



Eco Route

ENVIRONMENTAL CONSULTANCY
REGISTRATION NO. 1998/031976/23

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PRE-APPLICATION BASIC ASSESSMENT REPORT FOR PROPOSED WAREHOUSE AND STORAGE FACILITY ON PORTION 250 OF THE FARM 745, GOEDGELOOF, ST FRANCIS BAY, EASTERN CAPE.

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



PREPARED FOR:	GOEDGELOOF PROPERTIES (PTY) LTD
PREPARED BY:	ECO ROUTE ENVIRONMENTAL CONSULTANCY
DEPARTMENT REF:	TBC
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DATE:	12/01/2024

ECO-ROUTE ENVIRONMENTAL CONSULTANCY



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STATEMENT OF INDEPENDENCE

I, **Joclyn Marshall**, of Eco Route Environmental Consultancy, in terms of section 33 of the NEMA, 1998 (Act No. 107 of 1998), as amended, hereby declare that I provide services as an independent Environmental Assessment Practitioner (EAPASA Reg: **2022/5006**) and receive remuneration for services rendered for undertaking tasks required in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Environmental Impact Assessment Regulations, 2014 (as amended). I have no financial or other vested interest in the project.

EAP SIGNATURE: _____

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 **1 OCTOBER 2022**. 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 proposal is for a new warehouse and storage facility on Portion 250 of Farm 745, Goedgeloof, St Francis Bay, Eastern Cape. The property will need to be re-zoned from "Agriculture" to "Industrial Zone 1" in order to accommodate the proposed warehouses and storing units planned. Presently, the site is undeveloped. The proposed development comprises of a warehouse and light industrial units that will provide space for light industry. The total area of the warehouse and storage facilities will be 17 652.10 m², with a total development footprint of 32 490.10 m² including parking bays and paved road. There is a total of 309 storage units in Block B to O of 31m² each. The warehouse will contain 20 units of 297m² each. The development will entail the clearing of approximately 3.25 ha (32490.10 m²) of vegetation. The coverage is approximately 34.5% of the total property (5.1078 Ha).

The following will form part of the development footprint:

- ❖ Block A Warehouse Units (6 224.80 m²)
- ❖ Block B - O Storage Units (11 407.20 m²)
- ❖ Security gatehouse (20.10 m²)
- ❖ 147 Parking Bays (1 838 m²)
- ❖ Concrete paved Driveway (13 000 m²)
- ❖ Refuse Yard
- ❖ Electric powerline area and pipeline servitude (combined 0.27 ha)
- ❖ Areas for re-establishment of wetlands incorporating retention ponds and stormwater run-off.
- ❖ 10-meter buffer zone from artificial wetland areas.

There are no existing buildings on the site and the stormwater runoff from all proposed hardened surfaces on the site would be accommodated in the stormwater management design once the project proceeds to the detailed design stage. Preliminary inputs to the stormwater management design are however detailed in the Engineering Services Report (Appendix D4). The site would be accessed off Second Avenue via Tarragona Road and District Road R330 (MR 0381).

Services

This section is taken from the Engineering Services Report by Bara Consult (Appendix D4).

The site borders an existing industrial area and open space and is less than 1 km away from a low-cost residential area. Support services, including road access, water, and electricity supply are existing.

Water:

It is proposed that rainwater be used as the primary domestic water source on the site, supplemented with municipal water as and when required. The rainwater harvesting system would consist of internal

rainwater storage combined with booster pump/s for domestic supply to the various proposed units to be developed on the site.

It is proposed that the domestic municipal water connection be provided from the existing Ø75mm pipeline at the First/ Second Avenue intersection. According to municipal and other sources, this pipeline is supplied from the two 50m³ elevated reservoirs which are situated at the same site as the two existing 4000m³ concrete reservoirs, all of which are adjacent to the site (figure 2).



Figure 1: Elevated reservoirs.

The Gross Annual Average Daily Water Demand (includes conveyance loss allowance) from the proposed development would therefore be 63,978 litres which equates to 0.74 l/s. The design flow rate for sizing of pipelines would be based on the daily instantaneous (hourly) peak demand of 2.446 l/s, in addition to the applicable fire flow demand.

In light of the current extreme water shortages in the area, one of the Kouga Municipal requirements is for the implementation of alternative and sustainable water supply measures to be implemented so as to reduce the demand on the municipal water supply system. To this end it is proposed that rainwater harvesting be implemented on the site. The proposed rainwater harvesting system would consist of the following:

- ❖ All roof areas to be drained into rainwater harvesting system via gutter pipes and conveyance pipework to storage facility.
- ❖ First-flush traps/ leaf and organic debris diverters
- ❖ Water storage facilities with a total capacity (once the site is fully developed) of approximately 1000m³ with overflow system linked to the stormwater drainage system. Storage would be implemented in a phased approach concurrently with the implementation of the various development phases.
- ❖ Filtration system and disinfection.
- ❖ Pressure pump and pipelines to convey the water to the warehouse and light industrial units.
- ❖ Rainwater would be utilised as the primary domestic water source and supplemented with municipal water as and when required.

Sanitation:

The sewerage system to the proposed development would allow for a full water borne bulk sewer connection to the site which could connect to the St Francis Bay sewer reticulation network. The internal sewer reticulation design would be carried out at detail design stage.

Three options for sewerage disposal from the site were considered and assessed by *Bara Consult in their Engineering Services Report*:

- ❖ Gravity Connection to Municipal Sewer In Assisi Drive. Preliminary investigations and information provided by Kouga Municipality staff indicated that the sewer reticulation and rising main system should have adequate capacity to accommodate the sewerage flow from the proposed development. This would however need to be verified at detailed design stage of the project. This option would include the construction of a Ø160mm gravity sewer with a length of about 420m from the site to connect into the existing gravity sewer in Assisi Drive.
- ❖ The utilisation of an on-site conservancy tank/s is a possible alternative. The drawback of this alternative would be the on-going periodic emptying of the tank that would be required. It was determined that the conservancy tank should provide a minimum capacity for two days of storage of the total average daily sewerage volume generated i.e. 93m³. It is proposed that a conservancy tank with a minimum capacity of 100m³ be provided.
- ❖ Pumping of Sewerage to Tarragona Pump Station. Another alternative that was considered and investigated with transferring the sewerage to the small gravity system that feeds into the Tarragona Pump Station. Kouga municipal sewerage staff however indicated that the Tarragona Pump Station, as well as the existing rising main would need to be upgraded to accommodate any additional flow. This information, combined with the fact that this alternative would most likely involve pumping the sewerage from the site indicated that it would not be viable.
- ❖ Proposed Sewerage Disposal Option. A possible solution could include the initial use of a conservancy tank during the initial stages of the development, and then later upgrade the system to provide a connection to the municipal gravity sewer reticulation. This may be the most economically viable way of providing a viable sanitation system during the initial stages of the development.

Drainage and Stormwater Management:

Internal stormwater drainage would be provided both along the roads/ parking areas, at buildings, as well as in the natural drainage channels. Cut-off drains could also be constructed above infrastructure where necessary. The basic requirement for the stormwater drainage system to provide protection from major and minor storm runoff is usually conflicting. For major storms the rate of runoff should be retarded to reduce flood peaks, while for minor storms the runoff is best handled by rapid removal. The solution is to provide two separate and allied drainage systems (dual system), namely the MAJOR and the MINOR systems.

