Buzzard	Near Threatened
	<i>Buteo buteo</i>	Steppe (Common) Buzzard	
	<i>Circus maurus</i>	Black Harrier	Endangered
	<i>Circus ranivorus</i>	African Marsh-Harrier	Endangered
	<i>Elanus caeruleus</i>	Black-shouldered (Winged) Kite	
	<i>Haliaeetus vocifer</i>	African Fish-Eagle	
	<i>Lophaetus occipitalis</i>	Long-crested Eagle	
	<i>Melierax canorus</i>	Southern Pale Chanting Goshawk	
	<i>Pandion haliaetus</i>	Osprey	
	<i>Pernis apivorus</i>	European Honey-buzzard	
	<i>Polemaetus bellicosus</i>	Martial Eagle	Endangered
Alaudidae	<i>Calandrella [brachydactyla] cinerea</i>	Red-capped Lark	
	<i>Mirafra africana</i>	Rufous-naped Lark	
	<i>Mirafra fasciolata</i>	Eastern Clapper Lark (split)	
Anatidae	<i>Alopochen aegyptiaca</i>	Egyptian Goose	
	<i>Anas capensis</i>	Cape Teal	
	<i>Anas erythrorhyncha</i>	Red-billed Teal (Duck)	
	<i>Anas platyrhynchos</i>	Mallard	
	<i>Anas smithii</i>	Cape Shoveler	
	<i>Anas undulata</i>	Yellow-billed Duck	
	<i>Netta erythrophthalma</i>	Southern Pochard	
	<i>Plectropterus gambensis</i>	Spur-winged Goose	
	<i>Tadorna cana</i>	South African Shelduck	
Anhingidae	<i>Anhinga rufa</i>	African Darter	
Apodidae	<i>Apus apus</i>	Common (European) Swift	
	<i>Apus caffer</i>	White-rumped Swift	
Ardeidae	<i>Ardea cinerea</i>	Grey Heron	
	<i>Ardea goliath</i>	Goliath Heron	
	<i>Ardea melanocephala</i>	Black-headed Heron	
	<i>Ardea purpurea</i>	Purple Heron	
	<i>Bubulcus ibis</i>	Cattle Egret	
	<i>Egretta alba</i>	Great Egret	
	<i>Egretta garzetta</i>	Little Egret	
	<i>Egretta intermedia</i>	Yellow-billed (Intermediate) Egret	
	<i>Nycticorax nycticorax</i>	Black-crowned Night-Heron	
Burhinidae	<i>Burhinus capensis</i>	Spotted Thick-knee (Dikkop)	
	<i>Burhinus vermiculatus</i>	Water Thick-knee (Dikkop)	
Campephagidae	<i>Campephaga flava</i>	Black Cuckooshrike	

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
Caprimulgidae	<i>Caprimulgus pectoralis</i>	Fiery-necked Nightjar	
Centropodidae	<i>Centropus burchellii</i>	Burchell's Coucal (split)	
Cerylidae	<i>Ceryle rudis</i>	Pied Kingfisher	
Charadriidae	<i>Charadrius hiaticula</i>	Common Ringed Plover	
	<i>Charadrius leschenaultii</i>	Greater Sand Plover	
	<i>Charadrius marginatus</i>	White-fronted Plover	
	<i>Charadrius mongolus</i>	Lesser Sand (Mongolian) Plover	
	<i>Charadrius pecuarius</i>	Kittlitz's Plover	
	<i>Charadrius tricollaris</i>	Three-banded Plover	
	<i>Pluvialis dominica</i>	American Golden-Plover	
	<i>Pluvialis squatarola</i>	Grey (Black-bellied) Plover	
	<i>Vanellus armatus</i>	Blacksmith Lapwing (Plover)	
	<i>Vanellus coronatus</i>	Crowned Lapwing (Plover)	
	<i>Vanellus melanopterus</i>	Black-winged Lapwing (Plover)	
Ciconiidae	<i>Anastomus lamelligerus</i>	African (Openbilled) Openbill (Stork)	
	<i>Ciconia abdimii</i>	Abdim's Stork	Near Threatened
	<i>Ciconia ciconia</i>	White Stork	
Cisticolidae	<i>Apalis thoracica</i>	Bar-throated Apalis	
	<i>Cisticola fulvicapillus</i> [fulvicapilla]	Neddicky (Piping Cisticola)	
	<i>Cisticola subruficapillus</i> [subruficapilla]	Grey-backed (Red-headed) Cisticola	
	<i>Cisticola tinniens</i>	Levaillant's (Tinkling) Cisticola	
	<i>Prinia maculosa</i>	Karoo Prinia (split)	
Coliidae	<i>Colius striatus</i>	Speckled Mousebird	
	<i>Urocolius indicus</i>	Red-faced Mousebird	
Columbidae	<i>Columba arquatrix</i>	African Olive- (Rameron) Pigeon	
	<i>Columba guinea</i>	Speckled (Rock) Pigeon	
	<i>Oena capensis</i>	Namaqua Dove	
	<i>Streptopelia semitorquata</i>	Red-eyed Dove	
	<i>Streptopelia senegalensis</i>	Laughing (Palm) Dove	
Coraciidae	<i>Coracias garrulus</i>	European Roller	Near Threatened
Corvidae	<i>Corvus albus</i>	Pied Crow	
Cuculidae	<i>Chrysococcyx caprius</i>	Dideric (Diederik) Cuckoo	
	<i>Chrysococcyx klaas</i>	Klaas's Cuckoo	
	<i>Clamator (Oxylophus) jacobinus</i>	Jacobin (Pied) Cuckoo	
	<i>Cuculus solitarius</i>	Red-chested Cuckoo	
Dacelonidae	<i>Halcyon albiventris</i>	Brown-hooded Kingfisher	
	<i>Megaceryle maxima</i> (H. maximus)	Giant Kingfisher	
Dicruridae	<i>Dicrurus adsimilis</i>	Fork-tailed Drongo	
Estrildidae	<i>Estrilda astrild</i>	Common Waxbill	
	<i>Lagonosticta rubricata</i>	African (Blue-billed) Firefinch	
Falconidae	<i>Falco amurensis</i>	Amur (Eastern Red-footed) Falcon (Kestrel)	

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
	<i>Falco rupicolus</i>	Rock Kestrel	
Fringillidae	<i>Serinus gularis</i>	Streaky-headed Seedeater (Canary)	
	<i>Serinus scotops</i>	Forest Canary	
	<i>Serinus sulphuratus</i>	Brimstone (Bully) Canary	
	<i>Serinus canicollis</i>	Cape (Yellow-crowned) Canary	
Gruidae	<i>Anthropoides paradiseus</i>	Blue Crane	Near Threatened
Hirundinidae	<i>Hirundo abyssinica</i>	Lesser Striped-Swallow	
	<i>Hirundo albigularis</i>	White-throated Swallow	
	<i>Hirundo cucullata</i>	Greater Striped-Swallow	
	<i>Hirundo fuligula</i>	Rock Martin	
	<i>Hirundo rustica</i>	Barn (European) Swallow	
	<i>Psolidoprocne holomelas/pristoptera</i>	Black Saw-wing	
	<i>Riparia cincta</i>	Banded Martin	
Jacanidae	<i>Microparra capensis</i>	Lesser Jacana	Vulnerable
Laniidae	<i>Lanius collaris</i>	Southern Fiscal	
	<i>Lanius collurio</i>	Red-backed Shrike	
Laridae	<i>Anous tenuirostris</i>	Lesser Noddy	
Lybiidae	<i>Lybius torquatus</i>	Black-collared Barbet	
Malaconotidae	<i>Batis capensis</i>	Cape Batis	
	<i>Dryoscopus cubla</i>	Black-backed (Southern) Puffback	
	<i>Laniarius ferrugineus</i>	Southern Boubou	
	<i>Tchagra tchagra</i>	Southern Tchagra	
	<i>Telophorus olivaceus</i>	Olive Bush-Shrike	
	<i>Telophorus zeylonus</i>	Bokmakierie	
Meropidae	<i>Merops persicus</i>	Blue-cheeked Bee-eater	
Monarchidae	<i>Terpsiphone viridis</i>	African Paradise-Flycatcher	
Motacillidae	<i>Anthus cinnamomeus</i>	African (Grassveld/Grassland) Pipit	
	<i>Anthus leucophrys</i>	Plain-backed Pipit	
	<i>Macronyx capensis</i>	Cape (Orange-throated) Longclaw	
	<i>Macronyx croceus</i>	Yellow-throated Longclaw	
	<i>Motacilla capensis</i>	Cape Wagtail	
Muscicapidae	<i>Cercomela familiaris</i>	Familiar Chat	
Muscicapidae	<i>Cercotrichas (Erythropygia) coryphaeus</i>	Karoo Scrub-Robin	
	<i>Cossypha caffra</i>	Cape Robin-chat	
	<i>Oenanthe pileata</i>	Capped Wheatear	
	<i>Saxicola torquata</i>	African (Common) Stonechat	
	<i>Sigelus silens</i>	Fiscal Flycatcher	
Nectariniidae	<i>Nectarinia [Chalcomitra] amethystina</i>	Amethyst (Black) Sunbird	
Numididae	<i>Numida meleagris</i>	Helmeted Guineafowl	
Oriolidae	<i>Oriolus larvatus</i>	Black-headed (Eastern) Oriole	
Otididae	<i>Eupodotis senegalensis</i>	White-bellied Korhaan	Vulnerable

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
	<i>Neotis denhami</i>	Denham's (Stanley's) Bustard	Vulnerable
Passeridae	<i>Passer diffusus</i>	Southern Greyheaded Sparrow (split)	
	<i>Passer domesticus</i>	House Sparrow	
	<i>Passer melanurus</i>	Cape Sparrow	
Phaethontidae	<i>Phaethon rubricauda</i>	Red-tailed Tropicbird	
Phasianidae	<i>Pternistis afer</i>	Red-necked Spurfowl (Francolin)	
Ploceidae	<i>Euplectes orix</i>	Southern Red (Red) Bishop	
	<i>Euplectes progne</i>	Long-tailed Widowbird	
	<i>Ploceus capensis</i>	Cape Weaver	
	<i>Ploceus cucullatus</i>	Village (Spotted-backed) Weaver	
	<i>Ploceus ocularis</i>	Spectacled Weaver	
	<i>Ploceus velatus</i>	Southern Masked-Weaver	
	<i>Quelea quelea</i>	Red-billed Quelea	
Podicipedidae	<i>Tachybaptus ruficollis</i>	Little Grebe (Dabchick)	
Procellariidae	<i>Calonectris borealis</i>	Cory's Shearwater	
Psittacidae	<i>Agapornis [liliana] nigrigenis</i>	Black-cheeked Lovebird	
Pycnonotidae	<i>Andropadus importunus</i>	Sombre Greenbul (Bulbul)	
	<i>Phyllastrephus terrestris</i>	Terrestrial Brownbul (Bulbul)	
	<i>Pycnonotus capensis</i>	Cape Bulbul	
Rallidae	<i>Amaurornis flavirostris</i>	Black Crake	
	<i>Fulica cristata</i>	Red-knobbed Coot	
	<i>Gallinula chloropus</i>	Common Moorhen	
	<i>Sarothrura rufa</i>	Red-chested Flufftail	
Recurvirostridae	<i>Himantopus himantopus</i>	Black-winged Stilt	
	<i>Recurvirostra avosetta</i>	Pied (Avocet) Avocet	
Sagittariidae	<i>Sagittarius serpentarius</i>	Secretarybird	Vulnerable
Scolopacidae	<i>Actitis hypoleucos</i>	Common Sandpiper	
	<i>Arenaria interpres</i>	Ruddy Turnstone	
	<i>Calidris alba</i>	Sanderling	
	<i>Calidris canutus</i>	Red Knot	
	<i>Calidris ferruginea</i>	Curlew Sandpiper	
	<i>Calidris minuta</i>	Little Stint	
	<i>Limosa haemastica</i>	Hudsonian Godwit	
	<i>Limosa lapponica</i>	Bar-tailed Godwit	
	<i>Numenius phaeopus</i>	Common (Whimbrel) Whimbrel	
	<i>Philomachus pugnax</i>	Ruff	
	<i>Tringa nebularia</i>	Common Greenshank	
Strigidae	<i>Bubo africanus</i>	Spotted Eagle-Owl	
Sturnidae	<i>Creatophora cinerea</i>	Wattled Starling	
	<i>Lamprotornis corruscus</i>	Black-bellied Starling	
	<i>Lamprotornis nitens</i>	Cape Glossy (Glossy) Starling	
	<i>Onychognathus morio</i>	Red-winged Starling	
	<i>Spreo bicolor</i>	Pied (African Pied) Starling	

FAMILY	SPECIES NAME	COMMON NAME	SENSITIVITY STATUS
	<i>Sturnus vulgaris</i>	Common (European) Starling	
Sylviidae	<i>Bradypterus sylvaticus</i>	Knysna Warbler	Vulnerable
	<i>Sphenoeacus afer</i>	Cape Grassbird	
Threskiornithidae	<i>Bostrychia hagedash</i>	Hadedda Ibis	
	<i>Threskiornis aethiopicus</i>	African Sacred (Sacred) Ibis	
Turdidae	<i>Turdus olivaceus</i>	Olive Thrush (split)	
Upupidae	<i>Upupa africana</i>	African Hoopoe	
Viduidae	<i>Vidua macroura</i>	Pin-tailed Whydah	
Zosteropidae	<i>Zosterops virens</i>	Cape White-eye (split)	

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

(For official use only)

File Reference Number:

NEAS Reference Number:

Date Received:

Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of **4 May 2026**.

PROJECT TITLE

Residential Development on the Remainder of Erf 2369 of Sea Vista, St Francis

SPECIALIST 1

Ecological – Plant Species, Animal Species, Terrestrial Biosiversity

BlueLeaf Environmental (Pty) Ltd.

Mr Roy de Kock

Postal address:

38 Tulip Avenue, Sunridge Park, Gqeberha

Postal code:

6045

Cell:

076 281 9660

Telephone:

-

Fax:

-

E-mail:

roy@blueleafenviro.co.za

Professional affiliation(s) (if any)

SACNASP (400216/16)

Project Consultant:

Digital Soils Africa (Pty) Ltd

Contact person:

Postal address:

Postal code:

Telephone:

E-mail:

Natalie Sharp		
45 Church Street, Walmer		
6070	Cell:	082 414 0472
082 414 0472	Fax:	
natalie@dsafrica.co.za		

4.2 The SPECIALIST

I, **Roy de Kock**, declare that –

General declaration:

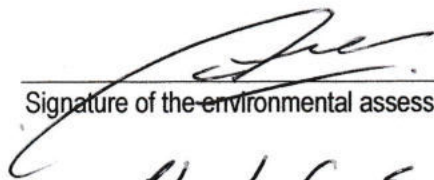
- I act as the independent Specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and

- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the environmental assessment practitioner:



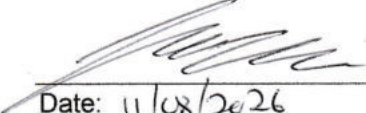
Blueleaf Environmental (Pty) Ltd.

Name of company:

11/8/2026

Date:

Signature of the Commissioner of Oaths:



Date: *11/08/2026*

Designation: *Professional Accountant (CA)*

¹ Curriculum Vitae (CV) attached

Official stamp (below).

COMMISSIONER OF OATHS
CHARL MEISTRE
Ex Officio - Professional Accountant (SA)
23 Bernard Road, Charlo, Port Elizabeth, 6070
082 737 1406

Annexure 1

CV

Curriculum Vitae

I worked as an environmental consultant for the past 19 years and since December 2019 have been self-employed as a botanical, aquatic, agricultural and soil specialist. I have a B.Sc Honours in Geology, an M.Sc in Botany and is currently completing a Ph.D in Botany & Soil Science. I have experience in project management and have led numerous EIAs in the Eastern, Northern, and Western Capes, Gauteng, Mpumalanga, and Northwest Provinces. My projects include SANRAL road projects, renewable energy developments, mining applications (quarries and BPs), mixed-use developments and numerous smaller infrastructure EIAs. Before studying I worked as a financial advisor for ABSA Bank for 9 years and have 6 years of high school science teaching and 5 years University lecturing experience.

Personal Details

Name	Roy de Kock
Identification number	7606 2205 3202 082
Current address	38 Tulip Avenue, Sunridge Park, Port Elizabeth, Eastern Cape, South Africa
Email	roy@blueleafenviro.co.za
Contact number	+27 76 281 9660
Driver's license	Code 08 (EB)
Language competencies	English (excellent verbal and writing) Afrikaans (excellent verbal and writing)

Education

Qualification	Institution	Year
PhD Botany and Soil Science	Nelson Mandela University	Current
MSc Botany	Nelson Mandela University	2010
BSc (Hons.) Geology	Nelson Mandela University	2008
BSc Botany & Geology	Nelson Mandela University	2007
Diploma in Marketing	University of Witwatersrand	2003

Skill Highlights

Project Management and Environmental Consulting	– Extensive experience in project management and have led numerous projects of various scales throughout South Africa. – Managed over 200 projects over an 16-year period. – Managed up to 15 projects at a single time.
---	--

	– My projects included SANRAL road projects, renewable energy developments, mining applications (quarries and BPs), mixed-use developments and numerous smaller infrastructure EIAs. – My largest project was a multi-million Rand Special Economic Zone development in Upington, Northern Cape. – Experience in conservation management and have developed various management plans for protected areas within the Eastern Cape and Gauteng.
Environmental Legislation	I have extensive experience in interpreting and applying the following International, National, Provincial legislation: <u>International:</u> – IFC Performance Standards – Equator Principles <u>National:</u> – National Environmental Management Act – National Environmental Management Act (EIA Regulations) – National Environmental Management Waste Act – National Environmental Management Air Quality Act – National Environmental Management Biodiversity Act – National Environmental Management Protected Areas Act – National Water Act – National Forestry Act – Conservation of Agricultural Resources Act <u>Provincial</u> I am well versed in provincial environmental legislation and regulations in the following provinces: – Gauteng – Western Cape – Eastern Cape – Northern Cape – Northwest – Mpumalanga
Specialist consulting	– Worked as a specialist for the last 17 years while managing projects. – Self-employed as a botanical and soil specialist since January 2020. – SACNASP registered as a Professional Natural Scientist. – Written over 100 botanical, ecological and biodiversity assessments.

	– Done over 25 agricultural and soil assessments for numerous mining (and other) EIAs throughout SA and Mozambique and even have experience drafting rehabilitation and closure plans for large mines (graphite, REEs, Iron). – Done various Aquatic Biodiversity studies in the last 6 years. – In the last 2-3 years I have started drafting wetland and river assessments. – Drafted a few visual assessments throughout the years. – Done numerous Water Use Licenses for a variety of clients including farmers, contractors, and developers.
Finance	– 9 years working experience as a financial advisor for ABSA Bank. – Consulted commercial clients to assist in cash flow issues. – Done retail consulting for small businesses and private individuals.
Teaching and Lecturing	– 5 years' experience in teaching Mathematics, Science, Biology and Geography to High School grades. – 1-year experience in teaching advanced mathematics as an online course to Secondary School grades. – 5 years' experience in lecturing Ecology and Conservation Management to 3rd year students at the Nelson Mandela University in Port Elizabeth.
Environmental Auditing	– Drafted over 100 environmental and safety protocols for various developers throughout South Africa – Implemented and audited numerous environmental and safety protocols during all phases of development (Planning, construction, operations, decommissioning and closure) – Drafted numerous Environmental and Social Management Systems (ESMS) for international clients. – Audited various ESMS's throughout South Africa

Work Experience

Ecological and Soil Consultant

BlueLeaf Environmental (Pty) Ltd – 01/2020 to current

- Conducting specialist studies for various projects in South Africa including:
 - Plant and Animal Assessments
 - Terrestrial Biodiversity Assessments
 - Agricultural Impact Assessments
 - Aquatic Biodiversity Assessments

- Water Use Licensing (abstraction, borehole, bridges & culverts).
- Plant and animal relocation permits (National and Provincial)
- Plant and animal Search and Rescue.
- Environmental Risk Assessments.
- Mine Rehabilitation and Closure Plans.

Principal Environmental Consultant

Employer: CES Environmental and Social Advisory Services, East London, Eastern Cape - 04/2010 to 12/2019

- Managed numerous projects of various sizes including budget management, client liaison, timeframe targets, managing junior consultants and sub-consultants.
- Prepared environmental impact assessment (EIA) reports in terms of relevant EIA legislation and regulations for development proposals including Infrastructure projects, bulk water and wastewater, roads, electrical, mining, ports, aquaculture, renewable energy (solar and wind), industrial processes, housing developments, golf estates and resorts, etc.
- Projects have also included preparation of applications in terms of other statutory requirements, such as water-use and mining license /permit applications.

Feasibility assessments

- Managed projects to develop pre-feasibility and feasibility assessments for various projects, including various tourism developments, infrastructure projects, etc.

Specialist studies

- Conducting specialist studies for various projects in both South Africa and the rest of Africa (Mozambique, Madagascar, Zambia, Malawi) including:
 - Terrestrial Plant and Animal Environment
 - Terrestrial Biodiversity Environment
 - Agricultural Environment
 - Aquatic Biodiversity Environment
 - Visual Assessments Water Use Licensing (abstraction, borehole, bridges & culverts)
 - Plant and animal relocation permits (National and Provincial), and
 - Plant and animal Search and Rescue.

University lecturer

Teaching 3rd and 4th year education students' principles of science at the Nelson Mandela University in Port Elizabeth, Eastern Cape, South Africa - 06/2021 – 12/2025

Modules taught:

- Animal and Plant Conservation and Management (6-month module)
- Humans, Life and Environment (6-month module)

Laboratory technician

Nelson Mandela University (Faculties of Botany, Zoology and Biochemistry, Port Elizabeth, Eastern Cape – 02/2009 to 03/2010

Assisting students and postgraduates in receiving, labeling, and analyzing samples, design, set-up and conducting of experiments. Designing and executing laboratory testing according to standard procedures. General laboratory maintenance of equipment including calibrations,

glassware, and chemicals.

School Teacher

Bet-El Christian School, Kabega Park, Port Elizabeth – 01/2020 to 12/2021

Hananja Private School, Jeffreys Bay, Eastern Cape – 01/2007 to 12/2009

Private online tutor East London, Eastern Cape – 01/2020 to current

Teaching Grades 8 to 12 *Mathematics, Physical Science, Life Science*

Online teaching Advanced Mathematics and Science Grades 4-7 (2019-current)

Financial Advisor

ABSA Bank Florida, Gauteng – 02/1995 to 12/2003

Assisting clients to determine their expenses, income, insurance coverage, financial objectives, tax status, risk tolerance, or other information needed to develop a financial plan. Answering client questions about financial plans and strategies and giving financial advice. Also worked as:

- Bank teller
- Enquiries clerk
- Administrative assistant
- Treasurer
- Retail sales consultant

Professional Registrations

- SACNASP – Registered as a professional natural scientist (Ref: 400216/16)
- IAIA – Registered as an environmental practitioner.
- SAAB – South African Association of Botanists
- LaRSSA – Land Rehabilitation Society of South Africa



**Nelson Mandela
Metropolitan
University**

This is to certify that, all the requirements having been met, the degree

Magister Scientiae
(Botany)

with all the associated rights and privileges, was conferred upon

Roy De Kock

(ID No.: 7606225032082)

at a congregation of the Nelson Mandela Metropolitan University on

13-APRIL-2011

Certificate No.: 20110760




Vice-Chancellor


Registrar

Gold foillog as this certificate indicates its authenticity.

007/100



herewith certifies that

Roy de Kock

Registration Number: 400216/16

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)

in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective **21 September 2016**

Expires **31 March 2027**



A stylized, handwritten signature in black ink, likely belonging to the President of the Council.

President of Council

A stylized, handwritten signature in black ink, likely belonging to the Chief Executive Officer.

Chief Executive Officer



To verify this certificate scan this code



Vegetation and Landscape Rehabilitation Plan

Proposed development of erf 2369, Sea
Vista, St Francis, Eastern Cape Province

Mr Roy de Kock M.Sc (Pri.Nat.Sc.)
Ecologist and Biodiversity specialist
Blue Leaf Environmental (Pty) Ltd.
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LIST OF ACRONYMS

BID	Background Information Document
BGIS	Biodiversity Geographic Information System
CA	Competent Authority
CBA	Critical Biodiversity Area(s)
CE	Critically Endangered
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DFFE	Department of Fisheries, Forestry and Environment
DWS	Department of Water and Sanitation
EN	Endangered
ESA	Ecological Support Area(s)
GIS	Geographic Information System
GN	Government Notice
ha	Hectare(s)
km	Kilometer(s)
m	Meter(s)
masl	Meters above sea level
NEMA	National Environmental Management Act
NEMBA	National Environmental Management Biodiversity Act
NFEPA	National Freshwater Ecosystem Priority Area(s)
No.	Number
NWA	National Water Act
RE	Remaining Extend
SACNASP	South African Council for Natural Scientific Professionals
SANBI	South African National Biodiversity Institute
VU	Vulnerable

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1. INTRODUCTION

BlueLeaf Environmental Consulting (Pty) Ltd (BlueLeaf) has been appointed by Born free investments (Pty) Ltd, the landowner of Erf 2369, Sea Vista located in St Francis Bay in the Eastern Cape Province to develop a Vegetation Rehabilitation Plan for a proposed residential development on the property. (Figure 1.1). The proposed development entails the construction of eight fully serviced luxury houses on them, with separate garage buildings, all connected with a single access road.

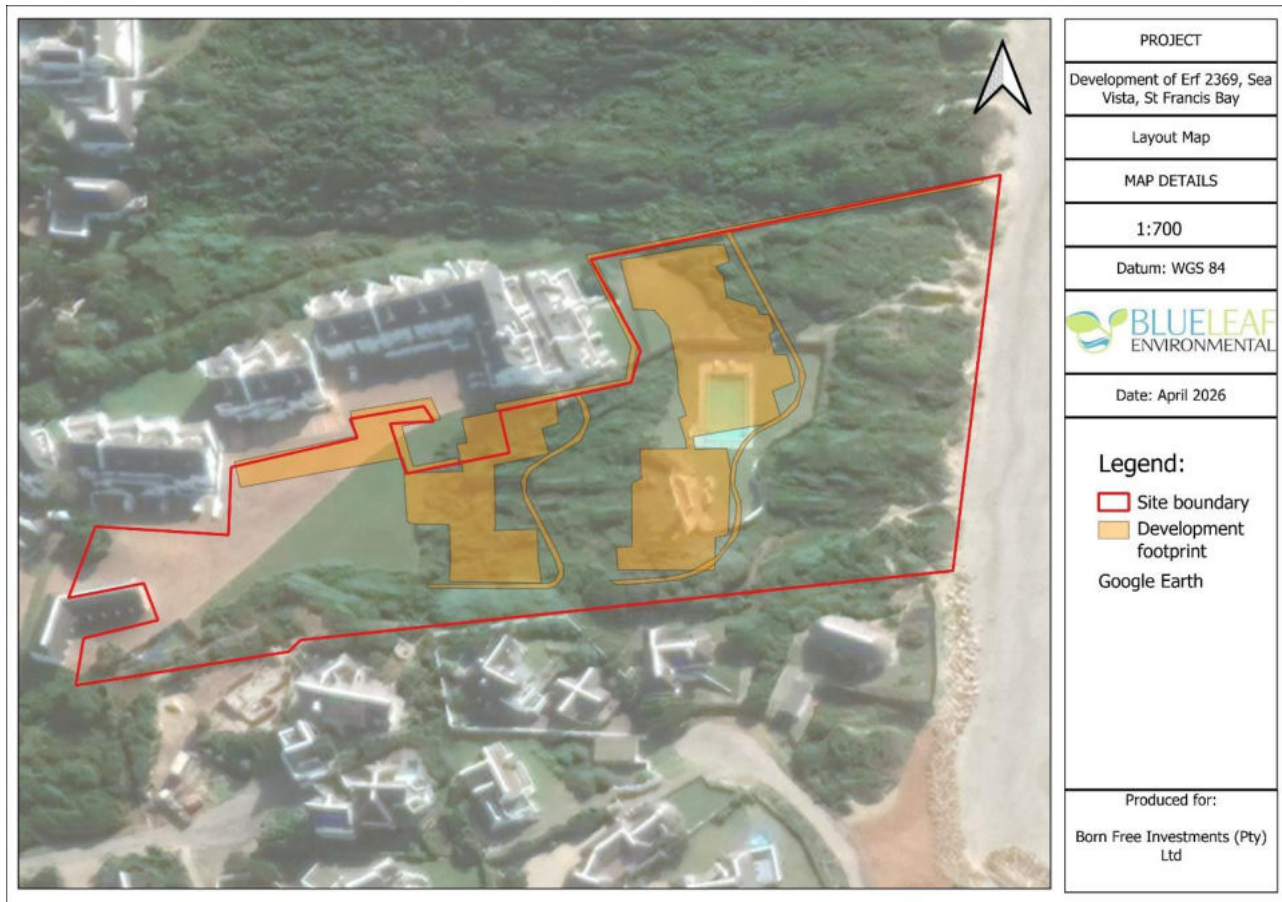


Figure 1.1: Map showing the proposed layout on erf 2369

This Rehabilitation Plan is developed to assist the developers during rehabilitation of the site after construction, specifically the naturally vegetated dune area in the east of the site. Some natural dune vegetation will be cleared around and west of the pool. Soil is unconsolidated sand with a high erosion potential, and the proposed development is within 100m of the ocean's high-water mark. This results in high erosional risk of the site, especially along the beachfront where scouring occur, which is addressed in this Rehabilitation Report.

1.1 Legislative requirements

In South Africa, the requirement for a rehabilitation plan is primarily triggered by legislation aimed at environmental protection, usually with a strong focus on mining and industrial activities. The primary legal framework relevant for this project includes the Constitution and the National Environmental Management Act (NEMA). Section 28 of the National Environmental Management Act 107 of 1998 (NEMA) imposes a "duty of care" on any person who causes, has caused, or may cause significant pollution or degradation of the environment.

Trigger: Causing or threatening to cause environmental degradation.

Requirement: An authorized rehabilitation plan must be implemented to minimize or rectify such activity.

The St Francis Property Owners Non-Profit Company (SFPO NPC) initiated the Long Term Coastal Protection Scheme (LTCPS), a project that aims to safeguard coastline and rejuvenating the beaches of St Francis Bay through the construction of several strategically placed rock groynes along the shoreline between the Kromme River mouth and Main Beach.

This plan, approved by the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), includes comprehensive environmental management programs to manage impacts during construction.

The primary objective of this Vegetation Rehabilitation Plan is to stabilize degraded, disturbed, or cleared beach dune field by reinstating self-sustaining native ecosystems, preventing erosion, and restoring ecological functioning. It focuses on mitigating erosional issues, controlling invasive species, and restoring biodiversity to a desired end-state.

2. PROJECT DESCRIPTION

The project site was described using a two-phased approach. Firstly, a desktop assessment of the site was conducted in terms of current vegetation classifications and biodiversity programs and plans. This was followed by a site visit to assess the actual ecological state, current land-use and to identify potential sensitive ecosystems associated with the relevant activities onsite.

2.1 Background and Literature review

Published literature on the ecology of the area was referenced to describe the study site in the context of the local region and the Eastern Cape Province. The following documents/plans are referenced:

- SANBI vegetation (Mucina & Rutherford 2006 as amended and the VegMap 2024).
- Eastern Cape Biodiversity Conservation Plan (ECBCP; 2019).
- The National Freshwater Ecosystem Priority Areas (NFEPA) programme.
- National Environmental Management: Protected Areas Act (NO. 57 of 2003; NEMPAA) and the National Protected Areas Expansion Strategy (NPAES).
- Review of the SANBI Red Data List of Plants.
- National Environmental Management: Biodiversity Act (NEMBA) List of Threatened or Protected Species.
- Provincial Nature Conservation Ordinance, 1974 (Ordinance 19 of 1974; PNCO).
- National Environmental Management: Biodiversity Act (NEMBA) List of Alien Invasive Vegetation.
- National Environmental Management: Biodiversity Act (NEMBA) List of Threatened Ecosystems.
- Department of Agriculture, Forestry and Fisheries (DAFF) List of Protected Trees.

2.2 Topography

The St Francis Bay coastline is a dynamic, low-lying, and sandy area, characterized by active dune fields, rocky headlands, and a maximum elevation of around 71 meters. The coastline is experiencing significant erosion, causing the loss of beaches and the need for artificial sand replenishment.

2.3 Land use

Land use within erf 2369 is characterized by a mix of dense residential to the west and north with the remainder areas covered by natural dune and thicket vegetation. The site is surrounded by formal built-up residential areas to the south and west with the ocean to the east and dense, natural dune thicket vegetation to the north.

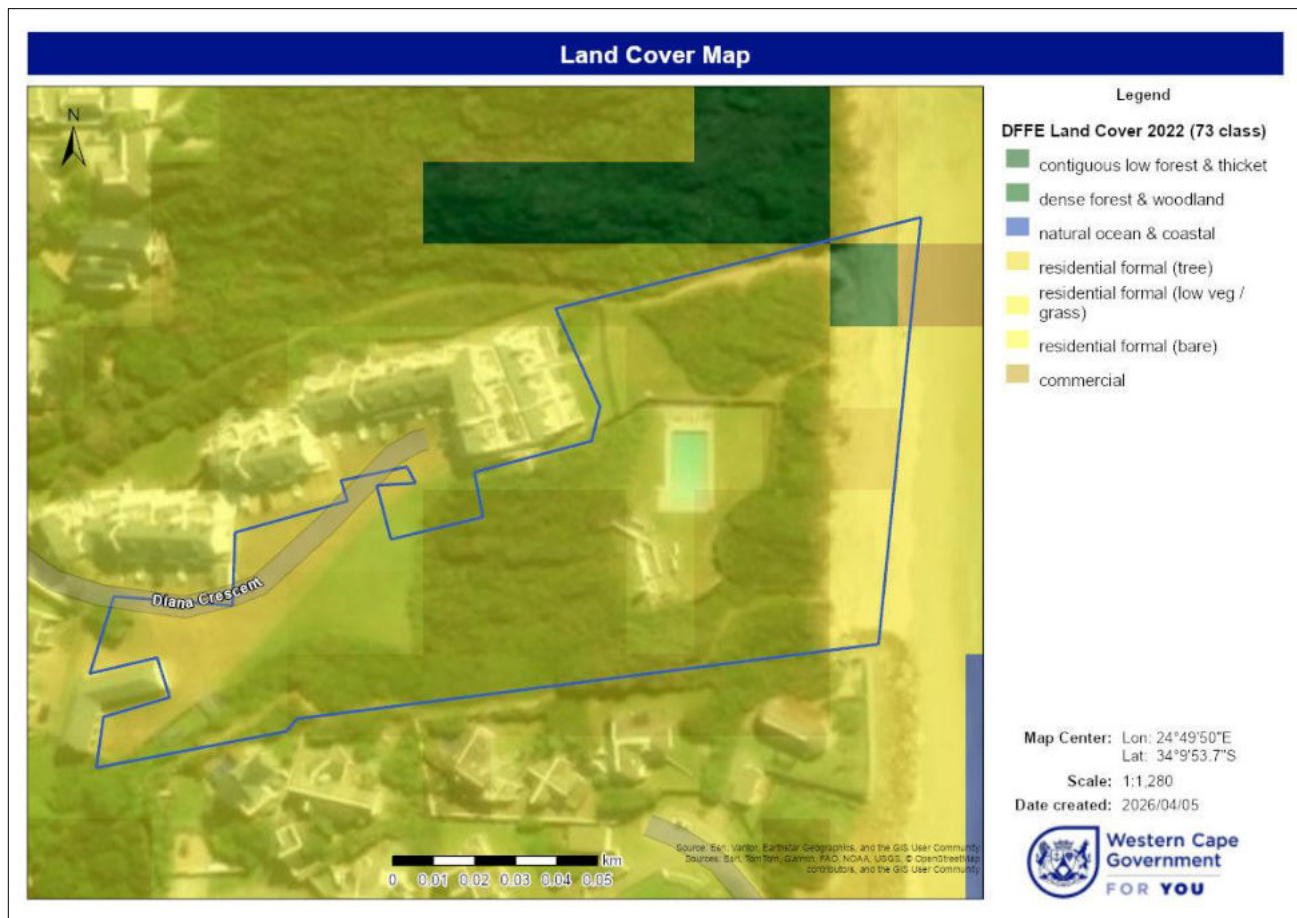


Figure 2.1: Land use of erf 2369 and surroundings.

Below is a photo sequence of the current state of the site:





2.4 Geology and soil

St Francis Bay is characterized by a coastal geology dominated by quaternary aeolian (wind-blown) sand deposits underlain by Table Mountain Group sandstone bedrock. The area is known for its mobile dune systems, sandy beaches, and rocky outcrops.

Geology

Bedrock: The foundational geology consists of hard, grey-white quartzitic sandstone of the Skurweberg and Peninsula Formations (Table Mountain Group). This bedrock is visible in outcrops along the coast.

Sediments: The surface geology is dominated by thick deposits of coastal aeolian sand (Schelm Hoek Formation).

Calcrete: Layers of calcrete (old "beachrock") exist between the sand and bedrock, formed by groundwater dissolving shell fragments.

Intrusions: The region is part of the Cape Fold Belt, and nearby geological studies have noted magnetic anomalies (Beattie magnetic anomaly) indicating potential deep igneous intrusions, though these are more relevant to the broader Karoo basin.

Soils

Aeolian Sand: The primary soil type is light brown or light yellow, poorly graded, non-plastic, slightly silty fine sand of aeolian origin.

Topsoil: An organic-rich topsoil layer, typically about 200mm thick, covers the natural aeolian soil.

Coastal Dunes: The dunes are characterized by coarse to medium-grained, freely draining sands with high carbonate content (Algoa Dune Strandveld).

Soil Challenges: Some areas exhibit sandy, loose soils that may experience severe settlement problems (hydrocollapse) under saturated conditions, with potential soil volume decreases.

2.5 Surface water

The project site is not located within 500m of any surface freshwater feature including rivers, streams, drainages and wetland or dams.

2.6 Vegetation and floristics

The South African National Biodiversity Institute (SANBI) vegetation map (called the VegMap; 2018) lists the proposed study site within a single vegetation type, namely **St Francis Strandveld** (FS12).

Distribution: Spans from Kromme River in St Francis Bay to Klasies River in the eastern Tsitsikamma, with a smaller section north of the Maitland River stretching towards the Gamtoos River Mouth. It covers an area of 97 km².

Vegetation & Landscape Features: The vegetated sand dunes take on a parabolic shape, featuring parallel ridges of dunes that are occasionally broken up by wide or narrow troughs. Within these troughs, some areas host wetlands. The vegetation predominantly consists of a grassy variation of Sand Fynbos, with dense thickets and forest elements. There are Mesic Dune Thicket patches that occupy the St Francis Strandveld where they are associated with moist dune troughs. Altitude between 0 – 182 meters (median 60 m).

SANBI has not classified this vegetation unit. Only about 5.1% is statutorily conserved in the Gamtoos River Mouth Local Nature Reserve; Rebelsrus Private Nature Reserve; Huisklip Nature Reserve; Maitland Mines Nature Reserve; Cape St. Francis Provincial Nature Reserve; Franscois and Annelie Marits Private Nature Reserve; Oyster Bay Private Nature Reserve. It is considered poorly protected.

The site visit confirmed that only 0.81 ha of the original Dune Thicket Strandveld vegetation remains on site. Of this a minimum of 1 147 m² (0.1 ha) will have to be cleared for the new residences

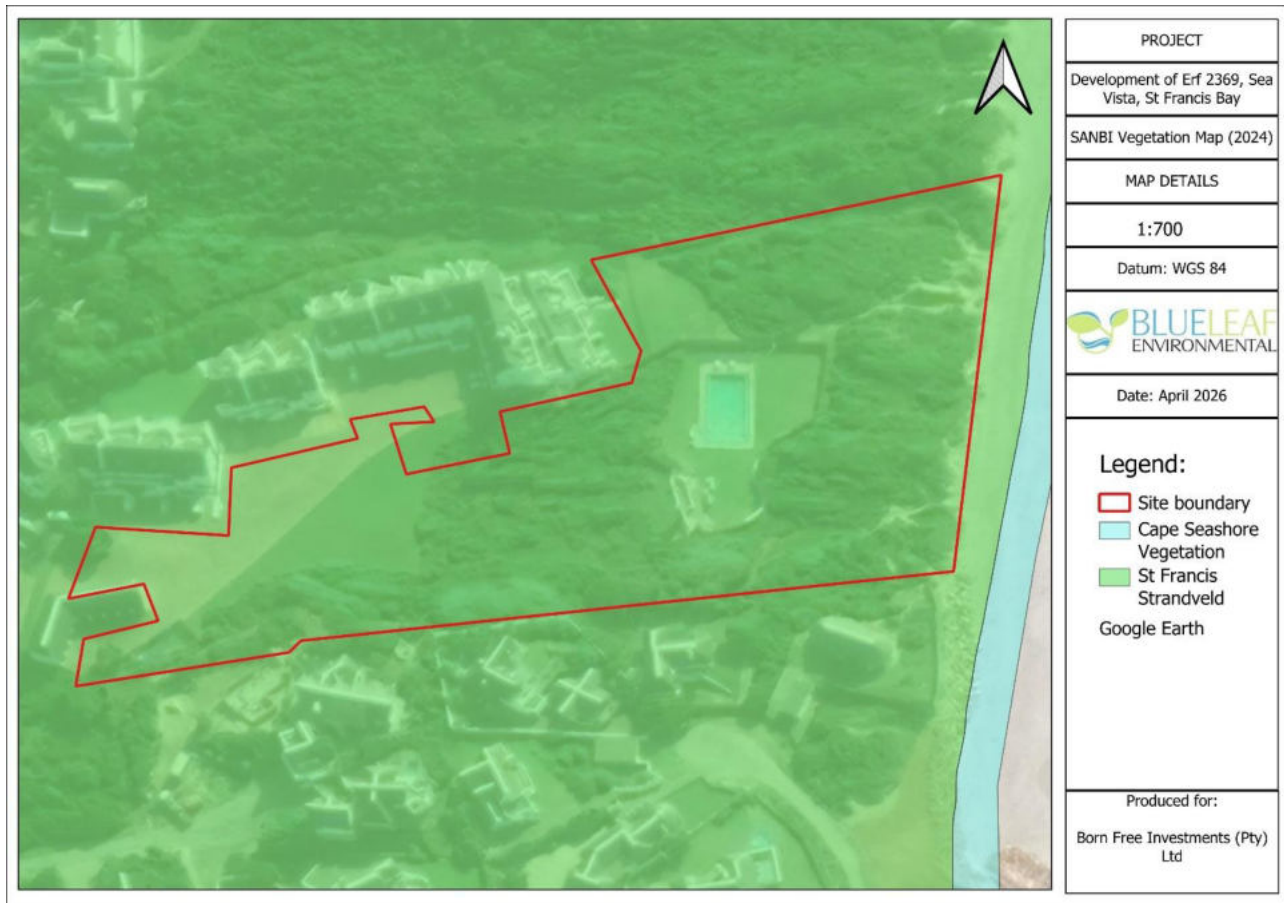


Figure 2.2: SANBI Vegetation map of the site and surroundings (SANBI VegMap 2024)

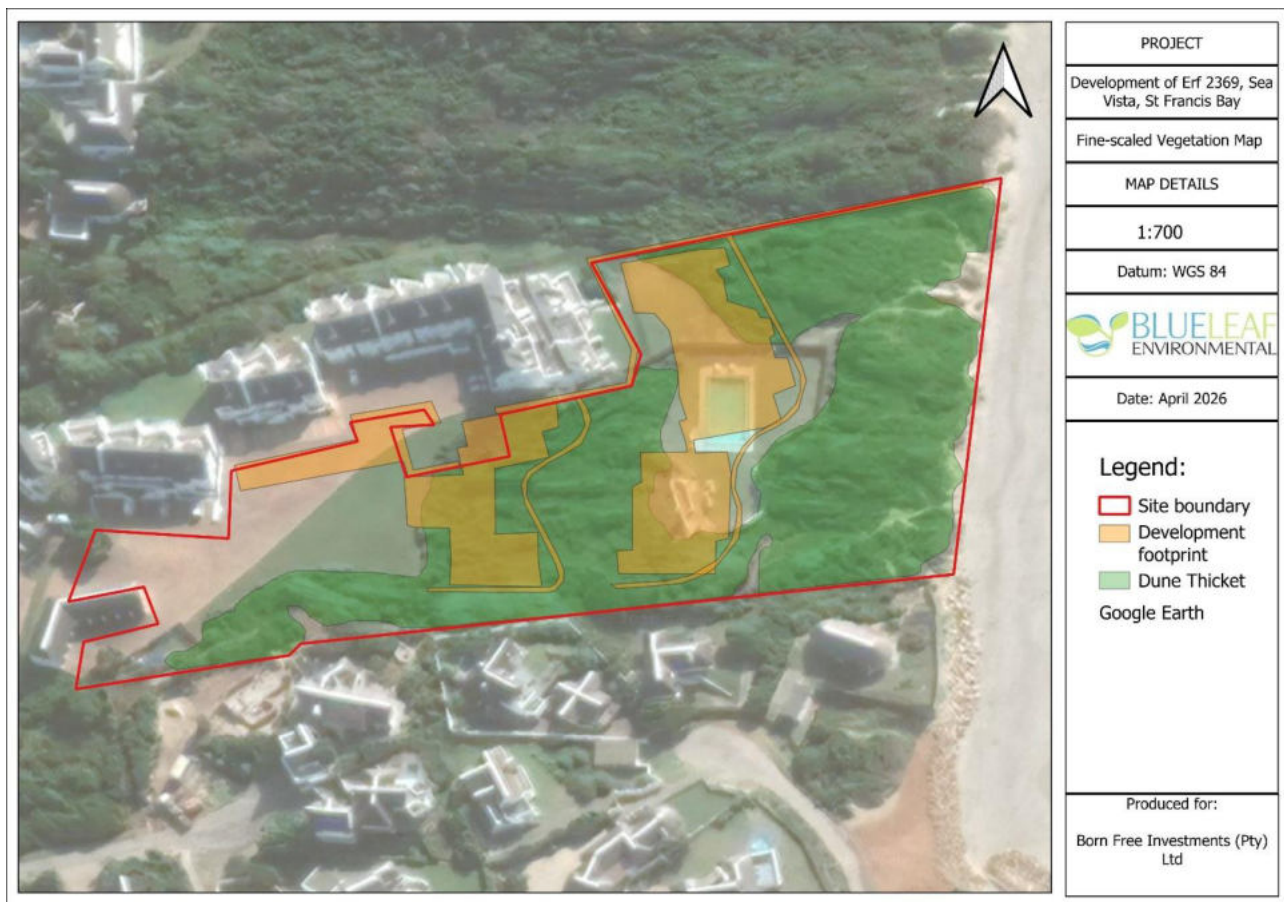


Figure 2.3: Fine-scaled vegetation map of the site.

2.7 Biodiversity

The biodiversity of the local area is described in terms of the Eastern Cape Province (namely ECBCP). Biodiversity sensitivity allocations as well as management strategies from this tool are described below:

Eastern Cape Biodiversity Conservation Plan (ECBCP; 2019)

According to the Eastern Cape Biodiversity Conservation Plan (ECBCP; 2019) the norther portion of the site is located within a CBA1 area. According to the Eastern Cape Biodiversity Conservation Plan (ECBCP; Hawley *et al.*, 2019) Handbook, Critical Biodiversity Areas (CBA1) are defined as irreplaceable or near-irreplaceable sites required to meet biodiversity pattern and process targets. The overall management objective for CBA1 areas is to maintain them in a natural or near-natural state, with no further loss of habitat.



Figure 2.5: ECBCP Terrestrial map of the site and surroundings (2019)

3. REHABILITATION PLAN

Developing a rehabilitation plan for coastal dune systems in South Africa requires a delicate balance. These ecosystems are highly dynamic, sensitive to wind erosion, and protected under stringent environmental legislation, including the National Environmental Management Act (NEMA) and the ICM Act.

There are several forms of rehabilitation, and the state of the environment and future land use determines which of these are used (Aronson *et al* 1993). The three systems include **restoration**, **rehabilitation**, or **reallocation**. Usually, restoration is used when the degraded system has not yet passed a degradation threshold, after which only rehabilitation or reallocation can be used. The three different types of rehabilitation with degraded lands are as follows:

- **Restoration:** “the intentional alteration of a site to establish a defined indigenous, historic ecosystem. The goal of this process is to emulate the structure, functioning, diversity, and dynamics of the specified ecosystem”.
- **Rehabilitation:** “seeks to repair damaged or blocked ecosystem functions, with the primary goal of raising ecosystem productivity for the benefit of local people. Moreover, it attempts to achieve such changes as rapidly as possible. However, a rehabilitation project resembles a restoration attempt in adopting the indigenous ecosystem’s structure and functioning as the principal models to be followed, insofar as they can be determined or guessed. That is, they both aim at recreating autonomous or self-sustaining ecosystems, which are characterized by biotic change or succession in plant and animal communities, and the ability to repair themselves following natural or moderate human perturbations”
- **Reallocation:** “part of a landscape, in any state, is assigned a new use that does not necessarily bear an intrinsic relationship with the pre-disturbance ecosystem’s structure or function.” (Aronson *et al* 1993).

The objective for erf 2369 is to restore the beachfront through erosion and alien vegetation management. This will include rehabilitation of already eroded soils actions to reduce beach and dune scouring by the ocean.

Beach dune restoration in South Africa involves a structured approach to combat erosion, focusing on natural solutions like sand nourishment, fencing to trap sand, and planting indigenous, drought-resistant vegetation. Key steps include:

- site assessment,
- artificial sand accumulation,
- stabilization,
- rehabilitation of vegetation, and
- long-term management to protect infrastructure.

The following guidelines will be followed:

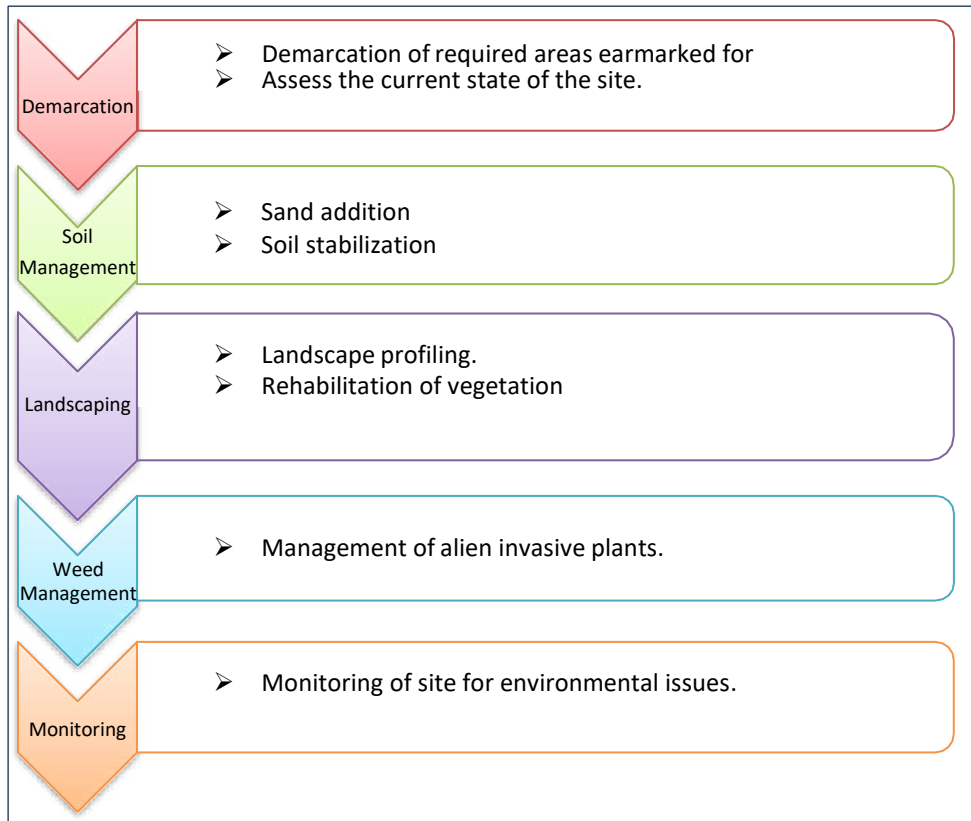


Figure 4.1: Restoration guidelines

3.1 Demarcation

The following areas will be restored:

- Dune front areas including dunes and dune vegetation along the eastern section of erf 2369.

The following areas will NOT be restored:

- Residential areas.

3.2 Soil management

Some erosion has already occurred along the dune field. The beach remains sandy and soil addition (adding additional soil mechanically) is currently not required.

Soil addition

The site must be monitored and if this situation ever changes, soil addition must be incorporated as per the St Francis Long Term Coastal Protection Scheme (LTCPS). Contact the St Francis Property Owners Non-Profit Company for details on this(<https://stfrancispropertyowners.com/long-term-coastal-protection-scheme/>). Soil is dredged and pumped from the Kromme River and the Sand River delta by truck to replenish eroded beachfront.

Soil stabilization

For decades, the beaches of St Francis Bay have suffered a net loss of sand because of reduced input of wind-driven sand following the stabilization of the dune system between Grannies Pool and the Port St Francis Harbour. At present, during high tides, many areas of coastline have no visible beaches. This erosion has placed ocean-fronting properties at serious risk of wave damage.

St Francis property owns has adopted groyne construction combined with sand nourishment. Landowners are placing breakwater groyne structures—often rock rubble mounds, timber, or concrete—along beachfronts to trap sand and prevent erosion.

It is recommended that a rock groyne be placed along the breakwater front along the property dunes to reduce ocean scouring of these dunes. The method has been adopted with success on surrounding beachfront properties. If not done, the property will increase the risk of the vegetated beachfront dunes being washed away, endangering the residential properties on the site. Below are some photographs of groyne placement on neighboring properties:



3.3 Landscaping

Landscaping involves the placement of additional soil (when and if required) and groynes (rockpiles).

Landscape profiling

All additions must align with the current dune profiling. Materials may not be placed higher than the current dune field or create walls.

3.4 Management of vegetation

Dune vegetation management is crucial for stabilizing shorelines, trapping sand to build resilience, and providing a natural barrier against storm surges and coastal erosion. Effective management, including planting native species like *Osteospermum moniliferum* (Bietou), creates a 40% reduction in wave run-up erosion and maintains sand reservoirs. Key aspects of managed dune vegetation on erosional beaches include:

Stabilization and Sand Trapping: Vegetation restricts sand movement from wind, preventing dune loss and rebuilding dune volume after storm events.

Storm Buffering: Roots and stems act as a binding agent that enhances dune strength, providing a defensive barrier for inland areas against waves and flooding.

Environmental Benefits: Healthy dunes support unique biodiversity, protecting coastal habitats and providing aesthetic and recreational value.

Management Practices: Effective techniques include fencing, vegetation planting, and preventing human disturbance (too many pathways, etc.) that cause "blowouts" and dune degradation.

Although extreme events like storm surges can still damage vegetated dunes, managed vegetation remains a superior natural defense over bare sand. Proper management is vital for long-term coastal protection.

3.5 Weed management

Weed management along beach vegetation is critical for maintaining shoreline stability, protecting infrastructure, and preserving native coastal ecosystems. On sandy coastlines, vegetation, particularly native dune species—is the primary mechanism for anchoring sand and building up dunes to act as a buffer against wave energy and storm surges.

Unchecked weeds can disrupt this protective function, while improper management can exacerbate erosion. Effective weed management must be integrated with restoration efforts to be successful.