The MAJOR system would only become operative on rare occasions and serves as a flood control function. At such times, because of the severity of the storm, there will be a disruption of many of the normal activities in the drainage area. This would release facilities such as roads, recreational areas, parking areas and other open areas from their primary functions, allowing them to perform a stormwater management function. Similarly, facilities that are provided primarily for major stormwater control measures may have secondary functions, such as recreational or sociological functions. The major system may thus consist of natural and artificial watercourses, large man-made conduits, roads, stormwater storage facilities (stormwater detention ponds in this case), servitudes and flood plains. In addition, the major system could include some less obvious drainage ways such as overland relief watercourses and infrequent temporary ponding at stormwater control appurtenances. The major system includes not only the trunk system, which receives the water from the minor system, but is also a natural or constructed support system which functions in case of overflow from, or failure of, the minor system.

The function of the MINOR system can best be fulfilled by the rapid removal of the runoff from the area where it falls. Thus, a system of effective water carriers, to cater for the minor storm of the frequency chosen for the design, must be designed and constructed to convey the runoff in a controlled manner to natural or artificial watercourses or ponds. This system typically consist of kerbs, channels, kerb inlets, culverts and underground pipework. It may also include small surface furrows and other means of conveying the runoff from minor storms. An underground pipework system may not be necessary where the runoff can be discharged directly into a major system.

The capacity of the stormwater structures would be determined in accordance with the design parameters. All minor system components such as stormwater pipes, side drains and minor stormwater drainage channels would be designed to accommodate the 1:5 year design flood. Any major stormwater drainage components would be designed for the 1:100 year floods in terms of the "Red Book" Stormwater Design Guidelines. The maximum possible use would be made of lined drains and concrete stormwater pipes for culverts. All the new roads and parking areas would be constructed to accommodate the stormwater runoff. The stormwater would be accommodated on the surface of the road where possible and piped to natural drainage channels where required based on the design. Rainwater harvesting is proposed for utilising rainwater from the proposed buildings on the site

Based on the site contours and additional contour information outside of the immediate site area, the stormwater generated from surrounding catchment area to the west of the site should have limited impact on the site. The internal stormwater would be controlled in the roads and parking areas and then conveyed to the low points of the roads and parking areas. The stormwater generated on the site would be conveyed to the proposed stormwater retention/ detention ponds. The stormwater flow through the retention ponds would be managed in a manner such that on-site containment for the 1:50 year post-development rainfall event with a controlled release of not more than the 1:5 year pre-development rainfall event would be achieved. The controlled outflow from the ponds would then follow the existing natural flow paths and should have limited impact on downstream properties and infrastructure due to the controlled nature of the flow release.

Sustainable Drainage System (SuDS) Interventions:

The total required volume of the Stormwater Detention Pond for this site is therefore 915 m³ and the maximum discharge from the Stormwater Detention Pond would be 0.108 m³/s. The discharge from the pond would be directed to the natural drainage path on the site.

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

Alternative Layout 2:

The proposed development comprises of a warehouse and light industrial units that will provide space for light industry and will be zoned appropriately. The total floor areas of the warehouse and storage facilities will be approximately 17 549.75m² which includes a single security gate house. The coverage is 19 321.20m², approximately 50.4% of the total property (5.1078 Ha). There is a total of 374 storage units in Block B to S of 31m² each. The warehouse will contain 20 units of 297m² each. The development will entail the clearing of approximately 3.8 ha of vegetation. The following will form part of the development footprint:

- ❖ Block A Warehouse Units (6224.80m²)
- ❖ Block B - S Storage Units (13 076.30m²)
- ❖ Security gatehouse (20.10m²)
- ❖ Parking Bays (150)
- ❖ Concrete paved Driveway
- ❖ Refuse Yard
- ❖ Electric powerline area and pipeline servitude (combined 0.27 ha)
- ❖ Public open space, inclusive of landscaped areas and stormwater retention ponds

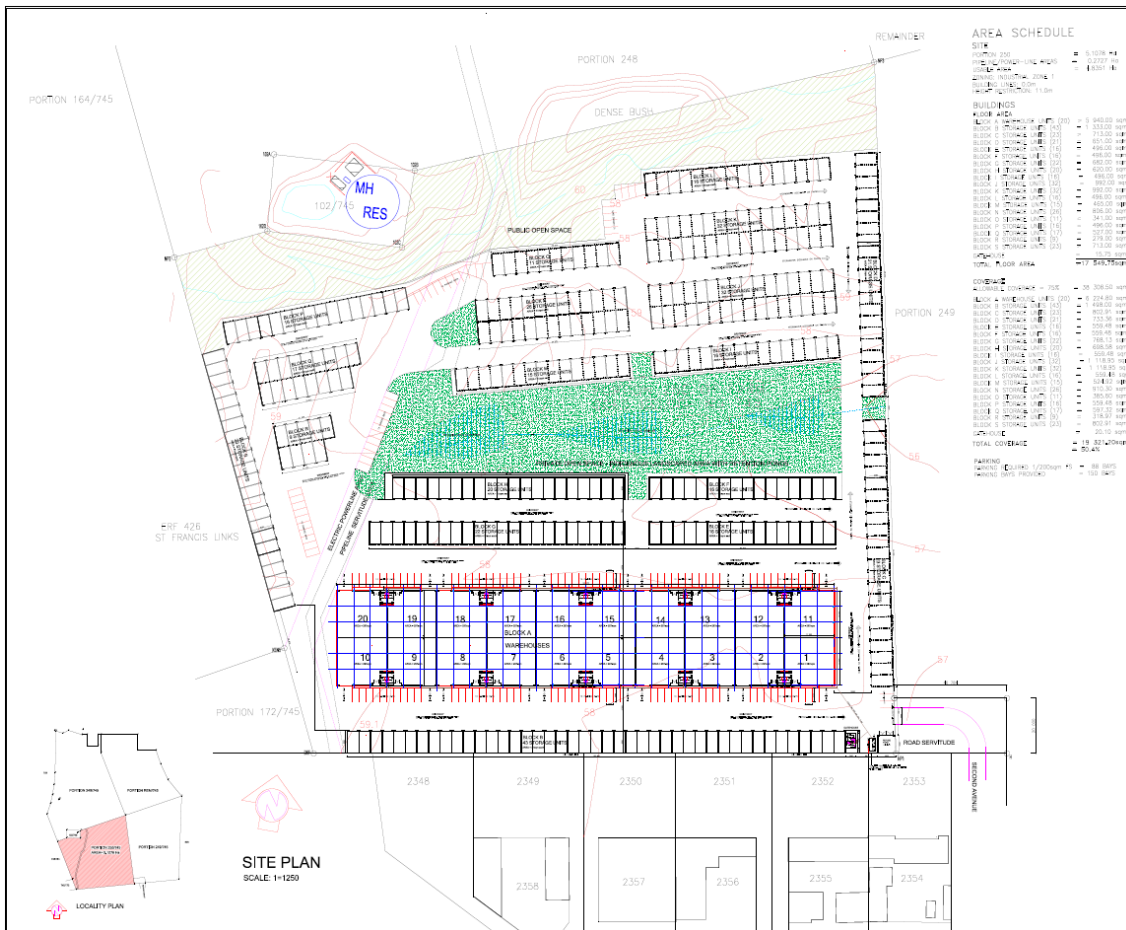


Figure 3: Site Development Plan for Alternative Layout 2.

No-go Alternative: Undeveloped land

The No-go option is the option of not undertaking the proposed project or alternatives and can be used as a baseline from which impacts can be compared. If the proposed property is not developed the following will occur:

1. The site will remain as is and continue to support what remaining fauna and flora make use of the area.
2. Reduced risk of vegetation degradation due to anthropogenic disturbance as a result of the proposed development.
3. The viable sub-population of over 100 individuals of *Rapanea gilliana* that occur on site will not be further impacted other than by the current impacts occurring on site.
4. There will be no further disturbance to the artificial wetlands on site that support bird and frog species.
5. Management of alien invasive plants may not be implemented or monitored effectively.
6. The area will continue to be impacted by illegal dumping, cattle grazing, and human activities associated with illegal squatting.
7. The potential socio-economic benefits to the town and communities will be lost.
8. Much needed job opportunity will be lost.
9. The potential for job creation and skills development will be lost.

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.

Latitude (S): **Longitude (E):**

Alternative:

Alternative S1¹ (preferred or only site alternative)

Alternative S2 (if any)

Alternative S3 (if any)

34°	10 ' 14.2"	24°	49' 14.2"
0	'	0	'
0	'	0	'

In the case of linear activities:

Alternative:

Alternative S1 (preferred or only route alternative)

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

Latitude (S): **Longitude (E):**

0	'	0	'
0	'	0	'
0	'	0	'

Alternative S2 (if any)

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

0	'	0	'
0	'	0	'
0	'	0	'

Alternative S3 (if any)

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

0	'	0	'
0	'	0	'
0	'	0	'

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.

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

4. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1² (preferred activity alternative)

Alternative A2 (if any)

Size of the activity:

32490.10 m ²
34159.20 m ²

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

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Size of the site/servitude:

51078 m ²
N/A

5. SITE ACCESS

Does ready access to the site exist?

YES ✓	NO
m	

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

Describe the type of access road planned:

There is currently no existing road infrastructure on the site. The site is located in St Francis Bay and is accessed off Second Avenue via Tarragona Road and District Road R330 (MR 0381) as shown in Figure 4 below. Internal roadways and parking areas would be surfaced, with the possible use of brick-paving as the final surface layer, with barrier kerbs on the low side of the road for channelling of stormwater runoff.



Figure 4: Site access.

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.

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

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;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers;
 - the 1:100 year flood line (where available or where it is required by DWA);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.9 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.10 the positions from where photographs of the site were taken.

7. SITE PHOTOGRAPHS

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

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?	R100 mil
What is the expected yearly income that will be generated by or as a result of the activity?	R1 mil
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?	50
What is the expected value of the employment opportunities during the development phase?	R350 000 / month
What percentage of this will accrue to previously disadvantaged individuals?	90%
How many permanent new employment opportunities will be created during the operational phase of the activity?	±200
What is the expected current value of the employment opportunities during the first 10 years?	R240 million
What percentage of this will accrue to previously disadvantaged individuals?	80%

9(b) Need and desirability of the activity

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

Information extracted from the Kouga Municipality (EC108) SDF 2009.

The residential areas of St Francis Bay are generally characterised by medium density, upmarket residential developments which include two Golf courses (St Francis Bay & St Francis Links) and the Marina Development (St Francis canal area). Tourism one of the primary structural elements of the Kouga SDP is a core key component of the economic development of St Francis Bay. Kouga is a sustainable tourism destination that benefits its entire people and it is expected to grow domestic tourism by 4.5% per annum and foreign tourism by 10% per annum over the next 5 years. Business and industrial components in these areas are limited and dependant on Humansdorp and Jeffrey's Bay as regional service centres. A strategically located facility reduces the need for long-distance transportation of goods, minimizing traffic, pollution, and wear on infrastructure. This is inline with the goals of sustainable urban development and efficient land use.

The Kouga SDP and IDP emphasize the need for economic growth and diversification within the Kouga Municipality. A light industrial development (warehouse and storage facility) can attract business and entrepreneurs, fostering economic development by providing a space for

manufacturing, processing, assembly, and storage of goods. This can lead to job creation, increased local revenue, and reduced dependency on specific sectors.

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

Information extracted from the Kouga Municipality (EC108) SDF 2009.

St Francis Bay is considered a Level 2 District Centre and a secondary node within the Kouga Region. The population of St Francis Bay in 2001 was 2364 with an increase in 2005 to 2800 persons. Estimated population and growth rates for the Kouga region are based on a 4.5% annual increase. Household sizes are based on an average base size of 3.5 persons. The figures for St Francis Bay show a massive increase in households (279%) over the period 2001 to 2005. The population increase was 18.4 % during the same period which is 8% below the municipal average for Kouga of 26.8%. Figures post 2005 is not available. The estimated population growth rate for St Francis Bay in population is 36.09% for the period 2008 to 2015 with a total of 4348 in 2015. The household data shows a decrease in number which is contrary to the expected (Kouga SDF 2009).

The unemployment rate in St Francis Bay (2002) is 20% which is 8.4% below the Kouga region average. The strong Chokka industry is viewed as the drivers of economic output, which contributes strongly to the overall Kouga economy both in terms of economic value and job creation. There is, however, a greater challenge as the overall agricultural output of the Province has generally slowed down over the last five years. This is further compounded by the fact that local agriculture, in terms of commercial primary production, seems to have reached its capacity within the Kouga area. In the Kouga region the economic sector Agriculture, community service constitute approximately 20%, followed by Manufacturing, Finance and Trade (11 to 15%), and electricity, transport and construction (4 to 8%).

Poverty Levels are estimated at 26.6% for St Francis Bay which is lower than the Kouga Region of 32.9%. Services for St Francis Bay show water and sanitation to 3031 households, with a yard tap or house connection. 633 households are serviced with full water borne sanitation and 2398 with a wet installation. Power is dominated by full electrical connections (79%) followed by paraffin of 12.2% (Kouga SDF 2009).

The development of light industry, and the fishing industry in St Francis Bay has lead to job creation for lower to upper middle income individuals who primarily reside outside the area in Humansdorp or Jeffrey's Bay.

Encouraging light industrial activities can promote value addition to local resource, support a sustainable and self-sufficient economy. This is a key objective of the IDP, aiming to reduce the need for importing finished goods from outside of the municipality.

The establishment of a light industrial warehouse and storage facility can attract investors and businesses looking for suitable locations to set up operations. This influx of investment can stimulate economic growth and contribute to the overall development of the municipality. The increased economic activity generated by the facility, such as property taxes and business licenses, can led to higher municipal revenue. This additional revenue can then be reinvested in community services, infrastructure projects, and public amenities.

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

A light industrial facility can create a range of employment opportunities, from skilled labor in manufacturing and logistics to administrative roles. This contributes to reducing unemployment rates, which is becoming an increasing concern in the local communities. The presence of a light industrial facility can also support community development by offering training programmes, skills development, and entrepreneurial opportunities for local residents. This enhances the overall quality of life and empowers individuals to participate in economic activities.

Developing such a facility can also led to improved infrastructure and services around the area that will benefit both the facility and the surrounding community.

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:

Table 1: Applicable Listed Activities.