Key Alien Plant Species observed on site include:

1. **Rooikrans** (*Acacia cyclops*): The most prevalent woody invader. It can form dense stands on dunes if left unmanaged.
2. **Port Jackson Willow** (*Acacia saligna*): Another common, aggressive acacia invader.
3. **Marram Grass** (*Ammophila arenaria*): Was historically used for binding sand and stabilizing mobile dunes.
4. **Pine Trees** (*Pinus spp.*): Various pine species pose threats to natural vegetation.
5. **Other Invasives:** *Medicago polymorpha*, *Oxalis pes-caprae*, and *Vicia species*

Control Methods and Strategies

Management follows a "clearing plan" that prioritizes long-term follow-up rather than just initial removal:

- **Intelligent Clearing:** Removing young regrowth and practicing consistent follow-up action while plants are still small is more effective than tackling only dense thickets.
- **Manual & Chemical Control:** Techniques include ring-barking for larger trees and the judicious use of herbicides for smaller plants or regrowth.
- **LTCPS (Long Term Coastal Protection Scheme):** While primarily an engineering project involving groynes and beach nourishment, this scheme includes an Environmental Management Programme (EMPr) to mitigate impacts on sensitive dune habitats during construction.
- **Community Involvement:** Residents are encouraged to join "hacking teams," remove invasive species from their own properties, and plant only indigenous, water-wise alternatives.

3.6 Monitoring

Successful completion of restoration and rehabilitation is expected to take a long time (several years). The main aim is to stabilize the landscape and ensure natural dune vegetation survival in the first year. Thereafter the site will be left to vegetation encroachment and alien vegetation management.

4. Project timelines

As this rehabilitation plan has an active management approach, the aim is to indefinitely continue with restoration and rehabilitation management, especially for alien vegetation and beach front dune stabilization.

5. Conclusion

It is important to note that any future proposed activity in this area **MUST** be guided by existing legislation. If any future development of the area (during or after rehabilitation) is proposed, activities listed under the NEMA Regulations must be used as guidance.

The following activities will **NOT** be allowed within the coastal front dune field:

1. Bulldozing new tracks.
2. Constructing any infrastructure.
3. Altering the landscape profile.
4. Excavations and mining.

6. SPECIALIST DETAILS

BlueLeaf is a specialized environmental consulting company focusing on ecological and soil consulting services. Various projects throughout South Africa and Africa have been undertaken. Projects include baseline studies, impact assessments and compliance auditing for various large-scale projects including numerous wind farms, roads (National and Provincial), and infrastructure development projects. Blue Leaf also offers a wide range of in-house specialties including but not limited to Ecological and Botanical assessments, Biodiversity studies, Plant and Animal Search and Rescue, Fauna and Flora permits, Aquatic Assessments, Agricultural and Soil Assessments and Environmental and Venomous animals training workshops.

As the Project Manager, Roy has over 19 years' experience in environmental consulting and specialist services in South Africa. Roy holds a BSc Honours in Geology and an MSc in Botany from Nelson Mandela University in Port Elizabeth. He is currently busy with his PhD (Doctorate degree) in Botany and Soil Science. Roy focusses on Ecological and Agricultural Assessments, Geological and Geotechnical analysis, Environmental Management Plans, mining applications and various environmental impact studies. Roy is a registered full scientist with SACNASP.

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6.2 Specialist declaration

I, Roy de Kock as duly authorized representative of Blue Leaf Environmental (Pty) Ltd, hereby confirm my independence (as well as that of BlueLeaf) as a specialist and declare that neither I nor BlueLeaf have any interest, be it business, personal, or other, in any proposed activity, application or appeal in respect of the relevant project. BlueLeaf was appointed as an environmental specialist in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and will receive no other than fair remuneration for worked performed, specifically in connection with the rehabilitation of an area of land within the relevant property. I further declare that I am confident in the results of the study undertaken and conclusions drawn because of it – as is described in this report.



Full Name: Roy de Kock

Title / Position: Environmental and Rehabilitation Specialist

Qualification(s): BSc (Hons) Geology; MSc Botany; Candidate PhD Botany

Experience (years/ months): 19 years

Registration(s): SACNASP (400216/16)

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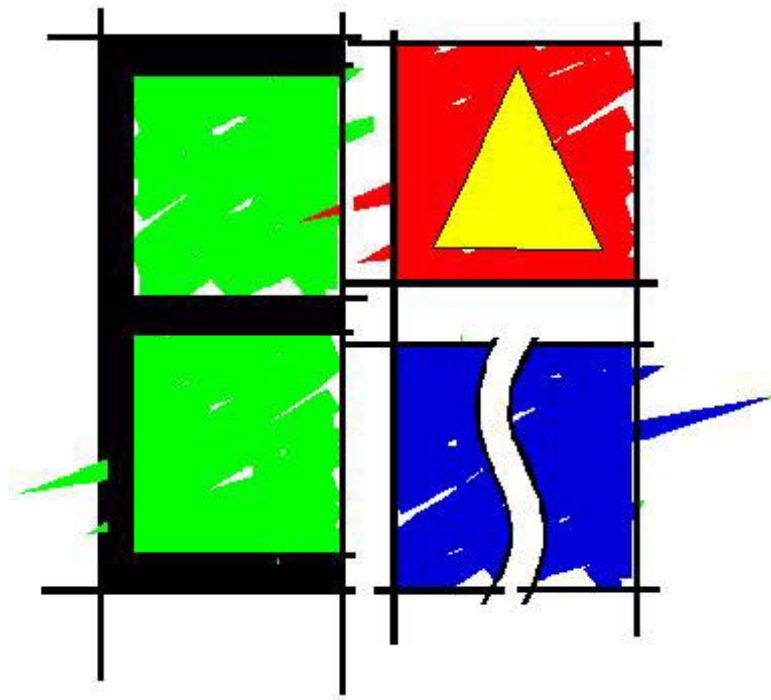
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TRAFFIC IMPACT ASSESSMENT

***FOR A
PROPOSED RESIDENTIAL DEVELOPMENT
ON ERF 2369, SEA VISTA (ST FRANCIS BAY)***



March 2026

Prepared for: **Born Free Investments 460 (Pty) Ltd**

Prepared by: **Engineering Advice and Services (Pty) Ltd**
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**DOCUMENT CONTROL SHEET**

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ABBREVIATIONS

EAS	Engineering Advice & Services (Pty) Ltd
Km/h	kilometres per hour
LOS	Level of Service
LSDF	Local Spatial Development Framework
TIA	Traffic Impact Assessment
TMH	Technical Methods for Highways
TRH	Technical Recommendations for Highways

1 INTRODUCTION

1.1 BACKGROUND

Engineering Advice & Services (Pty) Ltd was appointed by Born Free Investments 460 (Pty) Ltd during February 2026 to prepare a Traffic Impact Assessment for a proposed residential Development on erf 2369, Sea Vista (St Francis Bay), situated in the Kouga Local Municipality. The location of the site and proposed development is indicated on **Figure 1** overleaf.

1.2 OBJECTIVES OF THE STUDY

In broad terms, the purpose of the traffic assessment is to determine the extent and nature of the traffic generated by the proposed development, assess the impact of this traffic on the operation of the associated road network, and devise solutions for any problems identified. The following key elements, *inter alia*, are addressed in this traffic impact assessment:

- The suitability and safety of proposed access point on Philippa Place and the configuration of such access point particularly given the narrow width of the access lane;
- The capacity of the existing and future road network within the influence radius; and
- The road upgrading measures required to accommodate traffic generated by the proposed development.

In general, this report serves to satisfy the Kouga Local Municipality and other relevant authorities that the traffic impact of the envisaged development is within acceptable limits and that the suggested improvements conform to the standards and parameters set by the relevant road authority.

1.3 METHODOLOGY

The approach followed in conducting the traffic impact statement was in accordance with the guidelines set by **TMH 16 Volume 1- South African Traffic Impact and Site Assessment Manual** ⁽¹⁾.

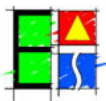
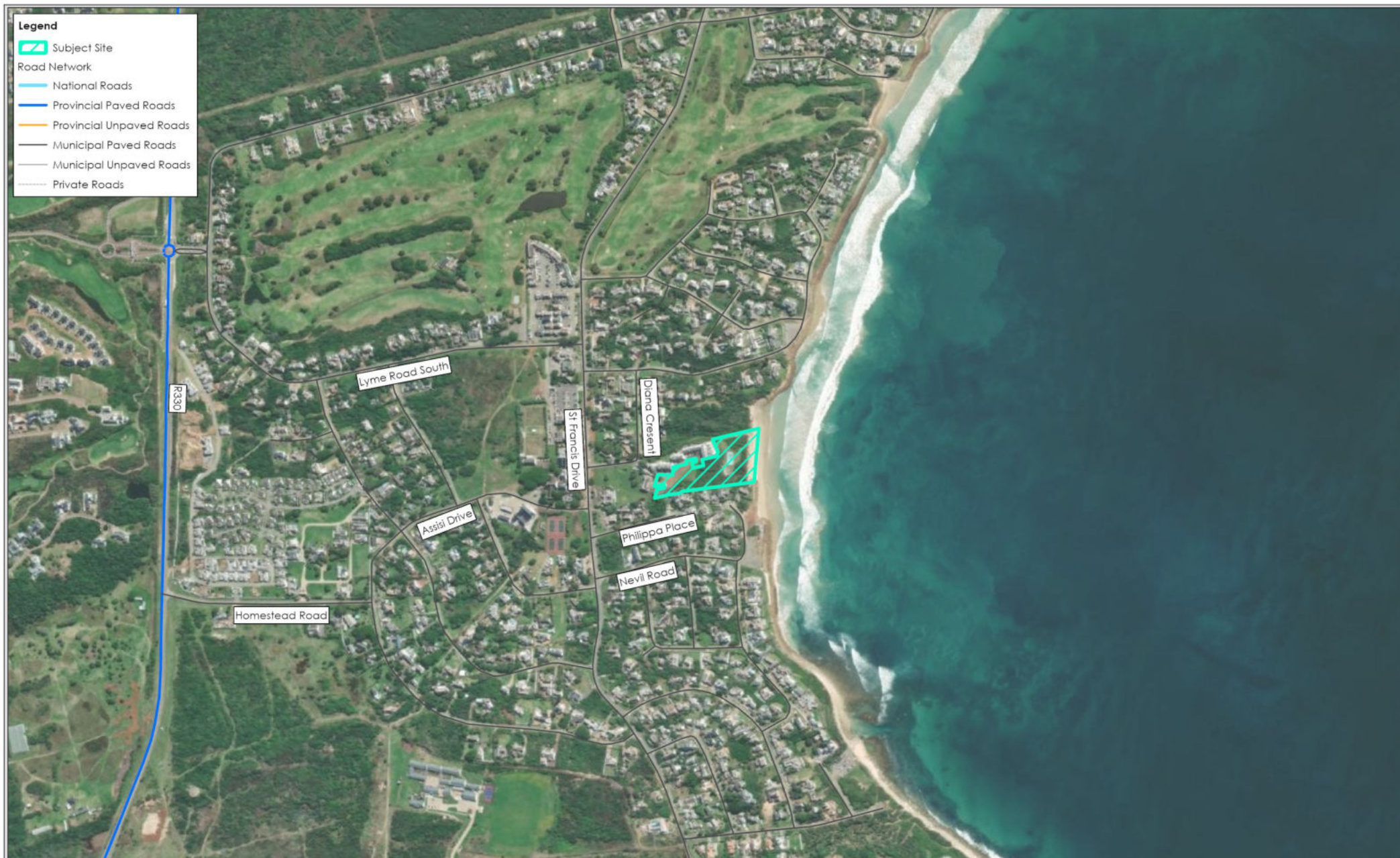
Given the extent of the proposed development and in terms of the aforementioned guidelines, the development is considered to be a small-sized development. As such, this assessment considered impact for the development horizon, assumed to be 2026.

The methodology used was as follows:

- Present traffic flow patterns were obtained and the affected access intersection analysed, where after recommendations were made on the present need for road upgrading, without taking the proposed development into account;
- The suitability of the location and configuration of the proposed access point was assessed in terms of **TRH26: South African Road Classification and Access Management Manual** ⁽²⁾; and
- Given the development extent, trips generated by the development were determined using applicable trip generation rates specified in **TMH 17 Volume 1 - South African Trip Data Manual** ⁽³⁾ document;
- The distribution of the generated trips was estimated where after the generated traffic was assigned to the surrounding road network;
- Operation of the affected intersection and access was analysed to ensure that they operate safely at acceptable levels of service and recommendations made on the need for road upgrading taking cognisance of the proposed development for the 2026 planning horizon;
- Taking into account the major findings of the study, conclusions were made regarding the financial responsibilities of the affected parties for required road upgrading measures.

1.4 STUDY AREA

Based on the type and extent of the development the study area extended to Philippa Place and the adjacent intersection of Philippa Place with St Francis Drive given the scale of the proposed development and that trips generated by the proposed development will approach along these roads and through this intersection.



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Project Title:

Traffic Impact Assessment for a Proposed Residential
Development on Erf 2369, Sea Vista (St Francis Bay)

Drawing Title:

Figure 1: Locality Plan

Drawing No.:

2490-P-001

Drawing Date:

March 2026

Meters

0 50 100 200

Scale: 1:10 000

Prepared by : VWM

Checked by : CH

1.6 ASSUMPTIONS AND LIMITATIONS

The scope of this TIA is limited to the project as described in this report. The scope only deals with vehicular and pedestrian traffic related impacts to the site and excludes consideration of the following:

- Any vehicular activity outside of a radius of 1km of the site;

The report is based on a number of assumptions and is subject to certain limitations. These are as follows:

- That vehicle trips are based on standards specified in relevant reference documentation;
- That trips generated by the proposed development are distributed to and from the site based on the location of the development site, relative to trip attractors (e.g., places of employment and shopping centres) and the major road networks;
- That the major impact of trips generated by the development will be during the morning and evening peak hours;
- That access to the proposed residential development will be provided from Philippa Place; and
- That the site will be used for the purposes as advised by the developer.

Note further that all figures represented in this Traffic Impact Assessment are concept drawings only and are not to be used for construction purposes. If necessary, these concept drawings are to be developed into engineering drawings by the Developer's appointed civil engineer for subsequent submission to and approval by the relevant road authority officials prior to construction.

Notwithstanding these assumptions and limitations, it is our view that this Traffic Impact Assessment provides the necessary framework to allow the developer to conduct activities within the necessary legal, planning and operational requirements set by the relevant road authorities.

2 LAND USE RIGHTS, DEVELOPMENT AND ENVIRONS

2.1 CURRENT AND PROPOSED LAND –USE RIGHTS

The site measures 6.2458 ha in extent and is currently zoned for Residential Zone 3 purposes.

In terms of this zoning the primary use permitted on the site is for general residential purposes and includes boarding house, guest lodging facilities, dwelling units, flats but excludes hotels.

The zoning certificate is attached as **Annexure A**.

2.2 OVERVIEW AND DEVELOPMENT ENVIRONS

The site, which is currently vacant, is situated to the east of the St Francis Bay CBD and just behind the coastal dunes. The site is bordered by residential development of varying types and densities.

The CBD area to the northwest contains retail and business uses.

The proposed development comprises 8 two- and three-bedroom residential units with access proposed from Philippa Place via erf 2821 - an existing 3m wide erf.

3 DATA COLLECTION

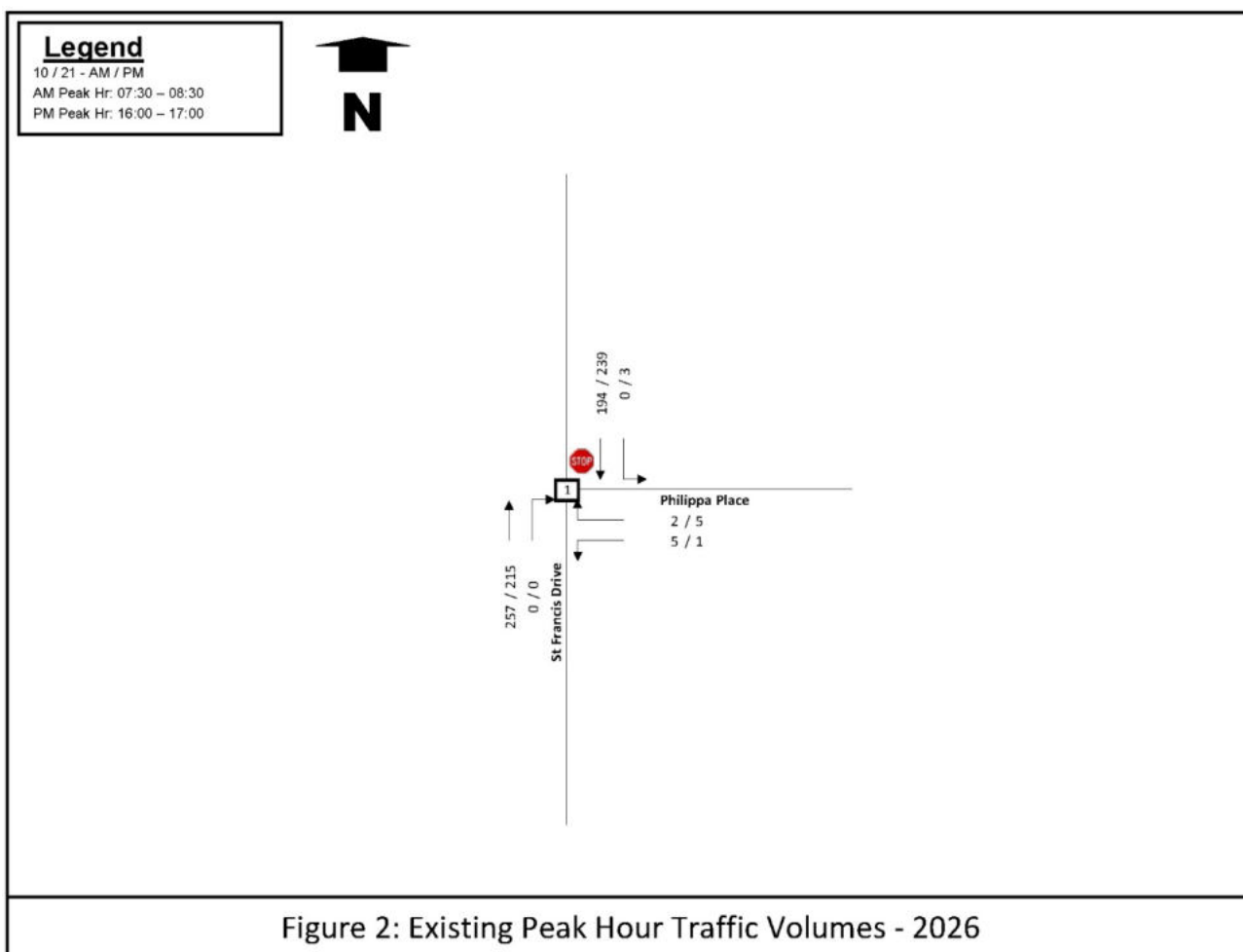
3.1 PEAK HOUR TRAFFIC VOLUMES

Peak hour traffic turning movement counts were conducted during typical weekday morning and afternoon peak periods on Wednesday 11 February 2026 at the following intersection:

- St Francis Drive / Philippa Place

Given that only 8 additional units are proposed on the site, it is considered that the additional traffic impact beyond the above intersection would be minimal.

The detailed survey data is attached as **Annexure B** and summarised on **Figure 2** overleaf.



3.2 PEAK SEASON PEAK HOUR TRAFFIC VOLUMES

Given that the proposed development is located in area which experiences seasonal traffic fluctuations, this study will also assess the impact of the proposed development during the peak holiday period. To achieve this, it is necessary to either source peak season volumes or apply an expansion factor to adjust normal traffic volumes to reflect peak season volumes.

Normal traffic occurs on a typical weekday during a school term, while peak season traffic is traffic that occurs during peak holiday periods i.e., Easter, June/July, September/October and Christmas/New Year.

As stated earlier, surveys were conducted on a typical weekday during February 2026. However, this peak period does not reflect the worst-case scenario, which is normally experienced during December / January.

In the interests of speedily addressing the requirements at the affected intersections as soon as possible, it is necessary to consider traffic flow during peak holiday periods. As it is not always possible to conduct surveys during peak holiday periods for various reasons, the approach followed was to make use of a Modification Factor to expand surveyed peak hour traffic volume to a required peak season peak hour making use of variations in traffic flow at a permanent count station in the vicinity.

A paper entitled **Quantification of the Natural Variation in Traffic Flow on Selected National Roads in South Africa** ⁽⁴⁾ presented at the SA Transport Conference in 2017, indicates how a Modification Factor can be used to expand surveyed peak hour traffic volume to a required peak season peak hour making use of variations in traffic flow at a nearby permanent count station.

Traffic data was sourced from the permanent SANRAL count station on the N2 west of the Humansdorp Interchange (Station 729) – attached as **Annexure C**. The relationship between the data at this station on the same day as the peak hour traffic counts conducted in St Francis Bay (11 February 2026) and peak season December data (generally the highest peak seasonal period) was used to modify the surveyed peak hour traffic to represent peak season traffic volumes at the St Francis Drive intersection.

Figure 3 below respectively indicate traffic volume variances throughout 2025 compared to peak season periods in these years. Based on the data analysed, December is the peak volume and equates to 100%. The average volumes for the remainder of the surveyed 12-month period based on monthly averages are in the order of 74%. Average volumes during February based on total monthly volumes are in the order of 65% of the December peak season period.

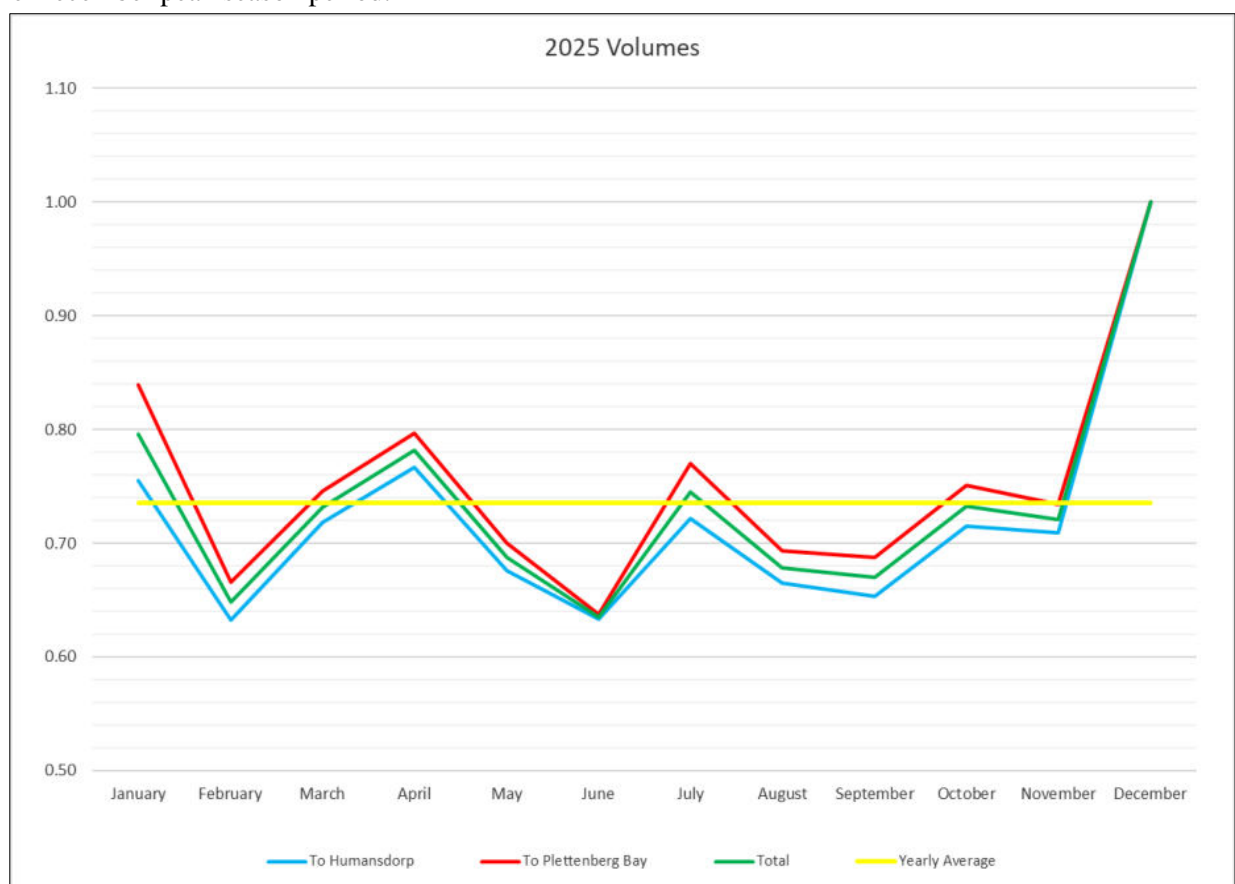


Figure 3: 2025 Traffic Volume Variation (Dec ~ 100%)

Analysis of the N2 data throughout the year indicates that on Tuesday 11 February 2025 (which equates to Wednesday 11 February 2026) the N2 volume equates to 49% of the highest recorded daily volume on the N2 (which occurs during the December peak period).

Given the above, it is assumed that the St Francis Drive / Philippa Place intersection count volumes on Wednesday 11 2026 February would also represent 49% of the peak season volumes (December).

Further analysis of the daily volumes during the December peak period, indicate that the average volume for December is 74%.

Figure 4 below indicates that the average volume was exceeded on 13 days.

For the purposes of this study therefore, an additional After Development Peak Season scenario will be conducted for 2026, where the weekday background traffic volumes will be increased by a factor of 2 to reflect the December Peak season average. The average peak season volume is considered a more realistic measure than maximum .

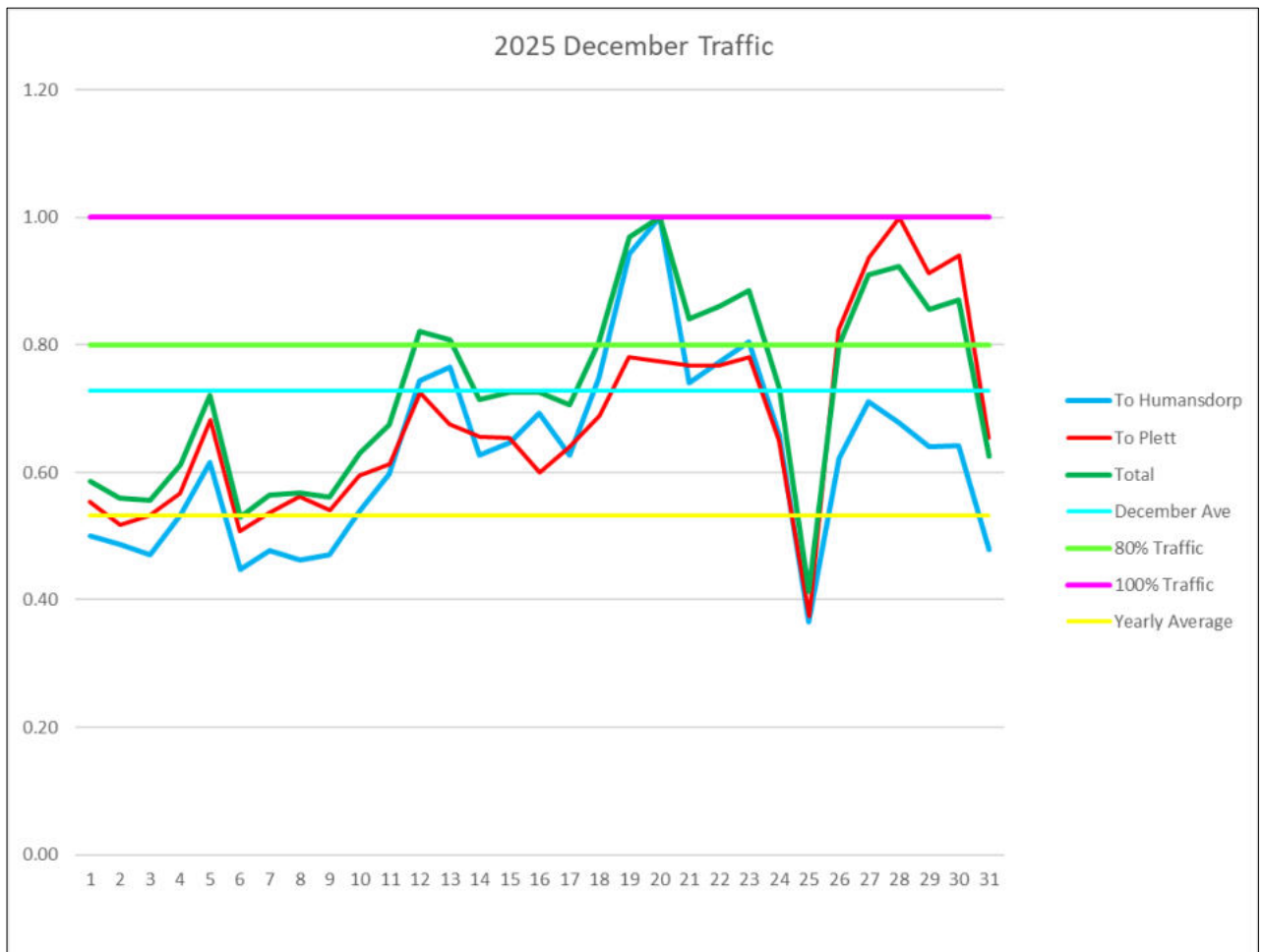
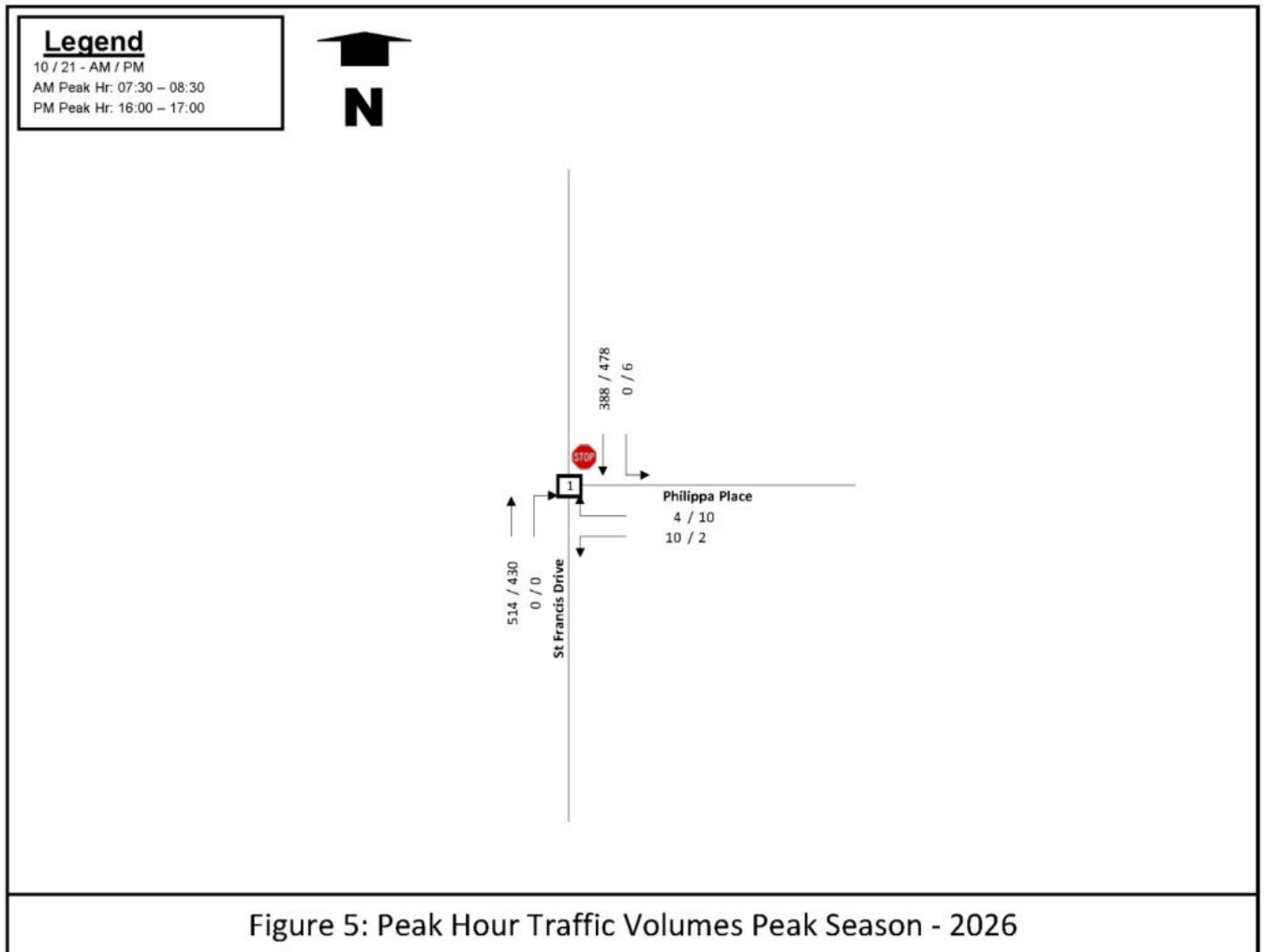


Figure 4: December 2025 Traffic Volume Variation (20 Dec = 100%)

The adjusted peak season background traffic volumes for the 2026 development horizon are indicated on **Figure 5**.



3.3 ROAD NETWORK

The existing road network and intersection configurations were roughly measured up using aerial photography. The primary road network and their functional classifications in terms of **TRH 26: South African Road Classification and Access Management Manual** (Error! Reference source not found.) can briefly be described as follows:

- **St Francis Drive** is a Class 4B municipal surfaced residential collector/ distributor road that provides access to residential and commercial properties along its length. The road is 7.4m wide, with no kerbing and is in a very good condition.
- **Philippa Place** is a Class 5B residential street serving a total of 12 residential properties. The road is a cul-de-sac 5 m wide and is not kerbed. The road is in a poor condition.

The existing road network configuration is indicated on **Figure 6** overleaf.

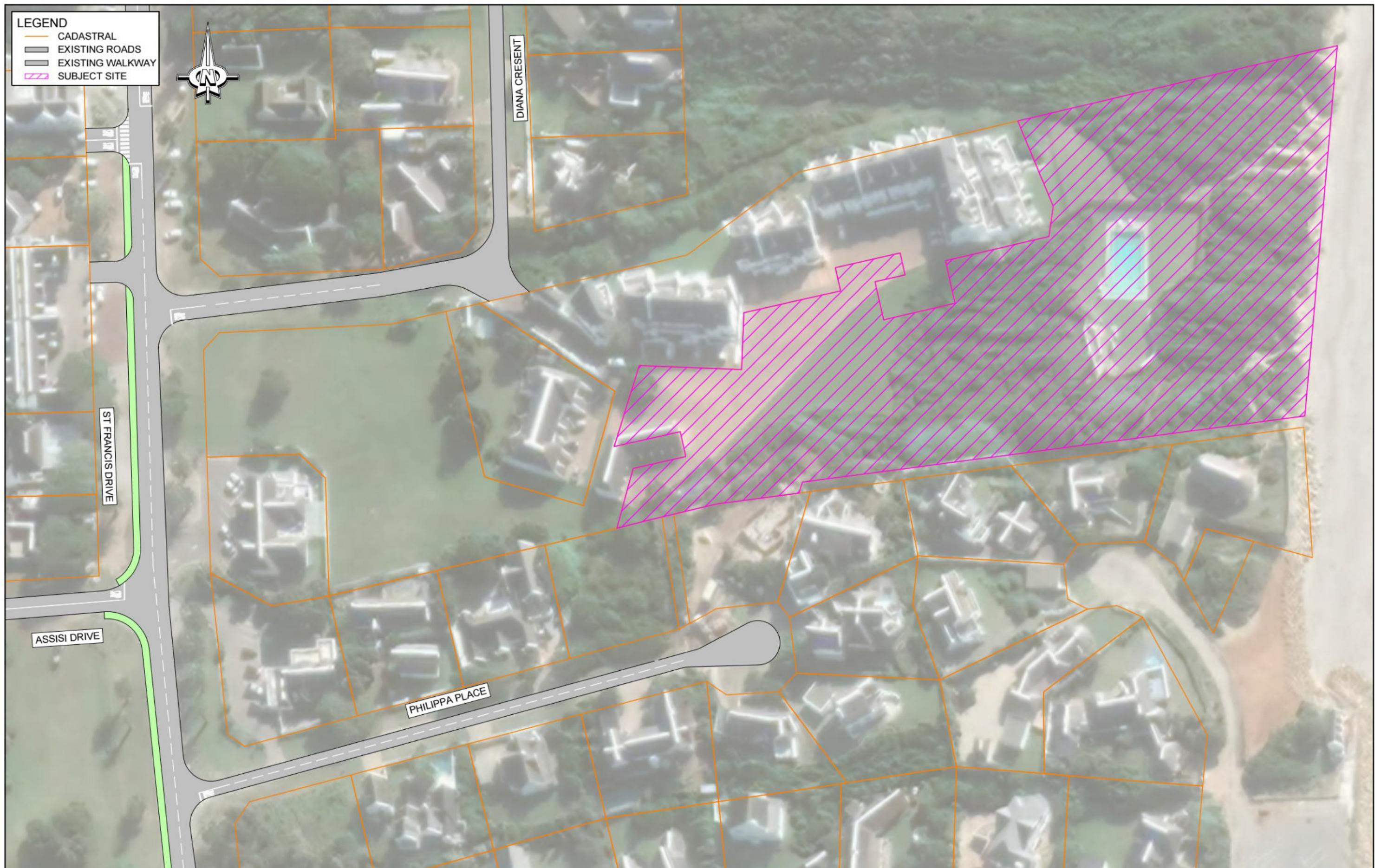
3.4 PUBLIC TRANSPORT

No formal public transport facilities are in place in the vicinity of the proposed development nor at the St Francis Drive intersection with the Philippa Place. However, the area is served by the minibus-taxi industry on an ad-hoc basis – primarily services between the CBD precinct and Humansdorp.

3.5 NON-MOTORISED TRANSPORT

No pedestrian facilities are in place in the vicinity of the proposed development given that Philippa Place only serves 11 residential properties.





AMENDMENTS				DRAWING STATUS:	ORIGINAL PAPER SIZE: A3		ENGINEERING ADVICE AND SERVICES		DESIGN	MM	APPROVED	APPROVED		PROJECT	CONTRACT NO.
NO.	DATE	DESCRIPTION	APPROVED	FOR REPORT	SCALE 1:1000 		73 Heugh Road, Walmer P.O. Box 13867 Humeewood Port Elizabeth 6013 Tel: (041) 561 2421		DRAWN	VWM				TIA FOR A PROPOSED RESIDENTIAL DEVELOPMENT ON ERF 2369, SEA VISTA (ST FRANCIS BAY)	----
				TM - WGS84 - LO 25					APPROVED	CH	ENGINEER	CLIENT		FIGURE 6: EXISTING ROADS AND INTERSECTION CONFIGURATION	2490-P-006
									DATE	MAR 2026	DATE	DATE			REVISION 001 - - -

Figure 7 below is an extract of **Draft Kouga Spatial Development Framework** ⁽⁵⁾ prepared by Maswana Consulting on behalf of the Kouga Municipality. The SDF provides for residential use next to the CBD Precinct area where the proposed development is located.



4 CAPACITY ANALYSIS – BEFORE DEVELOPMENT

Level of Service (LOS) is defined as the operating condition that may occur at an intersection when it accommodates various traffic volumes. LOS is a qualitative measure of the effect of speed, travel time, traffic interruptions, freedom to manoeuvre, safety, driving comfort and convenience, and operating costs.

In terms of the requirements in **TMH 16 Volume 2- South African Traffic Impact and Site Assessment Standards and Requirements Manual** ⁽⁸⁾ all the movements at a stop-controlled intersection should be LOS D.

The LOS applicable to intersections under various control conditions, as defined in the **Highway Capacity Manual** ⁽⁵⁾ are indicated in **Table 1** below:

Table 1: Level of Service definitions for Vehicles (Highway Capacity Manual ⁽⁵⁾ method)

Level of Service	Control delay per vehicle in seconds (d) (Including geometric delay)		LOS Colour Rating
	Signals and Roundabouts	Stop Signs and Yield Signs	
A	$d \leq 10$	$d \leq 10$	Excellent
B	$10 < d \leq 20$	$10 < d \leq 15$	Very Good
C	$20 < d \leq 35$	$15 < d \leq 25$	Good
D	$35 < d \leq 55$	$25 < d \leq 35$	Acceptable
E	$55 < d \leq 80$	$35 < d \leq 50$	Poor
F	$80 < d$	$50 < d$	Very Poor

The capacity analysis was undertaken using the **SIDRA Intersection 10 Network** ⁽⁷⁾ capacity analysis method but applying the **Highway Capacity Manual** ⁽⁵⁾ gap acceptance criteria for unsignalised intersections.

4.1 NORMAL WEEKDAY PEAK PERIOD

The traffic situation at the affected intersection was analysed in order to determine the Level of Service at which the intersections operate under current (2026) traffic conditions and with the existing intersection configuration

The results are shown in **Table 2** below and the detailed SIDRA output sheets attached as **Annexure D**.

Table 2: Results of Intersection Capacity Analysis – 2026 Before Development

Intersection	Control	Delay (s)		LOS - Intersection *		LOS Critical approach	
		AM	PM	AM	PM	AM	PM
St Francis Drive / Philippa Place	Stop	0.2	0.2	A*	A*	A	A

* - **SIDRA Intersection Network** ⁽⁷⁾ does not calculate intersection LOS for stop-controlled intersections. The LOS indicated is sourced from the **Highway Capacity Manual** ⁽⁵⁾ (Table 1 above).

As can be seen from the results contained in **Table 2**, no capacity problems are experienced at the affected intersection under normal traffic conditions i.e. not during holiday periods.

4.2 PEAK SEASON WEEKDAY PEAK PERIOD

The traffic situation for the escalated and approximated background peak season weekday AM and PM peak hours for the 2026 development horizon was also analysed in order to determine the LOS at which the affected intersections and access points would operate during peak holiday periods before development.

The results are shown in **Table 3** below and the detailed SIDRA output sheets attached as **Annexure E**.

Table 3: Results of Intersection Capacity Analysis – 2026 Before Development – Peak Season

Intersection	Control	Delay (s)		LOS - Intersection *		LOS Critical approach	
		AM	PM	AM	PM	AM	PM
St Francis Drive / Philippa Place	Stop	0.2	0.3	A*	A*	B	B

* - **SIDRA Intersection Network** ⁽⁷⁾ does not calculate intersection LOS for stop-controlled intersections. The LOS indicated is sourced from the **Highway Capacity Manual** ⁽⁵⁾ (**Table 1** above).

As can be seen from the results contained in **Table 3**, no capacity problems are experienced at the affected intersection under peak-season traffic conditions.

However, the LOS on the Philippa Place approach does deteriorate to LOS B as a result of increased traffic volumes on St Francis Drive.

5 TRIP GENERATION AND DISTRIBUTION

5.1 PROPOSED DEVELOPMENT TRIPS

TMH 17 Volume 1 - South African Trip Data Manual ⁽²⁾ recommends peak hour trip generation rates of 1 vehicle trips per residential unit for both weekday AM and PM peak hours. A trip is defined as the movement from an origin to a destination.

For a proposed development of 8 units this relates to the following generated trips.

<u>TGR (Weekday AM/PM)</u>	=	1 * units
	=	1 * 8
	=	8 trips (in and out)
<u>Split in / out</u>	=	25 : 75 (AM)
	=	70 : 30 (PM)

The trips generated by the proposed development are summarised in **Table 4** below.

Table 4: Peak Hour Trip Generation Summary

COMPONENT	AM		PM	
	IN	OUT	IN	OUT
Residential Units (210)	2	6	6	2

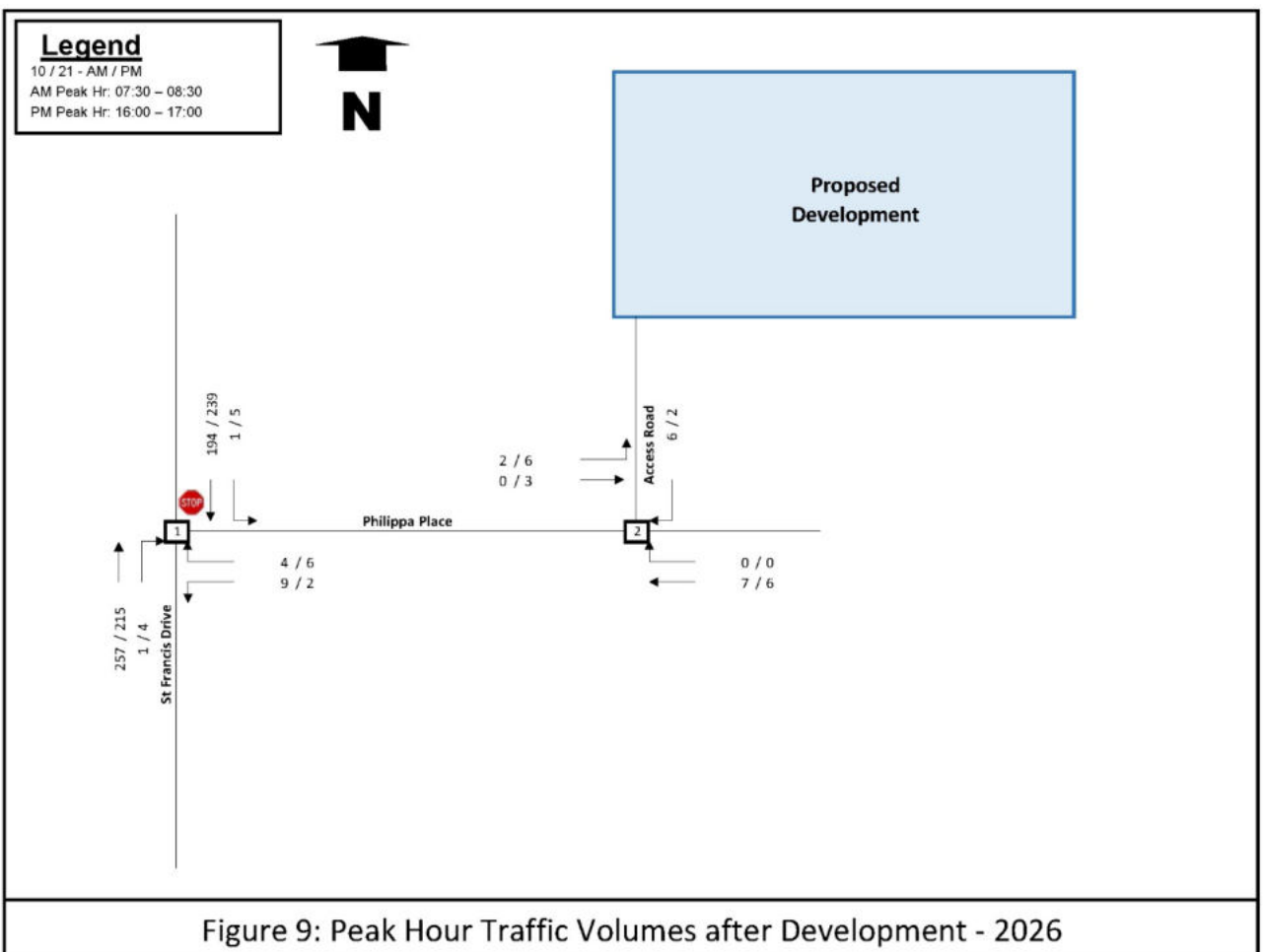
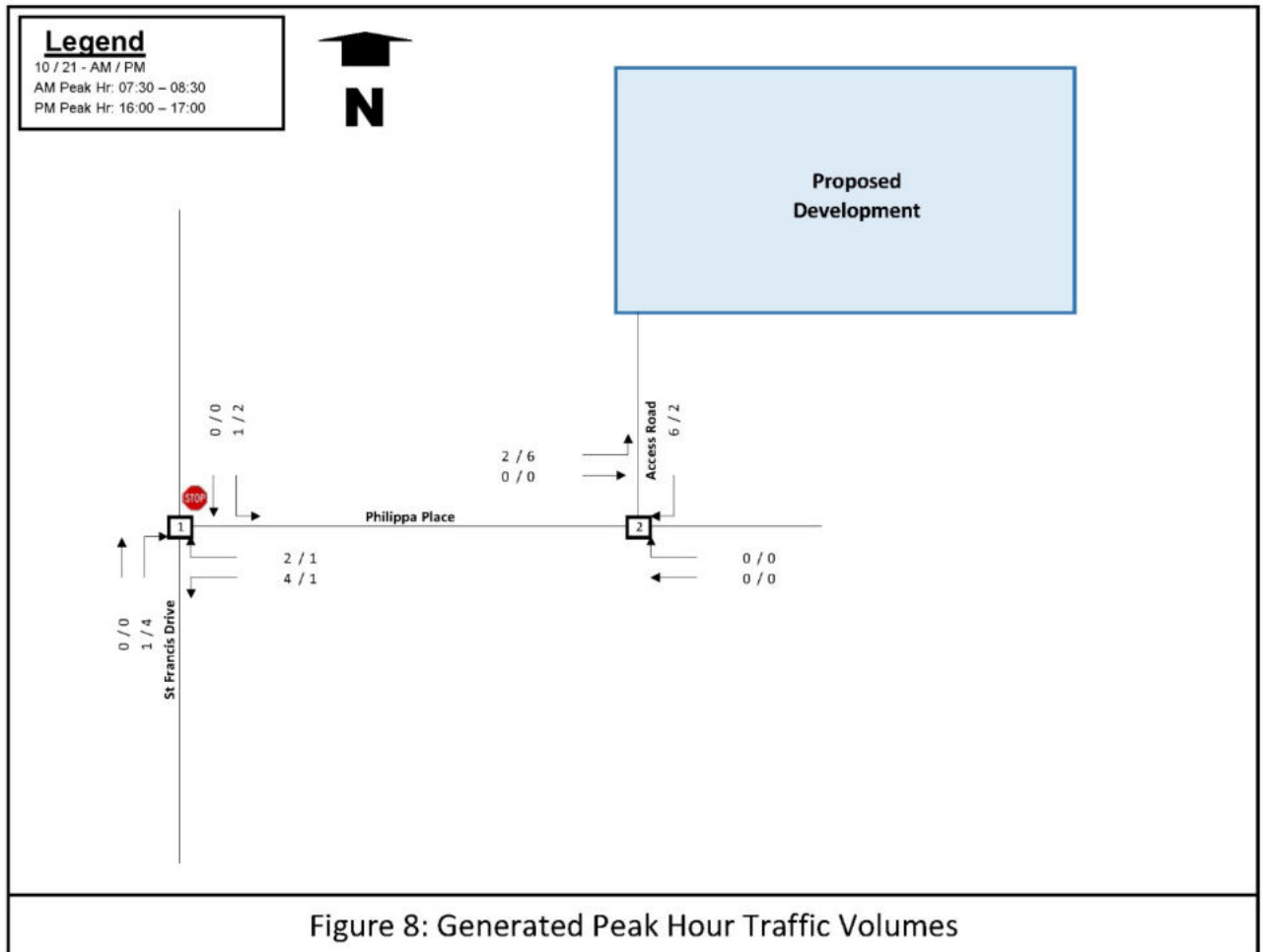
5.2 TRIP DISTRIBUTION

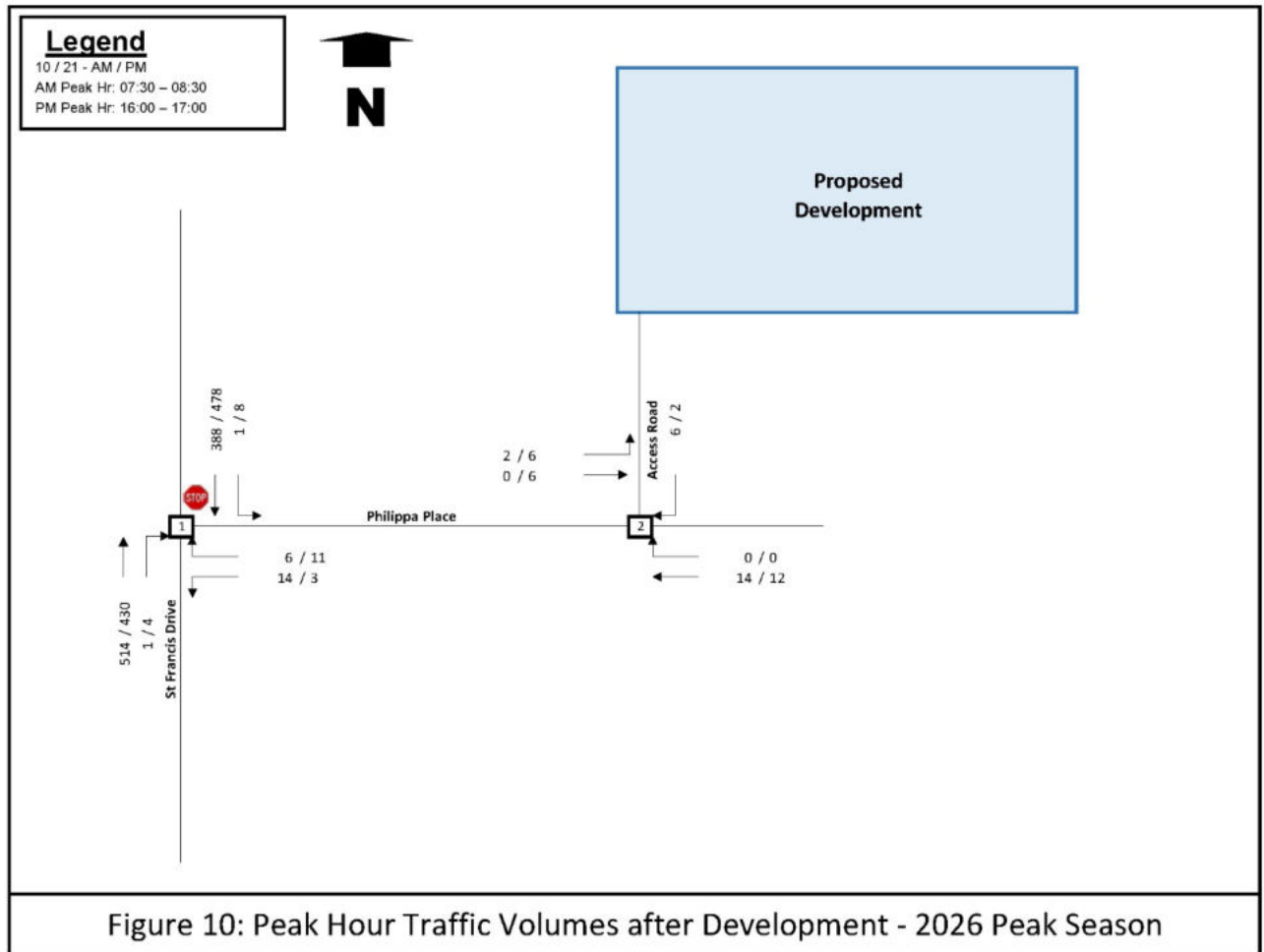
Based on the observed traffic volumes and taking into account the location of the development relative to the surrounding residential areas, the following distribution has been assumed for trips generated by the development:

- 60% to and from the south via Philippa Place and St Francis Drive; and
- 40% to and from the north via Philippa Place and St Francis Drive.

The generated peak hour trips are indicated on **Figure 8** overleaf and the generated trips added to the weekday AM and PM peak hour volumes for the 2026 development horizons are indicated on **Figure 9** overleaf.