Environmental Impact Assessment Regulations Listing Notice 1 of 2014 (Government Notice No. R327)		
Activity Number	Activity description	Details of Activity(ies) requiring Basic Assessment
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.	The artificial wetlands (Wetland A and B) will have a 10m buffer zone from the proposed development. Although there will be no excavation or infilling within these artificial wetlands, several of the smaller circular artificial depressions are located outside of the buffer zone. The Wetland Assessment identified these as almost circular depressions, 3 to 5 m in diameter, with near vertical edges (approximately 0.5 to 1 m high) all dominated by <i>T. capensis</i> and were noticeably wetter than the surrounding wetland area. Infilling of the smaller circular artificial depressions outside of the buffer zone will be required. Confirmation from DWS for the determination of whether this listed activity is applicable within the definition of a watercourse for the smaller circular artificial depressions will be requested.
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.	The development will require approximately 3.25 ha (32490.10 m ²) of vegetation to be cleared.
28	Residential, mixed, retail, commercial, <u>industrial</u> or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation	The coverage of the development is 17 652.10m ² (1.76 ha) and will also include parking (1838 m ²) and paved driveways (13 000 m ²). The property is located outside of the urban area.

	<p>on or after 01 April 1998 and where such development:</p> <p>(i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or</p> <p>(ii) <u>will occur outside an urban area, where the total land to be developed is bigger than 1 hectare</u></p>	
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Environmental Impact Assessment Regulations Listing Notice 3 of 2014 (Government Notice No. R324)

Activity number	Activity description	Details of Activity(ies) requiring Basic Assessment
4	<p>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</p> <p>a. Eastern Cape</p> <p>i. Outside urban areas:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding disturbed areas;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an international convention;</p> <p>(ee) <u>Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</u></p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve, excluding disturbed areas;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ii) In an estuarine functional zone, excluding areas falling behind</p>	<p>The development will require road that will be wider than 4m for paved driveway through the development, parking bays and loading bays.</p> <p>The site is outside of the urban area and is also within a terrestrial CBA1 and CBA2 according to the ECBCP.</p>

	the development setback line; or	
12	<p>The clearance of an area of 300 square metres or more of indigenous vegetation.</p> <p>a. Eastern Cape</p> <ul style="list-style-type: none"> i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; ii. <u>Within critical biodiversity areas identified in bioregional plans;</u> iii. Within the littoral active zone or 100 metres inland from the high water mark of the sea, whichever distance is the greater, excluding where such removal will occur behind the development setback line or even in urban areas; iv. Outside urban areas, within 100 metres inland from an estuarine functional zone; or v. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning. 	<p>The development will require approximately 3.25 ha (32490.10 m²) of vegetation to be cleared.</p> <p>The site is outside of the urban area and is also within a terrestrial CBA1 and CBA2 according to the ECBCP.</p>
14	<p>The development of—</p> <ul style="list-style-type: none"> (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) <u>infrastructure or structures with a physical footprint of 10 square metres or more;</u> <p>where such development occurs—</p> <ul style="list-style-type: none"> (a) <u>within a watercourse;</u> (b) in front of a development setback; or (c) <u>if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse.</u> <p>a. Eastern Cape</p> <ul style="list-style-type: none"> i. Outside urban areas: <ul style="list-style-type: none"> (aa) A protected area identified in terms of NEMPAA, excluding conservancies; (bb) National Protected Area Expansion Strategy Focus areas; (cc) World Heritage Sites; 	<p>The coverage of the development is 17 652.10m² (1.76 ha) and will also include parking (1838 m²) and paved driveways (13 000 m²). The property is located outside of the urban area.</p> <p>The development is within 10m of an artificial wetland and is within a terrestrial CBA1 and CBA2 according to the ECBCP.</p>

	<p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas identified in terms of an international convention;</p> <p>(ff) <u>Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</u></p> <p>(gg) Core areas in biosphere reserves;</p> <p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</p> <p>(ii) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ij) In an estuarine functional zone, excluding areas falling behind the development setback line; or</p>	
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Table 2: Legislation, policies and/or guidelines.

LEGISLATION	ADMINISTERING AUTHORITY	TYPE Permit/ license/ authorisation/comment / relevant consideration	DATE (if already obtained):
CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA. (ACT 108 OF 1996)	All State and Provincial Departments as well as Local Authorities that have been identified as relevant Competent Authorities.	Relevant Consideration	N/A
ENVIRONMENTAL CONSERVATION ACT (ACT 73 OF 1989)	Department of Economic Development, Environmental Affairs & Tourism	Relevant Consideration	N/A

NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998)	Department of Economic Development, Environmental Affairs & Tourism	Authorization	In process
NATIONAL ENVIRONMENTAL MANAGEMENT AMENDMENT ACT (ACT 62 OF 2008)	Department of Economic Development, Environmental Affairs & Tourism	Authorization	In Process
NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (ACT NO 10 OF 2004)	Department of Economic Development, Environmental Affairs & Tourism	Relevant Consideration	N/A
NATIONAL ENVIRONMENTAL MANAGEMENT: INTEGRATED COASTAL MANAGEMENT ACT (ACT NO 24 OF 2008)	Department of Economic Development, Environmental Affairs & Tourism	Relevant Consideration	N/A
NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (ACT 57 OF 2003)	Department of Economic Development, Environmental Affairs & Tourism, Department of Agriculture, Forestry and Fisheries	Relevant Consideration	N/A
NATIONAL WATER ACT (ACT 36 OF 1998)	Department of Water and Sanitation	Water Use License	Must synchronize with NEMA process
WATER SERVICES ACT (ACT 108 OF 1997)	Department of Water and Sanitation	Relevant Consideration	N/A
SEA SHORE ACT (ACT 21 OF 1935)	Department of Economic Development, Environmental Affairs & Tourism	Relevant Consideration	N/A
CONSERVATION OF AGRICULTURAL RESOURCES ACT (ACT 43 OF 1983)	Department of Agriculture, Forestry and Fisheries	Relevant Consideration	N/A
NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)	Eastern Cape Provincial Heritage Resources Authority	Comment/ Relevant Consideration	N/A

POLICY/ GUIDELINES	ADMINISTERING AUTHORITY
GNR 792. Draft Guideline on Need and Desirability in terms of the Environmental Impact Assessment Process 2010 & 2017. Integrated Environmental Management Guidelines Series No. 9.	DFFE
Guideline 3: General Guide to the Environmental Impact Assessment Regulations, 2005. Integrated Environmental Management Guidelines Series.	DFFE

Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Assessment Regulations, 2005. Integrated Environmental Management Guideline Series.	DFFE
Eastern Cape Biodiversity Conservation Plan	DEDEAT
United Nations Framework Convention on Climate Change	UN
NO.R. 580. Climate Change Bill, 2018	DFFE
National Climate Change Response: White Paper	South African Government
South Africa low emission development strategy.2050	South African Government

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
To be determined	

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

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

At this early stage in the project life-cycle it is uncertain as to the type and estimated volumes of waste that would be generated on the site, as this would be very much industry-specific.

Solid waste produced during the construction phase of the project would be the Contractor's responsibility to maintain a waste management practice in accordance with both national and local legislation. This would include compliance with Environmental Management Programme (EMPr) requirements in this regard.

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

Solid waste collected in St Francis Bay is transported to the landfill site in Humansdorp.

Will the activity produce solid waste during its operational phase?

YES	NO
To be determined	

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

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

- ❖ Solid waste collection is generally carried out on a weekly basis by the Municipality.
- ❖ Arrangements can be made with the Municipality for more frequent collections, as well as for collection of refuse from on-site skips. Applicable tariffs would be levied for these additional services.
- ❖ The Municipality is planning to implement a recycling plant in St Francis Bay in fairly close proximity to the site.
- ❖ Recycling is currently collected and undertaken by private operators in the St Francis area.

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

- ❖ The St Francis Bay landfill site is no longer operational.
- ❖ Solid waste collected in St Francis Bay is transported to the landfill site in Humansdorp.
- ❖ Hazardous waste would not be accommodated by Kouga Municipality and would need to be disposed of at a suitably registered Landfill site in Gqeberha (Port Elizabeth).

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

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

YES	NO ✓
-----	------

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

m ³

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

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:	
Contact person:	
Postal address:	

Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

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

N/A

11(c) Emissions into the atmosphere

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:

None

11(d) Generation of noise

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:

None

WATER USE

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

<input checked="" type="checkbox"/> municipal	<input type="checkbox"/> water board	<input type="checkbox"/> groundwater	<input type="checkbox"/> river, stream, dam or lake	<input checked="" type="checkbox"/> Other – rainwater harvesting	<input type="checkbox"/> 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:

To be determined	
YES	NO

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

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.

As the wetlands are artificial no water use authorisation is required.

13. ENERGY EFFICIENCY

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

Kouga Municipality have indicated that there should be sufficient capacity in the existing electrical network to supply the development but will be confirmed once they have obtained the data recordings from the relevant substations in the area, as detailed in the Electrical Services Report in Annexure D of Appendix D4.

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

All alternative energy sources will be investigated, including the use of solar panels.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

- 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. 1
A):

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

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

YES	NO
-----	----

All specialist reports must be contained in Appendix D.

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

The site has a general slope direction from West and East and may be characterised as gentle slopes. The elevation is generally between 64m and 56m above mean sea level, as determined from historical aerial survey data (2006) carried out on 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
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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):

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
------	-------------	-------------	-------------	--------------	-------------	------------------

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

This section is taken from the Wetland Assessment by Dr. James M. Dabrowski of Confluent Environmental in November 2023 (Appendix D1).

According to geological information that has been previously published by the Council of GeoSciences, the study area mainly comprises of Calcareous sandstone, clastic limestone, conglomerate and conquinite. A smaller area of the study area comprises of quartzitic sandstone and minor shale.

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

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	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

3.1. Hydrology

The site falls within the Fish to Tsitsikamma Water Management Area (WMA), specifically within the Tsitsikamma Sub-Water Management Area, and within quaternary catchment K90E in the Kromme River Primary catchment area. The main river draining the catchment is the Krom River which merges with the Geelhoutboom River to form the Krom River estuary (Figure 4). The property is located within sub-quaternary catchment (SQC) 9230 (Figure 5), which, according to the National Freshwater Ecosystem Priority Atlas (NFEPA, Nel et al., 2011), has not been classified as Freshwater Ecosystem Priority Areas (FEPAs). The catchment area therefore falls within an SQC that is not considered as being a priority for maintaining freshwater biodiversity at a national scale. This is largely as a result of the extensive agriculture that has occurred throughout most of the catchment area, which has led to the degradation of watercourses, particularly in their lower reaches.

The site is not situated near any rivers or documented wetlands. According to the National Wetlands Map 5 (2018) there are no wetlands located within the study area. The 1:50 000 topographical data indicates that there are no perennial and non-perennial rivers within the immediate surrounding area. The ephemeral Sand River is found approximately 2.2 km north and the Kromme Estuary is located approximately 3 km away. The Kromme Estuary is permanently open and is considered to be an extension of the sea due to the lack of freshwater inflow. This reduction is a result of the construction of the Impofu and Churchill dams upstream³.

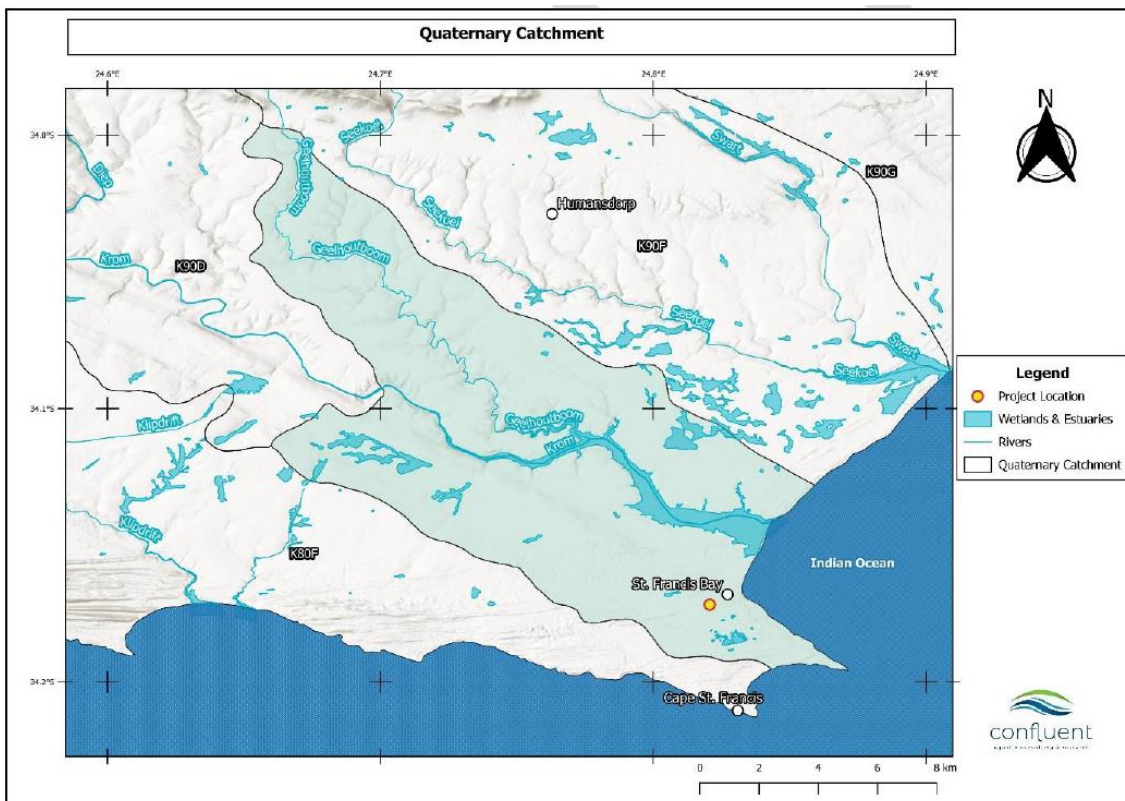


Figure 5: Location of site relative to mapped watercourses.

³ TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT: PROPOSED GOEDGELOOF STORAGE DEVELOPMENT, ST FRANCIS BAY, EASTERN CAPE. SRK Consulting (South Africa) (Pty) Ltd. December 2023.