The generated peak hour trips added to the peak season weekday AM and PM peak hour volumes for the 2026 development horizon are indicated on **Figure 10**.





6 PROPOSED ACCESS ARRANGEMENTS

6.1 ACCESS LOCATION AND CONFIGURATION

As indicated on **Figure 11**, access to the proposed development is proposed via erf 2821, an erf between erf 2369 and Philippa Place which is 3m wide.

Provided any vegetation or obstructions in the road reserve are cleared, sight distance from the proposed access is clear along both directions in Philippa Place.



6.2 ACCESS CONTROL

Access to the development will be security controlled. Given a queued vehicle measures a minimum of 6.5m it is recommended that any security gate be set back a minimum of 6.5m from the road edge.

In addition, to ensure that visitors do not impeded residents, it is further recommended that the security gate system include a control mechanism such that entering vehicles are able to enter immediately. Exiting vehicles will be unable to do so until an entering vehicle has passed through the access way completely.

7 CAPACITY ANALYSIS – AFTER DEVELOPMENT

7.1 2026 AFTER DEVELOPMENT

After adding generated peak hour traffic volumes to the background peak hour volumes, the traffic situation was analysed in order to determine the LOS at which the affected intersection would operate during normal weekday peak hours after development occurs.

The results are shown in **Table 5** below and the detailed SIDRA output sheets attached as **Annexure F**.

Table 5: Results of Intersection Capacity Analysis – 2026 After Development

Intersection	Control	Delay (s)		LOS - Intersection *		LOS Critical approach	
		AM	PM	AM	PM	AM	PM
St Francis Drive / Philippa Place	Stop	0.3	0.3	A*	A*	A*	A*

* - **SIDRA Intersection Network** ⁽⁷⁾ does not calculate intersection LOS for stop-controlled intersections. The LOS indicated is sourced from the **Highway Capacity Manual** ⁽⁵⁾ (Table 1 above).

As can be seen from the results contained in **Table 5**, the additional traffic generated by the development has little or no impact on the operation of the affected intersection in terms of capacity.

7.2 2026 AFTER DEVELOPMENT – PEAK SEASON

After adding generated peak hour traffic volumes to the escalated background peak hour volumes, the traffic situation was analysed in order to determine the LOS at which the affected intersection would operate after development occurs for the 2026 peak season development horizon.

The results are shown in **Table 6** below and the detailed SIDRA output sheets attached as **Annexure G**.

Table 6: Results of Intersection Capacity Analysis – 2026 After Development – Peak Season

Intersection	Control	Delay (s)		LOS - Intersection *		LOS Critical approach	
		AM	PM	AM	PM	AM	PM
St Francis Drive / Philippa Place	Stop	0.3	0.3	A*	A*	B	B

* - **SIDRA Intersection Network** ⁽⁷⁾ does not calculate intersection LOS for stop-controlled intersections. The LOS indicated is sourced from the **Highway Capacity Manual** ⁽⁵⁾ (Table 1 above).

As can be seen from the results contained in **Table 6**, when considering peak season traffic, the additional traffic generated by the development has minimal impact on operation of the affected intersections in terms of capacity during a typical peak season weekday.



AMENDMENTS				DRAWING STATUS		ORIGINAL PAPER SIZE A3		ENGINEERING ADVICE AND SERVICES		DESIGN	MM	APPROVED	APPROVED		PROJECT	CONTRACT NO.
NO.	DATE	DESCRIPTION	APPROVED	FOR REPORT		SCALE 1:1000		73 Hough Road, Walmer P.O. Box 13967 Hummelwood Port Elizabeth 6013 Tel: (041) 581 2421		DRAWN	VMM		ENGINEER		TIA FOR A PROPOSED RESIDENTIAL DEVELOPMENT ON ERF 2369, SEA VISTA (ST FRANCIS BAY)	
				COORDINATE/DATUM		0m 5m 10m 20m 50m				APPROVED	CH		DATE		DWG DESCRIPTION	
				TM - WGS84 - LO 25						DATE	MAR 2026		DATE		FIGURE 11: PROPOSED SITE LAYOUT AND ACCESS CONFIGURATION	
															DWG NO. 2490-P-011	
															REVISION 001	

8 PUBLIC TRANSPORT OPERATIONS AND PEDESTRIAN ARRANGEMENTS

Neither additional public transport nor pedestrian facilities are required.

9 PARKING REQUIREMENTS

Sufficient parking in terms of the requirements of the **Kouga Municipality Land Use Scheme** ⁽⁹⁾ will be provided on the site.

The required parking provision can be accommodated on site and will be indicated on the Site Development Plan to be submitted to the Kouga Municipality.

10 CONCLUSIONS

The following conclusions can thus be drawn from the study:

- Under existing traffic conditions no problems are experienced at the affected intersections in terms of capacity;
- Based on 2025 daily traffic surveys at the N2 Humansdorp counting station volumes on 11 February equate to 49% of the Highest daily volumes during December – which is assumed to be 100%. The average daily volumes during December represent 74% of the highest volumes and are considered a more realistic measure to compare to. As such the surveyed peak hour volumes have been escalated by a factor of 2.00 to provide an indication of the impact of the development during average daily peak season traffic conditions;
- The proposed development generates a total of 8 peak hour vehicle trips during the weekday AM and PM peak hours;
- Access to the development can safely be accommodated from Philippa Place provided the access is configured as indicated on **Figure 11**;
- The access be configured with a control mechanism such that entering vehicles are not delayed and that existing vehicles are only able to do so once the entering is completely entered the development; and
- When considering the traffic generated by the proposed development added to escalated background traffic, the affected intersections and access points all operate at acceptable Levels of Service in terms of capacity for the 2026 development horizon during both normal and peak season periods;

11 RECOMMENDATIONS

In view of the findings of this study, it is recommended that:

- This Traffic Impact Assessment be approved by the Kouga Local Municipality; and
- The access is proposed on Philippa Place as indicated on **Figure 11** with the cost of access arrangements being met by the developer; and
- The access be configured with a mechanism that controls entry and exit to prevent congestion in Philippa Place and potential conflict in the access road.

12 REFERENCES

1. *Joubert, Sampson, et al*, **TMH 16 Volume 1- South African Traffic Impact and Site Assessment Manual**, COTO, September 2013.
2. *COTO, TRH 26 - South African Road Classification and Access Management Manual*, SANRAL, August 2012
3. *Joubert, Sampson, et al*, **TMH 17 Volume 1- South African Trip Data Manual**, COTO, September 2013.
4. *F de Jongh & M Bruwer*, **Quantification of the Natural Variation in Traffic Flow on Selected National Roads in South Africa**, 2017.
5. *Maswana Group*, **Draft Kouga Local Municipality Spatial Development Framework – Review 2024/25**, Kouga LM, August 2025.
6. *Transportation Research Board*, **Highway Capacity Manual**, 2000.
7. *Akcelik & Associates (Pty) Ltd*, **SIDRA Intersection Network 10 User Guide**, SIDRA Solutions, April 2025.
8. *Joubert, Sampson, et al*, **TMH 16 Volume 2- South African Traffic Impact and Site Assessment Standards and Requirements Manual**, COTO, September 2013.
9. *Urban Dynamics Eastern Cape (Pty) Ltd*, **Kouga Municipality Land Use Scheme**, Kouga Municipality, March 2021.

ANNEXURE A
Zoning
Certificate

24 February 2026

ZONING CERTIFICATE

TO WHOM IT MAY CONCERN

This is to confirm that Erf 2369, Sea Vista, has been zoned as "**RESIDENTIAL ZONE 3**" in compliance with Kouga Land Use Scheme, 2021. Property and buildings may be utilized as stipulated below:

Primary Uses

Indicates the purposes for which land may be used and or buildings may be erected and used.

- General Residential Building

Definition

"General Residential Building" means a building for human habitation, together with such outbuildings and support facilities relating to the operation and sustainability of the scheme or building, and includes a boarding house, residential rooms, children's home, guest lodging facilities, retirement village, hostel, town housing, dwelling units, flats, but excludes hotels.

Consent Uses

Must be obtained through formal land use application process:

- Child Care Facility
- Home Occupation
- Licensed Hotel
- Licenced Restaurant
- Medical Use
- Self-Catering Units
- Social Facility

Development Parameters

- i) Building Lines:
 - Street - 5m
 - Lateral & rear - 4m
- ii) Height - 11m
- iii) Coverage - 50%
- iv) Density - No density limit, subject to all other development Parameters
- v) Parking
 - General Residential Buildings: 2 s / du
 - General Residential Buildings (Rooms): 1 s / room
 - Visitors: 1 s / 4 du or as determined by the Municipality



T. MPHOHONI

ACTING MANAGER: TOWN & REGIONAL PLANNING



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cmakiwane@kouga.gov.za



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SERVICE EXCELLENCE THROUGH GOOD GOVERNANCE

ANNEXURE B
Peak Hour
Traffic Counts

Project : TIA : PROPOSED RESIDENTIAL DEVELOPMENT IN SEA VISTA , ST FRANCIS BAY														Day & date : 11/02/2026				
Intersection : ST FRANCIS DRIVE / PHILIPPA PLACE NO. 1														Time period: 06:30 - 08:30				
STARTING TIME	ST FRANCIS DRIVE Northbound				PHILIPPA PLACE Westbound				ST FRANCIS DRIVE Southbound				- Eastbound				INTER-SECTION	
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
06:30	0	25	0	25	0	0	0	0	0	29	0	29	0	0	0	0	54	
06:45	0	41	0	41	1	0	0	1	1	21	0	21	0	0	0	0	63	
07:00	0	22	0	22	0	0	1	1	1	25	0	25	0	0	0	0	48	
07:15	0	30	0	30	0	0	0	0	0	31	0	31	0	0	0	0	61	226
07:30	0	61	0	61	0	0	0	0	0	38	0	38	0	0	0	0	99	271
07:45	0	65	0	65	0	0	1	1	1	47	0	47	0	0	0	0	113	321
08:00	0	73	0	73	3	0	1	4	4	49	0	49	0	0	0	0	126	399
08:15	0	58	0	58	2	0	0	2	2	60	0	60	0	0	0	0	120	458
08:30	0	54	0	54	1	0	0	1	1	42	0	42	0	0	0	0	97	456
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	343
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	97
Total	0	429	0	429	7	0	3	10	10	342	0	342	0	0	0	0	781	
Peak hour	0	257	0	257	5	0	2	7	7	194	0	194	0	0	0	0	458	
Peak 15 min				73				4	4			60				0	126	
PHF				0.88				0.44				0.81				#####	0.91	

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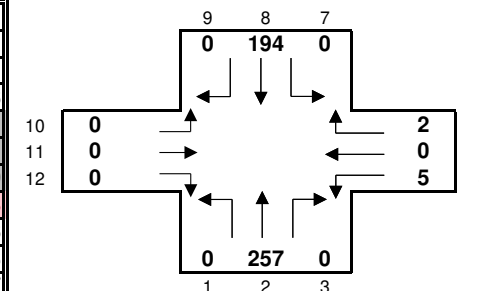
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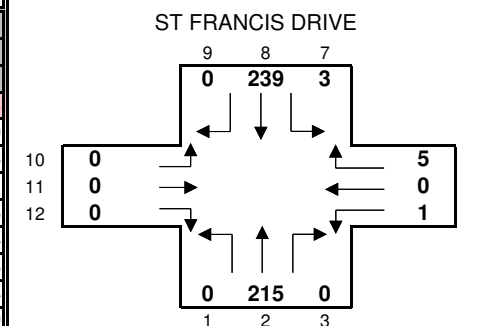
AM PEAK HOUR
2026

ST FRANCIS DRIVE

Project : TIA : PROPOSED RESIDENTIAL DEVELOPMENT IN SEA VISTA , ST FRANCIS BAY
Intersection : ST FRANCIS DRIVE / PHILIPPA PLACE NO. 1

Day & date : 11/02/2026
Time period: 16:00 - 18:00

STARTING TIME	ST FRANCIS DRIVE Northbound				PHILIPPA PLACE Westbound				ST FRANCIS DRIVE Southbound				- Eastbound				INTER-SECTION	
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
16:00	0	52	0	52	0	0	1	1	1	71	0	72	0	0	0	0	125	
16:15	0	51	0	51	0	0	1	1	1	58	0	59	0	0	0	0	111	
16:30	0	47	0	47	1	0	3	4	0	56	0	56	0	0	0	0	107	
16:45	0	65	0	65	0	0	0	0	1	54	0	55	0	0	0	0	120	463
17:00	0	59	0	59	1	0	2	3	2	57	0	59	0	0	0	0	121	459
17:15	0	44	0	44	1	0	2	3	1	50	0	51	0	0	0	0	98	446
17:30	0	37	0	37	2	0	1	3	0	52	0	52	0	0	0	0	92	431
17:45	0	31	0	31	0	0	0	0	0	24	0	24	0	0	0	0	55	366
18:00	0	30	0	30	0	0	0	0	0	39	0	39	0	0	0	0	69	314
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	216
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	124
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69
Total	0	416	0	416	5	0	10	15	6	461	0	467	0	0	0	0	898	
Peak hour	0	215	0	215	1	0	5	6	3	239	0	242	0	0	0	0	463	
Peak 15 min				65				4				72					125	
PHF				0.83				0.38				0.84				#####	0.93	

PM PEAK HOUR
2026

ST FRANCIS DRIVE

ANNEXURE C
N2 Station 729
Humansdorp IC

Station Information

Site Number	729			Site Identifier	18765	
Site Name	Humansdorp I/C					
Site Description	Western side of Humansdorp I/C					
Site Type	Permanent			Owner	SANRAL	
Physical Lanes	4			Responsibility	NON-TOLL	
Logical Lanes	4			Installation Date	2000-01-20	
GPS Longitude	24.777945			Termination Date		
GPS Lattitude	-34.006195			Status	In Use	
Region	South			Companion Site		
Road	N002			Speed Limit	120	
Route	N002			Count Type	Normal Traffic Counting Station	
Section	10			Distance	28.5	
Authority	SANRAL			Contract No	SANRAL 53000/1002/2022/LT	
Contract Org	Mikros Traffic Monitoring (Pty) Ltd			Station History Type	Full Site	
System Type	C1					
Lane No	Lane Description	Stream No	Stream Description	Direction	Reverse Lane No	Pos
1	Off-ramp to Humansdorp	1	Off-ramp to Humansdorp	East	0	1
2	To Humansdorp	2	To Port Elizabeth	East	3	1
3	To Plettenberg Bay	3	To Plettenberg Bay	West	2	1
4	On-ramp to Plettenberg Bay	4	On-ramp to Plettenberg Bay	West	0	1

PHOTO



PHOTO



PHOTO



Direction 1

Off-ramp to Humansdorp

Direction 2

To Port Elizabeth

As Built

Traffic Highlights of Site: Humansdorp I/C (729)	
Site No	729
Site Name	Humansdorp I/C
Site Description	Western side of Humansdorp I/C
Road Description	Route : N002 Section : 10E Distance : 28.5 km
GPS Position	Latitude: -34.006195 Longitude: 24.777945
Number of Lanes	4
Station Type	Permanent
Requested Data Period	01 Jan 2023 - 31 Dec 2023
First and Last Data Dates	01 Jun 2023 - 31 Dec 2023
Data Available for Requested Period as Percentage	58%
Last Full Day Count for ADT and ADTT	31 Dec 2023
Number of Full Days in Requested Period	212

Highlights per Stream		Str 1: Off-ramp to Humansdorp	Str 2: To Port Elizabeth
1.1	Total Number of Vehicles	79,359	357,708

Str 3: To Plettenberg Bay	Str 4: On-ramp to Plettenberg Bay	Value
345,179	74,883	857,129

1.2	Average Daily Traffic (ADT)	372	1,676
1.3	Average Daily Truck Traffic (ADTT)	69	376
1.4	Percentage of Trucks	18.6 %	22.5 %
1.5	Truck Split % (Short : Medium : Long)	27 : 15 : 58	20 : 14 : 66
1.6	Percentage of Night Traffic [20h00 - 6h00]	11.9 %	14.9 %
2.1	Speed Limit		
2.2	Average Speed (km/hr)	77.8	101.0
2.3	Average Speed - Light Vehicles (km/hr)	80.7	109.7
2.4	Average Speed - Heavy Vehicles (km/hr)	68.1	80.5
2.5	Average Night Speed (km/hr)	73.7	96.5
2.6	15th Centile Speed (km/hr)		
2.7	85th Centile Speed (km/hr)		
2.8	Percentage of Vehicles in Excess of Speed Limit	35.0 %	41.3 %
3.1	Percentage Vehicles in Flows Over 600 (vehs/hr)	0 %	0 %
3.2	Percentage of Vehicles less than 2s behind vehicle ahead	0 %	0 %
4.1	Total Number of Heavy Vehicles	14,760	80,422
4.2	Estimated Average Number of axles per Truck	5.3	5.7
4.3	Estimated Truck Mass (Ton/Truck)	30.8	32.9
4.4	Estimated Average E80 / Truck	2.1	2.3
4.5	Estimated Daily E80 on the Road		
4.6	Estimated Daily E80 in the East Direction		
4.7	Estimated Daily E80 in the West Direction		
4.8	Estimated Daily E80 in the Worst East Lane		
4.9	Estimated Daily E80 in the Worst West Lane		
5.1	ASSUMPTION on Axles/Truck (Short:Medium:Long)		
5.2	ASSUMPTION on Mass/Truck (Short:Medium:Long)		
5.3	ASSUMPTION on E80s/Truck (Short:Medium:Long)		

Traffic Volumes		Date and Time	Value
6.1	Highest Volume on the Road (vehs/hr)	23 Dec 2023 (13:00 - 14:00)	698
6.2	Highest Volume in the East (vehs/hr)	23 Dec 2023 (12:00 - 13:00)	434
6.3	Highest Volume in the West (vehs/hr)	27 Dec 2023 (10:00 - 11:00)	438
6.4	Highest Volume in a Lane (vehs/hr)	23 Dec 2023 (12:00 - 13:00)	382
6.5	15th Highest Volume on the Road (vehs/hr)	23 Dec 2023 (11:00 - 12:00)	634
6.6	15th Highest Volume in the East Direction (vehs/hr)	20 Dec 2023 (14:00 - 15:00)	346
6.7	15th Highest Volume in the West Direction (vehs/hr)	30 Dec 2023 (09:00 - 10:00)	348
6.8	30th Highest Volume on the Road (vehs/hr)	27 Dec 2023 (15:00 - 16:00)	585
6.9	30th Highest Volume in the East Direction (vehs/hr)	28 Dec 2023 (14:00 - 15:00)	326

1,618	351	4,017
327	70	842
20.2 %	20.0 %	21.0 %
25 : 14 : 61	28 : 16 : 56	25 : 15 : 60
13.9 %	10.3 %	13.8 %
		120
100.7	70.0	87.4
108.7	73.2	93.1
82.0	60.5	72.8
95.4	67.6	83.3
39.4 %	28.3 %	36.0 %
0 %	0 %	1.80%
0 %	0 %	0 %
69,781	14,989	179,952
5.5	5.3	5.5
31.4	30.4	31.4
2.2	2.0	2.2
		1,362.0
		2,162.0
		1,925.0
		1,585.0
		1,827.0
		(2.0 : 5.0 : 7.0)
		(10.9 : 31.5 : 39.8)
		(0.4 : 1.3 : 3.1)

6.10	30th Highest Volume in the West Direction (vehs/hr)	27 Dec 2023 (13:00 - 14:00)	305
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ANNEXURE D
SIDRA
OUTPUT
SHEETS 2026
Before
Development

MOVEMENT SUMMARY

 **Site: [01a] [01] 01 AM ND (2026 Before Development)**
Output produced by SIDRA INTERSECTION Version: 10.0.9.250

Traffic Impact Assessment
for a Proposed Residential Development on
erf 2369, Sea Vista (St Francis Bay)
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand		Arrival		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			Flows		Flows					[Veh. Dist]					
			[Total HV]	%	[Total HV]	%				veh	m				km/h
South: St Francis Drive															
2	T1	All MCs	271	0.0	271	0.0	0.139	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	60.0
3	R2	All MCs	1	0.0	1	0.0	0.139	5.5	LOS A	0.0	0.1	0.00	0.00	0.00	57.1
Approach			272	0.0	272	0.0	0.139	0.0	NA	0.0	0.1	0.00	0.00	0.00	60.0
East: Philippa Place															
4	L2	All MCs	5	0.0	5	0.0	0.007	8.8	LOS A	0.0	0.2	0.34	0.83	0.34	50.8
6	R2	All MCs	2	0.0	2	0.0	0.007	9.8	LOS A	0.0	0.2	0.34	0.83	0.34	50.5
Approach			7	0.0	7	0.0	0.007	9.1	LOS A	0.0	0.2	0.34	0.83	0.34	50.7
North: St Francis Drive															
7	L2	All MCs	1	0.0	1	0.0	0.105	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
8	T1	All MCs	204	0.0	204	0.0	0.105	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			205	0.0	205	0.0	0.105	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			484	0.0	484	0.0	0.139	0.2	NA	0.0	0.2	0.01	0.02	0.01	59.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [01p] [01] 01 PM ND (2026 Before Development)**
Output produced by SIDRA INTERSECTION Version: 10.0.9.250

Traffic Impact Assessment
for a Proposed Residential Development on
erf 2369, Sea Vista (St Francis Bay)
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand		Arrival		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			Flows		Flows					[Veh. Dist]					
			[Total HV]	%	[Total HV]	%				veh	m				km/h
South: St Francis Drive															
2	T1	All MCs	226	0.0	226	0.0	0.117	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	60.0
3	R2	All MCs	1	0.0	1	0.0	0.117	5.6	LOS A	0.0	0.1	0.00	0.00	0.00	57.1
Approach			227	0.0	227	0.0	0.117	0.0	NA	0.0	0.1	0.00	0.00	0.00	59.9
East: Philippa Place															
4	L2	All MCs	1	0.0	1	0.0	0.008	9.0	LOS A	0.0	0.2	0.42	0.85	0.42	50.4
6	R2	All MCs	5	0.0	5	0.0	0.008	9.8	LOS A	0.0	0.2	0.42	0.85	0.42	50.2
Approach			6	0.0	6	0.0	0.008	9.7	LOS A	0.0	0.2	0.42	0.85	0.42	50.2
North: St Francis Drive															
7	L2	All MCs	3	0.0	3	0.0	0.131	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.4
8	T1	All MCs	252	0.0	252	0.0	0.131	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
Approach			255	0.0	255	0.0	0.131	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
All Vehicles			488	0.0	488	0.0	0.131	0.2	NA	0.0	0.2	0.01	0.02	0.01	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

ANNEXURE E
SIDRA
OUTPUT
SHEETS 2026
Before
Development –
Peak Season

MOVEMENT SUMMARY

 **Site: [01a (2)] [02] 01 AM ND - Peak Period (2026 Before Development - Peak Period)**

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

Traffic Impact Assessment
for a Proposed Residential Development on
erf 2369, Sea Vista (St Francis Bay)
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: St Francis Drive															
2	T1	All MCs	541	0.0	541	0.0	0.278	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	60.0
3	R2	All MCs	1	0.0	1	0.0	0.278	5.6	LOS A	0.0	0.1	0.00	0.00	0.00	57.1
Approach			542	0.0	542	0.0	0.278	0.0	NA	0.0	0.1	0.00	0.00	0.00	60.0
East: Philippa Place															
4	L2	All MCs	11	0.0	11	0.0	0.023	9.8	LOS A	0.1	0.5	0.52	0.87	0.52	49.5
6	R2	All MCs	4	0.0	4	0.0	0.023	15.1	LOS C	0.1	0.5	0.52	0.87	0.52	49.2
Approach			15	0.0	15	0.0	0.023	11.3	LOS B	0.1	0.5	0.52	0.87	0.52	49.4
North: St Francis Drive															
7	L2	All MCs	1	0.0	1	0.0	0.210	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
8	T1	All MCs	408	0.0	408	0.0	0.210	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			409	0.0	409	0.0	0.210	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			966	0.0	966	0.0	0.278	0.2	NA	0.1	0.5	0.01	0.01	0.01	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [01p (2)] [02] 01 PM ND - Peak Period (2026 Before Development - Peak Period)**

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

Traffic Impact Assessment
for a Proposed Residential Development on
erf 2369, Sea Vista (St Francis Bay)
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: St Francis Drive															
2	T1	All MCs	453	0.0	453	0.0	0.233	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	60.0
3	R2	All MCs	1	0.0	1	0.0	0.233	5.8	LOS A	0.0	0.1	0.00	0.00	0.00	57.1
Approach			454	0.0	454	0.0	0.233	0.0	NA	0.0	0.1	0.00	0.00	0.00	60.0
East: Philippa Place															
4	L2	All MCs	2	0.0	2	0.0	0.031	10.5	LOS B	0.1	0.7	0.66	0.97	0.66	47.6
6	R2	All MCs	11	0.0	11	0.0	0.031	15.1	LOS C	0.1	0.7	0.66	0.97	0.66	47.4
Approach			13	0.0	13	0.0	0.031	14.3	LOS B	0.1	0.7	0.66	0.97	0.66	47.4
North: St Francis Drive															
7	L2	All MCs	6	0.0	6	0.0	0.261	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
8	T1	All MCs	503	0.0	503	0.0	0.261	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach			509	0.0	509	0.0	0.261	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
All Vehicles			976	0.0	976	0.0	0.261	0.3	NA	0.1	0.7	0.01	0.02	0.01	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

ANNEXURE F
SIDRA
OUTPUT
SHEETS 2026
After
Development

MOVEMENT SUMMARY

 **Site: [01a (3)] [03] 01 AM AD (2026 After Development)**
Output produced by SIDRA INTERSECTION Version: 10.0.9.250

Traffic Impact Assessment
for a Proposed Residential Development on
erf 2369, Sea Vista (St Francis Bay)
Site Category: Proposed Design 1
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist] m				
			veh/h	%	veh/h	%									
South: St Francis Drive															
2	T1	All MCs	271	0.0	271	0.0	0.139	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	60.0
3	R2	All MCs	1	0.0	1	0.0	0.139	5.5	LOS A	0.0	0.1	0.00	0.00	0.00	57.1
Approach			272	0.0	272	0.0	0.139	0.0	NA	0.0	0.1	0.00	0.00	0.00	60.0
East: Philippa Place															
4	L2	All MCs	9	0.0	9	0.0	0.014	8.8	LOS A	0.0	0.3	0.34	0.84	0.34	50.8
6	R2	All MCs	4	0.0	4	0.0	0.014	9.9	LOS A	0.0	0.3	0.34	0.84	0.34	50.5
Approach			14	0.0	14	0.0	0.014	9.1	LOS A	0.0	0.3	0.34	0.84	0.34	50.7
North: St Francis Drive															
7	L2	All MCs	1	0.0	1	0.0	0.105	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
8	T1	All MCs	204	0.0	204	0.0	0.105	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			205	0.0	205	0.0	0.105	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			491	0.0	491	0.0	0.139	0.3	NA	0.0	0.3	0.01	0.03	0.01	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [01p (3)] [03] 01 PM AD (2026 After Development)**
Output produced by SIDRA INTERSECTION Version: 10.0.9.250

Traffic Impact Assessment
for a Proposed Residential Development on
erf 2369, Sea Vista (St Francis Bay)
Site Category: Proposed Design 1
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]						[Veh. veh	Dist] m				km/h
			veh/h	%	veh/h	%	v/c	sec							
South: St Francis Drive															
2	T1	All MCs	226	0.0	226	0.0	0.119	0.0	LOS A	0.0	0.2	0.02	0.02	0.02	59.8
3	R2	All MCs	4	0.0	4	0.0	0.119	5.9	LOS A	0.0	0.2	0.02	0.02	0.02	57.0
Approach			231	0.0	231	0.0	0.119	0.1	NA	0.0	0.2	0.02	0.02	0.02	59.8
East: Philippa Place															
4	L2	All MCs	2	0.0	2	0.0	0.011	9.0	LOS A	0.0	0.2	0.42	0.85	0.42	50.4
6	R2	All MCs	6	0.0	6	0.0	0.011	9.9	LOS A	0.0	0.2	0.42	0.85	0.42	50.2
Approach			8	0.0	8	0.0	0.011	9.7	LOS A	0.0	0.2	0.42	0.85	0.42	50.2
North: St Francis Drive															
7	L2	All MCs	5	0.0	5	0.0	0.132	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
8	T1	All MCs	252	0.0	252	0.0	0.132	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach			257	0.0	257	0.0	0.132	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
All Vehicles			496	0.0	496	0.0	0.132	0.3	NA	0.0	0.2	0.01	0.03	0.01	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

ANNEXURE G
SIDRA
OUTPUT
SHEETS 2026
After
Development -
Peak Season

MOVEMENT SUMMARY

 **Site: [01a (4)] [04] 01 AM AD - Peak Season** (2026 After Development - Peak Season)
Output produced by SIDRA INTERSECTION Version: 10.0.9.250

Traffic Impact Assessment
for a Proposed Residential Development on
erf 2369, Sea Vista (St Francis Bay)
Site Category: Proposed Design 1
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[%]	[Total HV]	[%]	v/c	sec		[Veh.]	[Dist]				km/h
South: St Francis Drive															
2	T1	All MCs	541	0.0	541	0.0	0.278	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	60.0
3	R2	All MCs	1	0.0	1	0.0	0.278	5.6	LOS A	0.0	0.1	0.00	0.00	0.00	57.1
Approach			542	0.0	542	0.0	0.278	0.0	NA	0.0	0.1	0.00	0.00	0.00	60.0
East: Philippa Place															
4	L2	All MCs	15	0.0	15	0.0	0.033	9.9	LOS A	0.1	0.8	0.53	0.88	0.53	49.4
6	R2	All MCs	6	0.0	6	0.0	0.033	15.2	LOS C	0.1	0.8	0.53	0.88	0.53	49.2
Approach			21	0.0	21	0.0	0.033	11.5	LOS B	0.1	0.8	0.53	0.88	0.53	49.3
North: St Francis Drive															
7	L2	All MCs	1	0.0	1	0.0	0.210	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
8	T1	All MCs	408	0.0	408	0.0	0.210	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			409	0.0	409	0.0	0.210	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			973	0.0	973	0.0	0.278	0.3	NA	0.1	0.8	0.01	0.02	0.01	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY



Site: [01p (4)] [04] 01 PM AD - Peak Season (2026 After Development - Peak Season)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

Traffic Impact Assessment
for a Proposed Residential Development on
erf 2369, Sea Vista (St Francis Bay)
Site Category: Proposed Design 1
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: St Francis Drive															
2	T1	All MCs	453	0.0	453	0.0	0.236	0.0	LOS A	0.0	0.3	0.01	0.01	0.01	59.9
3	R2	All MCs	4	0.0	4	0.0	0.236	6.7	LOS A	0.0	0.3	0.01	0.01	0.01	57.1
Approach			457	0.0	457	0.0	0.236	0.1	NA	0.0	0.3	0.01	0.01	0.01	59.9
East: Philippa Place															
4	L2	All MCs	3	0.0	3	0.0	0.036	10.5	LOS B	0.1	0.8	0.65	0.97	0.65	47.7
6	R2	All MCs	12	0.0	12	0.0	0.036	15.2	LOS C	0.1	0.8	0.65	0.97	0.65	47.5
Approach			15	0.0	15	0.0	0.036	14.2	LOS B	0.1	0.8	0.65	0.97	0.65	47.5
North: St Francis Drive															
7	L2	All MCs	8	0.0	8	0.0	0.263	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
8	T1	All MCs	503	0.0	503	0.0	0.263	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach			512	0.0	512	0.0	0.263	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7
All Vehicles			983	0.0	983	0.0	0.263	0.3	NA	0.1	0.8	0.02	0.03	0.02	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Kouga Local Municipality

16 Woltemade Street
Jeffrey's Bay
6330

29 May 2026

Engineering Advice and Services Pty (Ltd)

73 Heugh Rd, Walmer
PO Box 13867, Humewood
Port Elizabeth
6013

Dear: Mr C Hastie

RESPONSE TO TIA APPROVAL COMMENTS REVIEW – ERF 2369, SEA VISTA

Thank you for your correspondence dated 4 May 2026 and for the detailed technical response provided following our meeting of 28 April 2026. The clarifications and additional information submitted are appreciated and contribute positively toward the assessment process. Having reviewed your response, please find the Municipality's technical comments below

1. Access Compliance

The provision of a 3 m wide access via an existing servitude is noted. However, from a traffic engineering and operational safety perspective, a single-width access presents inherent risks, particularly in terms of vehicle conflict, emergency access, and service vehicle maneuverability.

While the proposed automated gate system may assist in controlling vehicle movements, it does not fully mitigate the operational limitations associated with constrained access width. Further detail on the functionality, fail-safe mechanisms, and peak-period operation of the system will be required to assess its adequacy.

2. Geometric Design Standards

Your comments regarding access spacing constraints are acknowledged. Notwithstanding this, all access points must still demonstrate compliance with minimum geometric and safety standards.

Confirmation of compliance with sight distance requirements will be subject to verification during the detailed design stage. The submission of the Engineering Services Report will be critical in confirming gradient compliance and overall geometric suitability.

3. Traffic Impact Assessment (TIA) Observations

The consideration of peak seasonal traffic in lieu of baseline traffic data is noted and accepted as a pragmatic approach under the circumstances. However, the absence of a cumulative impact assessment remains a limitation, particularly given the potential for incremental development in the area.



The proposed approach to managing construction traffic impacts, including pre-construction condition assessments of Philippa Place, is supported and will be enforced as a condition of approval.

4. Non-Motorised Transport (NMT)

The commitment to incorporate NMT facilities into the Site Development Plan (SDP) is supported. These provisions must align with municipal standards to ensure safe and accessible pedestrian movement.

5. Stormwater Management

It is noted that stormwater design will be addressed in the forthcoming Engineering Services Report. However, it is important to emphasize that stormwater considerations are integral to development feasibility and may influence access design, road reserve capacity, and overall site layout.

Accordingly, no final approval can be granted without a comprehensive stormwater management plan that demonstrates compliance with municipal requirements and does not adversely impact existing infrastructure or downstream properties.

6. Road Condition and Upgrading of Philippa Place

The position regarding the developer's responsibility is noted. However, it must be emphasized that where a development contributes to increased traffic loading or accelerated deterioration of an existing municipal road, proportional mitigation measures may still be required.

This will be assessed based on the verified impact of the development, and the condition may not be fully removed at this stage.

7. Access Control Measures

The proposed access management system, including the 13 m gate setback, is acknowledged. While this is a positive intervention to prevent queuing onto Philippa Place, detailed design specifications and operational analysis must still be submitted for approval.

Particular attention must be given to:

- System reliability and backup during power failures
- Response times and vehicle stacking analysis
- Emergency vehicle access

8. Parking Compliance

Your commitment to meeting parking requirements within the SDP is noted and supported. Compliance will be confirmed during the detailed plan assessment stage.

9. Conditions for Approval

Access Width (3 m):

This remains a concern. Approval may be considered conditional upon submission and approval of a fully compliant and technically sound access management system. However, the Municipality reserves the right to require widening should the proposed system not sufficiently address operational risks.



Upgrading of Philippa Place:

The request for removal of this condition is noted. A final determination will be made following a quantified assessment of development impact on the existing road infrastructure.

Conclusion

While the responses provided address several of the Municipality's concerns at a high level, a number of critical elements remain outstanding, particularly those requiring detailed engineering input. These will need to be resolved through the submission of the Engineering Services Report and SDP before final approval can be considered.

The Municipality appreciates the professional engagement and looks forward to the submission of the outstanding documentation to progress the application.

Yours sincerely,



A NYATHELA
MANAGER :ROADS AND STORMWATER

Summary of the Public Participation Process to date:

- A 30-day Public Participation Process will take place for notifying the general public with an advertisement in the local newspaper (The Kouga Express) and a notice board that was erected at the site. The time to register as an I&AP is between 17 September – 19 October 2026 (considering Regulations 3(2) NEMA 2014 as amended 2017). The Public Participation Process consisted of:
 - One notice board was placed at the entrance to the site along Philippa Place and another at the entrance to Diana Cres, at a location that is conspicuous to and accessible by the public at the boundary of the site on 17 September 2026. This provides time for potential I&AP's to register and details to access a draft document for comment, should they wish to comment.
 - An advertisement in the Kouga Express was placed on 17 September 2026 to provide potential I&AP's to register/comment. This provides time for potential I&AP's to register and details to access a draft document for comment, should they wish to comment.
- A written notice was sent via email to the municipal councillor of Ward 12 (which is the ward in which the site is situated) of the Kouga Local Municipality, and the organs of the state that have jurisdiction in respect of any activity and the neighbours to the site on 17 September 2026. A 30-day comment period has been provided and will end on 19 October 2026.

Register of interested and affected parties:

Regulation 42 of the Environmental Impact Assessment Regulations, 2014, as amended (EIA Regulations) provides for the opening and maintenance of a register of interested and affected parties (I&APs), **by the proponent or applicant**, which must contain personal information (names, contact details and addresses). It is therefore the duty of the proponent or applicant to collect the information that must be contained in the register.

Regulation 42 further requires that these registers must be submitted to the competent authority (CA). There is no legal requirement in the EIA Regulations that such registers must be included in the reports that are published for public consultation purposes or be made publicly available as part of the BAR process. Since the information in the registers is personal/private information, it should not be included in or attached to reports and be made available in the public domain. CAs, applicants, and environmental assessment practitioners (EAPs) should take note that, if this information was previously included in reports and shared in the public domain, this now requires reconsideration in accordance with the POPIA. The Department realises that EAPs may have included some personal information in these reports when they receive and compile them. Likewise, this information may reach CAs who also now need to be sensitive about the management of this information.

It is the duty of the proponent or applicant to collect the information that must be contained in the register. Despite the fact that, in practice, this task is often performed by the EAP, it is the proponent or applicant that remains responsible to comply with the applicable legislative provisions. The applicant or proponent must therefore ensure that the EAP is aware of the POPIA requirements and that registers should not be included in reports and be made available in the public domain.

Comments and responses information:

Regulation 19(1)(a) of the Environmental Impact Assessment Regulations 2014 (EIA Regulations) provides that where basic assessment must be applied to an application, the applicant must, within 90 days of receipt of the application by the CA submit to the CA a basic assessment report, inclusive of any specialist reports, an EMPR,

a closure plan or the plans, reports and calculations contemplated in the Financial Provisioning Regulations, which have been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the CA. There are similar requirements for the scoping report and the environmental impact assessment reports required in terms of the EIA Regulations.

The applicant or EAP on behalf of the applicant is therefore required by law to submit reports, including comments received on such reports, summaries of the issues raised, and an indication of the manner in which the comments/issues were incorporated or reasons for not incorporating comments/issues in the reports, where such are not incorporated. It is not expressly required that names or personal information of those who provided comments should be included in the reports. It is however appreciated that it is often the practice to include the name/details of the person who provided the comments in the reports. In many instances those who commented enquire about/ seek confirmation of the inclusion of their comments in the reports. It is therefore important to be able to indicate the comment received in relation to the person/entity who submitted this. Furthermore, it is necessary for the CA to be aware of the persons who submitted comments when considering the reports (including the comments). For these reasons, the names of the commenting parties are intrinsically linked to the comments that are submitted by them and are often also included in the reports, but this must now be done with the careful consideration of and compliance with the POPIA requirements.

The definition of “personal information” in the POPIA includes: *“(h) the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person”*. Since circumstances may arise where a name, included as part of the comments, may reveal information about a person, it is advisable to err on the side of caution and ensure that there is compliance with the POPIA when names are included in the reports. In some instances, more than just the name of the person may be revealed and in such cases, the information would also fall within the ambit of the definition of “personal information” and therefore there needs to be compliance with the POPIA requirements. The approach to be followed should be guided by sections 3(3), 9, 12(1) and (2), 11 as well as 18 of the POPIA, as explained below.

Section 3(3)(b) of POPIA provides that the POPIA must be interpreted in a manner that does not prevent any public or private body from exercising or performing its powers, duties and functions in terms of the law as far as such powers, duties and functions relate to the processing of personal information and such processing is in accordance with the POPIA or any other legislation, as referred to in section 3(2), that regulates the processing of personal information. Section 3(3)(b) of the POPIA should be read with and inform the interpretation of other relevant sections of POPIA.

For the current scenario the EAP and applicant have a legal duty to perform a function in terms of the EIA Regulations, which function requires the preparation of reports, that include comments made by process participants. POPIA must therefore be interpreted in a manner that does not prevent the applicant or EAP from performing its functions/duties under the EIA Regulations, as far as such functions/duties relate to the processing of personal information, and provided the processing is in accordance with POPIA and meets the requirements of the EIA Regulations. Furthermore, in light of the fact that the reports submitted by the EAPs are meant to provide the CAs with adequate information that will enable them to decide on applications received, adequate information may, at times, include incorporation of personal information in order for the reports to facilitate decision-making.

All information received from the public will form part of the public record and may be made available to the public. By submitting comments, I&AP's give consent to the inclusion of their personal information in public participation records, in accordance with POPIA.

Registration data of I&AP's

This table will be populated once the public participation is completed.

Interested and Affected Party Name	Contact details (phone or email)	Address	Date received comments	Concerns raised	Response
Kouga Municipality	Townplanner: Elsa van Biljon 042 200 2200 evbiljon@kouga.gov.za Environmental Officer: Nomvelo Siwela nsiwela@kouga.gov.za Sea Vista Wastewater Treatment Works: Haroon Prince hprince@kouga.gov.za	P O Box 21; Jeffrey's Bay, 6330			
Ward 12 Councillor Ms. L. Maree	082 892 4664 lmaree@kouga.gov.za	Did not provide an address			
Sarah Baartman District Municipality Att: Pauline Wentzel (Infrastructure and Planning)	041 508 7099 / 041 508 7111 cmabindla@sbdm.co.za	P O Box 318; Port Elizabeth; 6000			
Department of Water and Sanitation Att: Ntombiyamayirha Mpumela or Sonke Ngxeba	041 501 0717 MpumelaN@dws.gov.za or NgxebaS@dws.gov.za	Private Bag X6041; Port Elizabeth; 6000			

The Department of Economic Development, Environmental Affairs and Tourism, Port Elizabeth Att: Ms. Indira Suwankazi	041 508 5840 079 503 1762 Indira.Suwankazi@dedea.gov.za Andries.struwig@dedea.gov.za	P/Bag X5001 Greenacres 6057			
The Department of Environment, Forestry and Fisheries (DEFF) Gqeberha Att: Mr. Zinzile Mtotywa	041 407 4052 063 750 4427 zmtotywa@dffe.gov.za	54 Paterson Road North End Gqeberha 6001			
The Department of Forestry, Fishery, and the Environment: Oceans and Coast Att: Deputy Director-General: Oceans and Coasts: Dr. Lisolomzi Fikizolo	Tel: 021 819 2575 Lfikizolo@dffe.gov.za	2 East Pier Shed East Pier Road Victoria & Alfred Waterfront Cape Town 8000			
The Eastern Cape Parks and Tourism Agency Att: Ms Londeka Jilimane	043 705 4400 Londeka.Jilimane@ecpta.co.za	P O Box 11235 Southernwood East London 5213			
The Department of Environment, Forestry and Fishery (DEFF) Mr. Zinzile Mtotywa	063 750 4427 (official) 041 407 4052 zmtotywa@dffe.gov.za	54 Paterson Road; North End, 6000.			

Department of Forestry, Fishery and the Environment: Oceans and Coast	021 819 2410 jbeaumont@environment.gov.za	2 East Pier Shed East Pier Road Victory & Alfred Waterfront Cape Town 8000		No comment received.	
Civil Aviation Att: Simphiwe Masilela (Inspector Obstacles PANS-OPS)	011 545 1000 Masilelas@caa.co.za				
Defence force: Lt. Col. Zondi Military Integrated Environmental Management	012 402 2824 065 304 7985 kebasenosi@yahoo.com		Department of Defence Private Bag X319 Pretoria		
Neighbours to property: Due to the POPIA – personal information of private citizens will not be made available to the public.					
Patricia J Inggs (KJGS Trust)					
Hilary Marshall					
Barbara Vauquun					
Alison Bain					
Pieter					
Born free Investments					

Jon Riegby-Fielder					
Jasper Louw					
Michael Henwick (management agent of St Francis Court)					
St Francis Property Owners Association					
Danika Weber					
Enid Pretorius					
Brendon Voogt					
Maggie Langlands					
Sherry Seward					
Philipa Fabbri					
Mark Ridgway					

Public Participation document to neighbours, municipality, landowner, government, and other IAP's.

Example of the letter and Background Information Document sent for IAP's.

17 September 2026

Dear Interested and Affected Party

Ref: EC08/C/LN1&3/M/43-2026

ENVIRONMENTAL IMPACT APPLICATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998, FOR THE ESTABLISHMENT OF HOUSE UNITS ON ERF 2369, SEAVISTA, ST FRANCIS. APPLICANT: BORN FREE INVESTMENTS 460 (PTY) LTD. Public Participation Phase.

Born Free Investments 460 (Pty) Ltd appointed Digital Soils Africa (Pty) Ltd (DSA) to conduct the necessary environmental impact assessment and public participation for the above-mentioned project.

In terms of Section 41 of NEMA Regulations, you have been identified as an Interested and Affected Party and are invited to participate in the public participation. All written comments will be responded to and forwarded to the relevant departments, in the form of a Public Participation Report.

The purpose of this letter and attached document is therefore to:

- Inform you of the locality of the proposed environmental authorization application.
- Allow you the opportunity to raise concerns or comments in respect of the proposed project detailed in the attached Background Information Document.

Public Participation Process

The purpose of the Background Information Document is to provide you with *basic information* regarding the proposed project and provide the opportunity to register as interested and affected parties and grant you the opportunity to raise any comments you might have on the proposed project.

If you would like to participate in the process, please register as an interested and affected party (I&AP), in writing. Comments/registration must be received **on or before 19 October 2026** no later than 5pm. If no comments are received from you, it will then be regarded that you do not have any comments.

Way Forward

- The outcome of this consultation process will be submitted to the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) as part of the Final Basic Assessment Report.
- The Draft BAR & EMP document and required specialist reports will be subjected to review by all registered I&AP's and relative governmental departments, following the time frames as stipulated in Section 3 (1) & (8) of the NEMA regulations (30 days).
- All information received will form part of the public record and may be made available to the public. By submitting comments, you consent to the inclusion of your personal information in public participation

records, in accordance with POPIA. Correspondence throughout the remainder of the environmental process will be distributed to registered I&APs only.

- The outcome of that consultation process will be submitted to the DEDEAT as part of the final BAR & EMP.
- The documents will be made available on the DSA website, www.dsafrica.co.za. Please follow the link to Environmental, Documents and choose the 'Born Free' link.
- To minimise unnecessary paper use, I&APs are encouraged to make use of the electronic documentation where reasonably possible. However, should electronic access not be available or practicable, a hard copy can be made available on request. Please indicate accordingly and provide a suitable delivery address.
- All required documents will be submitted to the relevant department for decision-making.
- If the application is accepted, the relevant department will either issue or reject the Environmental Authorisation.
- As an I&AP's, you will be notified of the final decision of the relevant departments.

Yours sincerely



Natalie Sharp

Pri.Sci.Nat (Reg nr. 123443)
Reg. EAP (EAPASA)(2020/230)
Member of IAIAAs (7237)



BACKGROUND INFORMATION
REGARDING THE
DEVELOPMENT OF
RESIDENTIAL UNITS ON ERF
2369 SEAVISTA, ST FRANCIS
BAY

BORN FREE INVESTMENTS 460 (PTY) LTD

17 SEPTEMBER 2026

EC08/C/LN1&3/M/43-2026



DSA
Digital Soils Africa



+27 82 414 0472



www.dsafrica.co.za



natalie@dsafrica.co.za



Walmer

Port Elizabeth

Directors:

Dr Darren Bouwer

Prof Johan Van Tol

Prof George Van Zijl

PURPOSE OF THIS DOCUMENT

The purpose of this document is to provide all I&AP's with information about the intent of Born Free Investments 460 to apply for environmental authorisation to establish single unit houses on Erf 2369 Seavista, St Francis Bay.

As an identified I&AP, you are invited to register and comment on any aspect related to the proposed development between the 17th of September 2026 and 19th of October 2026.

BRIEF PROJECT DESCRIPTION

The site is situated next to the St Francis Bay Villas and current accessible via the Diana Crescent road on Erf 2369 Seavista in St Francis Bay, (34° 09' 53.07" S; 24° 49' 51.83" E- centre point)
The property is 1.3855 Ha in total.

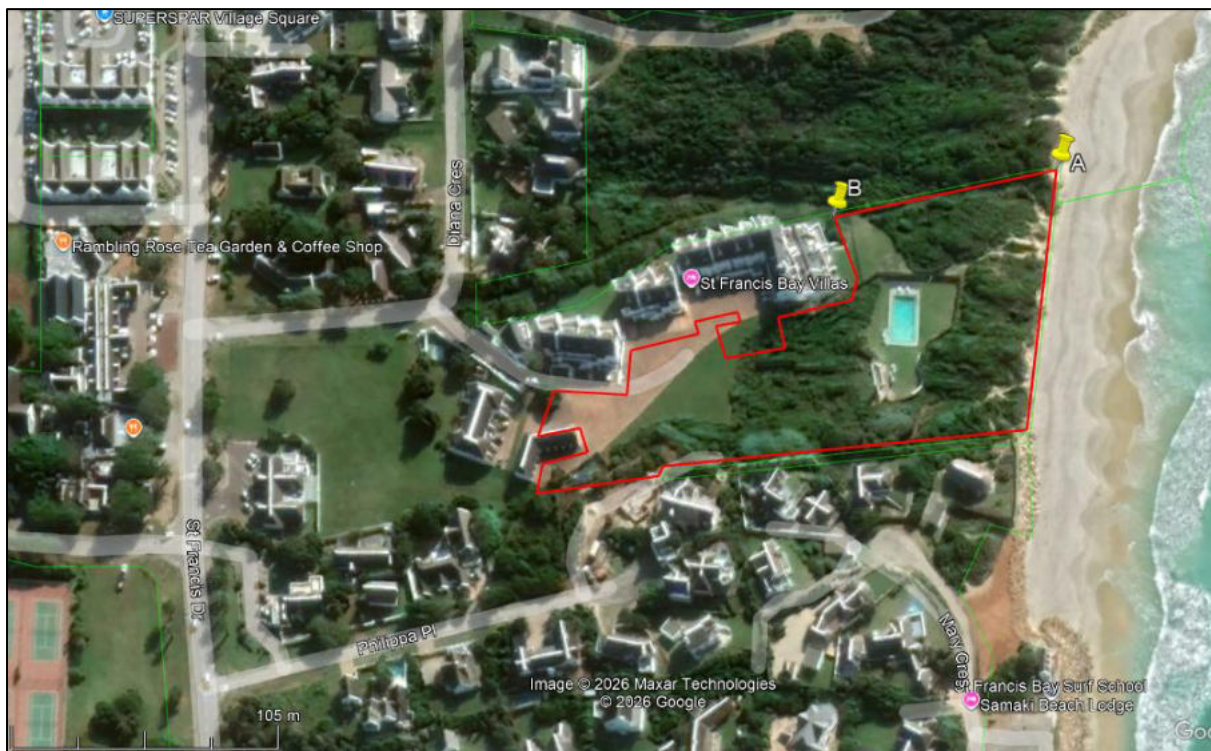


Figure 1: Site location

NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT NO. 107 OF 1998) AS AMENDED

Environmental Assessment

DSA was appointed by Born Free Investments 460 (Pty) Ltd as the independent environmental assessment practitioner (EAP) to undertake the Environmental Application and apply for listed activities under the NEMA Regulations and the submission of a Basic Assessment Report.

According to the latest Government Notice No. 324; 325 & 327 (as amended 2021), the following Listed Activities were triggered:

GNR 324 (4) (a)(i) (ee) & (gg) – The development of a road wider than 4 meters with a reserve less than 13.5meters outside of urban areas within the Eastern Cape in critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans and within 10km from national parks or world heritage sites or 5km from any other protected area identified of NEMPAA or from the core areas of a biosphere reserve.	<i>An access road will be built, and a portion of the property falls within a CBA, including the site is within the Garden Route Biosphere Reserve and within 2km from the Sand River Private Nature Reserve.</i>
GNR 324 Activity 12 (a)(ii)&(iii): The clearance of an area of 300m ² or more of indigenous vegetation in the Eastern Cape, within critical biodiversity areas identified in bioregional plans and within 100m inland from the highwater mark of the sea.	<i>To make way for construction more than 300m² of vegetation would be disturbed within the CBA area identified on the site, and the site falls within the 100m buffer zone of the high water mark.</i>
GNR 327 Activity 19A: The infilling, or depositing of any material of more than 5m ³ into, or dregging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5m ³ from 100m inland of the high-water mark of the sea.	<i>Foundations of the buildings and retaining walls will result in either the infilling or removal of material of more than 5m³ 100m inland of the high-water mark of the sea.</i>
GNR 327 Activity 28 (ii): Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 1 April 1998 and where such development will occur outside of urban area, where the total land to be developed is bigger than 1Ha	<i>Eight (8) detached residential units, each with an associated private garage and access to an internal road network is proposed at the site.</i>

POTENTIAL ENVIRONMENTAL ISSUES

The full impact on all environmental parameters will be concluded in the Basic Assessment Report and EMP. For background information, the most important potential environmental issues that will be addressed in the assessment include, but are not limited to:

- Loss and disturbance of indigenous coastal vegetation and biodiversity, including potential impacts on sensitive vegetation communities and plant Species of Conservation Concern (SCC);
- Loss, disturbance and fragmentation of fauna habitat and ecological connectivity, including potential disturbance to indigenous fauna during construction and operation;
- Encroachment into environmentally sensitive areas, and consideration of the extent to which the alternative development layouts avoid or minimise impacts on these areas;

- Disturbance of the coastal dune system, including potential effects on dune stability, erosion susceptibility and the ecological and coastal-protection functions provided by the dune and its vegetation;
- Coastal erosion and climate-change resilience, particularly the potential implications of existing and future coastal erosion, storm events and changing rainfall patterns for the proposed development and surrounding environment;
- Soil disturbance and erosion, particularly as a result of vegetation clearing, excavation, earthworks and construction on unconsolidated coastal sands;
- Stormwater management and potential impacts on surface and groundwater quality, including runoff, sedimentation, sewage leaks, accidental spills and other sources of contamination;
- Heritage and palaeontological resources, including the remaining structures/foundations associated with the former St Francis Bay Hotel and the potential discovery of previously unidentified archaeological, burial or fossil material during earthworks;
- Traffic and access, including construction traffic, additional operational traffic, road safety and the suitability of the proposed access from Philippa Place;
- Noise, dust and air-quality impacts during construction, particularly potential nuisance impacts on neighbouring residents;
- Visual and sense-of-place impacts, including the change from the existing vegetated site to a residential development and the integration of the proposed dwellings into the surrounding residential and coastal landscape;
- Waste generation and pollution risks during both construction and operation; and
- Availability, capacity and appropriate design of engineering services and infrastructure, including water supply, sewerage and stormwater management.

While the proposed development has the potential to result in a range of environmental and socio-economic impacts, the assessment process will evaluate the significance of these impacts both before and after the implementation of appropriate avoidance, mitigation, management and rehabilitation measures.

Based on the current assessment, many of the anticipated construction-related impacts are expected to be temporary and localised, while certain permanent impacts associated with the development footprint, particularly vegetation loss and habitat alteration, will remain.

The final acceptability of the proposal will therefore depend on the extent to which sensitive areas can be avoided, residual impacts reduced to acceptable levels, and the recommended rehabilitation and long-term environmental management measures effectively implemented.

The Basic Assessment will ultimately consider these residual impacts together with the potential socio-economic benefits, site context, alternatives and comments received from Interested and Affected Parties and relevant authorities in determining whether the proposed development can be regarded as environmentally acceptable.

PUBLIC PARTICIPATION

In terms of the NEMA, public participation forms an integral part of the environmental assessment process. The public participation process provides people who may be affected by the proposed development with an opportunity to provide comments and raise issues of concern about the project or make suggestions that may result in enhanced benefits for the project.

During the public participation *potential* interested and affected parties (I&APs) are given notice via a notice board and local newspaper advertisement informing the public of the application. The *registered* I&APs are considered directly abutting neighbours and organs of state that have jurisdiction over the area, e.g. the Municipality, Ward counsellor, etc. and would be provided with a Background Information Document and given access to a digital copy of the DBAR on Digital Soils website for comment.

Comments and issues raised during the public participation process will be captured, evaluated, and included in a Public Participation Report. These issues will be addressed and included in the final BAR, which will be submitted to the Department of Economic Development, Environmental Affairs and Tourism.

To register and/or submit a comment as an Interested and Affected Party, please respond in writing to the following email: natalie@dsafrica.co.za on or before **19 October 2026** no later than 5pm.

Alternatively, a copy of the Draft BAR is also available on the DSA website at www.dsafrica.co.za. Please follow the link to Environmental, Documents and choose the 'Born Free' link.

If you have any other questions or inquiries, please do not hesitate to contact the office at 082 414 0472. If no comments are received from you, it will then be regarded that you do not have any comments.

LEGEND

- RED - NO-GO AREAS FOR DEVELOPMENT
- GREEN 1 - RE-ESTABLISHED VEGETATION
- GREEN 2 - LAWN

AREA CALCULATIONS

TOTAL AREA	
363 M ²	'NO GO AREAS' REMOVED
2,835 M ²	RE-ESTABLISHED VEGETATION

Site Plan Details:

- Address:** 3080 and 2369
- Boundaries:** BOUNDARY LINE, BUILDING LINE
- Infrastructure:** ROAD
- Vegetation:** EXISTING, RE-ESTABLISHED VEGETATION, LAWN
- Structures:** BUILDING FOOTPRINT, CONCRETE PLATFORM

APPENDIX F: ENVIRONMENTAL MANAGEMENT PLAN (EMPR)



APPENDIX F

ENVIRONMENTAL MANAGEMENT PLAN

For the

Application for Environmental Authorisation for the
development of residential houses on Erf 2369 Seavista,
St Francis

Prepared for

BORN FREE INVESTMANTS 460 (PTY) LTD

EC08/C/LN1&3/M/43-2026



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Richmond Hill

Port Elizabeth

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Prof Johan Van Tol

Prof George Van Zijl

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BACKGROUND

Digital Soils Africa (Pty) Ltd (DSA) was tasked by Born Free Investments 460 (Pty) Ltd, hereinafter referred to as *the Applicant*, to conduct environmental investigations and complete the environmental application for the development of 7 or 8 residential houses on Erf 2369, Seavista, St Francis Bay.

The property measures about 1.3855 Ha of which 3508m² was identified as sensitive and recommended as a high sensitive area. Minimum disturbance is therefore proposed within the high sensitive area.

In terms of the National Environmental Management Act 107 of 1998 ("NEMA"), environmental authorisation must be obtained before any person can conduct activities that cause damage to the environment.

DSA was appointed by the Applicant as the independent environmental assessment practitioner (EAP) to undertake the Environmental Application and apply for GNR 327 and 324 listed activities and the submission of the Basic Assessment Report.

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Environmental Assessment Practitioner (EAP): Natalia Sharp

Postal address: 45 Church Street, Walmer, 6070

Cell Phone: 082 414 0472

Email: natalie@dsafrica.co.za

EAP qualifications: B.Sc (Botany and Zoology) (UFS); B.Sc. (Hons) Limnology (UFS); Masters in Environmental Management: Evaluation of Phytoplankton as an indicator in a biomonitoring program, with special reference to the Modder River.

EAP Registrations/Associations: SACNASP (123443), EAPASA (2020/230), and a member of IAIA (7237).

Natalie Sharp is the project manager and senior Environmental Assessment Practitioner leading this project and is registered as an Environmental Assessment Practitioner (EAP) with the Certification Board for Environmental Assessment Practitioners of South Africa (EAPSA) (Registration Number: 2020/230) and as a Professional Natural Scientist (Pri.Sci.Nat) with the South African Council for Natural Scientific Professions (SACNASP) (Registration Number: 123443) (see Appendix 3 for detailed CV and qualifications). Natalie Sharp has worked in the environmental industry for over twenty years.

SUMMARY OF THE CV

NATALIA SHARP

Personal Details

Date of birth: 12 August 1979
Nationality: South African
Identity number: 790812 000 7080
Gender: Female
Languages: English / Afrikaans

Qualifications:

BSc (2000) UFS – Zoology and Botany
BSc Honors (2001) UFS - Limnology
Masters in Environmental Management (2003) UFS - Evaluation of Phytoplankton as an indicator in a biomonitoring program, with special reference to the Modder River.

During the 2 years associated with the Centre for Environmental Management intense training was provided for equipping Natalia Sharp with adequate knowledge in terms of biomonitoring water systems and scientific report writing for research done by her through the Centre. Various scientific contributions were made during these few years which included formal reports to Bloem Water and seminars providing management principles for polluted water bodies, thus providing her with additional regulatory and environmental skills.

During the 5 years associated with the DME, now changed to the Department of Mineral Resources (DMR), vast knowledge was gained in terms mine environmental management, the development, rehabilitation and closure of mining and prospecting areas. Environmental Management Programmes, Environmental Performance Assessment Reports, and Closure Reports were scrutinized continually. Therefore, adequate expertise was gained to assist the applicants with relevant environmental and mining advice and providing her with adequate knowledge to evaluate environmental impacts relating to mining.

Experience (Seventeen years' experience in environmental law and environmental management)

During the 11 years associated with SES (Stellenryck Environmental Solutions), Natalia Sharp has obtained immense understanding in completing environmental impact assessments, not only associated with mining projects, but also for a wide variety of different developing projects such as Light Industrial developments, Road upgrade projects, bush clearing for agricultural developments, and applications for exemptions, and so forth. She has excellent experience in writing environmental reports, which ranges from Scoping Reports, Environmental Management Plans, Environmental Awareness Plans, Mining Work Programs, Closure Plans, Risk Assessments, Performance Evaluations on projects, and Plan of Study reports. She has also been involved in performing biomonitoring on river systems associated with some of the projects, completing it by obtaining all the data and writing the Biomonitoring Report for the relevant Department. This is mainly attributed to her Limnology background and she is competently able to add value to this field in her current position.

During the past 3 years of association with Digital Soils Africa (DSA) as an independent environmental consulting firm that are also soil specialists focussing on all soil solutions in the agricultural and environmental fields, Natalie Sharp has gained more exposure to projects involved with the Department of Agriculture and the Department of Water and Sanitation. This included applications for the cultivation of virgin soil and obtaining

knowledge of the administrative processes in applying for these permits, assisting farmers with identifying suitable soils for cultivation and applying to the DWS for water use rights for irrigation.

Natalie Sharp has also gained experience in GIS mapping with the free software QGIS because of working at DSA.

In terms of management skills, DSA appointed Natalie Sharp as the lead project manager on all environmental-related projects: she managed the environmental authorisation projects and specialist team associated with such applications, including Section 24G applications, applications for protected plant species with the Department of Forestry, Water Use License Applications, Cultivation for virgin soil applications, SAHRIS applications, Civil Aviation approvals and correspondence with the Department of Defence.

As the lead project manager, she has gained experience in proposals and cost analysis for projects and has established a network of professional connections in the Eastern Cape region and Northern Cape region.

Centre for Environmental Management University of the Free State: Lab Assistant [2001 – 2003]

Mine Environmental Management [2003-2005] at the Department of Mineral Resources: Environmental Officer

Previous Employment

Mine Environmental Management [2005-2008] at the Department of Mineral Resources: Senior Environmental Officer

Stellenryck Environmental Solutions: Senior Environmental Practitioner [2008-2019]

Digital Soils Africa Pty Ltd: Senior Environmental Practitioner [2020-currently]

Digital Soils Africa Pty Ltd (DSA) is an independent environmental consulting firm that is also soil specialists, focussing on all soil solutions in the agricultural and environmental fields. The specialists are SACNASP registered and recognized leaders in their fields of study.

The soil specialist services provided include soil surveys, soil erosion mitigation, fertilization management, soil and land capability studies, and wetland delineation amongst others, while the fields of specialization are hydropedology and digital soil mapping. Together the directors have 25 years of experience.

Prof. Johan van Tol is a leading researcher on hydropedology. He is a NRF rated researcher, who boasts more than 100 peer reviewed scientific publications and has put his research to work in more than more than 130 consultancy reports. He is a SACNASP registered scientist and a full Professor in soil science at the University of the Free State.

Prof. George van Zijl is Africa's foremost Digital Soil Mapper. For his PhD he developed a DSM protocol for use in southern Africa, and has subsequently improved the methodology to include machine learning such as shown in the mapping of Ntabelanga catchment and City of Joburg Hydropedological mapping. He has served on the scientific committee for international DSM conferences. George has conducted more than 60 consultancy projects and is a SACNASP registered scientist.

Dr. Darren Bouwer boasts 12 years' experience as a soil scientist. His PhD incorporated chemical measurements into hydropedological assessments, which improves flow path determination. He has also completed a post doctorate at Ghent University, Belgium, where he specifically worked on hydropedological modelling. Darren is a SACNASP registered scientist, and has completed more than 45 consultancy reports.

PURPOSE OF THE DOCUMENT

This document serves as a programme to manage the environmental impacts during the pre-construction, construction, and operational phases of the proposed development. This document will provide mitigation measures to prevent, reduce, avoid, or rehabilitate and mitigation measures must be implemented during all phases of the development. The objective will be to limit the negative impacts and increase positive impacts.

The Environmental Management Plan (EMP) will also:

- Provide applicable legislative framework;
- Provide management objectives and actions to achieve such objectives;
- List roles and responsibilities;
- Provide record-keeping methods, auditing or review, and report writing;

SITE LOCALITY

The site is situated next to the St Francis Bay Villas and current accessible via the Diana Crescent road on Erf 2369 Seavista in St Francis Bay, (34° 09' 53.07" S; 24° 49' 51.83" E- centre point) The property is 1.3855 Ha in total.

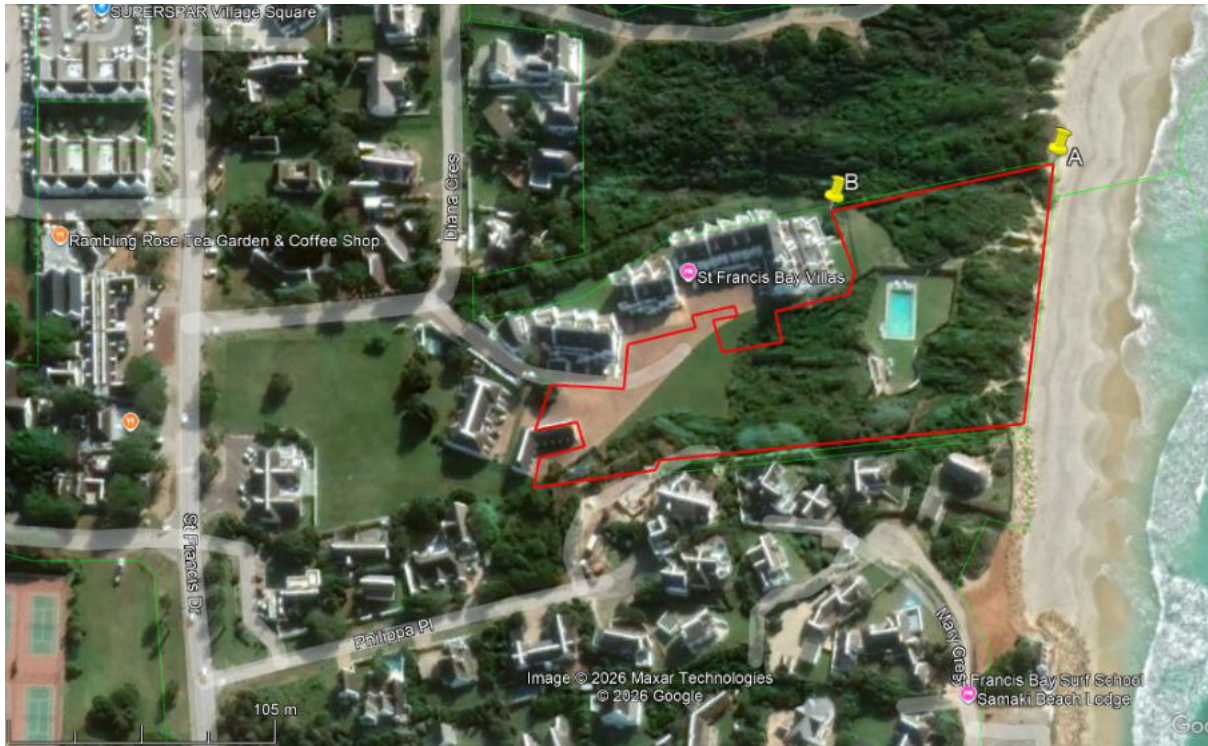


FIGURE 1: SITE LOCATION: SITE IS INDICATED AS THE RED POLYGON

The 21 digit Surveyor General code:

CO 0034 001400002369 00000

The property belongs to the Applicant.

www.dsafrica.co.za



DESCRIPTION OF THE PROPOSED LISTED ACTIVITIES

Act. No.	Listings	Describe the portion of the proposed project to which the applicable listed activity relates.	Coordinates of listed activities (centre point coordinates of the listed activity location)
GNR 324 (4) (a)(i) (ee) & (gg)	The development of a road wider than 4 meters with a reserve less than 13.5meters outside of urban areas within the Eastern Cape in critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans and within 10km from national parks or world heritage sites or 5km from any other protected area identified of NEMPAA or from the core areas of a biosphere reserve.	An access road will be built, and a portion of the property falls within a CBA, including the site is within the Garden Route Biosphere Reserve and within 2km from the Sand River Private Nature Reserve.	34° 09' 55.15" S 24° 49' 48.82" E
GNR 324 Activity 12 (a)(ii)&(iii):	The clearance of an area of 300m ² or more of indigenous vegetation in the Eastern Cape within critical biodiversity areas identified in bioregional plans and within 100m inland from the highwater mark of the sea.	To make way for construction more than 300m ² of vegetation would be disturbed within the CBA area identified on the site, and the site falls within the 100m buffer zone of the high water mark.	34° 09' 52.76" S 24° 49' 51.93" E
GNR 327 Activity 19A:	The infilling, or depositing of any material of more than 5m ³ into, or dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5m ³ from 100m inland of the high-water mark of the sea.	Foundations of the buildings and retaining walls will result in either the infilling or removal of material of more than 5m ³ 100m inland of the high-water mark of the sea.	34° 09' 53.07" S 24° 49' 51.83" E
GNR 327 Activity 28 (ii):	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 1 April 1998 and where such development will occur outside of urban area,	Eight (8) detached residential units, each with an associated private garage and access to an internal road network is proposed at the site.	34° 09' 53.07" S 24° 49' 51.83" E

	where the total land to be developed is bigger than 1Ha		
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LEGISLATIVE REVIEW

ENVIRONMENTAL ASSESSMENTS UNDERTAKEN FOR THE DEVELOPMENT

In terms of the National Environmental Management Act 107 of 1998 ("NEMA"), environmental authorization must be obtained before any person can conduct activities that cause damage to the environment. The intention of environmental legislation is to regulate the interaction of human life with the natural environment. The purpose of environmental legislation is to protect and preserve the environment for current and future generations. The following Acts and Regulations apply to the proposed project:

LEGISLATION

1. Section 24 of the **Constitution of the Republic of South Africa Act (No 108 of 1996)** states that everyone has the right:
 - (ii) to an environment that is not harmful to their health or well-being;
 - (iii) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development.
2. The **National Environmental Management Act (Act No 107 of 1998)**. NEMA is based on the concept of sustainable development and the objective is to provide for cooperative environmental governance, by providing the legal framework for environmental planning and development.

NEMA has basic principles that state:

- That all the principles throughout the Republic apply to the actions of all organs of state that may significantly affect the environment;
- Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
- Development must be socially, environmentally and economically sustainable.
- Sustainable development requires consideration of all relevant factors.

- Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.
- There should be equal access to environmental resources, benefits and services to meet basic human needs and the Government should promote public participation when making decisions about the environment;
- Decisions must be taken openly and transparently and there must be access to information;
- Communities must be given environmental education;
- Workers have the right to refuse to do work that is harmful to their health or the environment;
- The role of youth and women in environmental management must be recognized;
- The person or company who pollutes the environment must pay to clean it up;
- The environment is held in trust by the state for the benefit of all South Africans; and
- The utmost caution should be taken when permission for new developments is granted.

Therefore, an environmental authorisation application was submitted in accordance with Section 24 of NEMA.

3. The **Environmental Impact Assessment Regulations**: Published under Government Notice R983 in Government Gazette 38282 of 4 December 2014 and amended on 11 June 2021. The purpose of these Regulations is to regulate the procedure and criteria as contemplated in Chapter 5 of the Act relating to the preparation, evaluation, submission, processing, and consideration of, and decision on, applications for environmental authorizations for the commencements of listed activities, subjected to environmental impact assessment, to avoid or mitigate detrimental impacts on the environment, and to optimize positive environmental impacts, and for matters pertaining thereto.

Duty of Care

Chapter 7 of the NEMA prescribed a general 'duty of care' and the requirement to remediate environmental damage. Section 28(1) of NEMA states:

Every person who causes, has caused, or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or insofar as such harm to the environment is authorized by law or cannot reasonably be avoided or stopped, to minimize and rectify such pollution or degradation of the environment.

The Duty of Care can, inter alia, be enforced through directives issued by the competent authority.

In terms of 2014 NEMA EIA Regulations, as amended, the activities listed in the above Table are triggered by this proposed development, thereby requiring an EA from the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT).

Therefore, listed activities were identified and an application was submitted for authorising the listed activities.

4. The **National Water Act (No. 36 of 1998)**. The major objectives of the National Water Act are to:

- Aid in providing basic human needs;
- Meet the growing demand for water sustainably;
- Ensure equal access to water and use of water resources
- Protect the quality of water of natural resources;
- Foster social and economic development; and
- Conserve aquatic and related ecosystems.

This development does not trigger water uses in terms of Section 21 of the NWA, however DWS should still be consulted during the public participation phase.

5. The **National Environmental Management: Biodiversity Act**:

The act provides the framework for: i) the management and conservation of biological diversity within the Republic and the components of such biological diversity; ii) the use of indigenous biological resources in a sustainable manner; and iii) the fair and equitable sharing among stakeholders of benefits arising from bioprospecting involving indigenous biological resources.

The act also provides for co-operative governance in biodiversity management and by establishing a South African National Biodiversity Institute, the objectives of the Act can be achieved.

Three Regulations are applicable: 1) Threatened and Endangered Ecosystems, 2) ToPs (2008) (Threatened or Protected species), and 3) AIS (Alien and Invasive Species).

The current unpublished SANBI VegMap (2024) maps the site as St Francis Strandveld (FS14), which the NBA (2025) assesses as Critically Endangered (B1i) and Poorly Protected, with a 36% conservation target. However, this vegetation classification has not yet been gazetted. For purposes of the currently gazetted NEMBA Threatened Ecosystems list, the site falls within St Francis Dune Thicket (AT57), which is classified as Least Concern.

The specialist does not record a confirmed TOPS-listed plant or animal species observed on the site. It does, however, state that all South African baboon spiders (*Harpactirinae*) and certain *Opisthacanthus* scorpions are protected under NEMBA/TOPS and have a moderate likelihood of occurring on site.

Three exotic plants were recorded: *Acacia cyclops* (Rooikrans) – Category 1b AIS; *Yucca aloifolia* (Aloe Yucca) – not assigned an AIS category in the report; and *Cenchrus clandestinus* (Kikuyu Grass) – not assigned an AIS

category. Thus, the only listed NEMBA AIS specifically identified on site by the specialist is Rooikrans (*Acacia cyclops*), Category 1b.

There are also protected plants on the site: *Aizoon rigidum* (Skaapvygie), *Mesembryanthemum aitonis* (Brakslai), *Chasmanthe aethiopica* (Small Cobra Lily), and *Sideroxylon inerme* subsp. *inerme* (White Milkwood). The first three are protected under the applicable provincial conservation legislation, while the White Milkwood is a protected tree under the National Forests Act.

Application for authorising to remove the protected species will be submitted. The development will also not result in the introduction of alien and invasive plant species on the property. Endemic species are proposed for landscaping.

6. The **National Environmental Management: Integrated Coastal Management Act 24 of 2008** aims:

- To establish a system of integrated coastal and estuarine management in the Republic, including norms, standards and policies, in order to promote the conservation of the coastal environment, and maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable.
- To define rights and duties in relation to coastal areas.
- To determine the responsibilities of organs of state in relation to coastal areas.
- To prohibit incineration at sea.
- To control dumping at sea, pollution in the coastal zone, inappropriate development of the coastal environment and other adverse effects on the coastal environment.
- To give effect to South Africa's international obligations in relation to coastal matters.
- To provide for matters connected therewith.

There is about half of the site falls within the 100m inland high-water mark of the sea that is part of the development. Therefore, the following listed activities form part of this application: Listing Notice 1 Activity 17 (v) (e); 19A; & Listing Notice 3 Activity 12 (a)(iii) was applied for and fulfils the requirements.

Since the site is also within 1km inland of the high-water mark of the sea, the Department of Oceans and Coast is considered an interested stake holder.

7. The **National Environmental Management Air Quality Act 2004 (NEMAQA)** intends:

- To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development.
- To provide for national norms and standards regulating air quality monitoring, management and control by all sphere of government.
- For specific air quality measures.
- For matters incidental thereto.

The proposed development does not trigger an application in terms of the NEMAQA. However, the National Dust Control Regulation under GN-R827 of 1 November 2013 specifies dust-fall rates for residential and non-residential areas. Preventive measures must be employed to minimise dust fall during residential establishment/preparation.

8. The **National Environmental Management: Protected Areas Act:**

The Protected Areas Act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes. It provides for the establishment of a national register of all national, provincial and local protected areas and the management of those areas. The Act also provides for the governance and functions of South African National Parks and matters in connection therewith.

The site is located within the Garden Route Biosphere Reserve and within 2km from the Sand River Private Nature Reserve. The internal roads will be wider than 4m. Therefore, the following listed activities forms part of this application: Listing Notice 3: Activity 4 (a) (i) (gg), and Activity 12 (a) (ii) was applied for and fulfils the requirements.

9. **National Environmental Management Waste Act, 2008 (act 59 of 2008):**

The purpose of the Act is to regulate waste management to protect the health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for:

- Securing ecologically sustainable developments;
- Provide for institutional arrangements and planning matters;
- National norms and standards for regulating the management of waste by all spheres of government;
- To provide for specific waste management measures;
- To provide for the licensing and control of waste management activities;
- To provide for the remediation of contaminated land;
- To provide for the national waste information system;
- To provide for compliance and enforcement.

The development would not require a Waste License for the generation, storage, treatment, recycling or disposal of general- or hazardous waste.

10. The **National Road Traffic Act, 1996 (Act 93 of 1996):**

The Act sets out the rules pertaining to who can drive a vehicle, the qualifications one has to have before one can be licensed to drive a vehicle, how one may operate a vehicle on the various types of roads and what happens in the case of a person operating a vehicle in a reckless or negligent manner or failing to comply with the rules of the road.

The developer will ensure that subcontractors are sensitized to the matter and provide the necessary transport training. The principles will apply to all road users to not conduct reckless driving and speeding, which must be done in collaboration with the Traffic Department of the Kouga Municipality. Since only municipal roads are involved in this project, no application to the SANRAL is required.

11. The Alien and Invasive Species Regulations, 1 August 2014:

The Regulations categorise the listed invasive species, list restrictive activities about the release and spread of invasive species, provide a national framework to monitor, control and eradicate invasive species, regulate permits, provide risk assessment framework, and list compliance and enforcement regulations.

The development will not result in the introduction of alien and invasive plant species on the property. Current alien vegetation species will be removed, a search and rescue plan for the SCC flora will be conducted by a specialist and the endemic species will be proposed for landscaping.

12. Bio-regional Plans:

In terms of the provincial and local protected areas, a third of the proposed development is situated within an area that has been identified as a Critical Biodiversity Area (terrestrial) according to the desktop study however the specialist concluded that 3508m² of the site can be classified as high sensitivity area.

The Subtropical Thicket Ecosystem Project (STEP), BGIS, Eastern Cape Biodiversity Conservation Plan (ECBCP) aims to integrate the natural environment into land-use decisions at the municipal level to facilitate and achieve sustainable development. The objectives of the STEP are:

- To provide a conservation planning framework and implementation strategy for the conservation of subtropical thicket;
- To suggest and prioritize explicit conservation actions;
- To provide spatial biodiversity information for incorporation into regional, provincial and national land-use planning frameworks;
- To provide a capacity-building service in the application of the spatial conservation planning products, especially in the local government sphere; and
- To create an awareness of the value and plight of the Thicket Biome.

In terms of the STEP programme the conservation status of the land concerned is rated 'Impacted' and is privately owned. Impacted Areas, according to the STEP Programme, are areas where human activities or alien plant invasion have degraded the natural environment severely. Impacted Areas include areas that have been *converted* to a form of land use that replaces biodiversity (e.g. crops, urban areas, industry).

Impacted Areas affect the Ecosystem Status of the landscape: the more of a particular vegetation type is impacted, the higher the Ecosystem Status of that vegetation type will be.

Considering the current SDF of the Municipality the site is not earmarked for restoration.

However, one must consider site-specific parameters and the surrounding land use and conservation value to determine the biodiversity importance of a site, and not just rely on desktop studies. Therefore, a terrestrial assessment was conducted by BlueLeaf Environmental, the appointed specialist.

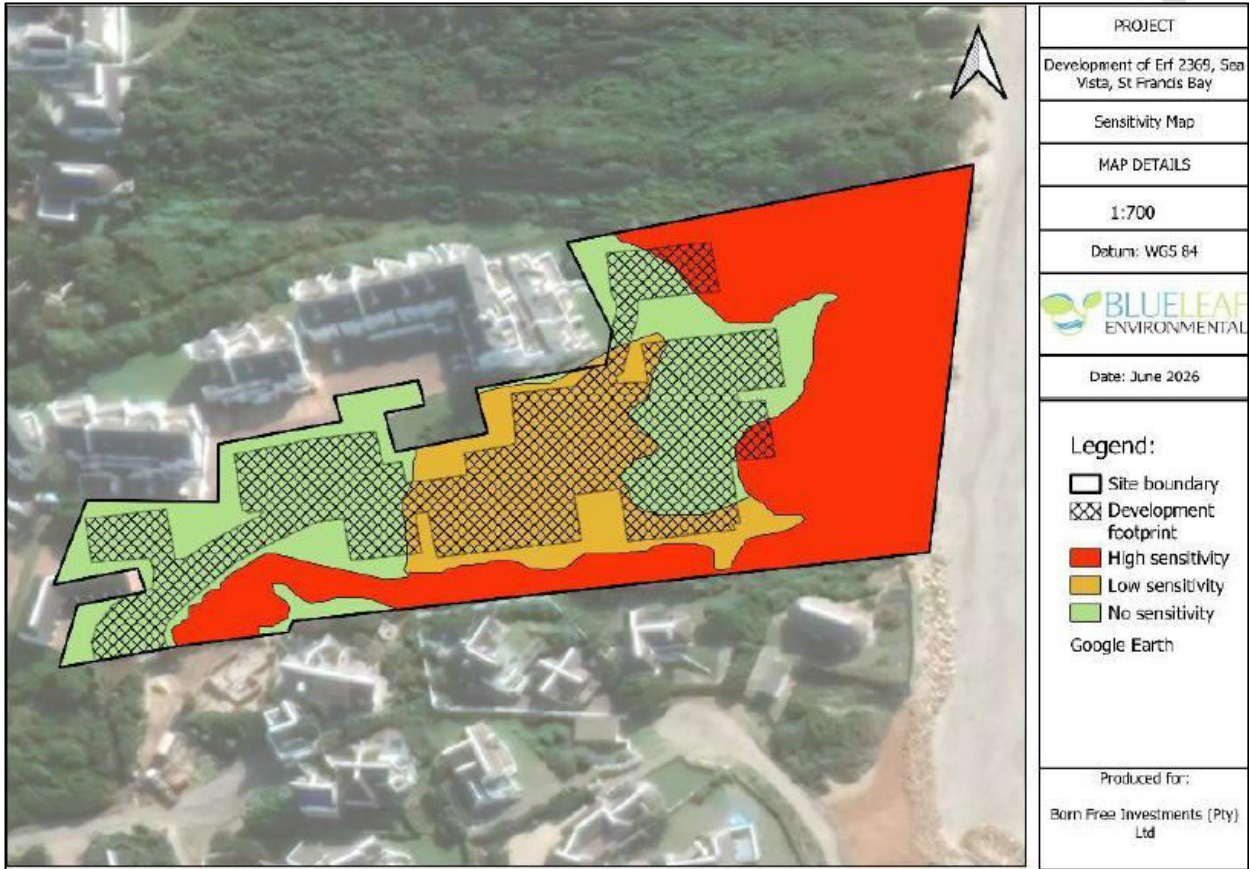


FIGURE 2: SITE ECOLOGICAL IMPORTANCE SENSITIVITY MAP ACCORDING TO BLUELEAF ENVIRONMENTAL

At a finer site scale, the specialist distinguished between previously transformed areas and remaining dune thicket vegetation. Areas containing intact dune thicket and protected White Milkwood (*Sideroxylon inerme*) trees were assigned high ecological sensitivity, whereas transformed areas and less sensitive dune thicket were assigned lower sensitivity ratings. The specialist concludes that development-related vegetation clearing must therefore be restricted to the assessed footprint, with avoidance of sensitive vegetation wherever practicable and implementation of appropriate mitigation, including pre-construction plant Search and Rescue, rehabilitation and protection of retained vegetation.

Overall, the specialist does not identify the proposed development as fatally flawed, but confirms that the mapped biodiversity features warrant careful footprint control, avoidance of the most sensitive vegetation, rehabilitation of disturbed areas and long-term management of retained indigenous vegetation. These recommendations should accordingly be incorporated into the EMP and implemented for the duration of construction and operation.

13. The **National Forests Act No. 84 of 1998 (NFA) & List of Protected Tree Species under the National Forest Act, 1998 (Act No. 84 of 1998).**

The purpose of this Act is to promote the sustainable management and development of forests for the benefit of all. The Act also provides special measures for the protection of certain forests and trees and promotes the sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes.

According to the Act, a natural forest is defined as a group of indigenous trees whose crowns are largely contiguous or which have been declared by the Minister to be a natural forest under section 7(2). No person may cut, disturb, damage or destroy any indigenous tree in a natural forest; or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any tree, or any forest product derived from a tree within a natural forest.

The principles of the Act indicate that:

- a) Natural forests must not be destroyed save in exceptional circumstances where, in the opinion of the Minister, proposed new land use is preferable in terms of its economic, social or environmental benefits;
- b) A minimum area of each woodland type should be conserved; and
- c) Forests must be developed and managed so as to-
 - (i) conserve biological diversity, ecosystems and habitats;
 - (ii) sustain the potential yield of their economic, social and environmental benefits;
 - (iii) promote the fair distribution of their economic, social, health and environmental benefits;
 - (iv) promote their health and vitality;
 - (v) conserve natural resources, especially soil and water;
 - (vi) conserve heritage resources and promote aesthetic, cultural and spiritual values; and
 - (vii) advance persons or categories of persons disadvantaged by unfair discrimination. Page 15 of 82 (4) The Minister must determine the minimum area of each woodland type to be conserved in terms of subsection (3)(b) based on scientific advice.

Prior to any vegetation clearing, all required permits must be obtained for the removal and/or relocation of protected plant species. The protected species confirmed on site include *Aizoon rigidum*, *Mesembryanthemum aitonis* and *Chasmanthe aethiopica*, which require the applicable provincial permit, as well as *Sideroxylon inerme* subsp. *inerme* (White Milkwood), for which a protected tree permit is required in terms of the National Forests Act. A suitably qualified botanist must undertake/oversee Plant Search and Rescue prior to clearing.

14. **Eastern Cape the Provincial Nature Conservation Ordinance of 1974 (PNCO)**

The Provincial Nature Conservation Ordinance (PNCO) protects the endangered and protected flora outside of protected areas. Species classified as Schedule 3 are endangered species. Species classified as Schedule 4 are protected species. A permit is required for the removal or destruction of species on the PNCO list.

15. The National Heritage Resources Act (No 25 of 1999):

The basic objectives of the National Heritage Resources Act are to set norms and maintain essential national standards and general principles for the governing and management of heritage resources in the Republic and to protect heritage resources of national significance.

The South African Heritage Resources Agency (SAHRA) has been established to coordinate and promote the management of heritage resources at the national level.

According to Section 38 of the National Heritage Resources Act, (no. 25 of 1999) the development falls within the threshold (development of a site exceeding 5000m²) of notifying/applying to the responsible heritage resources authority, thus the online application to SAHRA will be made.

A Phase I AIA and Phase I PIA were completed and an application will be submitted on the SAHRIS system for ECPRHA to assess the application.

16. Occupational Health and Safety Act (No 85 of 1993):

The act provides for the health and safety of persons at work and the health and safety of persons in connection with the use of machinery, the protection of persons other than persons at work, against hazards to health and safety arising out of or in connection with the activities of persons at work. The EMPs should provide measures to ensure that the objectives of the Act are met on this site.

Construction employers and employees will have to adhere to the Health & Safety rules to ensure a safe working environment. The construction employers must provide a 'Builders Code of Conduct' if required by the DEDEAT.

17. Spatial Planning and Land Use Management Act (No. 16 of 2013):

The Act provides a framework for spatial planning and land use management in South Africa. It further provides the framework to:

- Specify the relationship between spatial planning and the land use management system and other kinds of planning;
- Provide for inclusive, developmental, equitable and efficient spatial planning in the different spheres of government;

- Provide a framework for the monitoring, coordination and review of the spatial planning and land use management system;
- Provide a framework for policies, principles, norms and standards for spatial development planning and land use management;
- Address past spatial and regulatory imbalances;
- Promote greater consistency and uniformity in the application procedures and decision-making by authorities responsible for land use decisions and development applications;
- Provide for the establishment, functions and operations of Municipal Planning Tribunals;
- Provide for the facilitation and enforcement of land use and development measures;

The site is zone correctly for the proposed development, therefore it is not necessary for an application to comply with the SPLUMA requirements.

18. The **World Heritage Convention Act, 1999** intends to provide for:

- The incorporation of the World Heritage Convention into South African law.
- The enforcement and implementation of the World Heritage Convention in South Africa.
- The recognition and establishment of World Heritage Sites.
- The establishment of Authorities and the granting of additional powers to existing organs of state.
- The powers and duties of such Authorities, especially those safeguarding the integrity of World Heritage Sites.
- Where appropriate, the establishment of Boards and Executive Staff Components of the Authorities.
- Integrated management plans over World Heritage Sites.
- Land matter in relation to World Heritage Sites.
- Financial, auditing and reporting controls over the Authorities.
- To provide for incidental matters.

The site is not located in any area identified in terms of an International Convention.

19. And **UNESCO Man & Biosphere Programme**

The UNESCO Man & Biosphere Programme is an Intergovernmental Scientific Programme that aims to establish a scientific basis for the improvement of relationships between people and their environments. Its World Network of Biosphere Reserves currently counts 669 sites in 120 countries all over the world, including 16 transboundary sites.

The site located within the Garden Route Biosphere Reserve.

20. **Kouga Municipality Spatial Development Framework:**

The Kouga Municipality Spatial Development Framework (Adopted in 2026) is a framework that seeks to influence the overall spatial distribution of current and future land use within Kouga in order to give effect to the vision, goals and objectives of the municipal Integrated development Plan (IDP). The SDF is also an integrative instrument of

municipal management. The KM SDF also has a longer time horizon (2030 and beyond to 2050) than the '5 year' IDP and therefore provides the long-term spatial context for the IDP.

The KM SDF aims to create the building block toward:

- (a) A spatial vision for the future of the municipal
- (b) Implementation plans together with the necessary public sector resources to deliver them
- (c) A framework for private investment

The housing development is in line with SDF objectives for development.

21. Draft National Guideline for Consideration of Climate Change Implications in Applications for Environmental Authorisations:

The Draft National Guideline aims to create a consistent approach for the incorporation of climate change considerations in EIA's, WML's and AEL's. I&AP's must be provided with the minimum requirements for climate change assessment in these applications.

It is an unpromulgated draft guideline document, however Section 3 titled: Climate Change Assessment in the BAR meets the minimum requirement.

22. The National Biodiversity Offset Guideline

Biodiversity offsetting consists of actions that are taken to comply with biodiversity offset outcomes required in conditions in EAs, Biodiversity Offset Implementation Agreements and environmental management programmes (EMPrs).

The desired outcome of biodiversity offsets is to ensure that biodiversity is secured in the long term through the protection and appropriate management of ecosystems and species.

Areas identified to be conserved must host similar vegetation / ecosystems then what will be transformed through the development. Considering the above-mentioned information, no fatal flaws are evident for the proposed project. It is the opinion of the specialists that the proposed project, may be favourably considered on condition that all prescribed mitigation measures and supporting recommendations are implemented such as the search and rescue of the two SCC flora species which are to be incorporated into the landscape management plan. Offsets may be required by the department for this PAOI and should be determined in conjunction with the Eastern Cape department. Having said this it is the specialist's opinion that the site doesn't function as a CBA anymore and therefore offsets are not warranted.

For the proposed development on Erf 2369, the terrestrial specialist identified areas of intact dune thicket vegetation, a mapped CBA 1 portion and protected plant species. The specialist therefore recommends avoidance of the most sensitive areas, strict limitation of vegetation clearing to the approved development

footprint, Plant Search and Rescue, rehabilitation of disturbed areas and long-term management of retained indigenous vegetation. The specialist further concluded that no biodiversity offset is recommended due to the relatively limited extent of sensitive dune thicket that would be impacted, provided that the prescribed mitigation and rehabilitation measures are implemented.

Accordingly, the National Biodiversity Offset Guideline has been considered in the environmental assessment. No formal off-site biodiversity offset is presently proposed for the development, and priority is instead placed on application of the mitigation hierarchy through avoidance, minimisation, rehabilitation and long-term protection of retained vegetation. Should the Competent Authority determine that residual biodiversity impacts warrant an offset, such offset would need to be developed and implemented in accordance with the National Biodiversity Offset Guideline and any conditions contained in the Environmental Authorisation.

23. DEA (2010) IEM Guideline 7 Public Participation:

The EIA Regulations stipulate that “Public Participation” must be incorporated in the EIA process. The Guideline aims to ensure that a fair Public Participation Process is followed.

A Public Participation Process according to the Guideline was conducted.

MOTIVATION FOR THE NEED AND DESIRABILITY FOR THE PROPOSED DEVELOPMENT

The need and desirability of the proposed residential development must be considered within the context of the historical use and transformation of Erf 2369, its location within the established urban area of St Francis Bay, the existing residential development rights associated with the property, the availability of municipal infrastructure, and the environmental sensitivities identified through the specialist assessment process.

Erf 2369 does not constitute a pristine or previously undeveloped coastal property. The site historically formed part of the former St Francis Bay Hotel development and has been subject to substantial previous disturbance, including mechanical terracing, paved access and parking areas, lawns, a swimming pool and structural development. Following the destruction of the hotel, the property remained largely undeveloped and natural and secondary vegetation progressively re-established across portions of the site. The current proposal therefore represents the redevelopment and productive reuse of a historically developed and disturbed urban property, rather than the opening of an entirely new area for urban development.

The property is currently zoned for high-density residential development, while the proposed development comprises a relatively limited number of detached, fully serviced residential dwellings with associated garages and internal access. The development therefore does not seek to maximise the development potential associated with the existing zoning, but rather proposes a lower-intensity residential form that allows portions of the property to remain undeveloped and vegetated.

The location of the development is also considered desirable from a spatial planning and land-use perspective. Erf 2369 occurs within the established urban fabric of St Francis Bay and is predominantly surrounded by existing residential development. The proposed residential land use would consequently be compatible with the character and existing land-use pattern of the surrounding area and would not introduce a fundamentally incompatible activity. Utilisation of historically transformed land within an existing urban area is furthermore preferable, where environmentally acceptable, to directing equivalent development pressure towards previously undeveloped land outside the existing urban footprint.

The site's suitability for redevelopment is further supported by its proximity to existing municipal infrastructure. Engineering investigations have assessed the provision and connection of water, sewerage and stormwater services to the development and identified means of integrating the proposed development with existing municipal infrastructure. Existing municipal sewer infrastructure is located in the vicinity of the property, with the proposed development capable of connecting via a private pump station and rising main to the existing municipal sewer network.

The desirability of development must, however, be balanced against the ecological value that has become established on portions of the site. The terrestrial assessment confirms that Erf 2369 contains both historically transformed areas and remaining indigenous dune thicket vegetation, including areas of higher ecological sensitivity. The development should therefore not be regarded as justification for unrestricted development of the property. Rather, the proposed layout and associated mitigation measures seek to concentrate development within an already modified urban property while retaining and protecting the most sensitive vegetation to the greatest extent practicable.

An important environmental benefit associated with the proposed development is the opportunity to place the remaining natural and rehabilitated areas under formal and ongoing environmental management. The development is accompanied by commitments relating to indigenous vegetation rehabilitation, Plant Search and Rescue, alien invasive plant control and the long-term management of retained vegetation. The No-Go Alternative would avoid additional construction-related disturbance but would largely retain the property in its present condition and would not necessarily result in the implementation of the same rehabilitation and management commitments.

The development would also generate socio-economic benefits through private investment, construction expenditure and temporary employment and procurement opportunities. The BAR records anticipated employment-related economic benefits during the development phase, with a substantial proportion anticipated to accrue to previously disadvantaged individuals. Once developed, the residential properties would additionally contribute to the local municipal revenue base through applicable rates and service charges.

On balance, the proposed development is considered both needed and desirable because it facilitates the appropriate redevelopment of an underutilised, historically transformed property within the established urban area of St Francis Bay for a land use that is compatible with its existing zoning and surrounding residential character. At the same time, the development provides an opportunity to formalise the rehabilitation, protection and long-term management of the remaining natural vegetation on the property.

The need and desirability of the development are, however, conditional upon the implementation of the mitigation hierarchy. Development should be restricted to the assessed and authorised footprint; encroachment into intact and high-sensitivity vegetation must be minimised; identified No-Go areas must be protected; and the prescribed

rehabilitation, alien vegetation management, Plant Search and Rescue and long-term vegetation management measures must be implemented. Subject to these requirements, the environmental and social costs of the development are considered capable of being appropriately managed, while allowing the beneficial redevelopment of an existing urban property.

PROJECT DESCRIPTION

A detailed description of the project can be viewed in Paragraph 1 of the Basic Assessment Report. In summary:

Born Free Investments 460 (Pty) Ltd proposes the redevelopment of Erf 2369, Sea Vista, St Francis Bay, a property of approximately 1.3855 ha that previously accommodated the St Francis Bay Hotel. The former hotel was destroyed by fire between approximately 2003 and 2006, after which the structures were largely removed, although foundations and other remnants of the previous development remain and vegetation has subsequently re-established across portions of the property. The property is currently zoned for high-density residential development.

The proposed development comprises eight or seven detached, fully serviced residential units, with associated private garages and an internal access road network. The development layout has been designed to make use of the property for residential purposes while responding to the environmental sensitivities identified through the Basic Assessment and specialist assessment processes.

Access to the development is proposed from Philippa Place via Erf 2821, with the internal road providing access to the individual residential units. The development will also require the installation and connection of associated civil infrastructure, including water supply, sewerage and stormwater management infrastructure.

The development will be undertaken in accordance with the approved development layout, Environmental Authorisation, this EMPr and the mitigation and management measures contained in the relevant specialist reports. The Vegetation and Landscape Rehabilitation Plan will additionally guide the rehabilitation and management of disturbed and naturally vegetated portions of the site following construction.

Ownership

The proposed site is owned by the Applicant.

Zoning

The site is zoned High-Density Residential.

Phasing

The development will be completed within 24-36 months from the date of commencement.

The Method Statements set out the materials, labour, and method that the contractor proposes using to carry out an activity, identified by the Environmental Officer and/or Project Manager. The Method Statements contain sufficient detail such that the Environmental Officer and Project Manager can assess whether the Contractor's proposal is following the requirements of the Environmental Management Plan. The contractor must sign each Method Statement along with the Environmental Officer and Project Manager to formalize the approved Method Statement. Method Statements and/or Management Plans must be submitted by the Contractor to the Project Manager and Environmental Officer for approval before the commencement of the activity.

The Method Statements for this project, as a minimum, must include:

- Soil Management and Erosion;
- Stormwater control;
- Flora & Fauna Management;
- Rehabilitation
- Fires
- Waste

Method Statements must address the following aspects:

- When –
- **Description and purpose of the activity** – what work will be undertaken and how (a detailed description of the process of work, methods and materials).
- **Location and extent of the works** – where the activity will occur, including the working footprint and any applicable no-go/sensitive areas.
- **Responsible persons** – Contractor/site agent responsible for implementing and supervising the works.
- **Construction methodology and sequence** – a clear step-by-step description of how the activity will be undertaken.
- **Plant, equipment and materials** – machinery, vehicles, materials and hazardous substances that will be used or stored.
- **Environmental risks and impacts** – the environmental aspects associated with the activity, particularly where it could result in vegetation disturbance, erosion, pollution, dust, noise, waste generation or disturbance of sensitive areas.
- **Environmental management and mitigation measures** – how the Contractor will comply with the EMPr and prevent or minimise the identified impacts.
- **Waste and pollution management** – where relevant, how spoil, construction waste, wastewater, fuels, chemicals and contaminated material will be handled, stored and disposed of.
- **Emergency and incident procedures** – measures for spills, leaks, erosion, accidental damage to vegetation or other environmental incidents.
- **Rehabilitation/reinstatement** – how temporarily disturbed areas will be stabilised and rehabilitated after completion of the activity.

The Environmental Officer and/or Applicant must monitor the implementation of the Method Statements and activity-specific management plans during the operation phase of the project.

PLANNING AND DESIGN PHASE MANAGEMENT

Planning and design of the site were done by the Applicant, Architects and various Engineers. An environmental application was completed by Digital Soils Africa (Pty) Ltd.

PRE-CONSTRUCTION PHASE MANAGEMENT

Prior to the commencement of any site establishment, vegetation clearing or construction activities, the approved development footprint must be clearly surveyed and demarcated. The development perimeter and all areas approved for disturbance must be identified by means of fixed survey beacons and appropriately demarcated on site. Temporary fencing and/or shade cloth must be erected where necessary to clearly separate the construction area from areas that are not authorised for disturbance. Appropriate environmental and safety signage must be erected, and access to the construction area must be controlled.

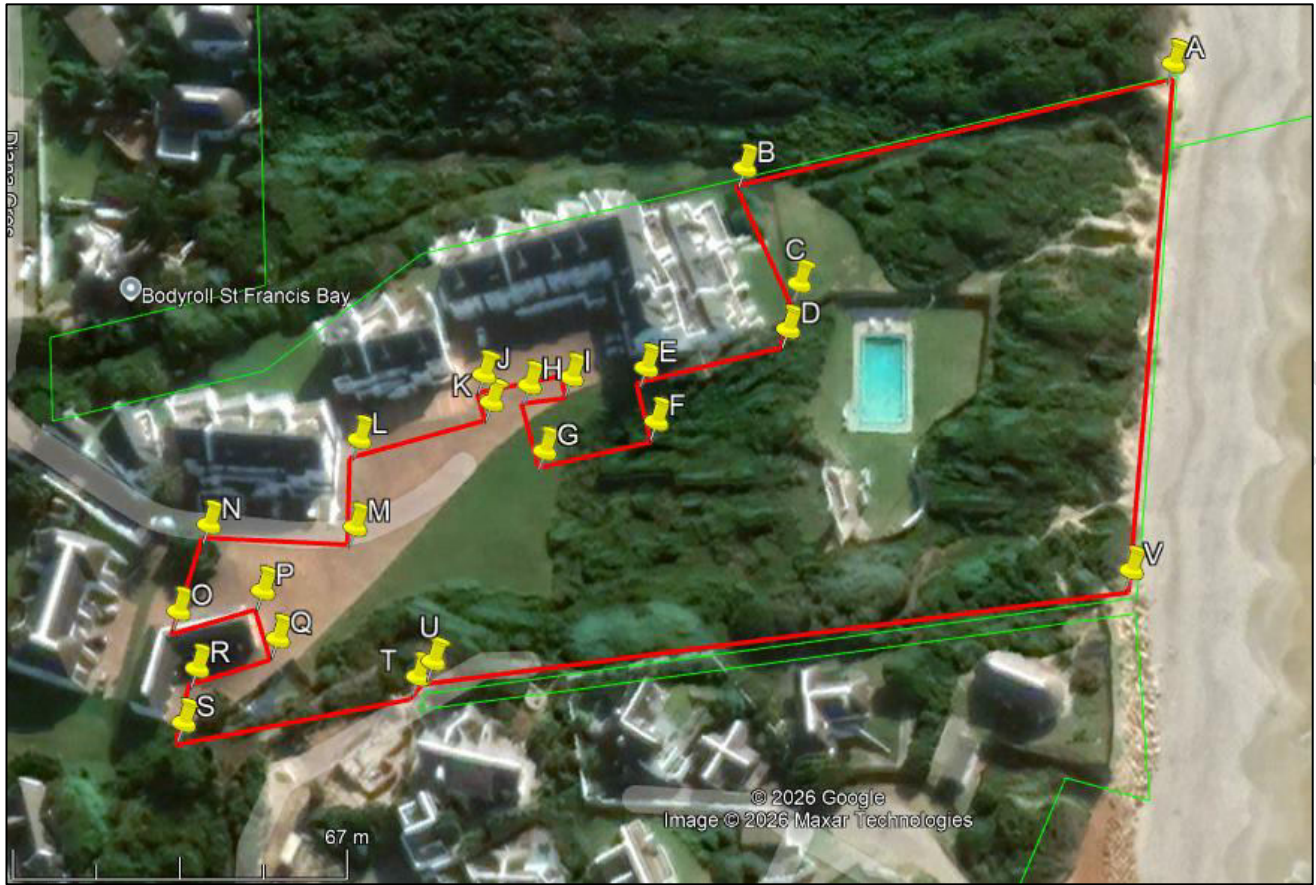
All areas outside the approved development footprint must be regarded as highly sensitive areas, preferably no-go areas, unless specifically required for an authorised activity. Construction personnel, vehicles, machinery, material storage, stockpiling and temporary works must be restricted to the approved and demarcated areas.

An Environmental Control Officer (ECO) must be appointed prior to the commencement of construction. The ECO must undertake a pre-construction inspection to confirm that the required environmental controls and demarcation are in place before construction commences.

Prior to vegetation clearing, the relevant areas must be inspected for protected plant species and plant Species of Conservation Concern (SCC) requiring rescue and relocation. Where applicable, the necessary permits must be obtained from the relevant authority before any protected plants are removed, disturbed or relocated. Plant rescue and relocation must be undertaken in accordance with the requirements of the Terrestrial Biodiversity, Plant and Animal Species Assessment and the Vegetation and Landscape Rehabilitation Plan.

The Rehabilitation Plan specifically requires demarcation, soil management, landscaping, vegetation management, weed management and monitoring as part of the rehabilitation programme. It also identifies the naturally vegetated dune area as an area requiring particular attention during rehabilitation because of the site's unconsolidated sandy soils and associated erosion risk.

Prior to site establishment, the ECO must compile a photographic record of the development footprint, adjacent no-go areas, existing vegetation, access areas and other environmentally sensitive features. Fixed-point photographs should, where practicable, be used to facilitate comparison during construction and rehabilitation monitoring.



A: 34° 9'51.55"S	24°49'53.89"E	B: 34° 9'52.23"S	24°49'50.48"E
C: 34° 9'52.99"S	24°49'50.91"E	D: 34° 9'53.29"S	24°49'50.82"E
E: 34° 9'53.54"S	24°49'49.70"E	F: 34° 9'53.89"S	24°49'49.78"E
G: 34° 9'54.08"S	24°49'48.90"E	H: 34° 9'53.65"S	24°49'48.78"E
I: 34° 9'53.60"S	24°49'49.11"E	J: 34° 9'53.58"S	24°49'48.42"E
K: 34° 9'53.76"S	24°49'48.48"E	L: 34° 9'54.00"S	24°49'47.44"E
M: 34° 9'54.57"S	24°49'47.41"E	N: 34° 9'54.55"S	24°49'46.26"E
O: 34° 9'55.11"S	24°49'46.03"E	P: 34° 9'54.98"S	24°49'46.69"E
Q: 34° 9'55.29"S	24°49'46.81"E	R: 34° 9'55.48"S	24°49'46.18"E
S: 34° 9'55.83"S	24°49'46.08"E	T: 34° 9'55.54"S	24°49'47.91"E
U: 34° 9'55.44"S	24°49'48.03"E	V: 34° 9'54.87"S	24°49'53.51"E

Figure 3: Site boundaries with co-ordinates to demarcate the development perimeter

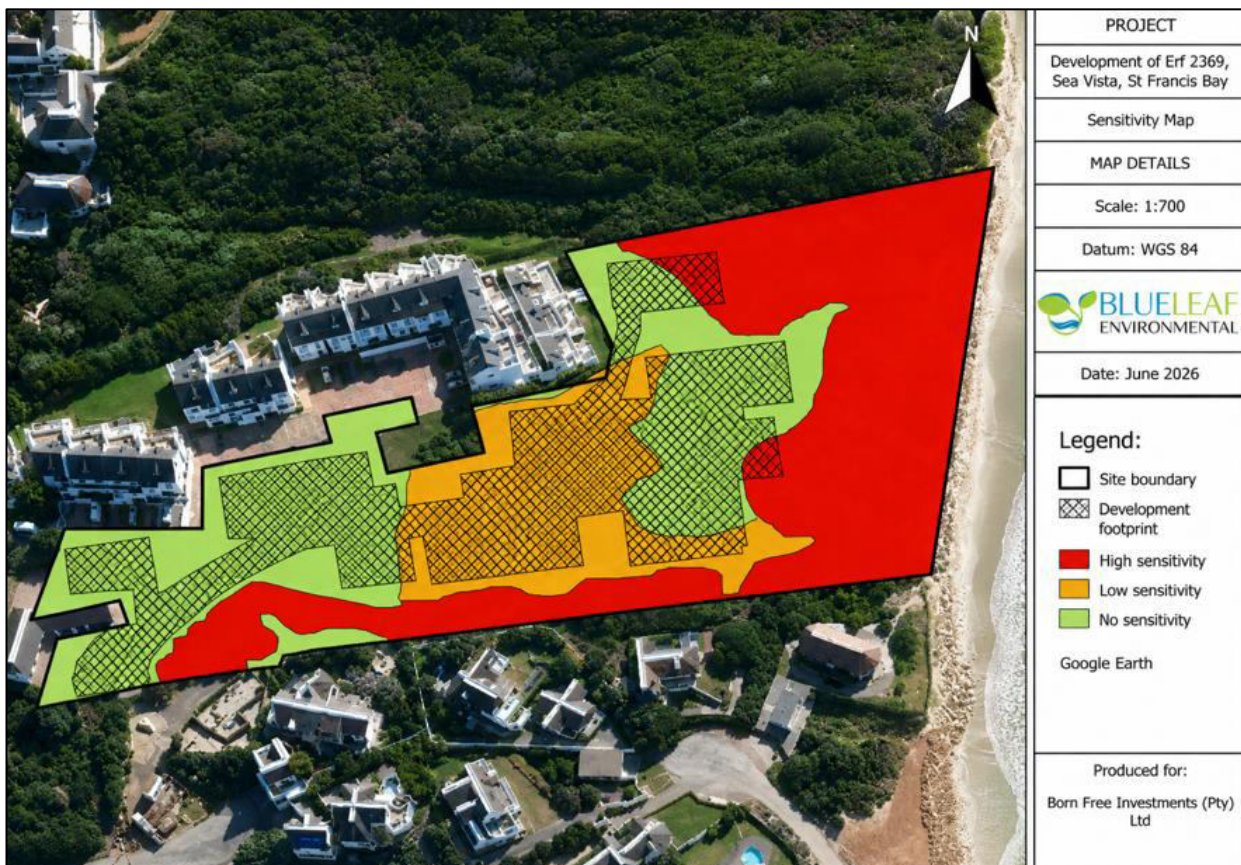


FIGURE 4: SENSITIVITY MAP (SOURCE BLUELEAF ENVIRONMENTAL, 2026)

CONSTRUCTION PHASE MANAGEMENT

Should the activity be authorized, the overall goal for the construction phase is to manage the activities associated with the construction of the site in such a way that:

- The receiving environment is protected from degradation and harm;
- There is timeous detection of, and responses to, environmental change due to monitoring;
- The activity complies with all relevant legislation, permits, and authorizations.