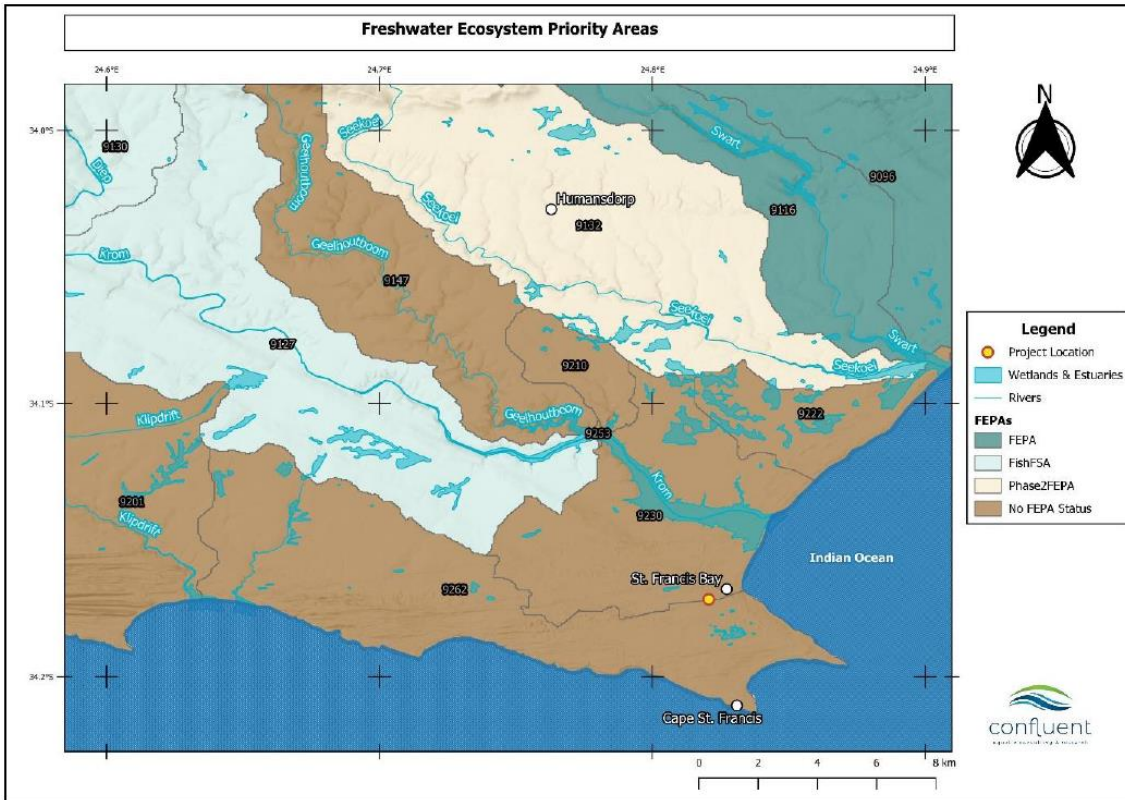


Figure 6: Map indicating the property location relative to Freshwater Ecosystem Priority Areas.

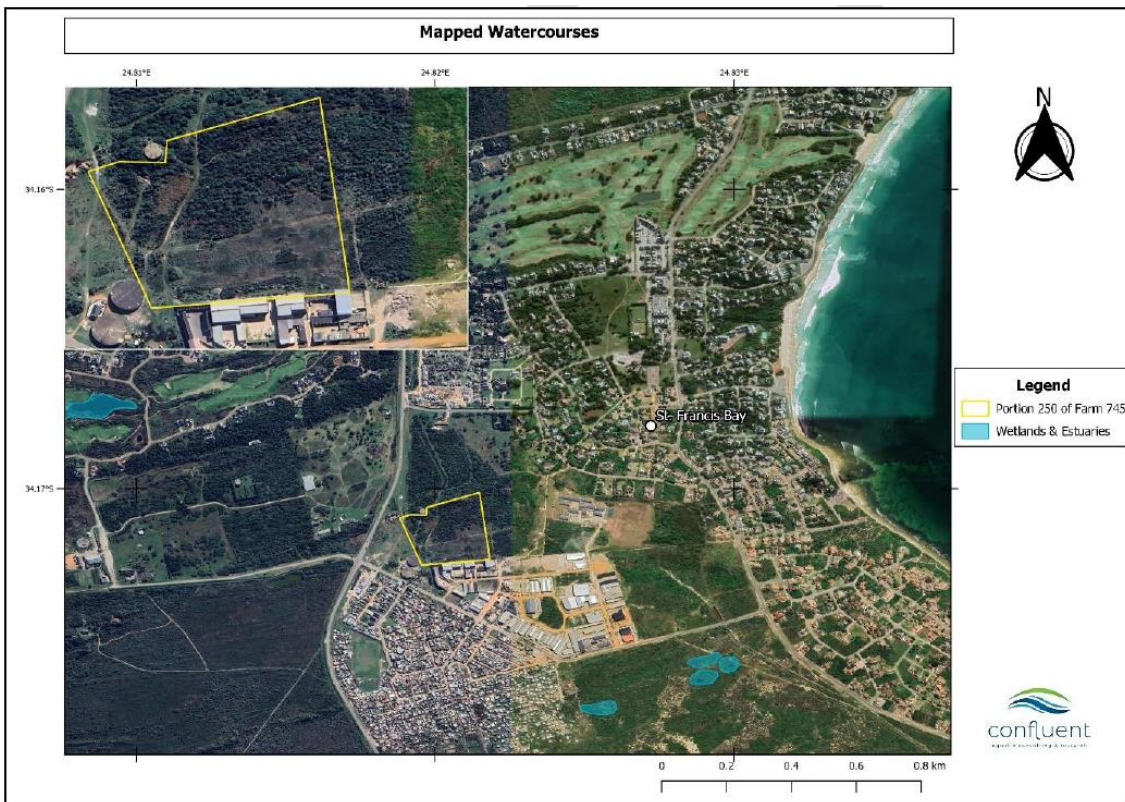


Figure 7: Watercourses mapped on geospatial databases.

3.2. Wetlands

To the west of the low-lying area there is a clear depression wetland (Wetland A) that is dominated by mainly *Typha capensis* (Figure 8). The depression appears to have been created by a historical excavation into the soil profile and there was evidence of well vegetated stockpiles of soil around the perimeter of the wetland. A water pipeline that connects two reservoirs runs immediately adjacent to the western perimeter of the wetland, and according to the applicant, was the source of a significant water leak, which presumably contributed to the formation of the wetland habitat over time (Figure 8). This leak was reported to the municipality and has been subsequently repaired.

Further to the east there is a clear depression wetland area (Wetland B) that is well vegetated by terrestrial plants in and around the margins (Figure 8). There were however signs of numerous wetland plant species that included *T. capensis*, *Ficinia nodosa*, *Carex clavate*, *Isolepis diabolica*, *Cyperus polystachyos* and *Centella asiatica*. Soil augering did not show any distinct indications of saturation in the soil profile. This is however not unexpected as very sandy soils typically do not show these indicators. The localised topography of the area and the presence of wetland plant species are therefore the most reliable indicators of the presence of a wetland. The depression was dry during the June site visit but was well inundated during the November site visit (Figure 9). In addition to these two large depression wetlands, there are several small depressions located outside of this larger depression area. These are all almost circular depressions, 3 to 5 m in diameter, with near vertical edges (approximately 0.5 to 1 m high) all dominated by *T. capensis*. Some of the depressions were located within the delineated extent of Wetland B and were at a noticeably lower elevation and were noticeably wetter than the surrounding wetland area.