The Applicant is responsible for ongoing management of the site and will be responsible for maintenance. All measures and conditions described in this EMP, the Environmental Authorisation, and any other relevant documents/legislation, should be strictly adhered to during the operational phase.

Project activities in the Construction phase must include:

- Plant and Animal search and rescue;
- Environmental awareness training;
- Site clearing in a responsible manner;
- Stormwater control mechanisms;
- Construction of buildings, infrastructure, concrete works, mechanical and electrical works;

- Traffic control
- Waste and wastewater management;
- Landscaping.

ACTIVITIES TO BE UNDERTAKEN	
Construction of access road to the site.	• Access to Erf 2369 must be established from Philippa Place via Erf 2821, as indicated on the approved development layout and in accordance with the recommendations of the Traffic Impact Assessment. No alternative or informal construction access routes may be established without the necessary approval.
Undertake site preparation	• Prior to commencement of site preparation, the approved development footprint, internal access roads, construction areas and applicable high sensitive areas must be clearly surveyed and demarcated. • Site preparation and earthworks must be undertaken in accordance with the approved development layout, civil engineer's requirements, EMPr and applicable specialist recommendations. • Vegetation clearing must be restricted to the approved development footprint and areas necessary for construction. No vegetation may be cleared outside the demarcated construction areas. • Prior to vegetation clearing, search and rescue of protected plant species and plant Species of Conservation Concern (SCC) must be undertaken where required. Any necessary permits for the removal, disturbance or relocation of protected species must be obtained prior to such activities. • Vegetation clearing must be undertaken in a controlled and phased manner and must not extend substantially ahead of construction activities, thereby limiting the period for which soils remain exposed. • Where topsoil is stripped, it must be separately stockpiled and retained for subsequent rehabilitation and landscaping. Topsoil must not be mixed with subsoil, building rubble, waste or other construction material. • Topsoil stockpiles must be appropriately located and managed to prevent erosion, contamination, compaction and loss of material. Stockpiles may not be established within environmentally sensitive or designated no-go areas. • Earthworks and site preparation must be undertaken in a manner that minimises unnecessary disturbance, excavation and compaction outside the approved construction footprint. • Appropriate erosion and sediment-control measures must be implemented during site preparation, particularly where vegetation has been removed and sandy soils are exposed. This is particularly relevant because the Rehabilitation Plan identifies the site's unconsolidated sandy soils as having a high erosion potential. • Excavated material suitable for reuse must, where practicable, be retained and reused on site in accordance with the civil engineer's requirements. • Where imported fill or other construction material is required, it must be obtained from a lawful source. Material sourced from a borrow pit or quarry must originate from an appropriately authorised operation, where such authorisation is legally required. • Imported soil, fill or landscaping material must, as far as practicable, be free of invasive alien plant material, seeds and other contaminants that could facilitate the establishment or spread of alien vegetation.

Establishment of site camp area	• A small site camp area for the storage of civil engineering construction equipment on the paved and grass area of the site. • The site camp will also accommodate building materials and equipment associated with the construction of buildings. • Infilling or depositing materials will be sourced from licenced borrow pits within the surrounding area.
Transport of components and equipment to and within the site	• The components for the development will be transported to the site by road. • Typical civil engineering construction equipment will need to be brought to the site (e.g., excavators, trucks, graders, compaction equipment, cement trucks, etc.). • Transportation will take place via appropriate the Municipal roads, and the dedicated access/haul road to the site.
Establishment of ancillary infrastructure	• Site office and container for limited maintenance and storage will be required and placed at the site camp. • Levelling or infilling, and the excavation of foundations prior to building construction.

OPERATION PHASE MANAGEMENT

The overall objective of the operational phase is to ensure that the residential development and associated infrastructure are operated and maintained in a manner that minimises environmental impacts and maintains the functionality and environmental integrity of the site.

Operational phase management must aim to:

- Maintain the residential development and associated infrastructure in a safe, functional and serviceable condition through appropriate routine inspection, maintenance and repair.
- Ensure that maintenance activities are undertaken in a manner that avoids unnecessary disturbance of retained and rehabilitated vegetation and other areas outside the developed footprint.
- Maintain and manage the rehabilitated and naturally vegetated areas in accordance with the requirements of the approved Rehabilitation Plan, including the control of invasive alien plant species.
- Maintain the internal access, stormwater infrastructure, water and sewer infrastructure and other associated services to ensure that they continue to function as intended.
- Regularly inspect and maintain the stormwater management system to prevent blockages, uncontrolled runoff, erosion and sediment accumulation.
- Ensure that all operational waste generated by the residential development is appropriately stored, collected and disposed of through an approved waste collection/disposal system, and that littering or illegal dumping does not occur.
- Prevent pollution of soil, surface water and the coastal environment through appropriate management of waste, sewage, stormwater and potentially polluting substances.
- Ensure that landscaping and vegetation management are undertaken in a manner that supports the rehabilitation and ecological functioning of the site, particularly the vegetated dune area.

- Maintain the positive socio-economic benefits associated with the residential development while minimising nuisance impacts on surrounding residents.
- Ensure that the development remains compliant with the Environmental Authorisation, EMPr and other applicable permits, approvals and legislative requirements throughout its operational life.

Ultimately the responsibility for long-term maintenance will lie with the property owners or body corporate/homeowners' association.

ORGANIZATIONAL REQUIREMENTS

The Applicant should be familiar with the requirements of the EMP and should execute all maintenance activities in an environmentally responsible manner.

This overview offers a perspective on the proposed organization of the EMP and the recommended responsibilities of key members of the project team. The ultimate responsibility and public accountability for the EMP and general environmental management reside with the Applicant.

The workers will be responsible for implementing the instructions from the site manager, and it is recommended that the site manager appoint a responsible worker to report back on a daily/weekly/monthly basis, ensuring compliance with the conditions of the EMP. If needed, provide a basic level of environmental training to the responsible worker/s.

An independent and external Environmental Control Officer (ECO) must be appointed by the Applicant to assist and advise on the implementation of the EMP and to conduct environmental audits no less than once every five (5) years unless otherwise instructed by the DEDEAT.

ROLES AND RESPONSIBILITIES

AUTHORITIES

The issuing of the necessary permits and authorizations is the responsibility of the authorities, in this case, DEDEAT. The authorities will also ensure that the Applicant complies with the conditions of the Environmental Authorisation and other permits/licenses/approvals.

As well as issuing the necessary permits/licensing from:

- The Department of Environment, Forestry and Fisheries (DFFE) for the removal or translocation of plant species protected in terms of provincial or national legislation.
- ECPHRA for clearing land more than 5000m² for development and demolishing the foundations of the old building.

Authorities are entitled to perform site inspections to ensure compliance with the conditions and in the case of non-compliance, the authorities may provide instructions to ensure an action plan with corrective measures is carried out or to cease the project, especially in the case of long-term non-compliance.

APPLICANT

The Applicant has the responsibility for environmental management during the construction and operational phase, until the responsibility is handed over to the property owners or body corporate/homeowners' association.

The EMP becomes legally binding to the Applicant and everyone acting on behalf of the Applicant during the construction and operation activities. The activities are regarded as permanent therefore there is no provision made for decommissioning activities.

In summary, the Applicant is responsible for:

- Reviewing the conditions of the Environmental Authorisation and environmental monitoring programme in the EMP or as recommended by the ECO;
- Ensuring that the required environmental audits are undertaken on a timely basis and that the results of the audits are communicated to all personnel that are responsible;
- Implementing an environmental monitoring programme approved by the authorities and providing such results to the authorities;
- Conducting regular site inspections and monitoring to ensure compliance with the EMP;
- Advising on actions to be taken in the event of incidents or public complaints;
- Keeping a complaint register on-site/on the property.

RESPONSIBLE CONTRACTOR

It is the responsibility of the Contractor to ensure that there is compliance with the environmental specifications contained in the BAR, EMP and EA. This implies that the Contractor must familiarise themselves with the documentation and understand the restrictions and conditions. If any infringements are noted, the ECO, Site Manager, and Applicant must be notified before further action is taken.

The Contractor will also be responsible for the workforce on-site and could appoint a suitable site manager who must report to the Contractor.

SUB-CONTRACTORS

Sub-contractors must operate under the supervision of the Contractor and are liable for issues associated with their actions.

ENVIRONMENTAL CONTROL OFFICER OR SITE MANAGER

An Environmental Control Officer (ECO) or Site Manager can be appointed by the Applicant to advise and assist where necessary and to monitor the implementation of the EMP, as an external function. The ECO or SM must have previous experience in environmental management and compliance monitoring.

The ECO or SM should conduct an independent evaluation of compliance with the EMP, but is not responsible for enforcing the conditions of the EMP.

Specific responsibilities include:

- Undertake environmental site audits as determined by the responsible authority;
- Recommend environmentally appropriate solutions to environmental problems;
- Recommend additional environmental management measures, if applicable;
- To assist in environmental training for the staff;
- Help raise awareness for environmentally sensitive issues and help foster an appropriate environmental attitude towards the environment;
- Respond to non-compliance and provide corrective actions and procedures;
- Assist the Applicant if liaising with authorities is required.

PROJECT ENGINEER

The PE main role is to monitor the Contractor's compliance with the Environmental Specifications daily and enforce compliance, therefore he must be familiar with the contents of the EMP and EA. The PE should designate the working areas and will become the mediator between the Contractor and the ECO and any advice from the ECO should be communicated to the Contractor.

If infringements are communicated, the ECO or Site Manager must propose actions to rectify the negative impacts and where no specific item is provided in the Schedule of Quantities for the actions recommended by the ECO or Site Manager, costing of measures should be undertaken before issuing site instructions. The PE should also allow for environmental protection works within the project budget, and determine the imposition of penalties for infringement of the Environmental Specifications and implement it.

COMMUNITY LIAISON OFFICER

If needed, a Community Liaison Officer (CLO) can be appointed. The primary role of the CLO is to build and maintain mutually beneficial relationships between the Applicant and the surrounding community and to facilitate communications between the parties involved during this development. The CLO must coordinate activities that will

involve the community with the proposed development and act as a mediator between the Applicant and the community to streamline operations, resolve issues, and improve communications.

MITIGATION MEASURES & MONITORING

The following maintenance and mitigation measures are recommended for implementation by the Applicant for the construction phase and the duration of the operational phase.

Below is a summary table of the impacts with and without mitigation:

Summary of significant impact with and without mitigation during the construction and operational phases.

Environmental parameter	CONSTRUCTION (no mitigation) Alternative 1	CONSTRUCTION (with mitigation) Alternative 1	CONSTRUCTION (no mitigation) Alternative 2	CONSTRUCTION (with mitigation) Alternative 2
Construction Phase				
Potential soil contamination from hydrocarbons, construction materials and chemicals, and improper management of construction-related sanitation facilities.	Medium (-)	Low (-)	Medium (-)	Low (-)
Loss and disturbance of natural vegetation and associated plant species, including potential loss of threatened and protected species, with an associated increased risk of soil erosion.	High (-)	High (-)	High (-)	Medium (-)
Potential loss or disturbance of identified and potentially occurring plant species of Conservation Concern (SCC) as a result of vegetation clearing and site preparation.	High (-)	High (-)	High (-)	Medium (-)
Loss and fragmentation of biodiversity habitat, including CBAs, ESAs and threatened ecosystems/vegetation types, resulting in reduced ecological	High (-)	High (-)	High (-)	Medium (-)

connectivity and potential decline or localised loss of plant and animal Species of Conservation Concern (SCC).				
Potential deterioration of surface and groundwater quality due to contaminated stormwater runoff, accidental spills or leaks of hazardous substances, inadequate sanitation, and increased sediment and microbiological loads associated with construction activities.	Medium (-)	Low (-)	Medium (-)	Low (-)
Temporary increase in ambient noise levels and associated disturbance to surrounding residents as a result of construction machinery, vehicle movements, reversing alarms and construction personnel.	High (-)	Medium-High (-)	High (-)	Medium-High (-)
Temporary deterioration of local air quality and associated nuisance and health impacts due to fugitive dust generated by vegetation clearing, earthworks, exposed soils, vehicle movements and the handling and transportation of construction materials.	Medium-High (-)	Medium-Low (-)	Medium-High (-)	Medium-Low (-)
Temporary deterioration of local air quality due to exhaust emissions from construction vehicles and machinery, and potential smoke emissions from cooking fires.	Low (-)	Very Low (-)	Low (-)	Very Low (-)
Temporary deterioration of the visual character and amenity of the site and	Medium (-)	Low (-)	Medium (-)	Very Low (-)

surrounding area due to construction activities, machinery, earthworks, material stockpiles and general site disturbance.				
Generation of construction, general and potentially hazardous waste (e.g. paints, oil, bitumen spills), with potential for soil and water contamination, visual nuisance and environmental degradation if waste is inadequately stored, handled or disposed of.	Medium (-)	Very Low (-)	Medium (-)	Very Low (-)
Temporary increase in construction-related traffic and heavy vehicle movements, with potential disruption, congestion and road-safety impacts on the surrounding road network.	Medium-Low (-)	Low (-)	Medium-Low (-)	Low (-)
Temporary positive socio-economic benefits through employment creation, local procurement and increased demand for goods and services during construction.	Medium-Low (+)	Medium (+)	Medium-Low (+)	Medium (+)
Loss or destruction of built heritage resources associated with the remaining structures and foundations of the former St Francis Bay Hotel during site clearance and construction.	Low (-)	Very Low (-)	Low (-)	Very Low (-)
Potential disturbance, damage or destruction of previously unidentified archaeological heritage resources, including unmarked graves or human remains, during excavation and other ground-disturbing activities.	Medium-High (-)	Very Low (-)	Medium-High (-)	Very Low (-)

Excavation, earthworks and other ground-disturbing activities associated with construction may expose previously unidentified fossil material. If such material is not recognised and appropriately managed, construction activities could result in the damage, destruction or permanent loss of palaeontological heritage resources. The likelihood of such an impact is considered low, as fossils within the underlying Nanaga Formation are sparsely distributed.	Low (-)	Very Low (-)	Low (-)	Very Low (-)
Environmental parameter	OPERATIONAL (no mitigation) Alternative 1	OPERATIONAL (with mitigation) Alternative 1	OPERATIONAL (no mitigation) Alternative 2	OPERATIONAL (with mitigation) Alternative 2
Operational Phase				
Permanent loss and disturbance of soil resources within the development footprint due to excavation and removal of the existing sand and subsoil layers for foundations and associated infrastructure, with a potential for erosion of exposed soils.	Medium (-)	Low (-)	Medium (-)	Low (-)
Long-term alteration and fragmentation of remaining biodiversity habitat and ecological connectivity, with potential ongoing disturbance to indigenous fauna and flora, including SCC, as a result of residential occupation and associated activities.	High (-)	Medium (-)	Medium-High (-)	Medium-Low (-)
Long-term rehabilitation,	Medium (+)	Medium-High (+)	Medium-High (+)	High (+)

protection and management of retained and re-established indigenous vegetation, including ongoing alien invasive plant control and dune stabilisation, with associated improvement in habitat condition and ecological functioning.				
Potential contamination of surface and groundwater from stormwater runoff, sewage leaks or spills, and pollutants associated with routine residential activities and maintenance.	Medium (-)	Very Low (-)	Medium (-)	Very Low (-)
Potential increase in local ambient noise levels and disturbance to neighbouring residents associated with residential activities, vehicle movements and routine maintenance of the development.	Low (-)	Very Low (-)	Low (-)	Very Low (-)
Permanent alteration of the visual character and sense of place through the introduction of built structures and associated infrastructure, with potential visual intrusion experienced by surrounding sensitive receptors.	Medium (-)	Low (-)	Medium (-)	Low (-)
Generation of general household and maintenance-related waste, with potential for littering, visual degradation and environmental pollution if waste is inadequately stored, collected or disposed of.	Medium-Low (-)	Very Low (-)	Medium-Low (-)	Very Low (-)

Increase in traffic volumes on the surrounding road network, with potential effects on intersection capacity and level of service.	Low (-)	Very Low (-)	Low (-)	Very Low (-)
Potential traffic-safety conflicts and localised congestion associated with vehicles entering and exiting the development via the proposed access from Philippa Place.	Medium-Low (-)	Low (-)	Medium-Low (-)	Low (-)
Long-term positive socio-economic benefits through residential investment, increased municipal revenue and ongoing expenditure associated with occupation and maintenance of the development.	Medium-Low (+)	Medium (+)	Medium-Low (+)	Medium (+)
Permanent alteration of the existing cultural landscape and character of the site through the introduction of the proposed residential development.	Low (-)	Low (-)	Low (-)	Low (-)

GENERAL ADMINISTRATIVE RESPONSIBILITIES FOR PRE-CONSTRUCTION

Pre-Construction Actions				
Item	Actions/Management Measures	Responsible Person & Time Frame	Monitoring Methods	Indicators
Authorisation	- Ensure that the required authorisation has been obtained before the start of construction. - Prepare documentation for contract appointments.	The Applicant must ensure all documentation is correct and in place before construction commence.	- Keep record of correspondence. - Keep record of authorisation.	Authorisation and contracts on file.
Environmental Compliance	- Appoint a suitably qualified Environmental Control Officer (ECO) to oversee construction activities. Conditions of EA in terms of ECO appointment must be complied with. - If no ECO is appointed, a Site Representative (SR) must be appointed. The SR must have the required qualifications to conduct ECO work. - Include the EMP in all tender documents to ensure that sufficient resources are allocated to environmental management by the Contractor. - Plan and make adequate financial provision for rehabilitation and restoration activities and clearly allocate timing and responsibility for environmental rehabilitation. - Permits from the relevant authorities must be obtained for the destruction or removal of plant	The Applicant must appoint ECO or SR. - ECO/SR to compile a monitoring checklist that include conditions of EMP and EA. - ECO/SR must explain the conditions of EA to the Applicant and ensure all EA conditions of approval prior to commencing with construction is adhere to.	- Applicant to formally appoint ECO, if required, alternatively a SR must be formally appointed. - Applicant to check tender documents, permits, and contracts.	Incorporated in tender documents.

	species protected in terms of the National Forests Act, NEMBA ToPs Regulations, or the Nature & Environmental Conservation Ordinance.	The Applicant to ensure compliance with SAMSA.		
Employment & Safety	- Set targets for the use of local labour based on the needs of the proponent and the availability of existing skills and people that are willing to undergo training. - Ensure that Contractors from outside the local area that tender for work meet the required targets for how many locals are given employment. - Consider implementing labour-intensive rather than capital-intensive work methods wherever possible. - Consider purchasing resources from local sources wherever possible. - Conduct a fire audit to ensure fire-fighting equipment that will be used at the project is functional and the emergency response plan is appropriate when construction commences.	- The Applicant, before the call for tenders and ensure that builders contracted are qualified. - The Applicant must appoint a fire officer before commencement with construction.	- Applicant to check tender documents and contracts. - Keep record of how targets were determined. - Keep record of staff by origin. - Keep record of training provided.	- Incorporated in tender documents. - Percentage of local staff. - Percentage of Previously Disadvantaged Individual (PDI) staff. - Number of incidents. - Time activities stopped. - Number of recurring incidents.
Waste Develop a waste management plan	- Expected type and amount of waste; - Measures to reduce waste; - Type and expected volume of recyclable waste; - Recycling facilities that will collect / receive waste; - Type of storage for different waste types; - Waste contractors that will collect waste.	The Applicant, ECO/SR and building contractors to develop the waste management plan during the Design Phase.	Review of design documents.	Adequate provision for waste disposal

GENERAL ADMINISTRATIVE RESPONSIBILITIES FOR CONSTRUCTION

Construction Phase Actions

Item	Actions/Management Measures	Responsible Person & Time Frame	Monitoring Methods	Indicators
Study area	- A designated construction camp/site establishment area must be demarcated within the approved development footprint for the parking of construction vehicles and machinery and for the storage of equipment, construction materials and waste. The area must be located so as to avoid retained and high-sensitivity vegetation. - All construction activities, including temporary works, storage areas, stockpiles, vehicle parking and construction-related facilities, must be restricted to the approved and demarcated construction footprint. No unnecessary disturbance outside this area is permitted. - All retained vegetation and high-sensitivity areas must be clearly demarcated prior to commencement of vegetation clearing and construction and must be treated as no-go areas, except for those portions specifically approved for development in terms of the authorised Site Layout Plan. No construction vehicles, machinery, personnel, materials, stockpiles or temporary works	- ECO or SR must ensure that the method statement for Construction Activities is completed at least two weeks prior to the start of construction activities. - The ECO and/or Responsible Site manager to oversee no additional areas are cleared for establishing a site camp that falls outside of the study area. - Site inspections should be conducted by the Contractor and the Responsible Site manager (daily), and the ECO (weekly or monthly) to detect signs of degradation or non-	- Visual inspections. - Method statement. - Completing monitoring report.	- Accepted method statement. - Site boundaries demarcated. - Signage in place. - Monitoring Reports on file to be used for environmental auditing as per EA.

	may enter or be placed within these no-go areas. This directly reflects the Impact Assessment. • The boundaries of the approved construction footprint and no-go areas must remain clearly demarcated for the duration of construction, and all contractors and construction personnel must be made aware of these restrictions. • Adequate potable water and sanitation facilities must be provided for construction personnel. Portable chemical toilets must be provided and maintained in a clean and serviceable condition. The Impact Assessment specifically requires adequate portable sanitation and prohibits sewage or contaminated water from being discharged onto the soil. • Construction facilities, waste-storage areas and material stockpiles must be appropriately managed and maintained to prevent pollution, litter, erosion and contamination of the surrounding environment. Waste receptacles must be appropriately contained, and hazardous waste must be stored on an impermeable/bunded surface.	compliance at the study area.		
Safety and Security	• Ensure that emergency procedures (in relation to fire, spills, contamination of the ground, accidents to employees, use of hazardous substances, etc.) are established prior to commencing construction.	• The Applicant, Contractor, ECO/SR and Project Engineer or the responsible site manager are responsible	• Visual inspection and approval by Applicant, Contractors, and ECO/SR. • Completing monitoring report.	• Number of safety/emergency incidents. • Monitoring Reports on file to be used for

	Submit these emergency procedures to Applicant and the ECO/SR for approval. • Make all emergency procedures available, including responsible personnel, contact details of emergency services, etc. to all the relevant personnel. Clearly demarcate emergency procedures at the relevant locations around the site. • Provide suitable emergency and safety signage on the study area and demarcate any areas which may pose a safety risk. • Advise the ECO/SR of any emergencies on site, together with a record of action taken. • Secure the site, particularly to restrict unauthorised access to fuels and any other hazardous substances. • Store all construction material and equipment in locked containers within the existing site. Employ 24-hour security for the site. • Liaise with the local fire-fighting department with regards to emergency procedures.	throughout the construction phase. • It must be ensured that the health and safety of staff/labours are prioritised and protocols are in place, which is the responsibility of the Applicant, Contractors and ECO/SR throughout the construction phase.		environmental auditing as per EA.
Soil Management: • Prevent erosion. • Prevent soil pollution and degradation.	• No additional land should be cleared. • In general, adequate structures must be put in place (temporary or permanent where necessary in extreme cases) to deal with increased/accelerated run-off and sediment volumes. The use of silt fencing and potentially sandbags or hessian 'sausage' nets can be used to prevent erosion in susceptible construction areas.	• The demarcating of the study area and identification of topsoil stockpile area must be identified before construction start and is the responsibility of the Applicant, Contractor, and ECO/SR.	• Visual inspections. • Maintain register of pollution events and response. • Following resumption of activities, frequently inspect repaired equipment to ensure proper functioning.	• Incidence of Erosion. • Incidence of incorrect storage and harvesting of topsoil. • Number of pollution incidents.

	• All erosion and impact areas that will not be covered with buildings/driveways/concrete slabs/etc. are to be adequately sloped and re-vegetated to prevent the onset of erosion in the areas around the houses within the study area. • The spoil material during construction can be reused as backfill or erosion mitigation works. • Monitor disturbed areas, footpaths, vehicle tracks, access roads and steep slopes for erosion regularly during construction. Implement remedial action immediately once erosion is detected. • If signs of erosion appear along the spillways or the receiving environment below the site, the Applicant should repair/rehabilitate these areas as soon as possible. • Cleared areas should be exposed to the minimum amount of time possible. • Revegetate the cleared areas as soon as possible to limit the period which the soil will remain without vegetation cover. • Should erosion on land areas become problematic: ○ Any erosion rills or gullies that develop will be filled in with subsoil and compacted. The upper layer is to be scarified to bind with topsoil, top-dressed with soil, fertilized, and seeded. ○ Such areas will be provided with a mulch/manure layer (which can also include the growth medium) of at least 5 cm thick.	• Prior to clearing vegetation, the Contractor must ensure topsoil is stored as prescribed above for the duration of the construction phase, and the ECO/SR must inspect the activities on a weekly or monthly basis (depending how fast the construction is carried out). • Site inspections should be conducted by the Contractor (daily), ECO/SR (weekly/monthly) and Project Engineer (weekly) to detect signs of erosion. • It must be ensured that the erosion minimization measures installed, are effective. • The Contractor, ECO/SR, Project Engineer must inspect the site to ensure stormwater management	• Completing monitoring report.	• Time activities stopped. • Number of recurring incidents • Availability and completeness of register and records. • Monitoring Reports on file to be used for environmental auditing as per EA.
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	○ In the worst-case scenario, geofabric or Soil Saver (natural organic sheet material with seeds) will be placed onto the affected area after the spreading of topsoil and seeding was affected. A soil conservation officer or expert will be appointed to oversee the process. ○ Create storm-water diversion berms in roads, especially in steep areas, to prevent high runoff velocities and erosion. • Effective measures should be implemented to manage stormwater run-off, as per the engineer designs. • Access roads should be well maintained. • All <i>in situ</i> soils (20-50cm topsoil) will be removed and conserved from areas earmarked for construction of buildings, driveways, etc. and must be used for landscaping. • Stockpile topsoil separately from subsoil and replace in the same order as removed (from bottom to top: rock/fill, subsoil, topsoil & leaf litter). • Any spoil material (which can include excess topsoil or subsoil) must be carted to a registered landfill site. • Stored topsoil, that will be used, should be stored along perimeters, where it will not be further disturbed until it is used, and it will be piled to a maximum height of 1m. • Topsoil stored for periods longer than 3 months must be upgraded with fertilizer, and lightly covered	systems are effective and no erosion results. • Visual inspection must be conducted by the Contractor, ECO/SR Project Engineer to detect any source of soil pollution regularly. • The Applicant is ultimately responsible for the construction of the houses without resulting in sediment loss and/or erosion.		
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	with some of the available grass cuttings removed from development areas. • Topsoil must be removed ahead of construction and reinstated as soon as possible to limit the deterioration of the soil and prevent it from becoming sterile. • Topsoil that will be reintroduced to areas, keyed-in slightly with lower horizons by ripping it lightly along the contour and fertilized as follow: • Manure must be lightly scarified and seeded with the prescribed grass seed mix as per the rehabilitation plan. • Vegetation removed from the area should be used as mulch. • Upgrading of soils can be done concurrently with development. • Oil and lubricants will be stored inside a workshop container to be placed at the study area. • Used oils and lubricants will be disposed of at a registered recycling facility regularly. • All filters or oil/lubricant contaminated material will be stored in a separate receptacle within the workshop container and disposed of at a registered recycling facility regularly. • All vehicles will be leak-free. Ensure that all vehicles and equipment is well maintained and serviced. • Conduct regular checks for fuel, oil and hydrocarbon leaks on vehicles and machinery.			
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	• All generators, compressors and fuel supply used on-site should be placed on a drip-trays to prevent spills and leaks directly onto the soil. • Construction materials may not be stored for extended periods and must be removed from the study area once the construction phase has been concluded. • No permanent construction phase structures should be permitted. • No storage of vehicles or equipment will be allowed outside of the study area. • Hydrocarbons shall not be drained into the soil nor shall used filters and hydrocarbon-contaminated parts be buried in the soil but will be removed to an approved waste site or recycling facility. • Making use of bio-remediation facilitated by a specialist company will negate large spills whilst smaller spills could be treated with fertilizer to break it down or be scooped up by a front-end loader to a hazardous waste site. • Peatsorb or sawdust will be used to contain larger spills and some of this material must be on-site as a contingency measure. • Spills will be prevented by properly maintaining vehicles. Maintenance of vehicles will be done at the offsite workshop.			
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	• Only in the case of an emergency will vehicle maintenance and servicing will be done onsite. Emergency repairs will be done over drip pans. • In case of emergencies used oils and lubricants will be siphoned in receptacles with proper lids and disposed of at a registered recycling facility immediately. A receptacle will be provided for used filters and oil-contaminated vehicle parts which will be respectively disposed of at a registered waste facility and scrap yard immediately. • The chemical toilets (one per 10 people) will be maintained according to Municipal bylaws or specifications issued by a local Health Inspector. • Provide easily accessible temporary toilets and litter bins at the construction site. • The diesel tank of the generator (if needed) will be leak-free and the generator and fuel receptacle will be placed inside a steel tray that will be provided for 110% capacity of the volume stored. • All construction material/machinery/vehicles/debris must be removed before topsoil is re-introduced to the proposed garden areas.			
Ecologically Sensitive and Flora Management: • To minimize damage to	• All vegetation clearing and construction-related disturbance must be restricted to the approved development footprint as indicated on the authorised Site Layout Plan. The development footprint must be clearly demarcated prior to commencement of vegetation clearing, and no	• The Applicant, the Contractor, or ECO/SR must check for alien invasive vegetation and remove thereof as the development progress.	• Visual inspection. • Appointment of vegetation specialist. • Search and Rescue Report.	• Reports on file. • Permit on file. • Floral species established. • Size of area cleared relative to the

indigenous flora and fauna utilizing the surrounding areas. To control and prevent alien vegetation growth.	unnecessary disturbance may occur outside the demarcated footprint. - All retained vegetation and identified high-sensitivity areas must be clearly demarcated prior to vegetation clearing and treated as no-go areas, except for those portions specifically approved for development in terms of the authorised Site Layout Plan. No temporary works, storage, stockpiling, parking or unnecessary movement of construction personnel or machinery may occur within these areas. - The construction footprint must be kept as compact as practicable and unnecessary clearing, trampling or disturbance of indigenous vegetation must be prohibited. - Vehicle and machinery movement must be restricted to the approved access route and demarcated construction areas. No informal or additional tracks may be established through retained vegetation or the coastal dune area. The Rehabilitation Plan specifically prohibits bulldozing new tracks within the coastal-front dune field. - The identified White Milkwood (<i>Sideroxylon inerme</i> subsp. <i>inerme</i>) and other protected plants must be avoided and retained wherever reasonably practicable. Where avoidance is not possible within the authorised footprint, the applicable permit and	- The ECO/SR must conduct a plant search and rescue for protected species with the assistance of a qualified botanist and fauna specialist. - The Contractor is responsible for the behaviour of his staff with specific reference to environmental management until the construction is completed.	- Check evidence of alien vegetation. - Alien Control Report.	development footprint. - Size of area disturbed outside of construction site boundary. - Construction footprint clear of alien vegetation.
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	Search & Rescue requirements must be implemented. ○ Prior to vegetation clearing, a Plant Search and Rescue must be undertaken by a suitably qualified botanist, due to the occurrence of protected White Milkwood (<i>Sideroxylon inerme</i> subsp. <i>inerme</i>) and other potentially affected plant species. ○ All applicable permits for the removal, disturbance, transplantation or destruction of protected plants and/or protected trees must be obtained prior to vegetation clearing. No protected tree or plant may be removed or disturbed before the applicable permit has been obtained. ● Harvesting, collecting, damaging or removing indigenous plants by construction personnel for purposes unrelated to the authorised construction activities is prohibited. ● Open fires and uncontrolled burning must be prohibited during construction. Appropriate fire-prevention and response measures must be implemented for the duration of construction. ● Areas disturbed by construction that are not required for permanent infrastructure must be progressively rehabilitated in accordance with the approved Vegetation and Landscape Rehabilitation			
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	Plan. Rehabilitation must commence as soon as reasonably practicable following completion of construction activities within the affected area. • Rehabilitation and landscaping must use suitable indigenous species characteristic of the local dune/thicket environment, with indigenous, locally appropriate and water-wise species prioritised. • The retained coastal dune and associated indigenous vegetation must be protected from unnecessary construction-related disturbance. No unauthorised tracks, infrastructure, excavation or alteration of the natural dune profile may occur within the retained coastal-front dune area. • Alien and invasive plant species occurring within the property must be progressively controlled and removed in accordance with the Rehabilitation Plan and applicable legislation. Particular attention must be given to species identified on the site, including Rooikrans (<i>Acacia cyclops</i>) and Port Jackson Willow (<i>Acacia saligna</i>). • Alien invasive plant management must include regular monitoring and follow-up clearing to prevent re-establishment. Alien vegetation control must continue beyond the initial construction clearing and form part of the long-term management of the property. The Rehabilitation			
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	Plan specifically envisages ongoing management rather than once-off removal. • Areas undergoing rehabilitation must be monitored for successful establishment of indigenous vegetation, erosion and alien plant regrowth, and corrective measures must be implemented where required. The Rehabilitation Plan identifies stabilisation of the landscape and survival of natural dune vegetation during the first year as an important rehabilitation objective.			
Faunal Management • To minimize damage to indigenous fauna utilizing the surrounding areas.	• No vegetation outside of the approved development footprint as indicated on the authorised Site Layout Plan, may be removed. • The clearing and disturbance activities must be conducted in a progressive, slow, and linear manner to provide an easy escape route for all small mammals and herpetofauna. • All construction vehicle operators must undergo an environmental induction that includes instruction on the need to comply with speed limits, and to respect all forms of wildlife. Speed limits must be enforced to ensure that road killings and erosion are limited. • Vehicles will not display fuel, oil or lubricant leaks and will be maintained to an acceptable standard. • Any fuel spills will be cleaned up immediately and contaminated soil or used spill-absorbing material will be removed to an approved waste facility.	• A list of animals that are relocated must be kept by the Applicant, the Contractor, and ECO/SR. • The Applicant, the Contractor, or ECO/SR must check for snaring devices, traces of poison, and removal thereof weekly. • The ECO/SR is responsible to identify/allocate appropriate areas in the surrounding area to be used for the relocation of species where possible, before the removal of such an animal.	Visual inspection	• Number of animals harmed/ incidents. • Monitoring records.

	• Handling of hydrocarbons will be done in accordance with all applicable legislation to prevent pollution incidents. • The movement of vehicles will be restricted to the authorized development area and haul roads. • Attention must be given to reptiles and slow-moving animals (tortoises) that might occur in the study area. ○ Before the topsoil and vegetation are removed someone must walk through the site to ensure that there are no animals that could be harmed by the excavator. ○ Reptiles that occur in the proposed study area should be chased away and tortoises should be appropriately captured and relocated to abutting areas. • No animals entering or settling in the study area will be trapped or killed and this requirement will be included in the environmental awareness programme, which must be discussed with workers prior to construction and presented by the applicant or any competent ECO/SR. • No hunting or snaring would be allowed outside or inside the study area and the applicant should implement a severe penalty system for people transgressing this requirement.	• The Contractor is responsible for the behaviour of their staff with specific reference to environmental management for the duration of construction. • The Contractor, ECO/SR must report all animal mortalities to the Applicant on the same day as mortality has been identified. Such mortalities should be recorded. • If any carcasses are collected for monitoring purposes, a permit is needed in terms of the Provincial Nature and Conservation Ordinance. The Applicant is responsible for obtaining such a permit.		
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	• The applicant will implement a proper supervision mechanism to ensure that poaching is not taking place. • No person may carry out a restricted activity in terms of the List of Threatened or Protected Species (TOPS) regulations i.e. killing, catching, hunting by any method or device including searching, injuring with intent to hunt, catch or kill any such specimen involving a TOPS specimen without a TOPS permit. The applicant will take full responsibility for any animals that are proven to be killed by a member of the construction staff. The applicant will implement an environmental awareness programme and ensure all employees are coherent in the above regard. • Personnel should undergo environmental induction training and made aware of the need to avoid injuring or killing wild fauna. • The clearing of vegetation will be restricted to the minimum area required for optimal construction activities. • The spread of alien vegetation will be prevented. • Veldt fires will not be allowed. The applicant will take full responsibility for any financial losses which prove to be the result of negligence in this regard. • Informal cooking fires by construction personnel will not be allowed on-site. • No burning of waste will be allowed at the study area.			
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	• The study area will be demarcated and areas outside of it will be out of bounds for workers. • Proper housekeeping with an emphasis on waste management should be applied. Plastic and wire could be lethal animals and should therefore be controlled. Household waste disposal will be through depositing waste in strategically positioned containers fitted with scavenger proof lids. • No pesticides or poisons will be used onsite and construction staff will not poison scavengers or varmints. • Some bird species might build a nest of grass and twigs on the ground or construct a nest between grass tufts and trees/bushes. Some of these nests may contain chicks or eggs, therefore care must be taken to carefully relocate the nests to areas outside the study area before vegetation clearing commences or if possible relocate chicks or eggs to bird sanctuaries. • Some animals take shelter and live in burrows. Burrowing animals can detect prey items using seismic cues and therefore these animals would be able to use the vibrations of vehicles and excavators to realize their potential vulnerability. Care must be taken not to injure these burrowing animals when the excavator is used in the proposed study area. • An expert who holds a Competency Certificate to handle dangerous and venomous reptiles should be contracted to remove any animals that may cause harm to employees at the study site. A declaration/			
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	testimonial must be provided to prove prior experience in this regard. Appropriate permits are required to move animals. • This potential impact should be addressed in an environmental awareness programme. • The Applicant should remove any of the staff caught interfering with wildlife from the site immediately. • Schedule activities and operations during the least sensitive periods, to avoid migration, nesting, and breeding seasons. • Any holes/deep excavations must be dug and planted progressively and must not be left open overnight. Should any holes remain open overnight they must be properly covered temporarily to ensure that no small fauna species fall in and subsequently inspected before backfilling. • Use environmentally friendly cleaning and dust suppressant products.			
Stormwater control • Prevent silt transport into abutting areas. • Allow for natural drainage to continue.	• Stormwater generated during construction must be managed to maintain natural drainage patterns as far as reasonably practicable and must not be concentrated or diverted in a manner that causes erosion, scouring, sedimentation or damage to adjoining properties or environmentally sensitive areas. • Appropriate temporary stormwater, erosion and sediment-control measures must be installed where	• Site inspections should be conducted by the Contractor (daily), ECO/SR (monthly) and Project Engineer (weekly) to detect signs of stormwater structure failure. • The Contractor, ECO/SR and Project Engineer must	• Visual inspection of stormwater structures and downstream respective areas. • Review layout plans.	• Incidence of stormwater contamination • Visible leaks/ water wastage • Visible surface erosion • Compliance with storm water management plan

	required before or during earthworks and maintained for the duration of construction. • Clean stormwater must, as far as practicable, be kept separate from areas where contamination may occur, including fuel and chemical storage areas, concrete works, waste-storage areas and other potentially contaminated construction areas. • Storage of oils, fuels, and hazardous substances/liquids (e.g. paint, cement mix, etc.) must not be stored outside of the study area. • Temporarily storage of oils, fuels, and hazardous substances/liquids, must be positioned on a concrete floor with a spill trap. No spills on bare soil will be allowed. ○ The storage area must be adequately bunded to contain any spillage from containers (at least 110% of the volume of the substance stored therein. Such storage must be kept clean by 'mopping' up any spillage of any hazardous substances immediately. ○ Prevent rainwater from accumulating in the bund by either providing a roof over the bund or removing any rainwater to ensure the capacity of the bund is maintained. • No fuels/ oils must be allowed to discharge directly into abutting areas. • Emergency spill kits must be available to clean up and remove spills.	inspect the site to ensure stormwater management systems are effective and no downstream sedimentation and vegetation die-out is occurring on a monthly basis. • Visual inspection must be conducted by the Contractor, ECO/SR and Project Engineer to detect any source of degradation regularly.		
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	• All vehicles and machinery operating onsite must be regularly inspected for oil, fuel, and any other fluid leaks before entering the construction area. • All vehicles and machinery must be regularly serviced and well-maintained before being allowed onto the construction site. • Emergency repairs of vehicles or machinery will be done over drip pans. • Maintenance of vehicles will be done at the offsite workshop to a leak-free condition. • Hydrocarbons shall not be drained into the soils nor shall used filters and hydrocarbon-contaminated parts be buried at the site, but will be removed to an approved waste site or recycling facility. • Making use of bio-remediation facilitated by a specialist company will negate larger spills whilst smaller spills could be treated with fertilizer to break it down or be scooped up by a front-end loader to a hazardous waste site. • Peatsorb or sawdust will be used to contain larger spills and some of this material must be on-site as a contingency measure. • No fuelling, re-fuelling, vehicle and machinery servicing, or maintenance is to take place at the study area. • In case of emergencies used oils and lubricants will be siphoned in receptacles with proper lids and			
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	disposed of at a registered recycling facility immediately. • For emergency cases, a receptacle will be provided for used filters and oil-contaminated vehicle parts which will be respectively disposed of at a registered waste facility and scrap yard immediately. • In general, any cement mixing should take place over a bin-lined (impermeable) surface or in the load bin of the vehicle to prevent the mixing of cement with the ground. • All concrete spills must be cleaned up and disposed of at a registered waste disposal site. • Cement/concrete can also be trucked in ready-mix vehicles. • Generators possibly required during construction must be placed on trays, which contain a suitable absorbent material to soak up any leaks or spills. Once construction has been completed, all contaminated absorbent material must be removed from the site and disposed of at a registered waste disposal site. • Suitable temporary chemical sanitation facilities are to be provided at least 1 per every 10 people. It must be checked regularly for maintenance purposes and cleaned often to prevent spills. • Waste will be contained in receptacles stationed at appropriate areas within the construction site and be removed from the study area regularly. No			
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	household or industrial waste will be burnt or buried on the site. The waste manifest must be obtained from the local municipality when waste is disposed of at licensed waste disposal sites to prove legal disposal. • The spoil material during construction can be reused as backfill or erosion mitigation works, while excess spoil must be disposed of off-site at the nearest registered Municipal Dumping Site. • An area on the proposed site must be earmarked for the storage of spoil material on-site. • The designated area must be easily accessible for dumping trucks to collect the spoil material, which must be carted to a registered landfill site. • Non-recyclables will be disposed of at a registered landfill site. • General waste must be kept in bins within the construction site and should be collected and disposed of every week or it should be disposed of in a skip and transported to the nearest registered landfill site. • Spent canisters for paints and solvents are the responsibility of the respective contractor and are disposed of at a suitable landfill site or recycled. • In case of large, critical spills the Departments of Water and Sanitation and DEDEAT will be informed immediately for assistance and advice and a competent company conversant with bio-			
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	remediation will be appointed as soon as possible to address the possible impacts of a such spill. All costs would be for the account of the applicant. • Soil and material stockpiles must be appropriately positioned and protected to prevent erosion and the transport of sediment by stormwater. Stockpiles may not obstruct natural drainage or stormwater infrastructure. • Areas of exposed sandy soil must be kept to the minimum practicable extent and must be stabilised or rehabilitated as soon as reasonably practicable following completion of construction activities within the affected area. • Construction activities must not result in the uncontrolled discharge of sediment-laden or contaminated stormwater from the site or into the receiving coastal environment. • Temporary stormwater-control measures must be regularly inspected, particularly following significant rainfall events, and any erosion, blockage, damage or failure must be rectified as soon as practicable. • Any erosion or sediment accumulation resulting from construction activities must be remedied, and the affected area must be stabilised and rehabilitated. • Construction personnel must immediately report any failure, damage or inadequate functioning of stormwater or erosion-control measures to the			
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	Contractor's responsible person and/or ECO, as applicable, so that corrective action can be implemented. As the permanent stormwater infrastructure becomes available, stormwater must be managed in accordance with the approved civil engineering design and municipal requirements.			
Ground water Prevent groundwater pollution.	- The construction of sewage infrastructure must be completed by a competent professional company. - The contents of grease traps or other waste oils, grease and/ or fuel disposal/ storage containers should under no circumstances be emptied and dumped into the surrounding area. - In the event of contamination on-site or pollution of water resources, the incident must be reported to the relevant authorities for assistance and advice, and a competent company conversant with bio-remediation will be appointed as soon as possible to address the possible impacts of such a spill. All costs would be for the account of the applicant. - A record of all the monitoring results must be submitted in an Environmental Audit Report to the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) as prescribed by the Department.	- The Contractor, ECO/SR must log and record the monitoring. - The DEDEAT is responsible for compliance monitoring. - Visual inspection must be conducted by the Contractor (daily), ECO/SR (monthly) and Project Engineer (weekly) to detect any source of ground water pollution. - The Applicant is responsible to contact the relative authority if a large spill occurs and report the incident immediately.	- Ask component professional company how to monitor conservancy tanks once operational. - Completing monitoring report.	- Number of pollution incidents. - Monitoring Reports on file to be used for environmental auditing as per EA.
Noise Management	All equipment and activities comply with noise regulations.	The Contractor (daily), ECO/SR must monitor and manage the noise	Monitor noise along the boundaries of the site relative to the active	Number of registered complaints.

Prevent excessive noise generation within the study area and surrounding area.	- All vehicles will be fitted with standard exhaust systems and will be serviced regularly. - Silencer units in vehicles and equipment are to be maintained in good working order. - Unnecessary hooting, shouting, flapping of tailgates, and excessive use of exhaust brakes will be discouraged. - Unnecessary idling of vehicles will be discouraged during the construction phase. - Travelling speed on site will be reduced to 20 km/h. - Moving parts of vehicles will be regularly lubricated, replaced, and serviced. - Construction work that involves using grinders and hammers on steel or any other steel-on-steel activity will not be performed early morning or early evening. - Normal working hours will apply for weekdays (7am to 5pm). No work on weekends (Saturdays and Sundays) or public holidays. - Workforces and contractors will be managed correctly in terms of noise generation and be sensitized to dignified human behaviour. - All Health and Safety guidelines must be complied with. - Workers working in areas where the 8-hour ambient noise levels exceed 85dB must have the appropriate Personal Protective Equipment (PPE).	generated during the construction phase. - The Applicant, representative site manager, or ECO/SR must log and record complaints received from abutting residents. - The Applicant and Contractor must make every effort to immediately resolve the issue (within one week), once a complaint is received. - The DEDEAT are responsible for compliance monitoring. - The Contractor must contract a qualified company/person to conduct a noise survey/s if DEDEAT requires such measurements and the outcome of the noise survey must be presented to the DEDEAT.	construction area on times during activities. Completing monitoring report.	Monitoring Reports on file to be used for environmental auditing as per EA.
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Air Quality Management Prevent excessive dust generation and emissions within the study area and surrounding area.	- Dust suppression measures must be implemented at working areas during dry and windy periods. Water used for this purpose must be in quantities that do not result in the generation of run-off. - Hessian cloth or other suitable dust-screening material must be installed and maintained along site boundaries adjacent to sensitive receptors where necessary to minimise the off-site dispersion of dust. - Exposed areas should only be irrigated once or twice a day during periods of strong winds (>30km/hour). Over-irrigation should be carefully monitored, so as not to cause sheet wash on exposed areas. - Construction activities shall not impose dust counts of more than 80 mg/m²/per day at any residence or more than 40 mg/m²/per day during normal operations. - If cutting of bricks that can result in excessive dust, it should be watered down before cutting to reduce the dust. Alternatively machinery with dust-collecting bags must be used. - Vehicles are to be maintained properly and fitted with standard exhaust systems and will not be left idling unnecessarily. - Vehicle trips must be restricted to what is essential. - No burring of waste will be allowed on the property. - Cooking fires will not be allowed.	- The Contractor (daily), ECO/SR (monthly), must monitor and manage the dust generation during the construction phase. - The ECO/SR must log and record complaints received from abutting residents. - The Contractor or ECO/SR must communicate with the Applicant and Contractor immediately once a complaint is received and attempt to resolve the issue within a week after the complaint. - The DEDEAT are responsible for compliance monitoring. - The Contractor must contract a qualified company/person to conduct dust survey/s if DEDEAT requires, such measurements and the outcome of the dust	- Visual inspections and assessment of dust plumes. - Visual assessment of dust control measures. - Completing monitoring report. - Keep a register of complaints received and response.	- Complaints Receive and Response Report on file. - Visibility of dust coming off construction site. - Dust mitigation measures in place. - Number of days that dust plumes are visible. - Number of registered complaints. - Size of disturbed areas. - Monitoring Reports on file to be used for environmental auditing as per EA.
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	• Cigarette butts might not be disposed of in the veldt, but must be put out and disposed of in the waste bins provided at the site. • Bio-degradable waste will be contained in receptacles with proper lids and be removed from the study area regularly. No odours will be tolerated on the site. • No chemicals that could generate odours will be stored or disposed of on-site. • No non-environmentally friendly suppressants may be used as this could result in the pollution of soil or water sources. • Dust counts must be done whenever the DEDEAT requires such measurements and the outcome of the dust sampling presented to the DEDEAT. • The terms of reference for the dust counts must be determined in conjunction with the officials from the DEDEAT. • All site workers need to wear the appropriate safety gear. • Transported material that can be blown off as dust must be covered to limit dust generation. • Construction works should be executed between the times previously stated and not on Saturdays and Sundays or Public Holidays unless agreed to by the neighbouring community or association representing the community.	sampling must be presented to the DEDEAT. • Visual inspection must be conducted by the Contractor, Project Engineer, ECO/SR to detect any source of dust pollution regularly.		
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Fire Management • Prevent the loss of life (humans, fauna, or flora) within the study area and surrounding area. • No fires are to be caused by construction activities and workers. • Approved emergency response procedures, where relevant.	• A fire emergency plan must be developed and known to all workers on site. • Veldt fires will be prevented by not allowing fires and restricting smoking only to designated areas at the study area. The Applicant will take full responsibility for any financial losses which prove to be the result of negligence in this regard. • No cooking fires will be allowed during the construction of infrastructure or buildings. Staff must bring ready made food to work. • No burning of waste will be allowed at the study area. • Fire-fighting equipment will be available on-site and all workers will be conversant with the related protocol. Fire hydrants are to be placed as per the safety regulations. • Employees should be trained in fire safety and there should be fire marshals. • Local fire station numbers should be known or easily accessible to all staff. • The prescribed fire safety precautions in terms of the Occupational Health and Safety Act must be adhered to during the construction and operational phase. • The following signs must be installed at any sites where there is a potentially high risk of flames/explosion: ○ No smoking, no open flame, no cellphones.	• The fire officer must inspect and ensure that firefighting equipment onsite is functional and in working condition monthly. • The Applicant is responsible for supplying firefighting equipment before construction commences.	• Review detailed layout plans. • Completing monitoring report, which should also include: ○ Inspect attendance register for training sessions. ○ Inspect fire extinguishers and certificates.	• Compliance with measures. • Number of fire incidents. • Certified extinguishers in appropriate locations. • Monitoring Reports on file to be used for environmental auditing as per EA.
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	○ Signs must be placed in conspicuous places and management must manage staff to adhere to the safety principles. • Clearly mark fire points and fire assembly areas. • A fire drill should be conducted within the first month of the construction and testing and servicing of fire-fighting equipment and appliances must be conducted regularly. • Formulate and bring to the notice of all workers and clients fire safety policies and rules. • Establish and clearly mark the fire exits and escape routes. • Ensure that the designs provide fire exits from all the working areas. • The exists shall open outwards and shall remain open during working hours. • Assess the potential hazard of fire and the sensitivity of the environment. • The documented protocol must be followed to inform the responsible person(s) and landowner/adjacent landowner (s) accordingly. • All trained workforce must be commanded to beat fire with appropriate available appliances. • Use a water cart and available hoses and fire extinguishers to contain the fire. • Use the loader to create a firebreak ahead or around the fire.			
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	• Open uncontrolled fires will be forbidden at the study. • The Contractor shall comply with all safety requirements enforced; these include emergency evacuation procedures, fire preventative measures, etc. • The Contractor shall supply firefighting equipment in proportion to the fire risk presented by the type of construction and other on-site activities and materials used on site. This equipment shall be kept in good operating order. This particularly applies to welding activities, etc. • The Contractor is to provide designated safe smoking areas. • The Contractor must ensure that fuel, lubricants, transmission, and hydraulic fluids shall only be stored in the designated areas that comply with the OHS Act. • The Contractor must ensure that there is compliance with the National Veld and Forest Fire Act (No. 101 of 1998). • The Contractor must ensure proper emergency response procedures are in place for dealing with fires. • The Contractor must ensure that the burning of waste is not permitted. • The Contractor must ensure suitable precautions will be taken (e.g. suitable fire extinguishers, water			
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	bowzers, welding curtains) when working with welding or grinding equipment. • The Contractor must ensure that all fire control mechanisms (firefighting equipment) will be routinely inspected by a qualified investigator for efficacy thereof and be approved by local fire services. • All staff on site will be made aware of general fire prevention and control methods, and the name of the responsible person to alert to the presence of a fire. • No fires are allowed on site. • The Contractor and fire officer must ensure that: ○ “No-smoking” signs are placed in areas used for the storage of oil and fuel. ○ Basic fire fighting equipment shall be readily available on site. ○ Employees shall be made aware of the procedures in the event of a fire.			
Visual Impact Management • To ensure that appropriate management strategies are adhered to	• The building contractors should avoid placing stockpiles and other services in areas likely to pose obstructive visual impact. • No vegetation clearing will take place outside the proposed study area and not within the high sensitive areas, other than what was approved in the layout plan. If vegetation outside the approved area is disturbed it must be rehabilitated according to the rehabilitation plan.	• The Contractor (daily), ECO/SR (monthly), must monitor and manage the personnel onsite and maintain ongoing housekeeping to keep the construction site tidy.	• Visual inspections. • Completing monitoring report.	• Number of complaints • Monitoring Reports on file to be used for environmental auditing as per EA.

minimize the visual impact. To receive no complaints regarding impacts on visual quality.	- Clearing of vegetation will be restricted to the minimum required for optimal construction at any given time. - The proposed study area and immediate surroundings must be kept clean and free of litter continuously. A weekly cleanup of the entire site must be done. - No dumping of waste in unauthorized areas around the site must be permitted. - Topsoil stockpile/s stripped from the site must be stored and used in the landscaping and shall be vegetated immediately after establishment. - Spoil debris will not be dumped haphazardly in the veldt but handled as discussed under 'Waste'. - Time switches must be used for outdoor lighting. - Security and internal lighting shall be effectively designed so as not to spill outward onto surrounding properties. - Use specifically designed lighting equipment (full cut-off lighting fixtures) that minimizes the upward spread of light near to and above the horizontal. - Keep glare to a minimum by ensuring that the main beam angle of all lights directed towards any observer is not more than 70°. - Lighting can be provided to walkways between structures. Low-wattage luminaries should be used and be directed only onto the path/s.	- The ECO/SR must keep a complaint register and log any complaints received. - The ECO/SR must communicate with the Applicant and Contractor immediately once a complaint is received and attempt to resolve the issue within a week after the complaint. - The DEDEAT are responsible for compliance monitoring. - The Contractor must implement management actions.		
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	- Utilize control systems to reduce light levels during inactive periods or at predetermined times while maintaining sufficient lighting for safety & security. - Energy-efficient models must be considered and applied wherein the consumption of electricity will be reduced. These include, but are not limited to: - Energy-saving bulbs; such as LED technology for artificial lighting, rather than standard light fittings to reduce power consumption and increase the life span of the bulbs. - Installation of solar panels to supply power to lights to reduce the electrical load on the national grid. - Generators can be used during electricity outages to ensure work time without interruptions.			
Waste Management To ensure that appropriate waste management strategies are adhered to at all times.	- Staff would be trained to distinguish between various types of waste (building rubble, domestic and industrial). Rubble will be neatly stored in demarcated areas away from the road, where access from the public can be controlled and restricted where required, but with easy access for removal trucks. - Rubble and other construction waste products should be re-used if possible, where not possible, it must be disposed of at the nearest registered waste disposal facility.	<u>Solid Waste Management:</u> - The Contractor, ECO/SR must ensure waste bins with lids should be provided at regular intervals throughout the site including any sub-contractor site. - The Contractor, ECO/SR must ensure that the bins shall be emptied regularly and the accumulated	Visual inspection of waste materials, the handling and storage areas.	- Number of incidents of non-compliance with safety procedures concerning waste materials. - Number of incidents of batching outside works footprint. - Contamination of water and soil.

	• General rubble will be disposed of regularly at the local waste facility and others, such as metals will be sold to a recycling company. • Waste will not be burnt or buried on site. • An area will be demarcated for construction waste. Tire casings will be disposed of as soon as possible at the nearest registered waste facility or sold at a recycling facility. Dysfunctional equipment shall be sold to a recycling company or disposed of at a hazardous waste site, depending on the nature of the materials involved. All vehicle batteries shall be recycled to a facility like e.g. Midas or be removed to a hazardous waste facility. Staff will be informed of the hazards and the correct manner to deal with waste stored at the site. • The odd tyre casings and dysfunctional equipment that could be generated will be disposed of immediately at the nearest registered waste facility. • Dangerous waste such as metal wires and glass must only be stored in fully sealed and secure containers, before being moved off-site as soon as possible. • Any waste produced will be removed from the development area continuously to the nearest waste facility with specific emphasis on household waste, plastics, unusable scrap metal, and tire casings, if any. The activity should not contribute to any surrounding windblown litter. • A skip with a proper cover will be positioned in allocated areas. Large refuse bins fitted with a proper lid will be positioned at the various	waste disposed of at an appropriately permitted disposal site. • The Contractor, ECO/SR must ensure that the burning or burying of any waste is not permitted. • The Contractor, ECO/SR must ensure that the site is to be checked for litter daily. All litter should be collected regularly and deposited in the waste bins. • The Contractor, ECO/SR must ensure that non-reusable building material is to be treated as waste and disposed of at an appropriately permitted disposal site. • The Contractor, ECO/SR must ensure that cement aggregates should be collected and disposed of at an appropriately permitted disposal site.	• Number of spills of waste materials. • Cost of cleaning up spills. • Evidence of contamination and leaks. • Visible litter / waste on site.
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	workstations in the development area, and be emptied regularly in the skip. • Cement bags must be kept in a sealed container. • Waste may not be removed from the study area by staff or members of the public. • Construction vehicles may not leak any fuel, oil, or lubricants and will be maintained to an acceptable standard. • Any fuel spills will be cleaned up immediately and the soil from spill areas to be removed to a registered waste disposal site. • The salvage yard will be neat and all usable material will be placed in rows and separated into applicable categories. • Unusable scrap metal or dysfunctional machinery will be positioned on one side and removed every month to a recycling facility. • No day-to-day repairs or servicing of vehicles or equipment will take place on-site. • No washing of vehicles will take place on the property. • None of these wastes will be buried/drained into the soil. • The chemical toilets will be maintained according to Municipal specifications and as discussed under the heading "Water". If it produces foul odours, it shall be remedied according to available guidelines. Where necessary components of it will be regularly disinfected. If there is any doubt about the impact	• The Contractor, ECO/SR must ensure that used cement bags and containers which held hazardous materials or substances are to be collected into a dedicated hazardous waste container/containment area and disposed of appropriately. <u>Effluent Management:</u> • Appropriate measures to prevent runoff from escaping from the mixing/batching area should be taken. • The Contractor (daily), ECO/SR must ensure that cement should never be mixed directly on the ground surface and must be mixed on an appropriately lined surface. • The Contractor (daily), ECO/SR must ensure that	
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	of the system on surface or groundwater, a water analysis shall be performed. • Proper care will be taken that the surroundings are not used for ablutions and the necessary penalty system will be imposed for such offences. • Waste receptacles will be clearly marked to increase visibility and to distinguish it from hazardous waste receptacles. During normal operations, the waste bins will suffice. • Domestic waste generated ancillary to the development process will be deposited in containers with scavenger-proof lids placed at the site. It will be regularly removed from the study area to the nearest waste site and not dumped in the veld nor burnt or buried on site. Containers will be clearly marked to ensure that they are used for the right purpose. Management will provide clear management guidelines and this aspect will be included in the environmental awareness programme. • Any foul smells will be treated with the necessary disinfectants or lime can be introduced to the bottom of the receptacle. • Spoil material can be reused as backfill or erosion mitigation works, while excess spoil must be disposed of off-site at the nearest registered Municipal Dumping Site. Non-recyclables will be disposed of at a registered landfill site. • An area on the proposed site must be earmarked for the storage of spoil material on-site.	wastewater from batching operations or ready mix trucks shall be discharged into a lined pond provided for this purpose. The pond is to be de-sludged regularly, and the cement residue is removed from the site and disposed of at an appropriately permitted disposal facility. • The Contractor (daily), ECO /SR must ensure that pollution of ground and surface water should be avoided. • The Contractor (daily), ECO/SR must ensure that ablution facilities should be available to all workers. • The Contractor (daily), ECO/SR must ensure that where chemical toilets are used at least one toilet per 10 individuals should be available. At least one toilet should be located		
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	• The designated area must be easily accessible for dumping trucks to collect the spoil material, which must be carted to a registered landfill site. • Facilities must be cleaned up and will be maintained and kept neat continuously. • Effluent from the construction site will be dealt with as described under the heading "Surface Water". • Spent canisters for paints and solvents are the responsibility of the respective contractor and are disposed of at a suitable landfill site or recycled. • Waste manifests are to be obtained as proof of legal disposal.	within 100 m of each working area. • The Contractor (daily), ECO/SR must ensure that portable/chemical toilets should be emptied at regular intervals by suitably qualified contractors, according to appropriate health and safety standards. • The Contractor (daily), ECO/SR must ensure that no human waste should be dumped at the site. • The Contractor (daily), ECO/SR must ensure that toilets shall be secured to prevent them from blowing over during periods of high winds. • The Contractor (daily), ECO/SR must ensure that toilet paper should be provided at each toilet. • The Contractor (daily), ECO/SR must ensure that separate toilets are to be		
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		provided for male and female workers. <u>Fuels and Oils Management:</u> • The Contractor, ECO/SR must ensure that in the case of fuel or oil storage, the storage tanks shall be bunded and the bund is to be fitted with a drainage control valve which is to remain closed except when the bund is being emptied. Accumulated rainwater is to be released from the bund after rain events. The Contractor, ECO/SR must ensure that in such events that the combined capacity of storage tanks may not exceed 30m³. • The Contractor (daily), ECO/SR must ensure that spills are to be avoided as far as is practically possible. Where spills occur compromised		
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		soil/vegetation should be treated as hazardous waste and disposed of accordingly. • The Contractor (daily), ECO/SR must ensure that equipment for dealing with hazardous waste spills should be kept on-site and accessible at all times. • The Contractor (daily), ECO/SR must ensure that construction vehicles and heavy plant standing for extended periods (e.g. overnight) should have drip trays placed beneath them. • The Contractor (daily), ECO/SR must ensure that fire prevention measures should be taken in the vicinity of vehicles and stored oil and fuels. <u>Hazardous materials management:</u>		
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		• The Contractor or ECO/SR must ensure that information on all hazardous materials should be kept on-site and available to all. This should include safety information such as how to handle these materials or treat injuries as a result of these materials. • The Contractor (daily), ECO/SR must ensure that hazardous materials should be stored in a contained, stable and safe environment with relevant labels placed on storage containers and lids firmly applied to prevent spillage. • The Contractor (daily), ECO/SR must ensure that the storage facility is to comply with relevant safety and hazardous material regulations.	
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Traffic Management - The ensure that appropriate management strategies are adhered to minimize the impact on traffic. - Ensure that construction vehicles have access to dedicated sites and routes. - To ensure the safety of the community through proper access control,	- All vehicles will be properly maintained in accordance with the Eastern Cape Roads Act 3 of 2003. - All drivers will display the necessary road etiquette and dispose of applicable driver's licenses. - The access route and associated construction working area must be clearly demarcated before construction commences. Construction activities must be restricted to the approved and demarcated footprint. - Vegetation clearing associated with establishment of the access must be restricted to the minimum area necessary. No unnecessary widening of the access, clearing of adjoining vegetation or creation of additional access routes or informal tracks is permitted. - No unnecessary hooting would be permitted. - During dry windy periods, wet suppression of unpaved areas should be applied by using a water cart. - Provide hard-surface areas for vehicles and regularly inspect the areas for oil leaks and clean these areas and insure leaks of vehicles are repaired.	- The Contractor, ECO/SR must monitor and ensure that the correct signage is displayed, at the correct place, and is clearly visible monthly. - The Contractor must ensure that all vehicles operating on the construction site are properly maintained and serviced and road-worthy daily. - The ECO/SR must keep a complaint register and log any complaints received. - The ECO/SR must communicate with the Applicant and Contractor immediately once a complaint is received and attempt to resolve the	- Visual inspection of vehicles and machinery, for: - Leaks. - Overloading. - Keep record of vehicles entering the site and time they enter. - Keep record of incidents and complaints. - Completing monitoring report.	- Number of incidents on non-compliance. - Number of leaks and spills. - Cost of cleaning up spills. - Number of complaints. - Number of vehicles traveling to the site each day. - Condition of vehicles. - Monitoring Reports on file to be used for environmental auditing as per EA.

abiding by road traffic ordinances, and by implementing proper signage and traffic control measures. • To ensure that there are no transporting of overload material and no speeding.	• Construction vehicles, machinery and personnel must use the designated access route. No additional temporary access routes may be established outside the approved development footprint without the necessary environmental and other approvals. • Construction traffic must be managed to avoid unnecessary congestion, obstruction or conflict within Philippa Place, particularly given the restricted width of the access and the residential nature of Philippa Place. • Construction vehicles may not unnecessarily obstruct Philippa Place or prevent access to neighbouring properties. Construction-related parking, loading and unloading must, as far as reasonably practicable, take place within designated areas and not within the public road. • Appropriate measures must be implemented to control dust, erosion, rutting and sediment movement associated with the construction and use of the access, particularly where sandy or exposed soils occur. • Soil, sand, mud, construction material or other debris deposited onto Philippa Place or other public roads as a result of construction activities must be removed as soon as reasonably practicable. Material may not be washed or swept into the stormwater system. • The construction access must be maintained in a safe and serviceable condition for the duration of	issue within a week after the complaint. • The Contractor must implement management actions.		
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	the construction phase. Any damage attributable to construction activities must be appropriately addressed in consultation with the relevant road authority, where applicable. • Any areas temporarily disturbed for access purposes that do not form part of the permanent development footprint must be stabilised and rehabilitated following completion of the relevant construction activities. • Vehicles entering any other public road, will come to a complete stop before entering the road and any transgressions in this regard will be heavily penalized. All contractors will sign a letter of agreement to this effect. • All vehicles visiting the site shall be roadworthy and will be included in the agreement with contractors. • The access roads to the site must be maintained and kept in good working condition. • Overloading will not be permitted. Speeding will be prohibited and drivers will be penalized should it be proved that this requirement is contravened. • Driving speed on the site will be reduced to 30-40km/h for safety reasons and to reduce dust generation. • Hauling of heavy vehicles will only mostly commence at 08:00 and ceases at 17:00 Mondays to Fridays. No construction vehicle may park along Philippa Place street unless it is an emergency.			
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	• Large construction vehicles must not be permitted to utilize public roads during peak hours (06:30-8:30 am and 16:00-18:00 (Mondays to Fridays). • The Developer must appoint a traffic marshal/s or flagman for situations where construction traffic may impede normal traffic flows along the Philippa Place. • A breathalyzer can be used to ensure that no member of the workforce is permitted to work on the construction site or drive a vehicle under the influence of alcohol. This also includes the use of narcotic substances. • The appropriate signage (W107 & W108 –1,2m size) will be erected on both sides of Philippa Place road at the entrance to the property during the construction phase. • If poor visibility or slow access of vehicles onto Philippa Place road could result in any accidents, a flagman will be used at the access during the construction phase. TIA specifications: • Access to the development must be provided from Philippa Place via Erf 2821, as assessed in the Traffic Impact Assessment (TIA). Erf 2821 provides an approximately 3 m-wide access between Philippa Place and Erf 2369. • The access must be configured in accordance with the arrangement indicated in the TIA and any subsequent engineering drawings approved by the			
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	relevant road authority. The drawings contained in the TIA are conceptual and must not be used as construction drawings. Where required, detailed engineering drawings must be prepared by the appointed civil engineer and submitted to the relevant road authority for approval prior to construction. • Vegetation and/or other obstructions within the road reserve may be cleared where necessary to provide adequate sight distance in both directions along Philippa Place, as identified by the TIA. Such clearing must be limited to that required to provide safe access. • The permanent security/access-control arrangement must be configured to prevent congestion and vehicle conflict within Philippa Place. The TIA recommends that the security gate be set back by at least 6.5 m from the road edge and that the access-control mechanism allow entering vehicles to enter immediately, with exiting vehicles held until the entering vehicle has completely passed through the access.			
Socio-Economic • Ensure that where possible, local people are employed.	• Those mitigation measures are described under previous headings. • Staff members of the applicant will not be allowed to access any other section of the landowners or abutting properties. • No wandering of any construction workers in any area outside the study area.	• The Contractor/ECO/SR must monitor and ensure that the site is taped/fenced and shade cloth erected with correct warning signage that is displayed and clearly	• The ECO/SR must keep a complaint register and log any complaints received and report to the Contractor and Applicant. • Check training attendance register.	• Keep Complaints register on site. • Complaints followed up and dealt with.

• To ensure the safety of the community through proper access control, and proper signage and traffic control measures.	• Stakeholders must continue with engagements with the surrounding communities through the appointment of a representative site manager. The representative site manager could also assist in raising any concerns/complaints noted by the affected community to the developer. • Where skills and procurement requirements allow, give reasonable preference to local labour and local suppliers; • Use fair and transparent recruitment and procurement practices. • Any construction personnel found to be trespassing must be subjected to a disciplinary hearing. Any employee that is caught trespassing onto neighbouring properties and committing criminal offences, should be immediately dismissed. • Construction workers and vehicles must take heed of normal road safety regulations; thus all personnel must obey and respect the road rules. A courteous and respectful driving manner should be enforced and rewarded to prevent harm to any individual. • A designated speed limit within the development must be set by the developer to limit speed. • All the project employees should be subject to a health awareness educational programme. • Changes in crime patterns will need to be monitored in consultation with the local police and community policing forums.	visible before construction and must inspect the site regularly to re-erect fence or signage that might have been removed. • The Applicant must ensure that an ECO or SR is employed and that access to the ECO or SR is easily accessible for community members before construction commences. • The ECO/SR must keep a complaint register and log any complaints received and report to the Contractor and Applicant. • The Applicant and Contractor to ensure priority/preference is given to local people for employment. • ECO/SR and Constructor is responsible to provide Environmental Awareness Training with personal	• Observe whether activities are executed in line with EMPr requirements. • Completing monitoring report.	• Keep record of how targets were determined. • Keep record of training provided. • Proportion of workers that completed environmental training. • Compliance of workers with EMPr. • Keep record of staff by origin. • Monitoring Reports on file to be used for environmental auditing as per EA.
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		before construction starts, or before additional activities are undertaken or when new staff work on site.		
Heritage, Archaeological and Palaeontological Management To ensure that any archaeological, historical or palaeontology material of interest that might be found, is protected and correctly handled.	- Prior to the demolition, destruction or alteration of any remaining structures or foundations associated with the former St Francis Bay Hotel that are older than 60 years, the required permit must be obtained from the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) in terms of Section 34 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999). No such structures may be affected until the applicable permit has been obtained and its conditions complied with. - The Archaeological and Cultural Heritage Chance Finds Protocol and Chance Fossil Finds Procedure contained in the respective specialist reports must be incorporated into site environmental awareness training and must be readily available on site for the ECO, Contractor, Site Manager/Foreman and relevant construction personnel. - Construction managers, foremen, the ECO and relevant personnel involved in vegetation clearing, excavation and earthworks must be made aware of the types of archaeological, cultural heritage and palaeontological material that may potentially be encountered and the procedures to be followed in	- Should it be required, the Applicant is responsible for acquiring any permits. - The Contractor, ECO, or representative site manager must report any new findings if anything is unearthed during construction immediately. - The Contractor, ECO/SR must ensure the operators of earthmoving equipment are informed of the process to be followed should new findings be unearthed during construction before construction. - The Applicant and Contractor must ensure that construction around the new findings site ceases and sufficient time	- Visual inspections - Completing monitoring report.	- Time to rehabilitation. - Size of disturbed areas. - Monitoring Reports on file to be used for environmental auditing as per EA.

	the event of a chance find. The palaeontological specialist specifically recommends training workmen and foremen and displaying the Chance Fossil Finds Procedure at the site office. • If any archaeological or cultural heritage material is uncovered during construction, work within the immediate vicinity of the find must cease and the area must be protected against further disturbance. The find must be reported in accordance with the approved Chance Finds Protocol and to the responsible heritage authority so that the appropriate course of action can be determined. The NHRA requires archaeological or palaeontological material discovered during development to be reported immediately to the responsible heritage resources authority, nearest local authority or museum. • If any human remains or suspected burial are exposed, all work within the immediate vicinity must cease and the remains must not be disturbed, removed or collected. The area must be secured and the procedures contained in the Heritage Chance Finds Protocol must be followed. The appropriate authorities must be notified and work may only recommence once the necessary investigation and authorisation/sign-off has been completed. • If any fossil material or suspected fossil material is uncovered during excavation or earthworks, work in	is provided for removal/collection of such material, should it be unearthed. • The Contractor, ECO/SR must be present when a new area is cleared.		
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	the immediate vicinity of the find must cease and the find must be reported to the ECO/Site Manager and ECPHRA as soon as possible. Appropriate investigation and, where necessary, mitigation must be undertaken by a suitably qualified palaeontologist at the Developer's expense. • Fossil or archaeological material may not be removed, collected, damaged or disturbed by construction personnel. Any collection or mitigation must be undertaken by an appropriately qualified specialist under the necessary heritage permit, where required. The palaeontological specialist specifically states that fossil collection requires a valid ECPHRA permit and that collected material must be curated in an approved repository. • Where a chance find requires specialist investigation or mitigation, sufficient time must be allowed for the relevant heritage specialist and ECPHRA to determine and implement the required mitigation. Construction may only recommence within the affected area once the appropriate heritage requirements have been fulfilled and the area has been cleared for continuation of works.			
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GENERAL ADMINISTRATIVE RESPONSIBILITIES FOR OPERATIONAL PHASE

Operational Phase Actions (not legally required and thus not subjected to environmental audits, however as a duty of care the following can be carried out):				
Item	Actions/Management Measures	Responsible Person & Time Frame	Monitoring Methods	Indicators
Safety and Security	- Access to the development must be appropriately controlled and maintained to ensure the safety and security of residents, visitors and service personnel. - Maintain gates and fences around the properties. - The security-controlled access arrangement must be implemented and maintained in accordance with the approved Site Development Plan and the recommendations of the Traffic Impact Assessment. - Any security gate must be positioned a minimum of 6.5 m from the edge of Philippa Place, as recommended in the Traffic Impact Assessment, to provide sufficient space for a vehicle waiting to enter the development. - The access-control system must allow entering vehicles to enter the development without causing unnecessary queuing or obstruction within Philippa Place. Exiting vehicles must be controlled so that they do not enter the narrow access simultaneously with an entering vehicle. - The development access, internal road and associated infrastructure must be maintained in a safe and serviceable condition, and adequate sight	The property owner, homeowners' association/body corporate, or another legally responsible management entity are responsible throughout the operational phase.	Continued monitoring.	- Number of safety/emergency incidents. - Report to police if required/necessary.

	distance at the intersection with Philippa Place must be maintained. The Impact Assessment specifically requires maintenance of clear sight distance, the internal access and prevention of vehicle queuing or obstruction of Philippa Place. • Access for emergency and service vehicles must not be obstructed by parked vehicles, gates, landscaping or other infrastructure. • Any safety hazards associated with damaged infrastructure, access-control equipment, internal roads or communal areas must be rectified as soon as reasonably practicable after being identified.			
Operation and Maintenance	• The house infrastructure and possible solar panels will be operational and well maintained, except under circumstances of mechanical breakdown, inclement weather conditions (solar panels), or maintenance activities. ○ Solar panels to be subject to periodic maintenance and inspection. ○ PV panels will be washed during the operation utilising clean water or non-hazardous biodegradable cleaning products. Wastewater generated by washing can be allowed to run-off from the roof of the houses (if installed). ○ Disposal of waste products after house maintenance activities (e.g. paints, plastics, ect.) in accordance with relevant waste management.	• The property owner, homeowners' association/body corporate, or another legally responsible management entity is responsible throughout the operational phase.	• Continued monitoring.	• Number of complaints.

Soil Management: • Maintain no erosion status; • Maintain systems to prevent soil pollution and degradation.	• The owner of the property will maintain the gardens, lawn, house buildings, and sewage system. • If signs of erosion appear within the receiving environment below the study area, the Applicant should repair/rehabilitate these areas as soon as possible. • Maintain rehabilitated and landscaped surfaces; • Retain indigenous dune vegetation; prevent uncontrolled pedestrian disturbance of dunes; • Maintain stormwater detention/infiltration measures; • Avoid unnecessary excavation after construction.	• Site inspections should be conducted by the property owner, homeowners' association/body corporate, or another legally responsible management entity (after heavy rain events), to detect signs of erosion. • The property owner, homeowners' association/body corporate, or another legally responsible management entity must inspect the site annually to ensure stormwater management systems are effective and no erosion results. • Visual inspection must be conducted by the property owner, homeowners' association/body	• Visual inspections. • Continued monitoring. • If required, get assistance from a soil specialist or engineer.	• Incidence of Erosion. • Number of pollution incidents. • Time activities stopped. • Number of recurring incidents
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		corporate, or another legally responsible management entity to detect any source of soil pollution annually. The property owner, homeowners' association/body corporate, or another legally responsible management entity is ultimately responsible for the any actions at the site that may result in sediment loss and/or erosion.		
Ecologically Sensitive and Flora Management: To minimize damage to indigenous flora and fauna utilizing the surrounding areas.	- All retained indigenous vegetation and rehabilitated areas must be protected and maintained for the lifetime of the development. No unnecessary clearing, trimming, disturbance or conversion of these areas may take place. - The approved Vegetation and Landscape Rehabilitation Plan must continue to be implemented during the operational phase as an ongoing management commitment. - Re-established indigenous vegetation must be maintained and monitored until successfully established. Failed plants must be replaced where	The property owner, homeowners' association/body corporate, or another legally responsible management entity is responsible for the ongoing implementation, monitoring and maintenance of the operational-phase	Visual inspection.	Keep a log of the success of the Rehabilitation Plan implementation and progress.

	necessary and areas showing erosion, vegetation loss or destabilisation must be rehabilitated. • Landscaping must make use of suitable indigenous, locally appropriate and water-wise plant species, particularly species characteristic of the local dune and thicket environment. • The coastal dune and associated indigenous vegetation must be maintained as a functional natural buffer and must not be unnecessarily disturbed. • Pedestrian movement through retained and rehabilitated dune vegetation must be controlled so that informal pathways, trampling and dune blow-outs are not created. Where access through these areas is required, it must be confined to designated pathways. • No bulldozing of new tracks, construction of unauthorised infrastructure, alteration of the natural dune profile, excavation or similar disturbance may take place within the retained coastal-front dune area. • The condition of the retained dune and rehabilitated vegetation must be monitored for erosion, vegetation die-back, dune destabilisation and other signs of degradation, and appropriate remedial rehabilitation must be undertaken where required.	environmental management measures, including maintenance of communal infrastructure, retained and rehabilitated vegetation, dune stabilisation and alien invasive plant control, for the lifetime of the development.		
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	• Alien and invasive plant species must be progressively controlled and removed in accordance with the Rehabilitation Plan and applicable legislation. Follow-up control must be undertaken to prevent re-establishment, with particular attention to species such as Rooikrans (<i>Acacia cyclops</i>) and Port Jackson Willow (<i>Acacia saligna</i>). • Alien invasive plant management must be treated as a long-term operational responsibility and not as a once-off clearing exercise. The Rehabilitation Plan provides for ongoing management, particularly of alien vegetation and beachfront dune stabilisation. • Domestic activities associated with occupation of the development, including landscaping, pedestrian movement and maintenance activities, must be managed so as to minimise disturbance to retained vegetation, fauna habitat and ecological connectivity. • Garden waste, building rubble, general waste or other material may not be dumped within retained vegetation, rehabilitated areas or the coastal dune. • No protected tree or protected plant may be cut, damaged, destroyed, uprooted, transplanted or otherwise disturbed without the applicable permit, where legally required. The identified White Milkwood and other protected plants must			
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	therefore continue to be protected during the operational phase. No <i>ad hoc</i> coastal protection structures or works may be undertaken within or adjacent to the dune system unless the necessary statutory approvals have first been obtained and the intervention forms part of an appropriately approved coastal protection measure.			
Faunal Management To minimize damage to indigenous fauna utilizing the surrounding areas.	- Retained and rehabilitated indigenous vegetation must be protected and maintained as habitat for indigenous fauna. - Unnecessary clearing, disturbance or degradation of retained vegetation that may provide shelter, breeding or foraging habitat for indigenous fauna must be prohibited. - Attention must be given to reptiles and slow-moving animals (tortoises) that might occur at the site, once operational: - Reptiles that occur in the site should be chased away and tortoises should be appropriately captured and relocated to abutting areas. - Special attention must be given to the possible occurrence of the Duthie's golden mole (<i>Chlorotalpa duthieae</i>), if spotted, it must be carefully relocated to a natural area.	- The property owner, homeowners' association/body corporate, or another legally responsible management entity regularly check for snaring devices, traces of poison, and removal thereof. - The property owner, homeowners' association/body corporate, or another legally responsible management entity is responsible for the behaviour of their staff with specific reference to environmental	Visual inspection	Number of animals harmed/incidents.

	- Residents and maintenance personnel must not intentionally capture, kill, injure, poison, harass or otherwise interfere with indigenous fauna encountered on the property, except where intervention is required for legitimate safety reasons and is undertaken appropriately. - Indigenous fauna encountered within residential or communal areas should, where reasonably practicable, be allowed to move away without interference. Where an animal is trapped, injured or cannot safely move away, assistance must be obtained from an appropriately experienced person or relevant wildlife authority, where required. - No hunting or snaring would be allowed. - Any recurring occurrence of injured, trapped or displaced indigenous fauna associated with operation of the development must be investigated and appropriate corrective management measures implemented. - No person may carry out a restricted activity in terms of the List of Threatened or Protected Species (TOPS) regulations i.e. killing, catching, hunting by any method or device including searching, injuring with intent to hunt, catch or kill any such specimen involving a TOPS specimen without a TOPS permit. The applicant will take full responsibility for any animals that are proven to be killed by a member of the staff. The applicant will provide information in this regard to guests.	management for the duration of the operation.		
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	• The properties fence must be maintained, to prevent outside people and animals from entering the study area. • No burning of waste will be allowed at the study area. • The areas outside of the study area will be out of bounds for workers. • Proper housekeeping with an emphasis on waste management should be applied. Household waste disposal will be through depositing waste in strategically positioned containers fitted with scavenger proof lids. • The use of poisons, pesticides, rodenticides or similar substances must be managed responsibly so as to avoid unnecessary harm to non-target indigenous fauna. • An expert who holds a Competency Certificate to handle dangerous and venomous reptiles should be contracted to remove any animals that may cause harm to guests/staff at the study area. A declaration/ testimonial must be provided to prove prior experience in this regard. Appropriate permits are required to move animals. ○ The applicant will provide contact numbers of qualified people. • The Applicant should remove any of the staff caught interfering with wildlife from the site immediately. • Domestic and maintenance activities must be managed so as to minimise unnecessary disturbance			
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	to fauna and their habitat, particularly within retained and rehabilitated vegetation and dune areas. • Pets must be responsibly managed so as to minimise hunting, chasing or disturbance of indigenous fauna, particularly within retained vegetation and dune areas. This is appropriate because the Impact Assessment specifically identifies pets as one of the potential sources of ongoing operational disturbance. • Pedestrian access and recreational activity within retained dune vegetation must be confined to designated access areas or pathways to minimise trampling, habitat disturbance and displacement of fauna. • No feeding of wild animals should be encouraged where this could habituate fauna to humans or attract animals into residential areas.			
Stormwater control • Allow for natural drainage to continue as per builders design and Municipal requirements.	• The permanent stormwater management system must be operated and maintained in accordance with the final engineering design approved by Kouga Municipality and the applicable Stormwater Management Plan. • Post-development stormwater must remain distributed through the approved drainage system and must not be concentrated into a single uncontrolled discharge point.	• Site inspections should be conducted by the property owner, homeowners' association/body corporate, or another legally responsible management entity, annually or after heavy rain events to detect	• Visual inspection of stormwater structures. • Review stormwater system plans if required.	• Visible leaks/water wastage. • Visible surface erosion.

	• The three detention/infiltration areas identified in the engineering design must be maintained to attenuate major storm runoff, promote infiltration into the sandy soils and allow controlled overflow towards the existing coastal drainage routes, unless replaced by an amended design duly approved by the relevant authorities. • Stormwater detention areas, channels, outlets and associated infrastructure must be regularly inspected and kept free of sediment, vegetation, litter and other obstructions that may reduce their capacity or alter the intended drainage pattern. The Impact Assessment specifically requires detention areas and overflows to remain free of obstruction. • The stormwater system must be maintained in a functional condition for the operational life of the development. • Stormwater must not result in concentrated runoff, erosion, scouring or excessive sediment transport into retained vegetation, the coastal dune or beach environment. • Any erosion, scour or destabilisation occurring at stormwater outlets, detention areas or downstream drainage routes must be addressed and rehabilitated without delay. • Stormwater infrastructure must be inspected following significant rainfall events and any damage,	signs of stormwater structure failure.		
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	blockage, erosion or malfunction identified must be rectified as soon as reasonably practicable. • Stormwater runoff must be kept free of pollutants as far as reasonably practicable. Oils, fuels, chemicals, sewage, detergents, paint, garden chemicals or other potentially contaminating substances must not be discharged into the stormwater system. • Sewer leaks, contaminated runoff or other pollution incidents that could enter the stormwater system must be addressed promptly. The Impact Assessment identifies contaminated runoff and sewer leaks as potential pathways for pollutants to reach sandy soils and coastal waters. • Retained and rehabilitated vegetation associated with drainage and dune areas must be maintained because vegetation assists with soil stabilisation, infiltration and erosion control. • No unauthorised alteration, filling, excavation, diversion or obstruction of stormwater detention areas, drainage channels or outlets may take place. • Where monitoring indicates that the approved stormwater system is causing erosion, flooding, uncontrolled discharge or damage to the dune or beach environment, appropriate corrective measures must be implemented in consultation with the responsible engineer and relevant authority, where required.			
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Noise Management Prevent excessive noise generation within the study area and surrounding area during operating hours.	- Apply normal residential nuisance controls. - Maintain gates and mechanical equipment. - Avoid unnecessary amplified noise and late-night maintenance. - Manage complaints in accordance with applicable municipal requirements.	- The property owner, homeowners' association/body corporate, or another legally responsible management entity must log and record complaints received from abutting residents. - The property owner, homeowners' association/body corporate, or another legally responsible management entity must make every effort to immediately resolve the issue (within one week), once a complaint is received.	- Continued monitoring. - Keep a register of complaints received and response.	Number of registered complaints.
Visual Impact Management Ensure the property are well maintained to minimize the visual impact.	- The property, buildings, communal areas and associated infrastructure must be maintained in a clean, neat and well-maintained condition to preserve the visual quality of the development and surrounding residential environment. - Retained and rehabilitated indigenous vegetation must be maintained to provide natural visual screening and to preserve the site's coastal	The property owner, homeowners' association/body corporate, or another legally responsible management entity must monitor and manage the staff onsite	- Visual inspections. - Continued monitoring.	Number of complaints.

• To receive no complaints regarding impacts on visual quality.	landscape character. Dead or unsuccessful vegetation must be replaced with suitable indigenous species where necessary. • Landscaping must be maintained using indigenous, locally appropriate and water-wise plant species in accordance with the approved Vegetation and Landscape Rehabilitation Plan. Landscaping must not compromise retained dune vegetation or ecological rehabilitation areas. • External lighting must be designed, operated and maintained to minimise light spill, glare and unnecessary illumination beyond the development footprint, particularly towards the coastal dune system and neighbouring residential properties. • Lighting fixtures must be downward-directed and shielded, and only the minimum level of lighting required for safety and security should be provided. • High-intensity, upward-facing or unnecessarily intrusive lighting must be avoided where reasonably practicable. • Outdoor lighting must be maintained in good working order and damaged or malfunctioning luminaires must be repaired or replaced promptly. • Boundary walls, fences, gates, retaining structures and other visible infrastructure must be maintained in a good condition and repaired where deterioration becomes evident.	and maintain ongoing housekeeping to keep the properties tidy. • The property owner, homeowners' association/body corporate, or another legally responsible management entity must keep a complaint register and log any complaints received. • Once a complaint is received and attempt to resolve the issue within a week after the complaint.		
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	• Refuse storage areas, service equipment, storage areas and other visually intrusive elements must be kept tidy and, where practicable, screened from public view. • Garden maintenance activities must not result in the clearing, trimming or degradation of retained indigenous vegetation outside the approved landscaped areas. • Energy-efficient models must be considered and applied wherein the consumption of electricity will be reduced. These include, but are not limited to: ○ Energy-saving bulbs; such as LED technology for artificial lighting, rather than standard light fittings to reduce power consumption and increase the life span of the bulbs.			
Waste Management To ensure that appropriate waste management strategies are adhered to at all times.	• Adequate and appropriately located household waste storage facilities must be provided and maintained for the development. • Household and general waste must be collected regularly and removed through the municipal waste collection service or another appropriately authorised waste service provider. • Waste separation and recycling must be encouraged and implemented where suitable recycling facilities or collection services are reasonably available. • Littering, illegal dumping and the disposal of waste within retained vegetation, rehabilitated areas, dune areas or stormwater infrastructure are prohibited.	• The property owner, homeowners' association/body corporate, or another legally responsible management entity must ensure waste bins with lids are provided and that the bins are emptied regularly and the accumulated waste disposed of at an appropriately permitted disposal site.	• Visual inspection of waste materials.	• Number of incidents. • Contamination of water and soil. • Number of spills of waste materials. • Cost of cleaning up spills. • Evidence of contamination and leaks.

	• Waste storage areas and containers must be maintained in a clean, hygienic and secure condition and, where necessary, must be appropriately enclosed or animal-proof to prevent access by animals and the dispersal of waste by wind. • Garden and landscaping waste must be appropriately collected and removed or otherwise lawfully managed and must not be dumped within retained or rehabilitated vegetation or the coastal dune area. • Maintenance-related waste, including building rubble, packaging, paint containers and other waste generated during repairs or maintenance, must be appropriately contained and removed to a suitably authorised waste disposal or recycling facility, where applicable. • Waste must not be burned, buried or disposed of on the property, other than through an approved waste management system. • Any windblown or accidentally dispersed waste must be collected and removed as soon as reasonably practicable.	• The property owner, homeowners' association/body corporate, or another legally responsible management entity must ensure that the burning or burying of any waste is not permitted. • The property owner, homeowners' association/body corporate, or another legally responsible management entity must ensure that the site is to be checked for litter regularly. All litter should be collected regularly and deposited in the waste bins. • The property owner, homeowners' association/body corporate, or another legally responsible management entity	• Visible litter / waste on site.
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		must ensure that pollution of ground and surface water should be avoided. The property owner, homeowners' association/body corporate, or another legally responsible management entity must ensure that conservancy tanks are well maintained and regularly emptied.		
Traffic Management: To ensure that vehicle access to the site does not impact abutting residents.	- The permanent access to the development must be implemented and maintained in accordance with the approved Site Development Plan, Traffic Impact Assessment and any conditions imposed by Kouga Municipality. - Vehicular access to the development must be via the approved access from Philippa Place through Erf 2821. No informal or unauthorised vehicle access points may be established. - Adequate sight distance at the access must be maintained. Vegetation or other obstructions that materially compromise safe sight distance must be appropriately managed, while avoiding unnecessary disturbance of indigenous vegetation.	- The property owner, homeowners' association/body corporate, or another legally responsible management entity must keep a complaint register and log any complaints received and attempt to resolve the issue within a week after the complaint. - The property owner, homeowners'	- Keep record of incidents and complaints. - Completing monitoring report.	- Number of incidents on non-compliance. - Number of complaints.

	• The internal access road and entrance must be maintained in a safe and serviceable condition. • The access-control system must be operated so as to prevent unnecessary vehicle queuing, congestion or obstruction of Philippa Place. • Where a security gate is installed as contemplated in the TIA, it must be positioned at least 6.5 m from the edge of Philippa Place, and the access-control arrangement must allow entering vehicles to clear the public road without unnecessary delay. • The access-control system must manage opposing vehicle movements along the narrow access so as to minimise the potential for vehicle conflict. • Vehicles must not be parked or permitted to queue in a manner that obstructs Philippa Place, the development entrance or access required by emergency and service vehicles. • Appropriate speed control must be maintained within the development to promote the safety of residents, visitors and pedestrians. • Any traffic- or access-related safety problem arising during operation of the development must be investigated and appropriate corrective measures implemented in consultation with Kouga Municipality where necessary.	association/body corporate, or another legally responsible management entity must implement management actions.		
Socio-Economic • To ensure that the development	• The development must be operated and maintained in a manner that does not create unreasonable nuisance or adversely affect the amenity of surrounding residential properties.	• The Applicant/landlord must maintain the fence and must repair it, if it is compromised.	• Continued monitoring.	• Keep Complaints register on site. Complaints

does not result in a nuisance on surrounding residential properties.	• Buildings, access infrastructure, landscaped areas and communal areas must be appropriately maintained to support the long-term functionality, safety and residential quality of the development. • Operational activities must comply with applicable Kouga Municipality requirements and by-laws, particularly those relating to noise, waste, traffic, property maintenance and public nuisance. • Noise, lighting, waste, traffic and other activities associated with residential occupation must be managed in accordance with the relevant operational-phase provisions of the EMPr to minimise potential impacts on neighbouring residents. • Access to neighbouring properties and the surrounding road network must not be obstructed by activities associated with the development. • Where goods and services are required for the ongoing maintenance of the development, the use of local businesses and service providers should be encouraged where reasonably practicable and commercially feasible. • Maintain architectural design and landscaping compatible with the established character and aesthetic of St Francis Bay. • Retain/re-establish indigenous vegetation to integrate the development into the landscape.	• The property owner, homeowners' association/body corporate, or another legally responsible management entity must keep a complaint register and log any complaints received. • The property owner, homeowners' association/body corporate, or another legally responsible management entity to ensure priority/preference is given to local people for new employment.		followed up and dealt with. • Keep record of staff by origin.
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	• Comply with heritage authority conditions and avoid unnecessary alteration of any heritage features outside the authorised footprint. • Complaints received from neighbouring residents relating to environmental or nuisance impacts associated with the development must be appropriately investigated and, where attributable to the development, reasonable corrective measures must be implemented.			
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Blue Leaf Environmental (Pty) Ltd, through Roy de Kock, prepared a Vegetation and Landscape Rehabilitation Plan for Erf 2369, Sea Vista, St Francis Bay (see attached in Appendix D5 of the Basic Assessment Report) to guide rehabilitation associated with the proposed residential development. The Plan focuses particularly on the naturally vegetated coastal dune area along the eastern portion of the property, which is considered vulnerable to erosion because of the unconsolidated sandy soils and proximity to the coastline.

The primary objective of the Rehabilitation Plan is to stabilise degraded, disturbed or cleared beachfront dune areas through the re-establishment of self-sustaining indigenous vegetation, erosion management, alien invasive plant control and restoration of ecological functioning. More specifically, the Plan seeks to restore the beachfront through erosion and alien vegetation management and to reduce ongoing beach and dune scouring.

The Plan identifies the dune-front areas and associated dune vegetation along the eastern portion of Erf 2369 as the areas to be rehabilitated. The residential development areas themselves are specifically excluded from the rehabilitation areas.

1. **Coastal dune-rehabilitation areas** - The main rehabilitation measures proposed include:
 - Dune and soil stabilisation: Existing erosion of the dune field is acknowledged. The Plan indicates that mechanical addition of sand/soil is not currently required; however, the site must be monitored and, should conditions change, sand replenishment should be undertaken in accordance with the St Francis Bay Long Term Coastal Protection Scheme (LTCPS).
 - Landscape profiling: Where additional material is introduced, it must follow the existing dune profile and may not be placed above the existing dune field or create artificial walls.
 - Vegetation rehabilitation: Indigenous dune vegetation is to be used to stabilise the dune, restrict wind-driven sand movement, rebuild dune volume and improve the resilience of the dune system to storms and erosion. Human disturbance and the creation of excessive pathways through the dune vegetation should be prevented because these can result in dune blow-outs and degradation.
 - Alien invasive plant management: The Plan identifies several alien/invasive species on the property, including Rooikrans (*Acacia cyclops*), Port Jackson Willow (*Acacia saligna*), Marram Grass (*Ammophila arenaria*), *Pinus* species and other invasive plants. Management is intended to focus on continued follow-up clearing rather than once-off removal, using appropriate manual and chemical control methods.
 - Monitoring and long-term management: Rehabilitation is expected to take several years. The initial objective is to stabilise the landscape and establish surviving natural dune vegetation during the first year, followed by continued vegetation development and alien vegetation management. The Plan envisages rehabilitation management continuing indefinitely, particularly for alien vegetation control and beachfront dune stabilisation.

The Plan also recommends the placement of a rock groyne along the beachfront to reduce ocean scouring of the dune system and discusses this within the context of the broader LTCPS. Importantly, for purposes of the BAR/EMPr, this recommendation should not be interpreted as authorisation to construct a groyne. Any such coastal protection works would remain subject to the applicable environmental and statutory approval requirements.

The Rehabilitation Plan places strong restrictions on the retained coastal-front dune area. It specifically states that new tracks may not be bulldozed, infrastructure may not be constructed, the landscape profile may not be altered, and excavation or mining may not occur within the coastal-front dune field.

2. **Inter-unit rehabilitation/indigenous landscaping areas** – areas between the residential footprints that are not required for buildings, roads, services or hard landscaping, where the applicable vegetation establishment, alien-control, erosion-control and monitoring principles can be applied:
- Re-establishment of indigenous vegetation: disturbed areas between units can be rehabilitated using indigenous vegetation appropriate to the local dune/thicket environment rather than conventional exotic landscaping. The Rehabilitation Plan's overall objective is to reinstate self-sustaining indigenous vegetation and restore ecological functioning.
 - Soil stabilisation and erosion control: where construction has disturbed sandy soils between buildings, revegetation can be used to stabilise these areas and reduce wind and water erosion.
 - Retention of natural vegetation: wherever indigenous vegetation can be retained between houses, it should be incorporated into the final landscaping instead of being cleared and subsequently replanted.
 - Alien invasive plant control: the Plan's approach of initial clearing followed by ongoing follow-up management can be applied throughout the property, including landscaped and rehabilitated areas between the units.
 - Indigenous, water-wise planting: this principle is particularly suitable for landscaping between units and would help the development visually and ecologically integrate with the surrounding coastal vegetation.
 - Limiting unnecessary disturbance and pathways: where vegetation is being rehabilitated between units, pedestrian movement should be controlled to prevent repeated trampling and creation of bare areas.
 - Monitoring and replacement: establishment should be monitored, failed plants replaced, alien regrowth removed and erosion corrected. The Plan recognises that successful rehabilitation takes several years and specifically provides for continued vegetation establishment and alien management.

In summary, the Rehabilitation Plan adopts a long-term, active management approach rather than treating rehabilitation as a once-off post-construction landscaping exercise. Its intended outcome is a stable, vegetated and ecologically functioning coastal dune system, supported by indigenous vegetation establishment, erosion management, alien invasive plant control, protection from unnecessary disturbance and continued monitoring and maintenance over the operational life of the development.

MONITORING, REPORTING & AUDITING

A monitoring programme must be implemented to ensure compliance with the requirements of this EMP and the conditions of the Environmental Authorisation, and to identify environmental impacts or management issues that may arise during implementation of the development and require corrective action.

Construction Phase Monitoring

Monitoring during the construction phase must be ongoing for the duration of construction. The ECO must undertake environmental compliance monitoring at the frequency specified in the Environmental Authorisation and/or as considered appropriate having regard to the nature and stage of construction activities.

The aim of construction-phase monitoring and auditing is to:

- monitor compliance with the environmental management and mitigation measures contained in the EMP, Environmental Authorisation and applicable permits;
- identify and appropriately address incidents and non-compliances;
- identify environmental degradation and ensure that appropriate corrective and/or rehabilitation measures are implemented;
- provide a mechanism for the recording and resolution of environmental complaints;
- ensure appropriate record keeping relating to environmental compliance;
- assess the effectiveness of environmental management and mitigation measures and, where necessary, recommend corrective or improved management measures; and
- facilitate reporting and communication with the Competent Authority and other relevant authorities, where required.

All monitoring, auditing, compliance reports, incident notifications and other documentation required in terms of the Environmental Authorisation must be prepared and submitted to DEDEAT within the prescribed timeframes.

Following completion of construction and initial rehabilitation, routine operational environmental monitoring must become the responsibility of the Property Owner, Homeowners' Association/Body Corporate or other legally responsible management entity, as applicable. Rehabilitation areas must be monitored regularly during the initial establishment period to assess vegetation establishment, erosion, dune stability and alien invasive plant regrowth, with the frequency of monitoring reduced once rehabilitation is demonstrably stable and successfully established. Formal ECO auditing during the operational phase is not required unless specifically stipulated in the Environmental Authorisation or otherwise required by the Competent Authority.

Operational Phase Monitoring

Environmental monitoring must continue, where applicable, following completion of construction and during the operational phase. Operational monitoring must focus on those environmental aspects for which ongoing management is required and must be undertaken by the Property Owner, Homeowners' Association/Body Corporate or other legally responsible management entity, as applicable.

Operational monitoring must include, where relevant:

- the establishment, condition and continued maintenance of rehabilitated and re-established indigenous vegetation;
- the condition of retained natural vegetation and the coastal dune area;
- evidence of erosion, dune destabilisation, vegetation loss or the formation of informal pathways;
- the occurrence and regrowth of alien invasive plant species and the effectiveness of follow-up control;
- the condition and functioning of stormwater infrastructure, including detention/infiltration areas, drainage channels and outlets;
- evidence of stormwater-related erosion, scour, sediment accumulation or uncontrolled discharge;
- waste management, littering or illegal dumping within retained or rehabilitated areas; and
- any other environmental issue arising during operation that could result in environmental degradation or require corrective action.

Where monitoring identifies erosion, vegetation failure, alien invasive plant regrowth, stormwater malfunction, environmental degradation or non-compliance with the operational requirements of the EMPr, appropriate corrective measures must be implemented as soon as reasonably practicable.

The Blue Leaf Environmental Rehabilitation Plan specifically states that successful rehabilitation is expected to take several years, with the first-year objective being landscape stabilisation and survival of natural dune vegetation, followed by continued vegetation development and alien vegetation management. It further envisages indefinite management, particularly in relation to alien vegetation and beachfront dune stabilisation.

Record Keeping

Records of environmental monitoring, audits, complaints, incidents, corrective actions and rehabilitation monitoring must be retained by the responsible party and made available to DEDEAT or any other relevant competent authority upon request.

NON-COMPLIANCE REPORTS

All supervisory staff including, the ECO or SR must be provided with the means to be able to submit non-conformance reports to the representative Site Manager or Applicant. Non-conformance reports will describe, in detail, the cause, nature and effects of any environmental non-conformance by the Contractor. Records of penalties imposed may be required by the relevant authority within 48 (forty-eight) hours.

The non-conformance report will be updated on the completion of the corrective measures indicated on the finding sheet. The report must indicate that the remediation measures have been implemented timeously and that the non-conformance can be closed-out to the satisfaction of the Site Manager and ECO/SR or as per DEDEAT instruction.

INCIDENT REPORTS

According to Section 30 of National Environmental Management Act (NEMA), an “Incident” is defined as an unexpected sudden occurrence, including a major emission, fire or explosion leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed.

In terms of the requirements of NEMA, the responsible person must, within 14 days of the incident, report to the Director General, provincial head of department and municipality such information as is available to enable an initial evaluation of the incident, including:

- a) the nature of the incident;
- b) the substances involved and an estimation of the quantity released and their possible acute effect on persons and the environment and data needed to assess these effects;
- c) initial measures taken to minimise impacts;
- d) causes of the incident, whether direct or indirect, including equipment, technology, system, or management failure; and
- e) measures taken and to be taken to avoid a recurrence of such incident.

Example of Incident Register:

Date	Incident - describe what incident and possible explanation and possible reasons, including photo record. Assign a reference no. for incident.	Action Taken – provide details and proof of action e.g. documents, photos, etc.	Signature

Example of Accident Register:

Date	Names of persons involved	Accident - describe what accident, injuries, and possible explanation and possible reasons, including photo record. Assign a reference no. for accident.	Action Taken – provide details and proof of action e.g. documents.	Signature

Example of Complaint Register:

Date	Names of persons involved	Accident - describe what complaint was received and reasons, including photo record if possible.	Action Taken – provide details and proof of action taken to resolve the complaint e.g. documents.	Signature

MONITORING REPORTS

During the construction phase, the ECO/SR must compile environmental monitoring reports and submitted where required, or at such frequency as may be stipulated in the Environmental Authorisation. The reports must record the status of environmental compliance, activities undertaken during the reporting period, environmental incidents and non-conformances identified, corrective actions required and the status of close-out thereof. Monitoring reports must be retained as part of the environmental compliance record and submitted to DEDEAT where required by the Environmental Authorisation or upon request.

The Contractor must provide the ECO/SR with relevant waste disposal records and/or waste manifests, where applicable, to demonstrate that waste generated during construction has been appropriately managed and disposed of at suitable facilities.

Following completion of construction and initial rehabilitation, routine operational environmental monitoring must become the responsibility of the Property Owner, Homeowners' Association/Body Corporate or other legally responsible management entity, as applicable. Operational monitoring must focus particularly on the condition and establishment of rehabilitated and retained vegetation, dune stability and erosion, alien invasive plant regrowth, and the functioning of stormwater infrastructure. Monitoring must be undertaken regularly during the initial rehabilitation establishment period and may be reduced in frequency once rehabilitation is demonstrably stable and successfully established.

Formal ECO monitoring or auditing during the operational phase is not required on an annual basis unless specifically stipulated in the Environmental Authorisation or subsequently required by DEDEAT. Records of operational monitoring and any corrective actions undertaken must nevertheless be retained and made available to the relevant authority upon request.

AUDIT REPORTS

The Applicant/Developer must ensure that project compliance with the conditions of the EA is audited by an independent auditor (e.g. qualified EAP appointed as an ECO), and that the audit reports are submitted to the DEDEAT at intervals as dictated by the conditions of the EA. The audit report will be as prescribed by the EA. Such audits must be undertaken during the construction phase of the proposed development. The effectiveness of the mitigation measures and recommendations for amongst others the following: grievance incidents; waste management, alien and open space management, re-vegetation and rehabilitation, dune stabilisation, plant rescue and protection and traffic and transportation should be audited. The results must form part of the project monitoring and audit reports.

FINAL AUDIT REPORT

A final environmental audit report must be compiled by an independent external auditor (qualified EAP) and be submitted to DEDEAT upon completion of the construction and rehabilitation activities (within 30 days of completion

of the construction phase. This report must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions and the requirements of the EMPr.

DECOMMISSIONING PHASE

Should the activity be authorized, it is highly unlikely that the proposed development will ever be decommissioned. Therefore a decommissioning Phase for the EMP is not included in this management plan, since an EMP is a living document and would need to be amended and adopted as the year's progress. This is normally the function of an Environmental Audit, which should take place as per EA conditions.

In the unlikely case of decommissioning, a closure plan is submitted and approved by the relevant authority/ties before closure commences. The relevant State Departments (e.g. the DEDEAT, if applicable at the time of decommissioning) and the relevant engineer should be consulted before decommissioning.

ENVIRONMENTAL TRAINING

The goal of an environmental training or environmental awareness plan is to prescribe how the Applicant intends to inform all of their employees of all the possible environmental risks resulting from their particular line/function of work within the structures of the organization. This plan will also prescribe how the identified risks will be dealt with to avoid pollution and environmental degradation.

All personnel associated with the project must understand the purpose and benefits of the EMP.

The appropriate training must occur as part of an induction program and should include:

ENVIRONMENTAL MANAGEMENT INTRODUCTION TO ALL PERSONNEL:

General environmental information session/s to ensure that employees at each relevant function and level receive environmental information and are aware of the environmental management objectives.

It is also the responsibility of the Applicant/SR to conduct basic training with less literate employees describing the listed environmental impacts and the mitigation measures to be followed more practically. The Applicant may choose to employ an independent consultant (ECO) to conduct such training. Such training is best done in the employee's home language, onsite as it is more useful and visual. As a minimum the Basic Environmental Awareness Plan must address the following:

- The need for training
- General discussion on what is the environment
- Why must the environment be protected
- Types of environmental impacts

- Mitigation measures and Basic Rules to comply with
- Fines and Penalties
- Questions and Answers

JOB-SPECIFIC TRAINING

Employees whose function of work can cause significant environmental impacts must be trained, educated, and afforded the experience to ensure that their tasks are performed to the best of their ability to minimize environmental degradation on the site.

The spinoff of Environmental training will produce a group of people being equipped and enriched with the knowledge to implement the main principles that were taught to them, outside of the workplace as well. It will enable them to put into practice their knowledge at home or other workplaces, should they one day leave the site.