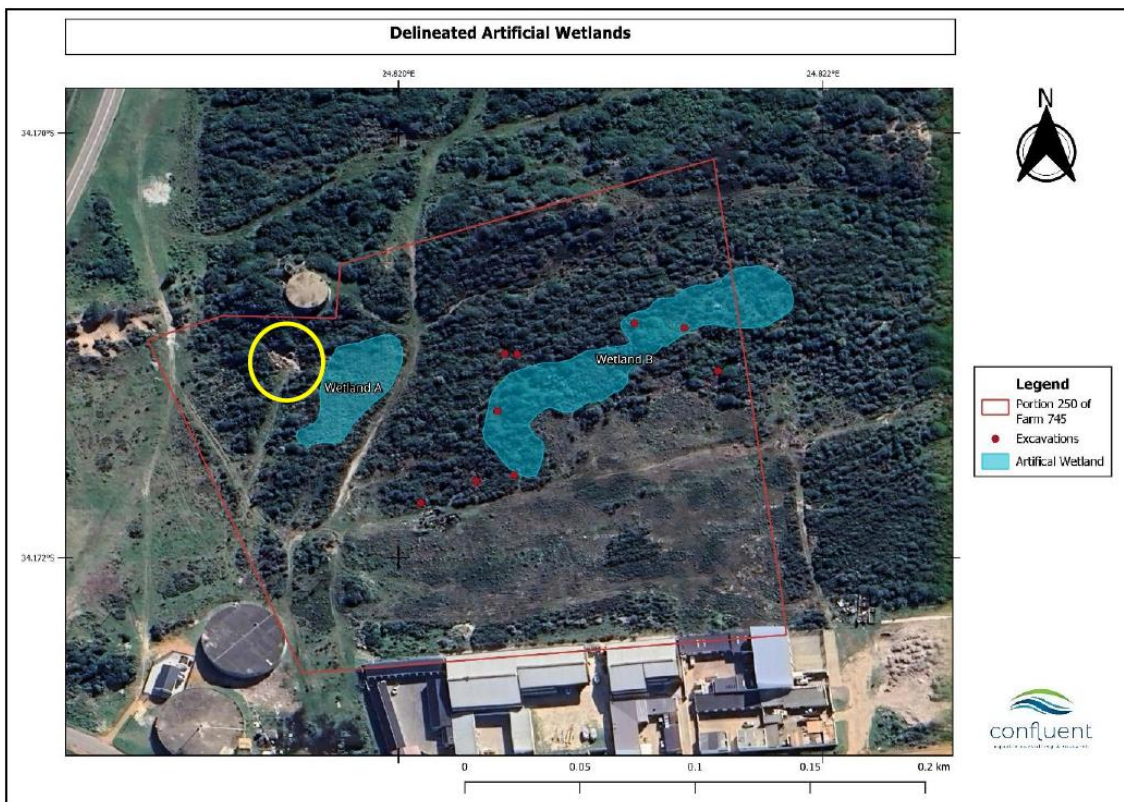


Figure 8: Map indicating delineation of artificial wetlands. The location where vegetation was cleared to repair the leak is indicated in the yellow circle.



Figure 9: Photographs of Wetland A (left) and Wetland B (right), taken from Wetland Assessment Report by Confluent Environmental.

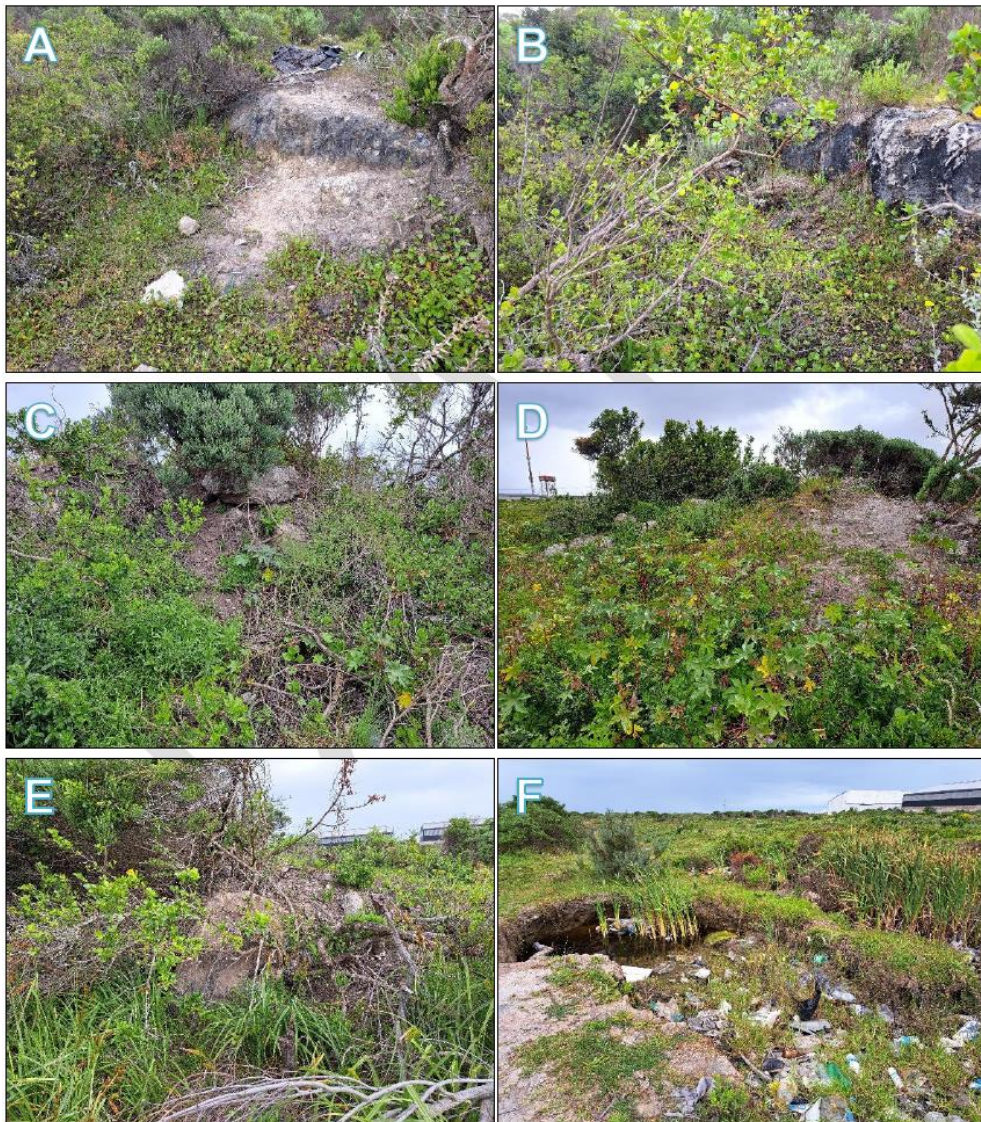


Figure 10: Photographs illustrating excavations into calcrete (A & B), vegetated stockpiles of excavated material around the perimeter of Wetland B (C to E) and one of several small excavations vegetated with *T. capensis* and filled with solid waste and litter (F). Taken from Wetland Assessment Report by Confluent Environmental.