The Applicant/ECO/SR is responsible to provide training annually (or more regularly if the need should arise) to employees on:

- The importance of compliance with the objectives of the EMP and procedures to achieve the objectives of the EMP.
- Identifying the significant environmental impacts: actual or potential impacts and how employees' activities might influence the impacts.
- Benefits for an improved personal performance about environmental awareness.
- Their roles and responsibilities in achieving compliance with the objectives of the EMP and procedures to achieve the objectives of the EMP, including emergency preparedness and response requirements.
- The potential consequences of departure from specified operating procedures.

In terms of job-specific training, the Applicant, ECO/SR and Contractor must identify relevant personnel and training courses for employees performing tasks, which can cause significant environmental impacts. They must become competent based on appropriate education, training, and/or experience.

Comprehension training must include:

- Emergency preparedness and response, including an incident report.
- Soil stability and erosion control.
- Stormwater management.
- Water conservation and water quality protection.
- Fire evacuations and risk control.
- Poaching.
- Faunal incidences – prevention of disturbance to fauna, reporting any faunal mortalities.
- Alien vegetation identification and control.
- Rehabilitation of natural areas between house units.
- Waste management.
- Ability to recognize archaeological and palaeontological artefacts.
- Incentives and rewards for good environmental practice.

This list is not intended to be exclusive or exhaustive.

After training needs have been identified, it is the responsibility of the Applicant, SR and ECO to ensure that employees attend the relevant identified training and attendance must be documented. The Applicant must decide on the appropriate time to conduct environmental training.

As an incentive to motivate employees, progress in compliance with the training programme can be recorded and evaluated to nominate and elect the best candidate who has improved personal performance regarding environmental awareness. Such an employee may be rewarded at the discretion of the Applicant. This can be done through the following method:

- By Management through task observation;
- During internal and external audits, when the effectiveness of the EMP is evaluated;
- Own initiatives that are taken by employees to improve the environment.

The Environmental Awareness Plan must apply to the specific task and the level of understanding of the employee. Open communication between the employees and the ECO, the Contractor, the SR and the Applicant must be established and in the event of an environmental emergency, the Applicant, SR and ECO must have process steps in place to ensure that the situation is contained and the correct procedure is followed to ensure that pollution and degradation do not occur.

Mitigation measures listed in this document must be used as a guideline to conduct such training and to establish the rules for operation. After such training, each employee may receive a certificate of completion of the training. The Applicant, SR or ECO may also have a checklist available onsite to ensure that employees are constantly aware of the mitigation measures.

DESCRIPTIONS OF SOLUTIONS TO RISKS

The following risks have been identified:

- Soil stability and erosion after heavy rains.
- Water
- Unauthorized clearing of natural vegetation.
- Fire risk.
- Alien vegetation infestation.
- Rehabilitation of natural vegetation.
- Waste management.
- Dust and noise control.
- Safety and security management.

The following procedures must be brought to the attention of all staff and suitable material/equipment provided to deal with them.

SOIL STABILITY AND EROSION DURING HEAVY RAINS

- Assess the site and inform the responsible person (s) accordingly.
- Assess the potential hazard and inform the responsible person(s) accordingly.
- Ensure that the soil structure is functional and does not result in being washed away after heavy rains; inform the responsible person (s) accordingly.
- Ensure that erosion rills are not left to deteriorate but are removed/filled in and seeded as soon as possible.

WATER

- Assess the site and inform the responsible person (s) accordingly.
- Assess the potential risk/hazard and inform the responsible person(s) accordingly.
- Ensure that the work within the estuary is done responsibly and does not lead to pollution or bank collapse and inform the responsible person (s) accordingly.
- Ensure that the estuary bank is stable and handled by a professional company.

UNAUTHORIZED CLEARING OF NATURAL VEGETATION

- Stop the operator of heavy equipment immediately carrying on with such activity and request him to vacate the study area.
- Determine if any plants can be saved and place them in the soil and water.
- Assess the potential hazard and inform the responsible person(s) accordingly.

FIRE RISK

- Assess the potential hazard of fire and the sensitivity of the environment.
- The documented protocol must be followed to inform the responsible person(s) and landowner/adjacent landowner (s) accordingly.
- Remove or protect fire-risk facilities by watering the surrounding area down and protecting it with available fire extinguishers.
- All trained workforce must be commanded to beat fire with appropriate available appliances.
- Use a water cart and available hoses and fire extinguishers to contain the fire.
- Use a loader to create a firebreak ahead or around the fire.

ALIEN VEGETATION INFESTATION

- Assess the level/scope of degradation caused by infestation and inform the responsible person(s) accordingly.
- Identify the alien plants that are sprouting and the best method to remove such plants.
- Ensure that procedures are handled as prescribed in the EMP.
- Ensure that the areas cleared from alien vegetation (applicable to areas outside the study area) be re-established with plant species natural to this area.

REHABILITATION OF NATURAL AREAS

- Ensure that professional people that are qualified are contracted to conduct the search and rescue of vegetation.
- Identify areas that are in need of active rehabilitation and those areas that can just be monitored.
- Ensure that procedures are handled as prescribed in the Rehabilitation Plan.

WASTE MANAGEMENT

- Minimise environmental impacts associated with waste.
- Apply waste management principles of preventing, minimising, recycling, or re-using, with disposal as the last option.
- No littering on the construction site.
- Maintain a clean and tidy construction site.

DUST AND NOISE CONTROL

- Ensure that appropriate dust suppression measures or temporary stabilizing mechanisms are used when dust generation is unavoidable (e.g. dampening with water, shade cloth, etc.), particularly during prolonged periods of dry weather.
- Identify when dust suppression has to be undertaken.
- Ensure that fine materials must be covered during transportation.
- Ensure that speed limits are strictly adhered to.
- Ensure that the personnel are informed of the potential for construction noise to disturb surrounding residents and fauna and must understand the noise-control measures applicable to their activities.
- Training must include the permitted working hours, the avoidance of unnecessary shouting, hooting and loud music, the prohibition of unnecessary idling of vehicles and machinery, and the requirement to operate and maintain equipment in a manner that minimises excessive noise.

SAFETY & SECURITY MANAGEMENT

- Ensure that construction workers are managed and informed of the consequences if trespassing occurs.
- Ensure suitable management of the labour force to prevent security-related issues.
- All requirements according to the OHS Act be followed and implemented.

ENVIRONMENTAL AWARENESS TRAINING

The following environmental training and training on dealing with emergencies and remediation measures for such emergencies:

ENVIRONMENTAL TRAINING

- The Applicant or ECO/SR will have one-on-one information sessions with employees working in specific sections of the study area.
- Understanding must be confirmed through verbal questioning and/or discussion during the environmental induction talk, and attendance at the training must be recorded.
- Once a quarter all employees will participate in a walkthrough of the specific study area and be requested to highlight unattended environmental impacts to increase their assessment ability and focus on potential impacts in the entire area.
- Unattended impacts identified will be discussed and employees will be requested to provide solutions to such impacts. These solutions will be discussed and corrected if not in line with general environmental policies.

- Employees should attend 6 monthly or annual meetings to discuss any environmental aspect of concern and mechanisms to avoid such scenarios.
- Employees will attend one course/seminar/presentation on environmental awareness.

TRAINING ON DEALING WITH EMERGENCIES AND REMEDIATION MEASURES FOR SUCH EMERGENCIES

- An emergency protocol will be established and documented and will deal specifically with the line of authority and responsibility and contact details of dedicated persons, including that of the landowner/abutting landowners.
- Potential emergencies will be determined and documented for each section of the study area and will be discussed with individuals/groups. Emergencies identified at the study area are erosion after heavy precipitation, unauthorized clearing of land, alien vegetation infestation on areas cleared outside of the approved area, and potential fire hazards.
- Remediation measures, provisional and/or permanent, which are aligned with the conditions of the EMP will be documented for identified emergencies and will be discussed with employees. Each employee will be provided with a short manual on how to deal with identified emergencies.
- The Applicant will provide an information session on dealing with emergencies and remediation of such emergencies once a year by a recognized environmental practitioner (ECO) or site representative (SR).
- Employees will be informed on suitable material/equipment available to deal with emergencies and the functions of this material/equipment.

APPENDIX 1: POSSIBLE DECLARATION OF CONTRACTOR

I, _____, declare that:

- I/we have read and understood the content of the Environmental Management Plan and the relevant associated documents from specialists for the construction on Erf 2369, Seavista, St Francis in the Kouga Municipality, of which Born Free Investments 460 (Pty) Ltd is the Applicant.
- I/we declare that I/we understand the responsibilities in terms of my/our role and responsibilities towards good environmental management practice.
- I/we declare that I/we understand the responsibilities in terms of my/our role and responsibilities towards good health and safety practice.
- I/we declare that I/we understand my/our role in terms of enforcing and implementing the requirements of the mitigation measures set out in the Environmental Management Plan.
- I/we declare that I/we understand my/our role in terms of honouring and enforcing the requirements set out in the Environmental Management Plan.
- I/we will comply with all applicable legislation.
- I/we have the expertise to perform the work as contracted.
- I/we will ensure that information containing my/our contract work is made available to the Applicant and ECO/SR for their information with a reasonable opportunity to act on the situation.
- I/we will provide the competent authority with access to all information at my/our disposal regarding the contract work, whether such information is favorable to the Applicant or not.

Signature of the contractor

Name of company

Date

Witness signature

BASIC ASSESSMENT REPORT

Appendix G: Impact Assessment

The impact assessment was undertaken in accordance with the methodology contained in the Basic Assessment Report and is informed by the findings and recommendations of the specialist studies conducted for the proposed development. The assessment considers the potential environmental and socio-economic impacts associated with the Planning, Design and Development Phase, Construction Phase and Operational Phase of the proposed activity.

Each identified impact was assessed for Alternative 1, Alternative 2 (preferred alternative) and the No-Go Alternative, where applicable. The assessment considered the extent and duration of the impact, probability of occurrence, reversibility, potential for irreplaceable loss of resources, cumulative impacts and overall significance both before and after mitigation.

The specialist investigations identified biodiversity, fauna habitat, and heritage resources as the primary environmental considerations relevant to the proposed development. Alternative 2 was identified as the preferred alternative as it avoids the CBA and is a site that has been impacted. It is therefore associated with lower overall ecological impacts when compared to Alternative 1. The No-Go Alternative would avoid the direct impacts associated with the proposed development but would also result in the loss of the anticipated socio-economic and agricultural benefits associated with the project.

Mitigation measures included in this assessment are summarised in the tables below and are further detailed in the Environmental Management Programme (EMPr) in Appendix F. The significance ratings presented after mitigation assume that all recommended mitigation and management measures are effectively implemented throughout the life cycle of the project.

Significance colour legend:

Very High	High	Medium-High	Medium	Medium-Low	Low	Very Low
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PLANNING, DESIGN AND DEVELOPMENT PHASE			
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Failure to obtain and comply with all applicable statutory approvals and associated conditions could lead to delays in project implementation, increased financial costs and potential legal consequences arising from regulatory non-compliance.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site Specific and Short Term	Site Specific and Short Term	Site-specific; permanent
Consequence of impact or risk:	Delays in implementation, increased project costs, potential legal penalties, reputational damage, and possible environmental impacts resulting from non-compliance with specialist recommendations and regulatory conditions.		The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Potential disturbance to sensitive vegetation, protected species, heritage resources or soil		No development-related indirect

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Appendix G: Impact Assessment

	resources through failure to implement specialist recommendations and permit conditions.		impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-High (-)	Medium-High (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: <i>Refer to EMP for full list of mitigation</i>	- Obtain all applicable approvals prior to commencement; - Maintain a compliance register; - Ensure all permit and authorisation conditions are incorporated into project planning and EMPr implementation; - Appoint a responsible person to monitor compliance; - Undertake environmental awareness training; - Maintain records of approvals and compliance audits.		No mitigation required.
Residual impacts:	Minor administrative burden associated with ongoing compliance monitoring and reporting.		None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Very Low (-)	Negligible
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Economic viability and project implementation timeframe.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; medium to long term	Local; medium to long term	Local; long term
Consequence of impact or risk:	Poorly resolved design or unaffordable environmental/engineering requirements could delay implementation or undermine project viability.		The project would not be implemented and the associated residential investment and economic expenditure would not occur.
Probability of occurrence:	Possible	Possible	Definite
Degree to which the impact	Low	Low	Low

BASIC ASSESSMENT REPORT
Appendix G: Impact Assessment

may cause irreplaceable loss of resources:			
Degree to which the impact can be reversed:	High	High	High
Indirect impacts:	Delayed investment, procurement and employment; pressure to reduce environmental controls if costs are not adequately planned.		Loss of associated secondary local economic benefits.
Cumulative impact prior to mitigation:	Low	Low	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	Medium (-)
Degree to which the impact can be avoided:	Medium	Medium	Low
Degree to which the impact can be managed:	High	High	Low
Degree to which the impact can be mitigated:	High	High	Low
Proposed mitigation: <i>Refer to EMP for full list of mitigation</i>	Develop or design and implement economically viable options that would provide for appropriate pollution control and resource conservation.		No mitigation applicable to the No-Go Alternative.
Residual impacts:	Normal project cost and programme risks remain.	Normal project cost and programme risks remain.	The socio-economic opportunity associated with the development would remain unrealised.
Cumulative impact post mitigation:	Low	Low	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Medium (-)
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Risk of infrastructure failure.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; long term	Site-specific to local; long term	Site-specific; permanent
Consequence of impact or risk:	Failure of water, sewer, stormwater, access or structural infrastructure could cause service disruption, erosion, pollution, property damage or safety risks.		The impact associated with development would not occur.
Probability of occurrence:	Possible	Possible	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Medium	Medium	None
Degree to which the impact can be reversed:	Medium	Medium	Not applicable

BASIC ASSESSMENT REPORT
Appendix G: Impact Assessment

Indirect impacts:	Infrastructure failure could affect neighbouring properties or municipal systems.		No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-High (-)	Medium-High (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: <i>Refer to EMP for full list of mitigation</i>	- Ensuring engineering and geotechnical input to determine the design and structure safety. - Liaise with local authorities and address the requirements.		No mitigation required.
Residual impacts:	Low likelihood of localised service or infrastructure failures remains over the life of the development.	Low likelihood of localised service or infrastructure failures remains over the life of the development.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible

CONSTRUCTION PHASE			
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Potential soil contamination from hydrocarbons, construction materials and chemicals, and improper management of construction-related sanitation facilities.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific; short term	Site-specific; short term	Site-specific; permanent
Consequence of impact or risk:	Spills, leaks, poor chemical handling or inadequate sanitation could contaminate sandy soils and potentially migrate with runoff or infiltration.		The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Contaminants may migrate to groundwater or be transported off site in stormwater.		No development-related indirect

BASIC ASSESSMENT REPORT
Appendix G: Impact Assessment

			impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Store fuels, oils, paints and chemicals in secure bunded areas; • Refuel and service equipment in designated areas; • Keep spill kits available and clean spills immediately; • Use and maintain adequate portable sanitation; • Prohibit discharge of sewage or contaminated water to soil; • Dispose of contaminated material at an authorised facility.		No mitigation required.
Residual impacts:	Small accidental spills may still occur but should be localised and readily remediated.	Small accidental spills may still occur but should be localised and readily remediated.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible

Potential impact and risk:	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Loss and disturbance of natural vegetation and associated plant species, including potential loss of threatened and protected species, with an associated increased risk of soil erosion.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific; long term	Site-specific; long term	Site-specific; permanent
Consequence of impact or risk:	Clearing permanently removes intact St Francis Dune Thicket/Strandveld vegetation and increases erosion susceptibility of	Clearing permanently removes St Francis Dune Thicket/Strandveld vegetation but the reduced encroachment and	The impact associated with development would not occur.

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	unconsolidated coastal sands.	greater retained/re-established vegetation under Alternative 2 reduce the magnitude relative to Alternative 1.	
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	High	High	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Loss of biodiversity, habitat and ecological functioning in adjacent areas; increased erosion risk.	Loss of biodiversity, habitat and ecological functioning in adjacent areas; increased erosion risk.	No development-related indirect impact.
Cumulative impact prior to mitigation:	High	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-)	High (-)	Negligible
Degree to which the impact can be avoided:	Medium	High	Not applicable
Degree to which the impact can be managed:	Medium	High	Not applicable
Degree to which the impact can be mitigated:	Medium	Medium	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Keep disturbance to the approved footprint; • Demarcate all retained and high sensitivity vegetation before clearing; • No temporary works or storage in high sensitivity areas, except the areas identified in the layout plan approved; • Undertake plant Search & Rescue before clearing; • Obtain permits required for protected species including White Milkwood; • Prevent on-site fires; • Control erosion; • Rehabilitate disturbed areas in accordance with the approved Rehabilitation Plan.		No mitigation required.
Residual impacts:	Permanent vegetation loss remains within the approved footprint, partly countered by rehabilitation and retained/re-established vegetation.	Permanent vegetation loss remains within the approved footprint, partly countered by rehabilitation and greater retained/re-established vegetation.	None.
Cumulative impact post	Medium	Low-Medium	Negligible

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

Potential impact and risk:	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Potential loss or disturbance of identified and potentially occurring plant Species of Conservation Concern (SCC) as a result of vegetation clearing and site preparation.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific; Long term	Site-specific; long term	Site-specific; permanent
Consequence of impact or risk:	Clearing could remove protected plants or previously undetected plant SCC and reduce local populations.	The risk remains where vegetation is cleared, but Alternative 2 has less encroachment into the identified no-go vegetation and therefore a smaller exposure.	The impact associated with development would not occur.
Probability of occurrence:	Highly likely	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	High	High	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Potential reduction in local genetic variability and habitat available to plant SCC.	Potential reduction in local genetic variability and habitat available to plant SCC.	No development-related indirect impact.
Cumulative impact prior to mitigation:	High	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-)	High (-)	Negligible
Degree to which the impact can be avoided:	Medium	High	Not applicable
Degree to which the impact can be managed:	Medium	High	Not applicable
Degree to which the impact can be mitigated:	Medium	Medium	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Obtain all applicable plant/tree permits before clearing; • Appoint a qualified botanist to undertake/oversee pre-clearance Search & Rescue and relocation where appropriate; • Clearly demarcate retained vegetation and protected trees; • Prohibit harvesting by construction staff; • Restrict clearing to the authorised footprint;		No mitigation required.

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	Implement the Rehabilitation Plan.		
Residual impacts:	Potential localised reduction of protected plant/SCC populations within the development footprint.	Residual risk is limited to the authorised footprint after Search & Rescue and avoidance.	None.
Cumulative impact post mitigation:	Medium	Low-Medium	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-)	Medium (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Loss and fragmentation of biodiversity habitat, including CBAs, ESAs and threatened ecosystems/vegetation types, resulting in reduced ecological connectivity and potential decline or localised loss of plant and animal Species of Conservation Concern (SCC).		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; permanent	Site-specific to local; permanent	Site-specific; permanent
Consequence of impact or risk:	Loss and fragmentation of habitat reduces ecological connectivity, ecosystem functioning and habitat for indigenous fauna and flora.	Habitat loss and fragmentation will occur, but the smaller high sensitivity area encroachment and greater retained/re-established vegetation under Alternative 2 reduce the overall ecological effect.	The impact associated with development would not occur.
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	High	High	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Reduced ecosystem services and local habitat availability.	Reduced ecosystem services and local habitat availability.	No development-related indirect impact.
Cumulative impact prior to mitigation:	High	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-)	High (-)	Negligible
Degree to which the impact can be avoided:	Medium	High	Not applicable
Degree to which the impact can be managed:	Medium	High	Not applicable
Degree to which the impact can be mitigated:	Medium	Medium	Not applicable

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Proposed mitigation: Refer to EMP for full list of mitigation	• Restrict all works to the approved footprint and treat all areas outside it as high sensitivity; • Retain and protect intact dune thicket and ecological linkages as far as possible; • Avoid the coastal foredune area; • Keep the impact on the high sensitivity areas to a minimum, as proposed through the layout plan. • Implement plant Search & Rescue and fauna rescue where necessary; • Rehabilitate disturbed areas with indigenous species as per the Rehabilitation Plan; • Control alien invasive plants and ongoing disturbance.		No mitigation required.
Residual impacts:	Some permanent habitat loss and fragmentation remain, with improved rehabilitation.	Some permanent habitat loss and fragmentation remain, with improved rehabilitation potential relative to Alternative 1.	None.
Cumulative impact post mitigation:	Medium	Low-Medium	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-)	Medium (-)	Negligible

Potential impact and risk:	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Potential deterioration of surface and groundwater quality due to contaminated stormwater runoff, accidental spills or leaks of hazardous substances, inadequate sanitation, and increased sediment and microbiological loads associated with construction activities.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; short term	Site-specific to local; short term	Site-specific; permanent
Consequence of impact or risk:	Contaminated runoff, sediment, sewage or chemical spills could degrade groundwater or receiving coastal waters.	Contaminated runoff, sediment, sewage or chemical spills could degrade groundwater or receiving coastal waters.	The impact associated with development would not occur.
Probability of occurrence:	Possible	Possible	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Medium	Medium	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Pollutants may migrate through permeable sandy soils or be conveyed off site	Pollutants may migrate through permeable sandy soils or be conveyed off site	No development-related indirect impact.

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	during rainfall.	during rainfall.	
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Implement spill prevention and response measures; • Provide maintained portable toilets; • Prevent discharge of cement wash-water, sewage, fuels or chemicals to soil or stormwater; • Protect stockpiles from erosion; • Install temporary erosion and sediment controls; • Keep stormwater clean and separate from contaminated areas; • Promptly rehabilitate disturbed sandy soils.		No mitigation required.
Residual impacts:	Low residual risk of localised contamination from accidental events.	Low residual risk of localised contamination from accidental events.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible

Potential impact and risk:	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Temporary increase in ambient noise levels and associated disturbance to surrounding residents as a result of construction machinery, vehicle movements, reversing alarms and construction personnel.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; short term	Local; short term	Site-specific; permanent
Consequence of impact or risk:	Construction noise may temporarily reduce residential amenity and cause nuisance to nearby receptors.	Construction noise may temporarily reduce residential amenity and cause nuisance to nearby receptors.	The impact associated with development would not occur.
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact	Low	Low	None

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may cause irreplaceable loss of resources:			
Degree to which the impact can be reversed:	Medium	Medium	Not applicable
Indirect impacts:	Temporary disturbance may affect neighbouring residents and local fauna.	Temporary disturbance may affect neighbouring residents and local fauna.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-)	High (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Limit noisy construction to approved daytime working hours; • Maintain equipment and silencers; • Avoid unnecessary idling, hooting and shouting; position stationary noisy equipment away from neighbouring residences where practicable; • Notify neighbours of unusually noisy activities; • Address complaints promptly.		No mitigation required.
Residual impacts:	Intermittent daytime construction noise will remain while works are active.	Intermittent daytime construction noise will remain while works are active.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-High (-)	Medium-High (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Temporary deterioration of local air quality and associated nuisance and health impacts due to fugitive dust generated by vegetation clearing, earthworks, exposed soils, vehicle movements and the handling and transportation of construction materials.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; short term	Local; short term	Site-specific; permanent
Consequence of impact or risk:	Dust may cause nuisance, reduced local air quality and temporary	Dust may cause nuisance, reduced local air quality and temporary	The impact associated with development would not occur.

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	health/amenity effects at nearby residences.	health/amenity effects at nearby residences.	
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Dust deposition on neighbouring properties and vegetation.	Dust deposition on neighbouring properties and vegetation.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-High (-)	Medium-High (-)	Negligible
Degree to which the impact can be avoided:	Medium	Medium	Not applicable
Degree to which the impact can be managed:	Medium	Medium	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Minimise exposed soil; • Apply water or other appropriate dust suppression during dry/windy conditions; • Cover fine material loads; • Enforce low vehicle speeds; • Stabilise stockpiles; • Cease or reduce high-dust activities during excessive winds; • Rehabilitate exposed areas promptly.		No mitigation required.
Residual impacts:	Short-lived dust emissions may occur during dry and windy conditions.	Short-lived dust emissions may occur during dry and windy conditions.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-Low (-)	Medium-Low (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Temporary deterioration of local air quality due to exhaust emissions from construction vehicles and machinery, and potential smoke emissions from cooking fires.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; short term	Local; short term	Site-specific; permanent

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Consequence of impact or risk:	Vehicle and machinery exhausts may temporarily reduce local air quality; fires could create smoke and fire risk.	Vehicle and machinery exhausts may temporarily reduce local air quality; fires could create smoke and fire risk.	The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Minor temporary contribution to local emissions and nuisance.	Minor temporary contribution to local emissions and nuisance.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Low	Low	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible
Degree to which the impact can be avoided:	Medium	Medium	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Maintain vehicles and machinery in good working order; • Avoid unnecessary idling; • Use fit-for-purpose equipment; • Prohibit open burning and cooking fires on site; • Ensure any authorised cooking facilities are controlled and fire-safe.		No mitigation required.
Residual impacts:	Minor intermittent exhaust emissions from necessary construction equipment.	Minor intermittent exhaust emissions from necessary construction equipment.	None.
Cumulative impact post mitigation:	Very Low	Very Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	Very Low (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Temporary deterioration of the visual character and amenity of the site and surrounding area due to construction activities, machinery, earthworks, material stockpiles and general site disturbance.		No development-related impact would occur under the No-Go Alternative.

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Extent and duration of impact:	Local; short term	Local; short term	Site-specific; permanent
Consequence of impact or risk:	Construction activity will temporarily reduce visual amenity and alter the character of the vacant vegetated site.	Construction activity will temporarily reduce visual amenity and alter the character of the vacant vegetated site.	The impact associated with development would not occur.
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Temporary reduction in sense of place and amenity for neighbouring residents and road users.	Temporary reduction in sense of place and amenity for neighbouring residents and road users.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Keep the construction footprint compact and orderly; • Maintain good housekeeping; • Locate and screen stockpiles and site facilities where practicable; • Remove waste regularly; • Minimise unnecessary vegetation clearance; • Rehabilitate disturbed areas progressively; remove temporary works on completion.		No mitigation required.
Residual impacts:	Temporary visual intrusion remains until construction and rehabilitation are complete.	Temporary visual intrusion remains until construction and rehabilitation are complete.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Very Low (-)	Negligible

	Alternative 1:	Alternative 2	No-Go Option
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		(preferred site)	
Nature of impact:	Generation of construction, general and potentially hazardous waste (e.g. paints, oil, bitumen spills), with potential for soil and water contamination, visual nuisance and environmental degradation if waste is inadequately stored, handled or disposed of.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; short term	Site-specific to local; short term	Site-specific; permanent
Consequence of impact or risk:	Poor waste management could cause litter, visual nuisance, soil/water contamination and attraction of pests.	Poor waste management could cause litter, visual nuisance, soil/water contamination and attraction of pests.	The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Medium	Medium	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Windblown litter or contaminated runoff may affect neighbouring areas and the coast.	Windblown litter or contaminated runoff may affect neighbouring areas and the coast.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Apply the waste hierarchy; • Provide clearly marked, covered receptacles; • Separate recyclable, general and hazardous waste where practicable; • Store hazardous waste on or in an impermeable/bunded surface; • Prevent littering and burning/burying of waste; • Remove waste regularly to appropriately authorised facilities; • Keep disposal records where required.		No mitigation required.
Residual impacts:	Small quantities of waste and occasional litter risk remain during construction.	Small quantities of waste and occasional litter risk remain during construction.	None.
Cumulative impact post	Low	Low	Negligible

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

Potential impact and risk:	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Temporary increase in construction-related traffic and heavy vehicle movements, with potential disruption, congestion and road-safety impacts on the surrounding road network.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; short term	Local; short term	Site-specific; permanent
Consequence of impact or risk:	Construction vehicles may temporarily increase traffic, road wear, congestion and safety risk on Philippa Place and connecting roads.	Construction vehicles may temporarily increase traffic, road wear, congestion and safety risk on Philippa Place and connecting roads.	The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Temporary nuisance, delays and pedestrian/vehicle conflict.	Temporary nuisance, delays and pedestrian/vehicle conflict.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-Low (-)	Medium-Low (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Schedule heavy deliveries outside peak periods where practicable; • Use designated routes; • Ensure construction vehicles do not obstruct Philippa Place; • Provide traffic control during abnormal deliveries if required; • Maintain safe access and sight distance; keep roads free of mud/debris;		No mitigation required.

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	Enforce low speeds and safe driver behaviour.		
Residual impacts:	Intermittent construction vehicle movements remain unavoidable.	Intermittent construction vehicle movements remain unavoidable.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Temporary positive socio-economic benefits through employment creation, local procurement and increased demand for goods and services during construction.		The positive benefit would not occur under the No-Go Alternative.
Extent and duration of impact:	Local; short term	Local; short term	Local; long term
Consequence of impact or risk:	Construction creates temporary employment, procurement and expenditure that supports local households and businesses.	Construction creates temporary employment, procurement and expenditure that supports local households and businesses.	No construction employment, procurement or associated local expenditure would be generated.
Probability of occurrence:	Definite	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources:	None	None	Low
Degree to which the impact can be reversed:	Low	Low	High
Indirect impacts:	Secondary expenditure by workers and contractors may support local businesses.	Secondary expenditure by workers and contractors may support local businesses.	Loss of associated secondary local economic benefits.
Cumulative impact prior to mitigation:	Medium	Medium	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-Low (+)	Medium-Low (+)	Medium (-)
Degree to which the impact can be avoided:	Low	Low	Low
Degree to which the impact can be managed:	High	High	Low
Degree to which the impact can be mitigated:	High	High	Low
Proposed mitigation: Refer to EMP for full list of mitigation	Where skills and procurement requirements allow, give reasonable preference to local labour and local suppliers;		No mitigation applicable to the No-Go Alternative.

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	• Use fair and transparent recruitment and procurement practices.		
Residual impacts:	Benefits cease or reduce substantially when construction is completed.	Benefits cease or reduce substantially when construction is completed.	The socio-economic opportunity associated with the development would remain unrealised.
Cumulative impact post mitigation:	Medium	Medium	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (+)	Medium (+)	Medium (-)

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Loss or destruction of built heritage resources associated with the remaining structures and foundations of the former St Francis Bay Hotel during site clearance and construction.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific; permanent	Site-specific; permanent	Site-specific; permanent
Consequence of impact or risk:	Removal of the remaining hotel structures/foundations would permanently alter a built heritage resource, although the specialist considers the remnants not conservation worthy and the impact low.	Removal of the remaining hotel structures/foundations would permanently alter a built heritage resource, although the specialist considers the remnants not conservation worthy and the impact low.	The impact associated with development would not occur.
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Medium	Medium	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Loss of the remaining physical evidence of the former hotel.	Loss of the remaining physical evidence of the former hotel.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Low	Low	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable

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Proposed mitigation: Refer to EMP for full list of mitigation	• Obtain the required Section 34 destruction/demolition permit from ECPHRA before removing remaining hotel structures/foundations older than 60 years; • Comply with all permit conditions; photographically document features if required by ECPHRA; • Include heritage awareness in site induction.		No mitigation required.
Residual impacts:	Permitted loss of low-significance remnants of the former hotel.	Permitted loss of low-significance remnants of the former hotel.	None.
Cumulative impact post mitigation:	Very Low	Very Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	Very Low (-)	Negligible
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Potential disturbance, damage or destruction of previously unidentified archaeological heritage resources, including unmarked graves or human remains, during excavation and other ground-disturbing activities.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific; short term event with potentially permanent consequence	Site-specific; short term event with potentially permanent consequence	Site-specific; permanent
Consequence of impact or risk:	Previously unidentified archaeological material or human remains could be damaged or destroyed by excavation if not recognised.	Previously unidentified archaeological material or human remains could be damaged or destroyed by excavation if not recognised.	The impact associated with development would not occur.
Probability of occurrence:	Unlikely	Unlikely	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	High	High	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Loss of contextual and scientific/cultural information associated with an accidental find.	Loss of contextual and scientific/cultural information associated with an accidental find.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Low	Low	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-High (-)	Medium-High (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable

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Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Implement the Archaeological and Cultural Heritage Chance Finds Protocol; • Train the construction manager/foreman/ECO in recognising heritage material; • If archaeological material, graves or human remains are exposed, stop work in the immediate area, secure the find and notify the relevant heritage authority/specialist before work resumes.		No mitigation required.
Residual impacts:	Very low chance of accidental loss if the Chance Finds Protocol is correctly implemented.	Very low chance of accidental loss if the Chance Finds Protocol is correctly implemented.	None.
Cumulative impact post mitigation:	Very Low	Very Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	Very Low (-)	Negligible
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Excavation, earthworks and other ground-disturbing activities associated with construction may expose previously unidentified fossil material. If such material is not recognised and appropriately managed, construction activities could result in the damage, destruction or permanent loss of palaeontological heritage resources. The likelihood of such an impact is considered low, as fossils within the underlying Nanaga Formation are sparsely distributed.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific; short term	Site-specific; short term	Site-specific; permanent
Consequence of impact or risk:	Excavation could expose and damage fossil material in the very-high-sensitivity Nanaga Formation, although fossils are sparse and a significant find is unlikely.	Excavation could expose and damage fossil material in the very-high-sensitivity Nanaga Formation, although fossils are sparse and a significant find is unlikely.	The impact associated with development would not occur.
Probability of occurrence:	Unlikely	Unlikely	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Medium	Medium	None
Degree to which the impact	High	High	Not applicable

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can be reversed:			
Indirect impacts:	Loss of scientific information if a fossil find is destroyed without recording.	Loss of scientific information if a fossil find is destroyed without recording.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Very Low	Very Low	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Implement the Fossil Chance Find Procedure; • Brief the ECO/site manager on recognising possible fossil material; stop work around a suspected fossil find; • Protect the material and notify the relevant palaeontological/heritage authority; • Only resume affected works once appropriately cleared.		No mitigation required.
Residual impacts:	Negligible residual risk provided the Fossil Chance Find Procedure is followed.	Negligible residual risk provided the Fossil Chance Find Procedure is followed.	None.
Cumulative impact post mitigation:	Negligible	Negligible	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	Very Low (-)	Negligible

OPERATIONAL PHASE			
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Permanent loss and disturbance of soil resources within the development footprint due to excavation and removal of the existing sand and subsoil layers for foundations and associated infrastructure, with a potential for erosion of exposed soils.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific; permanent	Site-specific; permanent	Site-specific; permanent
Consequence of impact or risk:	Soil within permanent building and infrastructure	Soil within permanent building and infrastructure	The impact associated with development would

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	footprints is lost or sealed, while disturbed sandy soils may remain susceptible to erosion.	footprints is lost or sealed, while disturbed sandy soils may remain susceptible to erosion.	not occur.
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Medium	Medium	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Erosion can affect retained vegetation and contribute sediment to stormwater.	Erosion can affect retained vegetation and contribute sediment to stormwater.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	Medium	Medium	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Maintain rehabilitated and landscaped surfaces; • Retain indigenous dune vegetation; prevent uncontrolled pedestrian disturbance of dunes; • Maintain stormwater detention/infiltration measures; • Repair erosion promptly; • Avoid unnecessary excavation after construction.		No mitigation required.
Residual impacts:	Permanent loss/sealing of soil within authorised footprints remains; erosion risk is reduced through stabilisation and vegetation.	Permanent loss/sealing of soil within authorised footprints remains; erosion risk is reduced through stabilisation and vegetation.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option

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Nature of impact:	Long-term alteration and fragmentation of remaining biodiversity habitat and ecological connectivity, with potential ongoing disturbance to indigenous fauna and flora, including SCC, as a result of residential occupation and associated activities.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; long term/permanent	Site-specific to local; long term/permanent	Site-specific; permanent
Consequence of impact or risk:	Residential occupation may maintain habitat fragmentation and cause ongoing disturbance through people, pets, lighting, landscaping and maintenance.	Ongoing residential disturbance remains, but Alternative 2 retains/re-establishes more vegetation and has less high sensitivity area encroachment, reducing habitat fragmentation relative to Alternative 1.	The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Medium	Medium	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Reduced habitat quality, ecological connectivity and resilience; possible displacement of fauna.	Reduced habitat quality and possible fauna displacement.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium-High	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (-)	Medium-High (-)	Negligible
Degree to which the impact can be avoided:	Medium	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	Medium	Medium	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Protect all retained vegetation in perpetuity; • Implement the Rehabilitation Plan; • Maintain re-established indigenous vegetation; • Control alien invasive plants; • Restrict pathways and disturbance in dune areas; • Prohibit unnecessary clearing; • Use indigenous landscaping; • Manage domestic activities to minimise disturbance to fauna and habitat.		No mitigation required.
Residual impacts:	Permanent footprint-	Some permanent	None.

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	related fragmentation remains, but retained and rehabilitated vegetation can maintain ecological function.	fragmentation remains, with improved habitat retention and rehabilitation relative to Alternative 1.	
Cumulative impact post mitigation:	Medium	Medium-Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium-Low (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Long-term rehabilitation, protection and management of retained and re-established indigenous vegetation, including ongoing alien invasive plant control and dune stabilisation, with associated improvement in habitat condition and ecological functioning.		The positive benefit would not occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; permanent	Site-specific to local; permanent	Site-specific; permanent
Consequence of impact or risk:	Rehabilitation and ongoing management improve dune stability, indigenous vegetation cover, habitat condition and ecological functioning.	Alternative 2 provides the greater retained/re-established vegetation area and therefore a greater opportunity for long-term ecological and dune-stabilisation benefits.	The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	None	None	None
Degree to which the impact can be reversed:	Medium	Medium	Not applicable
Indirect impacts:	Improved storm buffering, sand trapping, biodiversity value and resistance to alien plant invasion.	Improved storm buffering, sand trapping, biodiversity value and resistance to alien plant invasion.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium-High	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (+)	Medium-High (+)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable

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Proposed mitigation: Refer to EMP for full list of mitigation	• Implement the Vegetation and Landscape Rehabilitation Plan as an ongoing management commitment; • Stabilise dunes with suitable indigenous vegetation; • Protect rehabilitation areas from trampling and unnecessary pathways; • Undertake follow-up alien invasive plant control; • Monitor establishment and erosion; • Replace failed plants and repair destabilised areas as required.		No mitigation required.
Residual impacts:	Rehabilitation requires long-term maintenance and may take several years to establish fully.	Rehabilitation requires long-term maintenance and may take several years to establish fully.	None.
Cumulative impact post mitigation:	Medium-High	High	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-High (+)	High (+)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Potential contamination of surface and groundwater from stormwater runoff, sewage leaks or spills, and pollutants associated with routine residential activities and maintenance.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; long term	Site-specific to local; long term	Site-specific; permanent
Consequence of impact or risk:	Sewer leaks, contaminated runoff or maintenance pollutants could infiltrate sandy soils or reach receiving coastal waters.	Sewer leaks, contaminated runoff or maintenance pollutants could infiltrate sandy soils or reach receiving coastal waters.	The impact associated with development would not occur.
Probability of occurrence:	Possible	Possible	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Medium	Medium	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Local groundwater contamination or polluted stormwater discharge could affect downstream/coastal receptors.	Local groundwater contamination or polluted stormwater discharge could affect downstream/coastal receptors.	No development-related indirect impact.
Cumulative impact prior to	Medium	Medium	Negligible

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mitigation:			
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Operate and maintain the sewer system, pump station/rising main and stormwater detention/infiltration measures in accordance with the engineering design; • Inspect for leaks/blockages; repair failures promptly; • Keep detention areas and overflows free of obstruction; • Use environmentally responsible maintenance practices.		No mitigation required.
Residual impacts:	Low residual risk associated with accidental leaks or extreme events.	Low residual risk associated with accidental leaks or extreme events.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	Very Low (-)	Negligible
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Potential increase in local ambient noise levels and disturbance to neighbouring residents associated with residential activities, vehicle movements and routine maintenance of the development.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; long term	Local; long term	Site-specific; permanent
Consequence of impact or risk:	Normal residential activities and vehicle movements may marginally increase ambient noise at neighbouring properties.	Normal residential activities and vehicle movements may marginally increase ambient noise at neighbouring properties.	The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact	High	High	Not applicable

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can be reversed:			
Indirect impacts:	Occasional nuisance to immediate neighbours.	Occasional nuisance to immediate neighbours.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Low	Low	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Apply normal residential nuisance controls; • Maintain gates and mechanical equipment; • Avoid unnecessary amplified noise and late-night maintenance; • Manage complaints in accordance with applicable municipal requirements.		No mitigation required.
Residual impacts:	Normal intermittent residential noise consistent with the surrounding land use.	Normal intermittent residential noise consistent with the surrounding land use.	None.
Cumulative impact post mitigation:	Very Low	Very Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	Very Low (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Permanent alteration of the visual character and sense of place through the introduction of built structures and associated infrastructure, with potential visual intrusion experienced by surrounding sensitive receptors.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; permanent	Local; permanent	Site-specific; permanent
Consequence of impact or risk:	Built structures will permanently replace the present vacant/vegetated appearance and alter views and sense of place. However, dwellings will be positioned between retained vegetation as far as practicable, thereby maintaining	Built structures will permanently replace the present vacant/vegetated appearance and alter views and sense of place. However, dwellings will be positioned between retained vegetation as far as practicable, thereby maintaining	The impact associated with development would not occur.

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	vegetation between structures and reducing the overall visual transformation of the site.	vegetation between structures and reducing the overall visual transformation of the site.	
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Cumulative urbanisation of the coastal residential landscape.	Cumulative urbanisation of the coastal residential landscape.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	Medium	Medium	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Use building design, scale, materials and finishes compatible with the established St Francis Bay residential character; • Retain and re-establish indigenous vegetation to soften views; • Minimise unnecessary external lighting and glare; • Maintain landscaping and buildings; • Avoid visually intrusive signage and infrastructure.		No mitigation required.
Residual impacts:	A permanent built presence remains, although it can be visually integrated into the established suburban context.	A permanent built presence remains, although it can be visually integrated into the established suburban context.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible
	Alternative 1:	Alternative 2 (preferred site)	No-Go Option

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Nature of impact:	Generation of general household and maintenance-related waste, with potential for littering, visual degradation and environmental pollution if waste is inadequately stored, collected or disposed of.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; long term	Site-specific to local; long term	Site-specific; permanent
Consequence of impact or risk:	Poorly managed household or maintenance waste could cause litter, visual nuisance, pests and pollution.	Poorly managed household or maintenance waste could cause litter, visual nuisance, pests and pollution.	The impact associated with development would not occur.
Probability of occurrence:	Probable	Probable	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Windblown litter may affect neighbouring properties, dune vegetation or the coast.	Windblown litter may affect neighbouring properties, dune vegetation or the coast.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Low	Low	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-Low (-)	Medium-Low (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Provide adequate household waste storage; • Use municipal/approved collection services; • Encourage separation and recycling where available; • Prevent littering and illegal dumping; • Keep waste areas clean and animal-proof where necessary.		No mitigation required.
Residual impacts:	Minor ongoing waste generation requiring routine collection and management.	Minor ongoing waste generation requiring routine collection and management.	None.
Cumulative impact post mitigation:	Very Low	Very Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	Very Low (-)	Negligible

	Alternative 1:	Alternative 2	No-Go Option
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		(preferred site)	
Nature of impact:	Increase in traffic volumes on the surrounding road network, with potential effects on intersection capacity and level of service.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; long term	Local; long term	Site-specific; permanent
Consequence of impact or risk:	The eight dwellings will add vehicle trips to the surrounding road network, but the TIA found the development traffic can be accommodated within acceptable operational limits.	The seven dwellings will add vehicle trips to the surrounding road network, but the TIA found the development traffic can be accommodated within acceptable operational limits.	The impact associated with development would not occur.
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Small incremental contribution to traffic volumes during normal and peak-season conditions.	Small incremental contribution to traffic volumes during normal and peak-season conditions.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Low	Low	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Implement the access arrangement accepted by Kouga Local Municipality; provide access via Philippa Place/Erf 2821 as approved; • Maintain clear sight distance; • Maintain the internal access and ensure vehicles do not queue or obstruct Philippa Place; • Implement any municipal conditions contained in the final engineering design/SDP.		No mitigation required.
Residual impacts:	A small permanent increase in traffic remains as an inherent consequence of	A small permanent increase in traffic remains as an inherent consequence of	None.

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	occupation.	occupation.	
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	Very Low (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Potential traffic-safety conflicts and localised congestion associated with vehicles entering and exiting the development via the proposed access from Philippa Place.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Site-specific to local; short term	Site-specific to local; short term	Site-specific; permanent
Consequence of impact or risk:	Vehicle movements at the narrow access could cause queuing or conflicts on Philippa Place if access control is poorly configured.	Vehicle movements at the narrow access could cause queuing or conflicts on Philippa Place if access control is poorly configured.	The impact associated with development would not occur.
Probability of occurrence:	Possible	Possible	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	High	High	Not applicable
Indirect impacts:	Localised delay and road-safety risk to residents, visitors and pedestrians.	Localised delay and road-safety risk to residents, visitors and pedestrians.	No development-related indirect impact.
Cumulative impact prior to mitigation:	Medium	Medium	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-Low (-)	Medium-Low (-)	Negligible
Degree to which the impact can be avoided:	High	High	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	High	High	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Provide the approved access from Philippa Place; • Keep sight lines clear of vegetation/obstructions; • Configure access control to prevent queuing/conflict in the narrow access; • Where a security gate is used, set it back sufficiently from the road edge and use a		No mitigation required.

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	control mechanism that allows entering vehicles to clear Philippa Place promptly; Maintain access markings/surfaces and safe speeds.		
Residual impacts:	Low residual risk of occasional access conflict during coincident vehicle movements.	Low residual risk of occasional access conflict during coincident vehicle movements.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Long-term positive socio-economic benefits through residential investment, increased municipal revenue and ongoing expenditure associated with occupation and maintenance of the development.		The positive benefit would not occur under the No-Go Alternative.
Extent and duration of impact:	Local to municipal; long term	Local to municipal; long term	Local; long term
Consequence of impact or risk:	Residential investment contributes to the municipal rates/service revenue base and supports ongoing expenditure on maintenance, services and local businesses.	Residential investment contributes to the municipal rates/service revenue base and supports ongoing expenditure on maintenance, services and local businesses.	The municipal revenue, residential investment and ongoing local expenditure associated with occupation would not materialise.
Probability of occurrence:	Definite	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources:	None	None	Low
Degree to which the impact can be reversed:	Low	Low	High
Indirect impacts:	Secondary expenditure and service demand support local economic activity and employment.	Secondary expenditure and service demand support local economic activity and employment.	Loss of associated secondary local economic benefits.
Cumulative impact prior to mitigation:	Medium	Medium	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-Low (+)	Medium-Low (+)	Medium-Low (-)
Degree to which the impact can be avoided:	Low	Low	Low
Degree to which the impact can be managed:	High	High	Low

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Degree to which the impact can be mitigated:	High	High	Low
Proposed mitigation: Refer to EMP for full list of mitigation	- Where practicable, use local service providers and suppliers for ongoing maintenance; - Maintain payment of municipal rates and service charges; - Manage the development so that economic benefits are not undermined by environmental non-compliance.		No mitigation applicable to the No-Go Alternative.
Residual impacts:	Benefits are dependent on continued occupation, maintenance expenditure and municipal service provision.	Benefits are dependent on continued occupation, maintenance expenditure and municipal service provision.	The socio-economic opportunity associated with the development would remain unrealised.
Cumulative impact post mitigation:	Medium	Medium	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (+)	Medium (+)	Medium (-)

	Alternative 1:	Alternative 2 (preferred site)	No-Go Option
Nature of impact:	Permanent alteration of the existing cultural landscape and character of the site through the introduction of the proposed residential development.		No development-related impact would occur under the No-Go Alternative.
Extent and duration of impact:	Local; permanent	Local; permanent	Site-specific; permanent
Consequence of impact or risk:	The site will change from a vacant former hotel property to residential use, but the heritage specialist rates the effect on the current cultural landscape as low because the area is already suburban and appropriately themed development can fit the village character.	The site will change from a vacant former hotel property to residential use, but the heritage specialist rates the effect on the current cultural landscape as low because the area is already suburban and appropriately themed development can fit the village character.	The impact associated with development would not occur.
Probability of occurrence:	Definite	Definite	Highly unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	None
Degree to which the impact can be reversed:	Low	Low	Not applicable
Indirect impacts:	Incremental change to the contemporary coastal village	Incremental change to the contemporary coastal village	No development-related indirect impact.

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	landscape and sense of place.	landscape and sense of place.	
Cumulative impact prior to mitigation:	Low	Low	Negligible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible
Degree to which the impact can be avoided:	Low	Low	Not applicable
Degree to which the impact can be managed:	High	High	Not applicable
Degree to which the impact can be mitigated:	Medium	Medium	Not applicable
Proposed mitigation: Refer to EMP for full list of mitigation	• Maintain architectural design and landscaping compatible with the established character and aesthetic of St Francis Bay; • Retain/re-establish indigenous vegetation to integrate the development into the landscape; • Comply with heritage authority conditions and avoid unnecessary alteration of any heritage features outside the authorised footprint.		No mitigation required.
Residual impacts:	Permanent but low alteration of the contemporary cultural landscape.	Permanent but low alteration of the contemporary cultural landscape.	None.
Cumulative impact post mitigation:	Low	Low	Negligible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Negligible

DECOMMISSIONING AND CLOSURE PHASE

Should the activity be authorized, it is highly unlikely that the proposed development will be decommissioned in the next 30 years. Therefore, a decommissioning Phase for the impact assessment is not included.

In the unlikely case of decommissioning, a closure plan is submitted and approved by the relevant authority/ties before closure commences. The relevant State Departments, applicable at the time of decommissioning, and the relevant environmental legislation should be consulted before decommissioning.

APPENDIX H1: SCREENING TOOL REPORT

**SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS
REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE
ENVIRONMENTAL SENSITIVITY**

EIA Reference number: 000

Project name: Residential Development

Project title: Remainder of Erf 2369, Seavista, St Francis

Date screening report generated: 06/08/2026 13:40:29

Applicant: Born Free Investments 460 (Pty) Ltd

Compiler: Digital Soils Africa (Pty) Ltd

Compiler signature:



Application Category: Transformation of land | Indigenous vegetation



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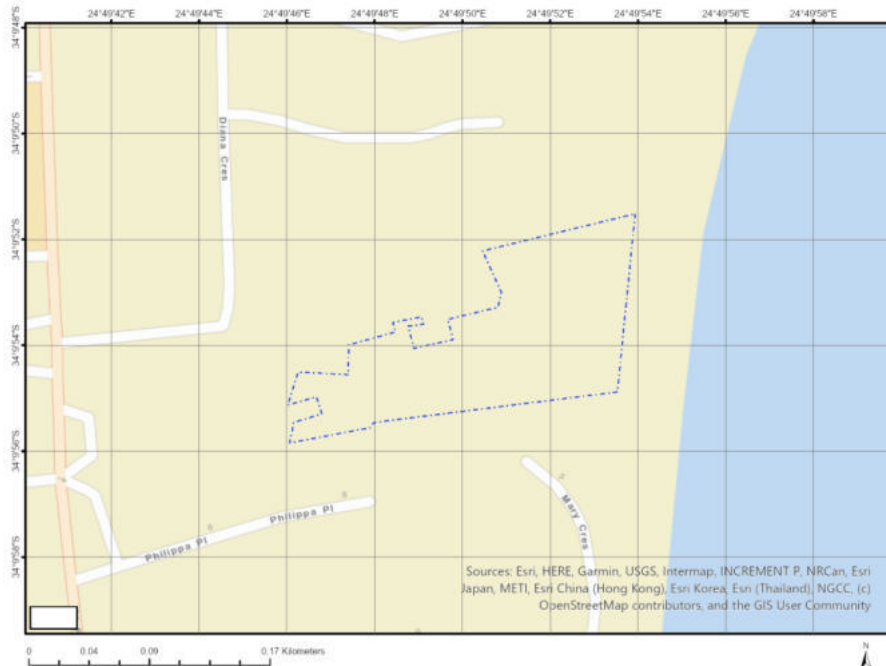
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Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	SEA VISTA	2369	0	34°9'53.93S	24°49'50.67E	Erven

Development footprint¹ vertices:

No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/2/1104	Wind	Approved	18.2
2	12/12/20/1861	Wind	Approved	26.6
3	12/12/20/1756	Wind	Approved	3.6
4	12/12/20/1585/A5	Wind	Approved	17.3
5	12/12/20/1718	Wind	Approved	14.3
6	12/12/20/1756/2	Wind	Approved	28
7	12/12/20/1756/1	Wind	Approved	7.2

¹ "development footprint", means the area within the site on which the development will take place and includes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

8	12/12/20/1585/AM7	Wind	Approved	17.3
9	12/12/20/1861/AM1	Wind	Approved	26.6
10	14/12/16/3/3/2/1102/AM1	Wind	Approved	28.2
11	12/12/20/1585	Wind	Approved	17.3
12	14/12/16/3/3/1/2566	Solar PV	Approved	23.1
13	12/12/20/1585/AM6	Wind	Approved	17.3
14	12/12/20/2209	Wind	Approved	28.2
15	14/12/16/3/3/2/1103	Wind	Approved	28.4
16	12/12/20/2289/AM2	Wind	Approved	10.3
17	12/12/20/1752	Wind	Approved	27.8
18	14/12/16/3/3/2/1102	Wind	Approved	28.2
19	12/12/20/1756/1/AM4	Wind	Approved	7.2
20	14/12/16/3/3/2/1104/AM1	Wind	Approved	18.2
21	12/12/20/2289	Wind	Approved	10.3

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is:

Transformation of land | Indigenous vegetation.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
South African Conservation Areas	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/SACAD_OR_2026_Q1_Metadata.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme	X			
Animal Species Theme	X			
Aquatic Biodiversity Theme	X			

Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

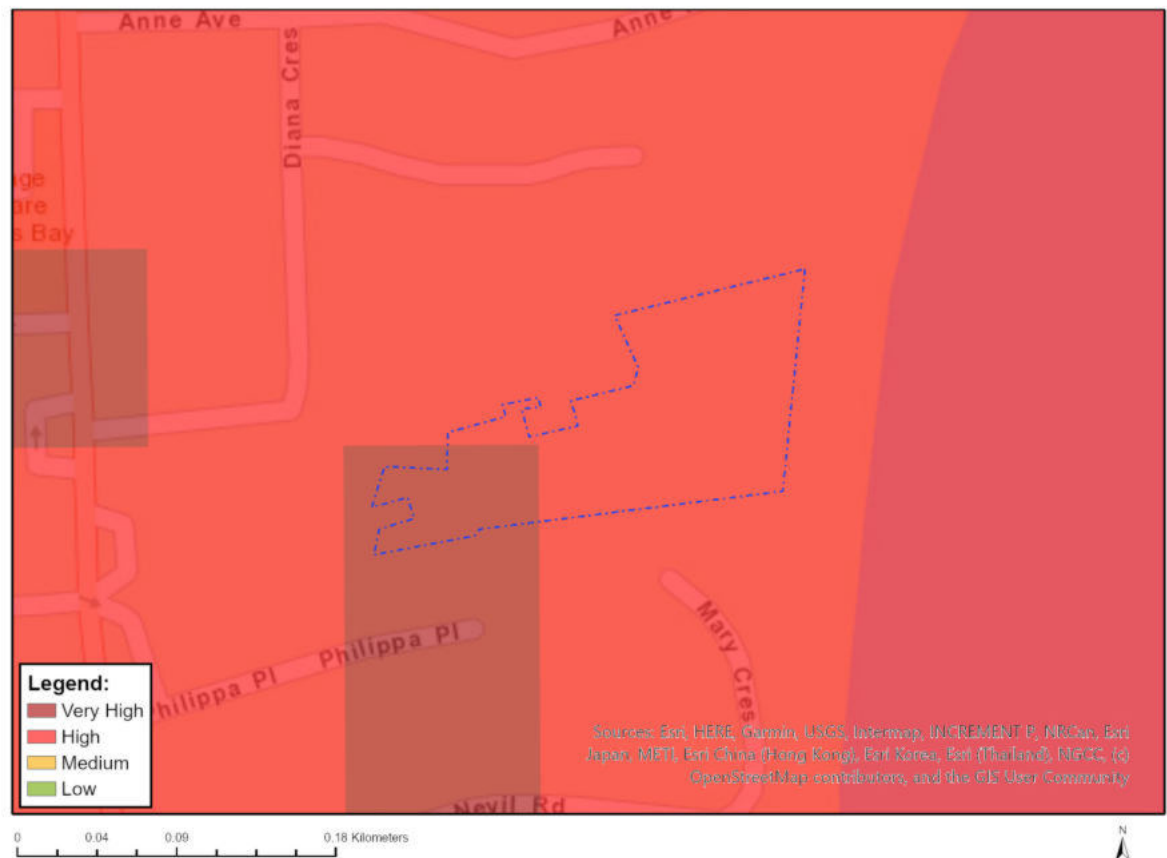
Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

No	Specialist assessment	Assessment Protocol
1	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/GuidanceforHIA.pdf
3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/GuidanceforPIA.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
6	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
7	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
8	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

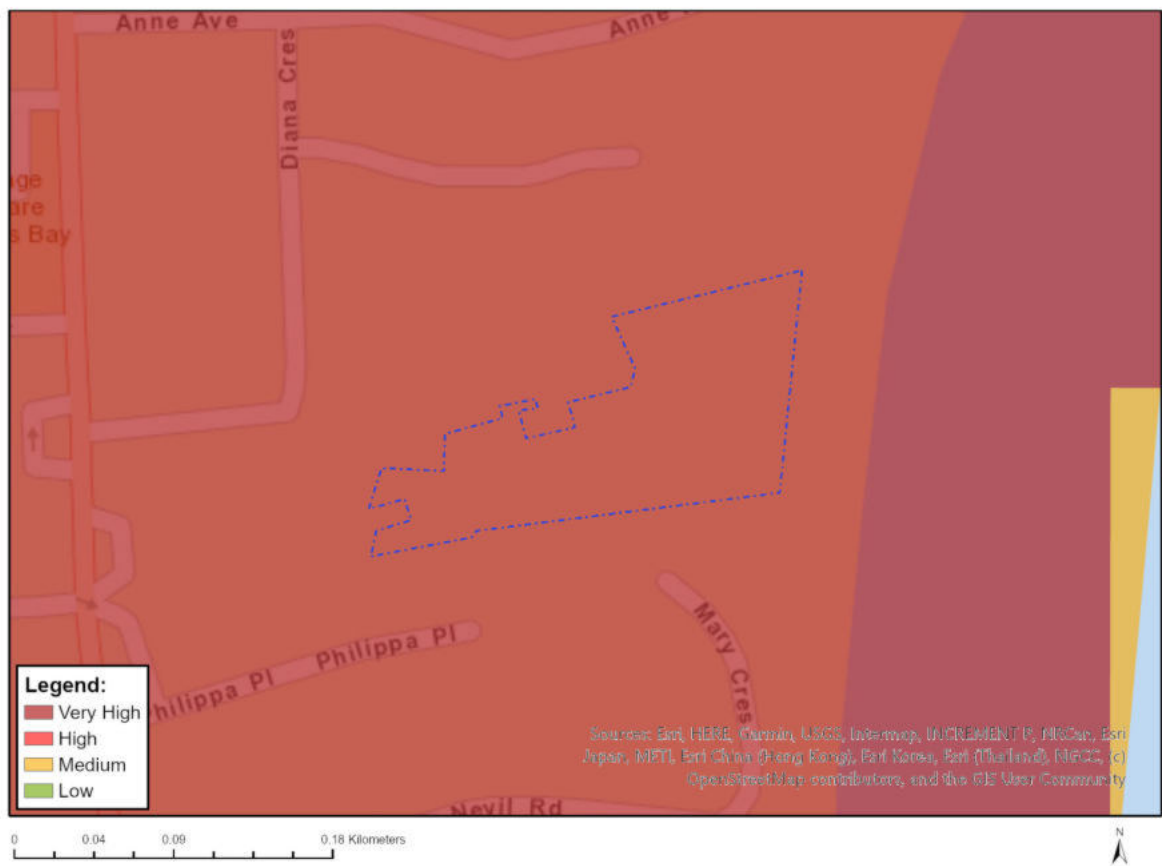


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
High	09. Moderate-High
High	10. Moderate-High
Very High	11. High

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



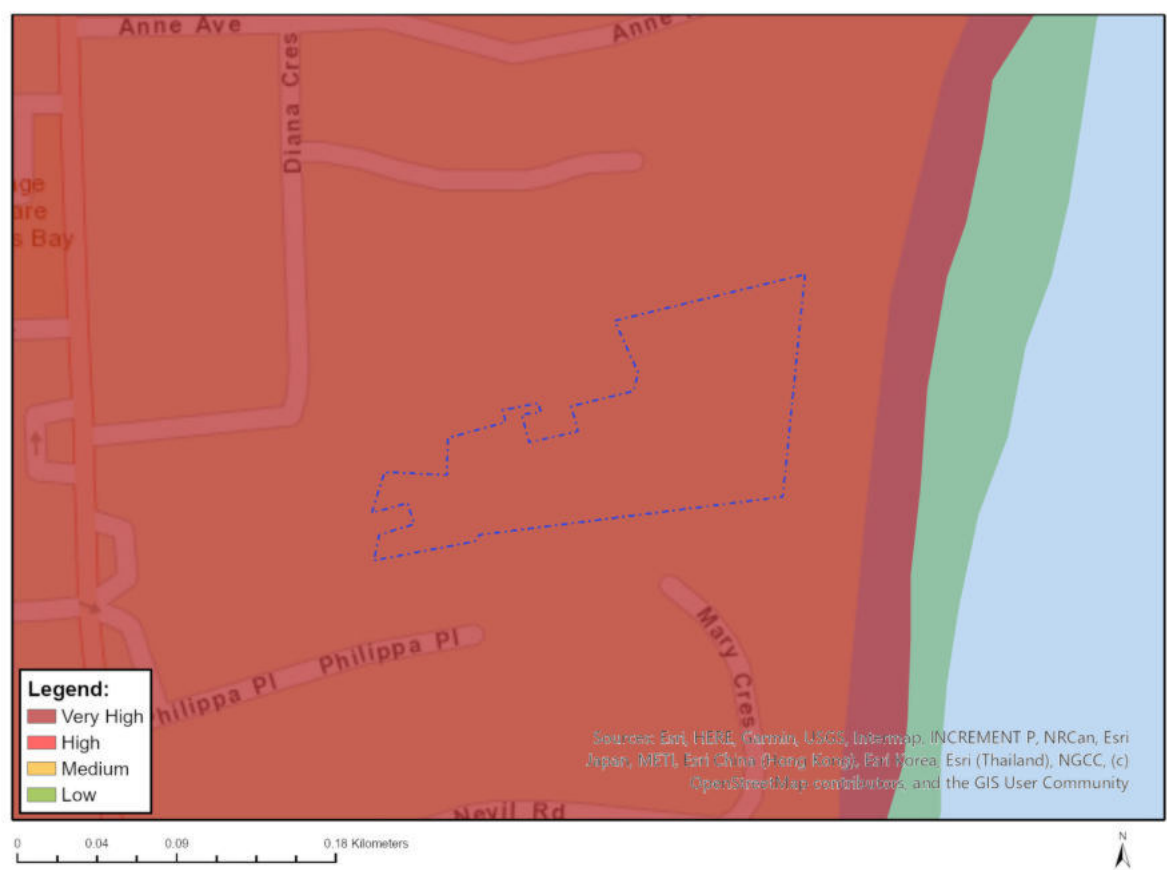
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Sensitive species 13
Medium	Invertebrate-Aneuryphymus montanus
Very High	Actinopterygii-Pseudobarbus senticeps

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

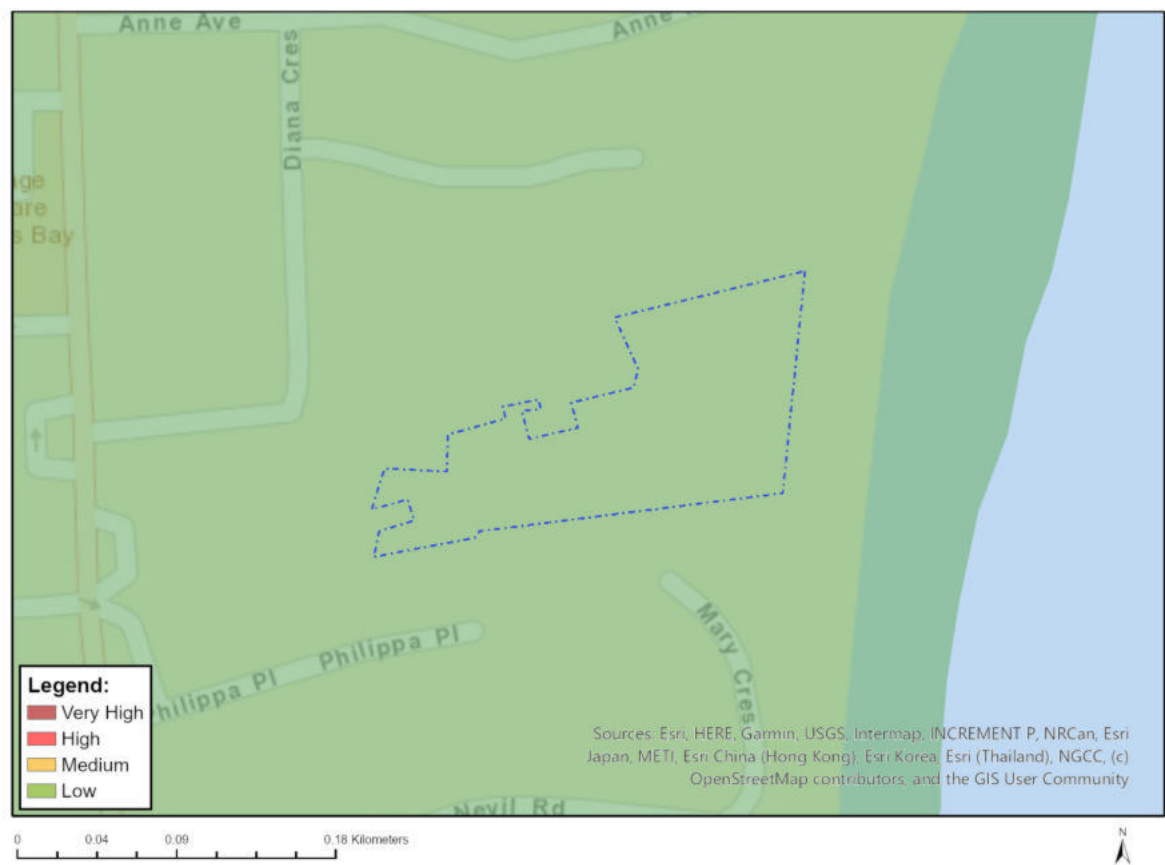


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	ESA 1

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

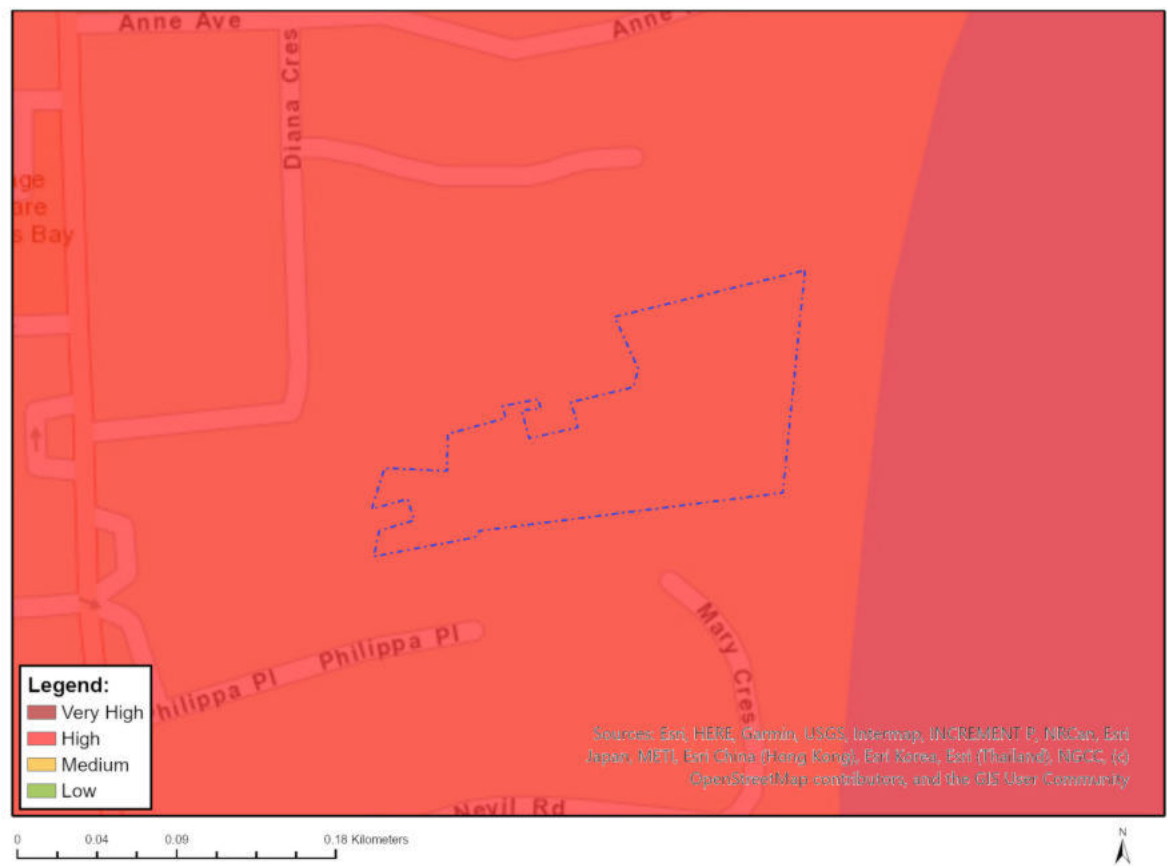


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

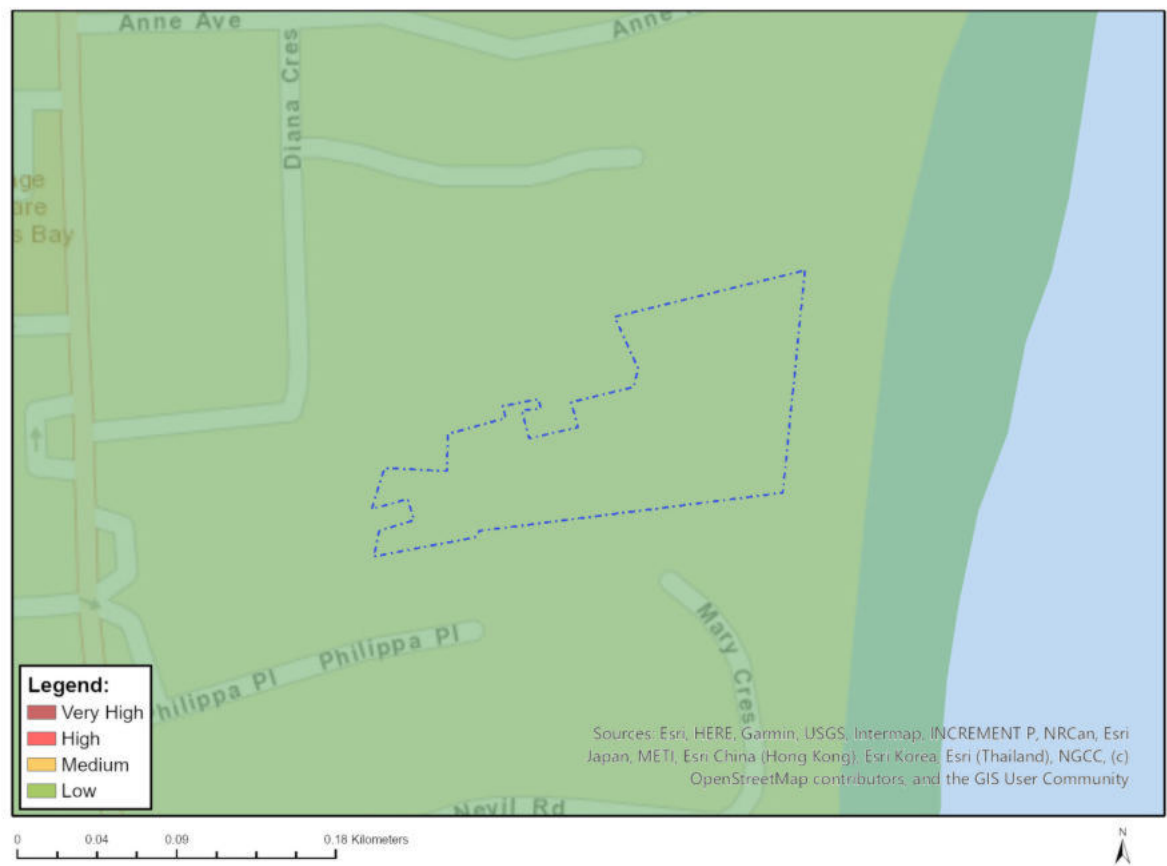


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 8 km of other civil aviation aerodrome
Medium	Between 8 and 15 km of other civil aviation aerodrome

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

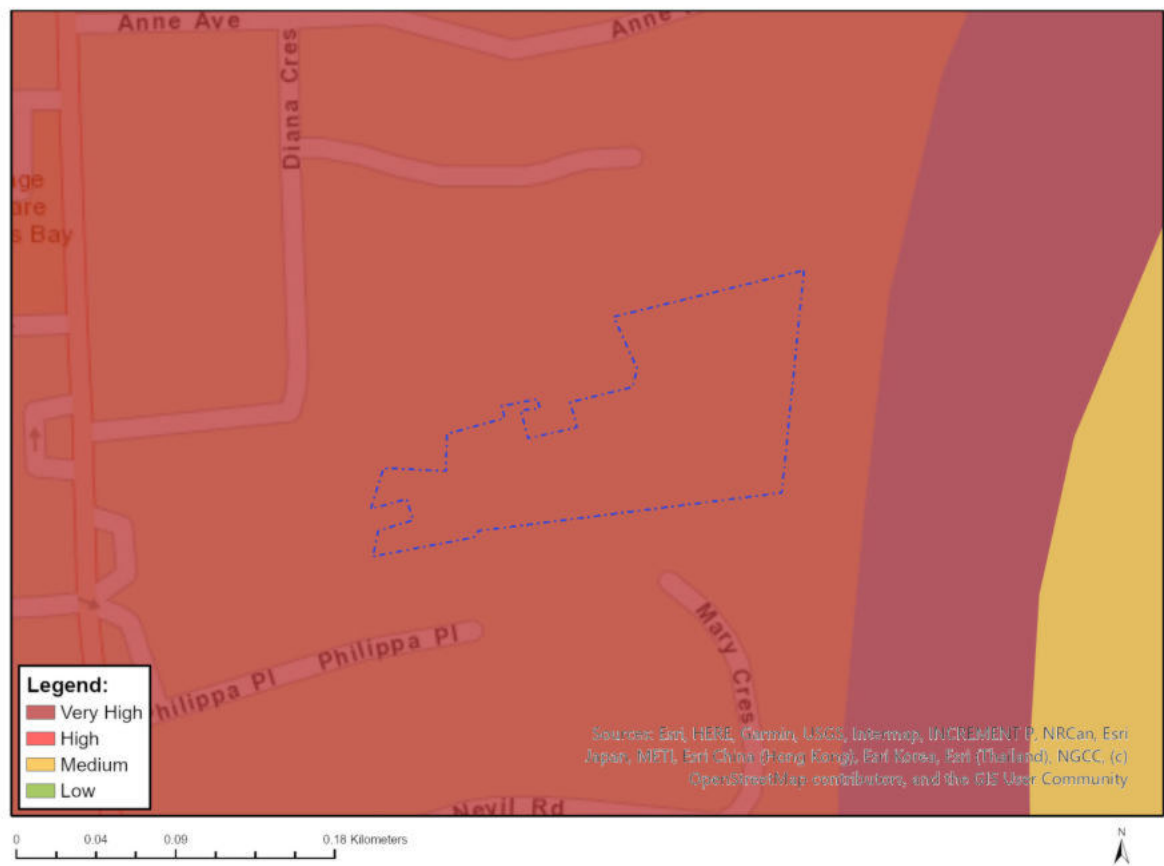


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

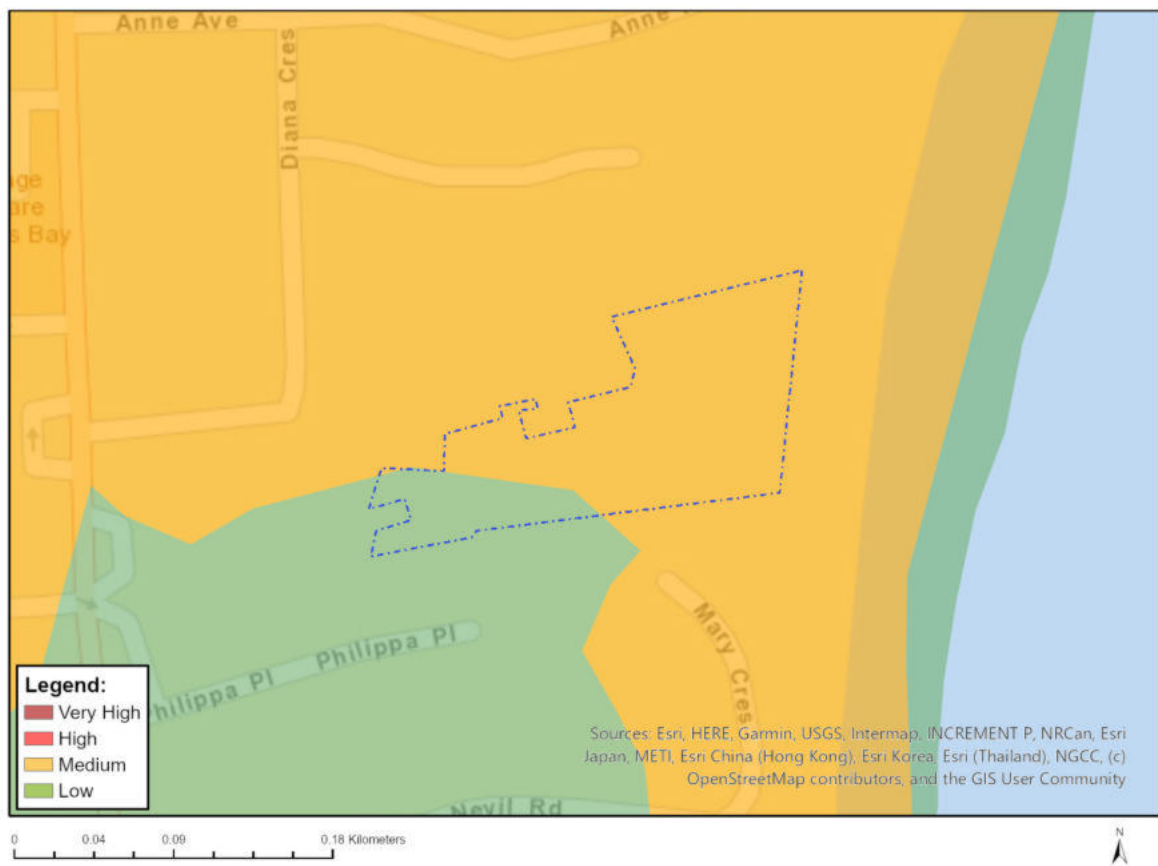


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Features with a Very High paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



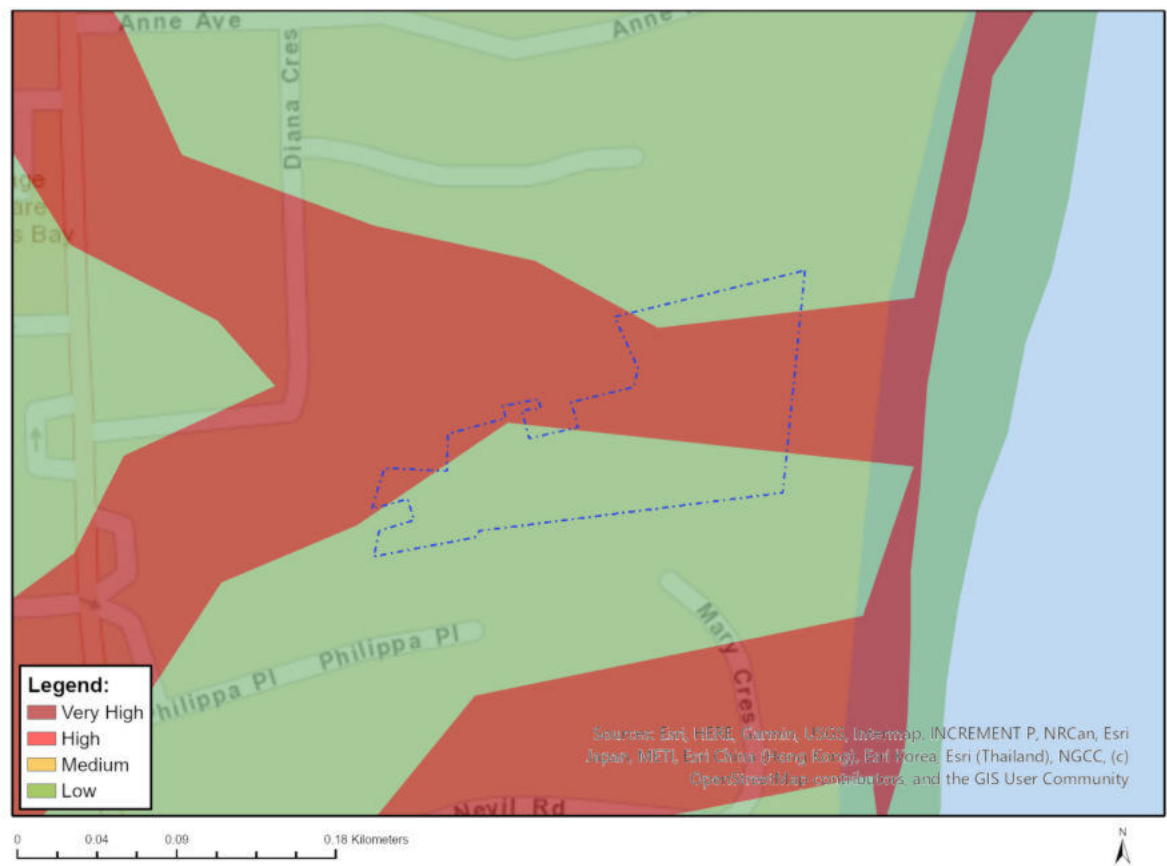
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Achyranthemum sordescens
Medium	Hyobanche robusta
Medium	Aspalathus recurvispina
Medium	Sensitive species 1188
Medium	Sensitive species 460
Medium	Cotyledon adscendens
Medium	Sensitive species 291
Medium	Sensitive species 854
Medium	Sensitive species 1121
Medium	Sensitive species 85

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	CBA1

APPENDIX H2: SITE VERIFICATION REPORT



APPENDIX H2

SITE VERIFICATION REPORT

For the

Application for Environmental Authorisation for the
Residential Development on Erf 2369 Seavista in St
Francis

BORN FREE INVESTEMENT 460 (PTY) LTD

EC08/C/LN1&3/M/43-2026



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BACKGROUND

Digital Soils Africa (Pty) Ltd (DSA) has been appointed by Born Free Investments 460 (Pty) Ltd (the Applicant) as the Environmental Assessment Practitioner for the application for Environmental Authorisation for the proposed residential redevelopment of Erf 2369, Sea Vista, St Francis Bay, within the Kouga Local Municipality, Eastern Cape Province.

Erf 2369 is the former St Francis Bay Hotel property. The hotel burned down between approximately 2003 and 2006. Although the main ruins were subsequently removed, foundations, paved areas, lawns, a swimming pool and other remnants of the former development remain. Vegetation has naturally re-established over portions of the property since the former hotel ceased operating.

The property measures approximately 13 855 m² (1.3855 ha) and is zoned for high-density residential development. The Applicant proposes eight detached residential units, each with a private garage, together with an internal access road and associated water, sewer and stormwater infrastructure. Two layout alternatives have been assessed. The layouts were refined to respond to the environmental constraints identified on the site and to reduce encroachment into the mapped sensitive/no-go areas.

A National Web-Based Environmental Screening Tool Report dated 6 August 2026 was generated. The Screening Tool identified eight specialist assessment categories for consideration:

- Landscape/Visual Impact Assessment
- Archaeological and Cultural Heritage Impact Assessment
- Palaeontological Impact Assessment
- Terrestrial Biodiversity Impact Assessment
- Aquatic Biodiversity Impact Assessment
- Socio-Economic Assessment
- Plant Species Assessment
- Animal Species Assessment

This Site Sensitivity Verification Report has therefore been prepared to verify the Screening Tool sensitivities against the actual site conditions, desktop information, the EAP's knowledge of the property, and the specialist investigations undertaken for the Basic Assessment. The purpose is to confirm which specialist assessments are required, which themes have been adequately addressed through existing specialist work, and where a separate specialist assessment is not warranted.

LOCATION

Erf 2369 is situated in Sea Vista, St Francis Bay, within the Kouga Local Municipality. The Screening Tool records the cadastral property as Erf 2369, Sea Vista, with a centre point at approximately 34°09'53.93"S, 24°49'50.67"E. The property lies within the established urban area of St Francis Bay, immediately inland of the coastline. Residential development occurs to the north, west and south, while the beach and coastal dune system occur to the east.

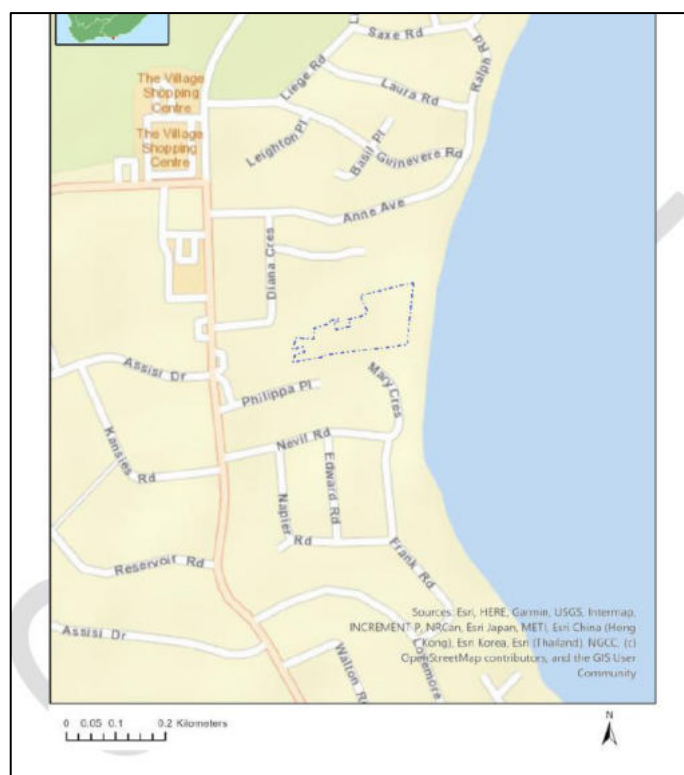


FIGURE 1: GENERAL LOCATION OF ERF 2369, SEA VISTA (SCREENING TOOL REPORT, 6 AUGUST 2026).

DESKTOP ANALYSIS OF THE SITE

LAND USE AND ZONING

The site is not an undeveloped greenfield property. It formed part of the former St Francis Bay Hotel and has a clear history of urban development and disturbance. Existing and remnant infrastructure includes paved

access and parking areas, lawns, the former swimming pool, concrete/foundation remnants and disturbed ground. The site is currently vacant but is located within an established residential area and is zoned for high-density residential development. No rezoning is required for the proposed residential use.

The western and central portions are more transformed, while natural dune/thicket vegetation is concentrated mainly in the eastern and portions of the northern/southern parts of the property. This variation in condition is important because the Screening Tool applies broad spatial datasets that do not necessarily distinguish the previously developed parts of the erf from the remaining natural habitat.

CURRENT ENVIRONMENTAL CHARACTER

The ecological specialist identified two principal fine-scale land-cover classes: transformed areas, including paved areas, lawn, the swimming pool and entertainment area; and dune thicket comprising continuous stands of indigenous thicket vegetation. The northern portion of the site overlaps a CBA1 according to the ECBCP 2019. Within that mapped CBA1 portion, approximately 52% remains covered by natural dune vegetation, while the balance has been urbanised or transformed.

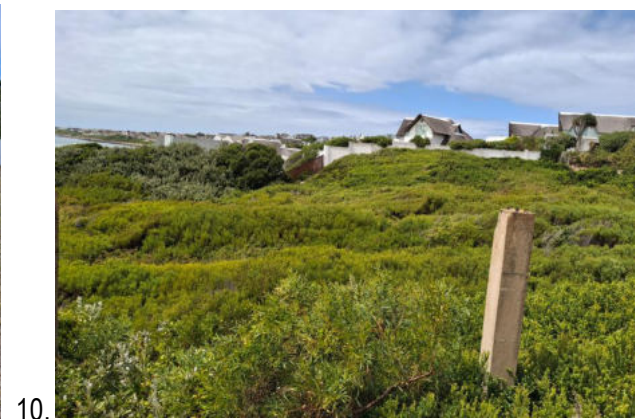
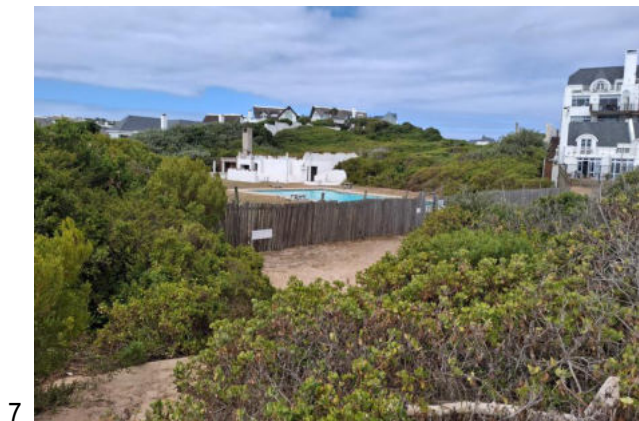
The beachfront foredune and associated vegetation are particularly important from an ecological and coastal-process perspective. These areas have been identified for protection and rehabilitation. The Rehabilitation Plan further recognises the erosion sensitivity of the unconsolidated coastal sands and requires long-term dune stabilisation, indigenous vegetation rehabilitation and alien invasive plant management.

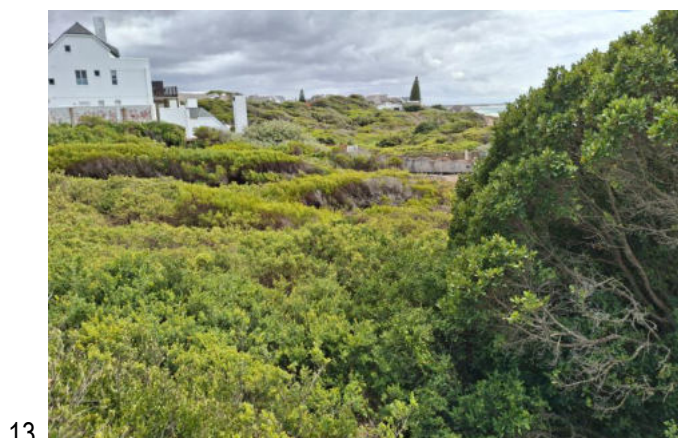
SITE INSPECTION AND PHOTOGRAPHIC VERIFICATION

The site conditions have been verified through specialist field investigations on 20 January 2026 for the environmental assessment. The ecological assessment confirms a mosaic of historically transformed areas and naturally vegetated dune thicket. The site contains short mown lawns, the existing swimming pool and former entertainment area, remnant infrastructure and dense dune thicket, including the vegetated beachfront foredune.

PHOTO RECORD OF SITE







ENVIRONMENTAL SENSITIVITY THEMES

The Screening Tool identifies the highest mapped sensitivity intersecting the property. These ratings have been verified below against the actual site condition and the findings of the specialist investigations. A Screening Tool rating is therefore not treated as a substitute for site-specific verification.

TABLE 1: ENVIRONMENTAL SENSITIVITY ACCORDING TO THE INFORMATION PROVIDED IN THE SCREENING TOOL REPORT

Theme	Screening Tool	Site verification / specialist finding	Verified sensitivity	Assessment requirement
Agriculture	Very High	Urban residential property; historically developed/transformed; no current agricultural use.	Low / not agriculturally functional.	No separate agricultural specialist assessment considered necessary.

Theme	Screening Tool	Site verification / specialist finding	Verified sensitivity	Assessment requirement
Animal Species	Very High	Three Screening Tool triggers; specialist survey found no animal SCC and confirmed poor suitability for listed fish/grasshopper; Sensitive species 13 may only visit.	Medium	Animal Species Compliance Statement incorporated in BlueLeaf Environmental report.
Aquatic Biodiversity	Very High	Triggered by ESA1 spatial layer; no rivers, streams or wetlands occur on the property.	Low for aquatic habitat.	No separate aquatic specialist assessment; stormwater impacts addressed in BAR/engineering report.
Archaeological & Cultural Heritage	Low	Former St Francis Bay Hotel remains >60 years old; no archaeological material, middens, graves or sites identified.	Low, with Section 34 constraint.	Phase 1 Archaeological & Cultural Heritage Assessment completed.
Civil Aviation	High	Within 8 km of another civil aviation aerodrome.	Low project-specific risk.	No specialist assessment required; ordinary low-rise residential development.
Defence	Low	Low sensitivity	Low	No specialist assessment required.
Palaeontology	Very High	Nanaga Formation of Algoa Group; fossils possible but sparsely distributed.	Very High geological sensitivity; low anticipated impact.	Palaeontological Impact Assessment completed; chance-find procedure required.
Plant Species	Medium	Multiple medium-sensitivity Screening Tool species; field survey recorded >45 plant species and protected White Milkwood; no plant SCC confirmed during survey.	Medium	Plant Species Assessment incorporated in BlueLeaf Environmental report; pre-clearance Search & Rescue required.
Terrestrial Biodiversity	Very High	CBA1 partly overlaps site; intact dune thicket remains; foredune/no-go area important.	Very High	Full Terrestrial Biodiversity Assessment completed; sensitive/no-go areas mapped.

AGRICULTURAL THEME

The Screening Tool assigns the Agriculture Theme a Very High sensitivity, based on mapped land capability classes. This mapping does not reflect the present land use and development history of Erf 2369. The property is an established urban erf, is zoned for high-density residential purposes, formed part of the former St Francis Bay Hotel, and contains substantial areas of historical transformation and remnant infrastructure. The property is not used for agriculture and does not function as agricultural land.

On this basis, the EAP considers the mapped agricultural sensitivity to be an artefact of the national-scale agricultural dataset rather than a reflection of the site's present agricultural function. The proposed activity is the redevelopment of an existing urban residential property and will not result in the loss of an existing agricultural enterprise or productive agricultural land. A separate Agricultural Impact Assessment or Agricultural Compliance Statement is therefore not considered necessary for this application.

ANIMAL SPECIES THEME

The Screening Tool assigns the Animal Species Theme a Very High sensitivity and identifies Sensitive Species 13, the Yellow-winged Agile Grasshopper (*Aneuryphymus montanus*) and the Krom River Redfin (*Pseudobarbus senticeps*). The ecological specialist undertook field verification and assessed the theme in accordance with the Terrestrial Animal Species Protocol.

None of the three sensitive animal species identified by the Screening Tool was recorded during the site survey. The specialist concluded that Sensitive Species 13 may plausibly visit the site to forage or seek shelter, but is unlikely to reside on the property because of the high degree of surrounding development, noise and disturbance. The Yellow-winged Agile Grasshopper is considered highly unlikely because suitable rocky, sclerophyllous fynbos habitat is absent. The Krom River Redfin is considered highly unlikely because no perennial river or stream occurs on the property.

The specialist therefore reduced the verified Animal Species sensitivity to Medium and treated the theme as a Terrestrial Animal Species Compliance Statement. No additional standalone animal specialist study is required, but can be incorporated in the Terrestrial Report. The fauna protection and pre-construction measures contained in the ecological report and EMP must, however, be implemented.

AQUATIC BIODIVERSITY THEME

The Screening Tool assigns the Aquatic Biodiversity Theme a Very High sensitivity because the property intersects an ESA1 spatial layer. Site-specific verification does not confirm the presence of a river, stream, wetland or other inland aquatic habitat on Erf 2369. The ecological specialist similarly records that there are no rivers or streams on the site, which is also the reason the Screening Tool fish trigger is not considered representative of actual habitat conditions.

Stormwater is nevertheless an important environmental consideration because of the coastal setting and sandy substrate. The Civil Services Availability Report and Stormwater Management Plan confirms that no municipal bulk stormwater connection is available. Pre-development runoff currently dissipates into the sandy soils and reaches the beach through three existing drainage channels. The engineering approach is to maintain this distributed drainage pattern through three detention areas that attenuate runoff, promote infiltration and discharge through the existing coastal routes rather than concentrating flow at a single point.

The EAP therefore verifies the site as having low sensitivity in respect of inland aquatic habitat, while recognising that stormwater, erosion and coastal discharge require management. A separate Aquatic Biodiversity Impact Assessment is not considered necessary because no aquatic ecosystem requiring specialist delineation or assessment occurs on the development property. Stormwater and water-quality risks are addressed through the engineering report, BAR and EMPr.

ARCHAEOLOGICAL, CULTURAL AND HERITAGE THEME

The Screening Tool assigns the Archaeological and Cultural Heritage Theme a Low sensitivity. Notwithstanding this low screening sensitivity, a Phase 1 Archaeological and Cultural Heritage Impact Assessment was undertaken by Booth Heritage Consulting because the development triggers the heritage assessment requirements applicable to the proposed change in character of the site.

The specialist found no archaeological material, shell middens, graves or other archaeological sites within the proposed development footprint or immediate surrounds and assessed the site as having low archaeological heritage significance. The remains and foundations of the former St Francis Bay Hotel are, however, present. The hotel was constructed by approximately 1960/1961 and the surviving structures are consequently older than 60 years and protected under Section 34 of the National Heritage Resources Act, 1999. Where these remains are to be demolished, destroyed or otherwise affected, the required ECPHRA permit must be obtained.

The specialist did not regard the remaining hotel structures as conservation-worthy and the anticipated heritage impact is low, subject to the required permit and chance-find procedures. The completed Phase 1 assessment is therefore sufficient for the archaeological and cultural heritage theme.

CIVIL AVIATION THEME

The Screening Tool assigns the Civil Aviation Theme a High sensitivity because the site is located within 8 km of another civil aviation aerodrome. The proposed activity comprises low-rise residential buildings within an established urban area and does not involve wind turbines, masts, stacks or other structures of a scale likely to create an aviation obstacle. No activity is proposed that would materially restrict airspace or create emissions likely to impair aviation visibility.

The EAP therefore considers the project-specific civil aviation risk to be low and a specialist Civil Aviation Impact Assessment is not considered necessary. Any ordinary statutory or municipal height restrictions remain applicable to the final building design.

DEFENCE THEME

The Screening Tool assigns the Defence Theme a Low sensitivity. The proposed development is a small residential redevelopment within an established urban area and does not involve defence installations, restricted military land or activities that could reasonably interfere with military operations. No Defence specialist assessment is required.

ARCHAEOLOGICAL & HERITAGE IMPACT AND PALAEOONTOLOGICAL THEME

The Screening Tool assigns the Palaeontology Theme a Very High sensitivity. A Palaeontological Impact Assessment was therefore undertaken by Dewald Wilken Pr.Sci.Nat. The assessment confirms that the site is underlain by the Nanaga Formation of the Algoa Group, which is mapped as very highly palaeontologically sensitive and has the potential to contain fossil material.

Although the geological formation is sensitive, the specialist notes that fossils in the Nanaga Formation are very sparsely distributed and concludes that it is very unlikely that construction of the proposed residential development will cause loss or damage to palaeontological heritage. No objection to the development was

raised, provided that the prescribed fossil chance-find procedure is implemented if fossil material is encountered.

The Very High palaeontological sensitivity is therefore retained as a geological sensitivity classification, but the anticipated development impact is low with the prescribed mitigation. The completed Palaeontological Impact Assessment is sufficient, and its chance-find procedure must be incorporated into the EMPr.

PLANT SPECIES THEME

The Screening Tool assigns the Plant Species Theme a Medium sensitivity and lists a number of medium-sensitivity plant triggers, including *Achyranthemum sordescens*, *Hyobanche robusta*, *Aspalathus recurvispina*, *Cotyledon adscendens* and several sensitive-species identifiers. The terrestrial specialist undertook a site survey and recorded more than 45 plant species.

No plant Species of Conservation Concern identified by the Screening Tool was confirmed during the field survey. One nationally protected tree species, *Sideroxylon inerme subsp. inerme* (White Milkwood), was recorded within areas of intact vegetation. These trees and their canopies must be avoided as far as practicable and may not be cut, damaged, destroyed or uprooted without the required permit. Pre-construction Plant Search and Rescue by a suitably qualified botanist is recommended before vegetation clearing.

The Plant Species Theme is verified as Medium sensitivity. The Plant Species component of the BlueLeaf Environmental Terrestrial Biodiversity, Plant and Animal Species Assessment satisfies the specialist requirement; no additional standalone plant assessment is required.

TERRESTRIAL BIODIVERSITY THEME

The Screening Tool assigns the Terrestrial Biodiversity Theme a Very High sensitivity because part of Erf 2369 overlaps a CBA1. The specialist site verification retains the Very High sensitivity. The ecological assessment records that the northern portion of the site overlaps a CBA1 and that natural dune thicket remains within parts of this mapped area, although substantial portions have been transformed by historical urban development.

The specialist further identifies dune thicket as the principal natural vegetation unit on the site. The National Biodiversity Assessment 2025 maps the site within FS14 St Francis Strandveld, assessed as Critically

Endangered, although the updated VegMap classification has not yet been gazetted. For regulatory consistency the specialist refers to the on-site vegetation as AT57 St Francis Dune Thicket while recognising the updated conservation context.

The development will result in permanent loss of a limited area of intact, highly sensitive dune thicket. The ecological assessment therefore delineates high sensitive areas and requires avoidance, strict footprint control, Plant Search and Rescue, protection of White Milkwood trees, rehabilitation of disturbed areas and ongoing alien invasive plant management. The beachfront foredune and associated vegetation are to remain protected from development and are subject to the Rehabilitation Plan.

A full Terrestrial Biodiversity Assessment has been completed and is required for the application. Its sensitivity mapping and mitigation measures must inform the final authorised layout and the EMPr.

SPECIALIST ASSESSMENTS IDENTIFIED

The Screening Tool identified eight specialist assessment categories. Following site verification and review of the specialist work completed for the Basic Assessment, the EAP confirms the following position:

TABLE 2: SPECIALIST ASSESSMENTS ACCORDING TO THE INFORMATION PROVIDED IN THE SCREENING TOOL REPORT

Screening Tool assessment	EAP verification	Status for BAR
Landscape/Visual Impact Assessment	Site is within established residential area; proposed use is compatible with surrounding character. Visual change is assessable by the EAP.	No standalone LVIA required; visual impacts assessed in BAR.
Archaeological & Cultural Heritage Impact Assessment	Heritage constraints verified, including >60-year-old former hotel remains.	Completed by Booth Heritage Consulting; ECPHRA permit requirement applies.
Palaeontological Impact Assessment	Very High geological sensitivity confirmed.	Completed by Dewald Wilken; fossil chance-find procedure required.
Terrestrial Biodiversity Impact Assessment	Very High sensitivity confirmed.	Full assessment completed by BlueLeaf Environmental.
Aquatic Biodiversity Impact Assessment	No inland aquatic habitat occurs on site; Screening Tool trigger is spatial rather than site-habitat based.	No standalone aquatic assessment required; stormwater/water risks addressed in engineering report, BAR and EMPr.

Screening Tool assessment	EAP verification	Status for BAR
Socio-Economic Assessment	Small private residential redevelopment within established urban area; impacts are conventional and can be assessed in BAR.	No standalone socio-economic specialist assessment required.
Plant Species Assessment	Medium sensitivity verified; protected White Milkwood recorded; no plant SCC confirmed.	Plant Species Assessment incorporated in BlueLeaf Environmental report; Search & Rescue required.
Animal Species Assessment	Screening Very High reduced to Medium after field verification.	Animal Species Compliance Statement incorporated in BlueLeaf Environmental report.

LAYOUT ALTERNATIVES AND SENSITIVITY RESPONSE

Two layout alternatives have been assessed for the same 13 855 m² property. Both alternatives seek to concentrate development within the historically transformed and less sensitive parts of the erf while retaining and rehabilitating indigenous vegetation. The principal environmental difference is the degree of encroachment into the mapped no-go/sensitive areas.

Alternative 1 record approximately 353 m² of no-go area affected and approximately 2 935 m² of re-established vegetation. Alternative 2 reduces the no-go encroachment to approximately 102 m² and provides approximately 3 168.65 m² of re-established vegetation. Alternative 2 therefore represents the environmentally preferred layout because it materially reduces direct encroachment into sensitive vegetation and increases the area available for indigenous vegetation re-establishment.

The final authorised footprint should remain consistent with the sensitivity constraints verified in this report and the ecological specialist mapping. Any material future layout change must be checked against the specialist sensitivity map before implementation to ensure that it does not introduce additional disturbance into the foredune, mapped high sensitive areas, protected Milkwood trees or other sensitive habitat.

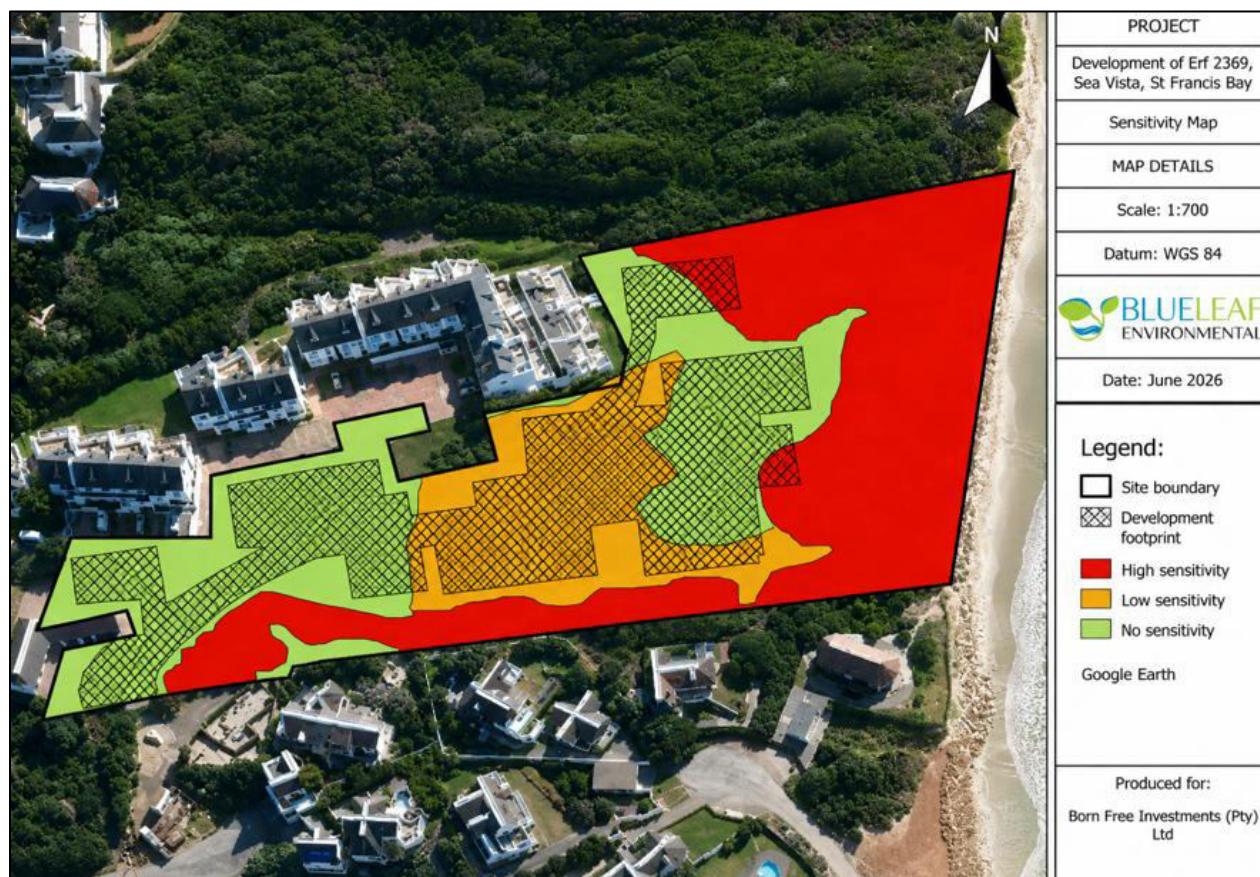


FIGURE 2: SITE SENSITIVITY MAP (SOURCE BLUELEAF ENVIRONMENT)

CONCLUSION OF SITE SENSITIVITY VERIFICATION REPORT

The Screening Tool provides an appropriate precautionary first-level indication of potential environmental sensitivity, but several of its mapped ratings require refinement when compared with the actual condition and development history of Erf 2369. The site is environmentally heterogeneous: substantial portions are historically transformed by the former hotel and associated infrastructure, while other portions retain sensitive coastal dune thicket and a vegetated foredune.

The most important confirmed environmental constraint is terrestrial biodiversity. The Very High Terrestrial Biodiversity sensitivity is retained, and the full terrestrial assessment must form a central basis for layout design, mitigation and environmental management. The Plant Species Theme remains Medium, with specific protection required for White Milkwood and pre-construction Search and Rescue. The Animal Species Theme is reduced from Very High to Medium following specialist verification and is adequately addressed through the Animal Species Compliance Statement contained in the BlueLeaf Environmental report.

The Very High Palaeontology sensitivity is confirmed at a geological level and has been addressed through a dedicated Palaeontological Impact Assessment. The Archaeological and Cultural Heritage Theme is low in respect of archaeological resources, but the surviving remains of the former St Francis Bay Hotel are older than 60 years and require the applicable Section 34 heritage permit where affected. The Aquatic Biodiversity Screening Tool rating is not supported by the presence of inland aquatic habitat on the property; no river, stream or wetland occurs on site, although stormwater and coastal discharge remain important management considerations.

The Agriculture, Civil Aviation and Defence themes do not warrant additional specialist investigations in the context of the actual site condition and the nature and scale of the proposed residential development. Likewise, standalone Landscape/Visual and Socio-Economic assessments are not considered necessary because these impacts can be adequately assessed in the BAR using the available site, planning, traffic and engineering information.

Accordingly, the EAP is satisfied that the specialist investigations completed for terrestrial biodiversity, plant and animal species, archaeology/cultural heritage and palaeontology, together with the engineering and traffic investigations and the EAP's assessment in the BAR, provide an appropriate and proportionate basis for environmental decision-making for the proposed redevelopment of Erf 2369. The environmental authorisation and EMPr should require strict adherence to the approved footprint, protection of mapped high sensitive areas and Milkwood trees, implementation of Search and Rescue, heritage and fossil chance-find procedures, stormwater controls, and the long-term Vegetation and Landscape Rehabilitation Plan.