There were clear signs of excavations within and around the perimeter of the two wetlands. The northern perimeter of the Wetland B followed a clear vertical ridge of calcrete (approximately 1 m high) that represented the boundary of the wetland (Figure 10). Well vegetated stockpiles of soil and calcrete rubble were located in and around the perimeter of the wetland. According to the applicant, calcrete was historically mined from the property for the purposes of road construction. This was verified by analysis of historical aerial photographs obtained from the CD:NGI. In 1961, much of the site appears to be naturally unvegetated and appears to fall within the western most extent of an unvegetated dune system. By 1968, as the town of St. Francis Bay began to establish, the extent of this unvegetated dune system had become much reduced in size and the majority of the property was covered in vegetation. There was however a small area that coincides with part of the present location of the existing wetland that appears to have been disturbed by quarrying activities (including an access road to the site from the east). By 1974, despite a noticeable increase in the density of vegetation of the surrounding area, the area of disturbance within the property had increased significantly and coincides well with the current extent of the wetland.

More recent satellite imagery clearly indicates that the location of some of the small depression wetland areas have been created by very recent excavations of the site and provides a good, recent example of how the larger wetland areas most likely formed. From 2003 to 2009 a series of excavations can be observed (Figure 11). An image from 2012 clearly shows how these excavations filled with water following a period of high rainfall, which has most likely led to the establishment of wetland plant species in these small excavations. It is also evident from the 2012 image that Wetland B extended further to the west of the property boundary. This portion of the wetland area was however filled in during 2018.

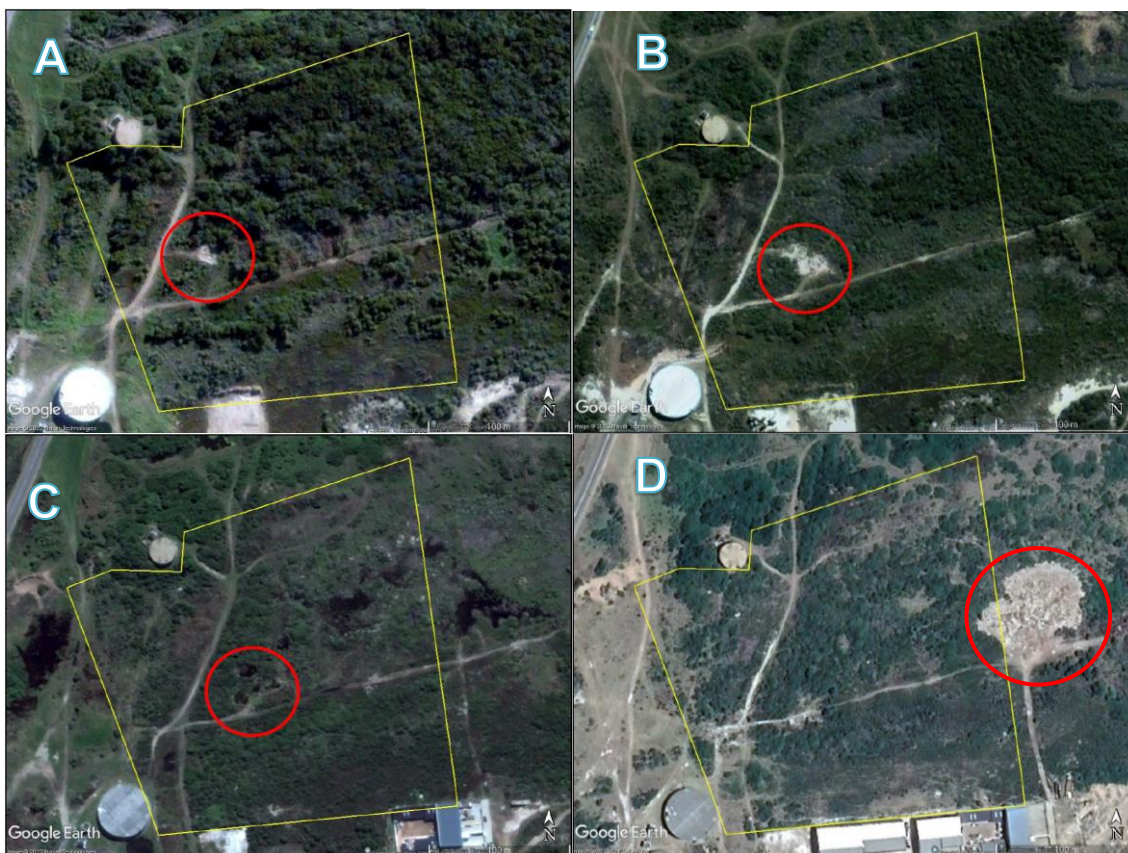


Figure 11: Google Earth image indicating (A) excavation in 2003, (B) excavation in 2006, (C) excavations inundated with water in 2012, and (D) infilling of a section of the artificial wetland habitat in 2018. Taken from Wetland Assessment Report by Confluent Environmental.

As stated in the Wetland Assessment, visual observations during the site visit, together with the analysis of historical imagery therefore corroborate the fact that the site was used as a quarry to mine calcrete. Based on the weight of evidence, it is therefore most probable that the wetland depressions observed on site are artificial and have been created as a result of disturbance and excavations caused by mining. The wetlands are therefore classified as artificial depression wetlands characterised by temporary (or intermittent) periods of inundation and saturation.

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

- ~~4.1 Natural veld – good condition^E~~
- 4.2 Natural veld – scattered aliens^E ✓**
- ~~4.3 Natural veld with heavy alien infestation^E~~
- ~~4.4 Veld dominated by alien species^E~~
- ~~4.5 Gardens~~
- ~~4.6 Sport field~~
- ~~4.7 Cultivated land~~
- ~~4.8 Paved surface~~
- ~~4.9 Building or other structure~~
- ~~4.10 Bare soil~~

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

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

There is no current development on site with a water pipeline servitude transects the site. The site is generally quite degraded and there was evidence of large amounts of informal dumping and litter throughout the site. Satellite imagery from 2018 indicates that large scale dumping historically occurred on the site. Several temporary rudimentary shelters were encountered throughout the wetland area. The smaller depressions provide very limited ecological function and, in some instances have been used for dumping of solid waste. It was also evident that the site is utilised by locals as an open defecation site⁴.

A large section of the site has been brushcut, and the Alien Invasive Plants (AIP) rooikrans (*Acacia cyclops*) and Port Jackson Willow (*Acacia saligna*) occurs in medium densities where brushcutting has not occurred recently⁵. Alien invasive plant species that were observed on site included *Acacia cyclops* (Rooikrans), *A. saligna* (Port-Jackson), *Schinus terebinthifolius* (Brazilian Peppertree) and *Agave sisalana* (Sisal).

⁴ WETLAND ASSESSMENT: PROPOSED DEVELOPMENT OF WAREHOUSES AND A STORAGE FACILITY ON PORTION 250 OF FARM 745 GOEDGELOOF, ST. FRANCIS BAY. Dr. James M. Dabrowski of Confluent Environmental. November 2023.

⁵ TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT: PROPOSED GOEDGELOOF STORAGE DEVELOPMENT, ST FRANCIS BAY, EASTERN CAPE. SRK Consulting (South Africa) (Pty) Ltd. December 2023.

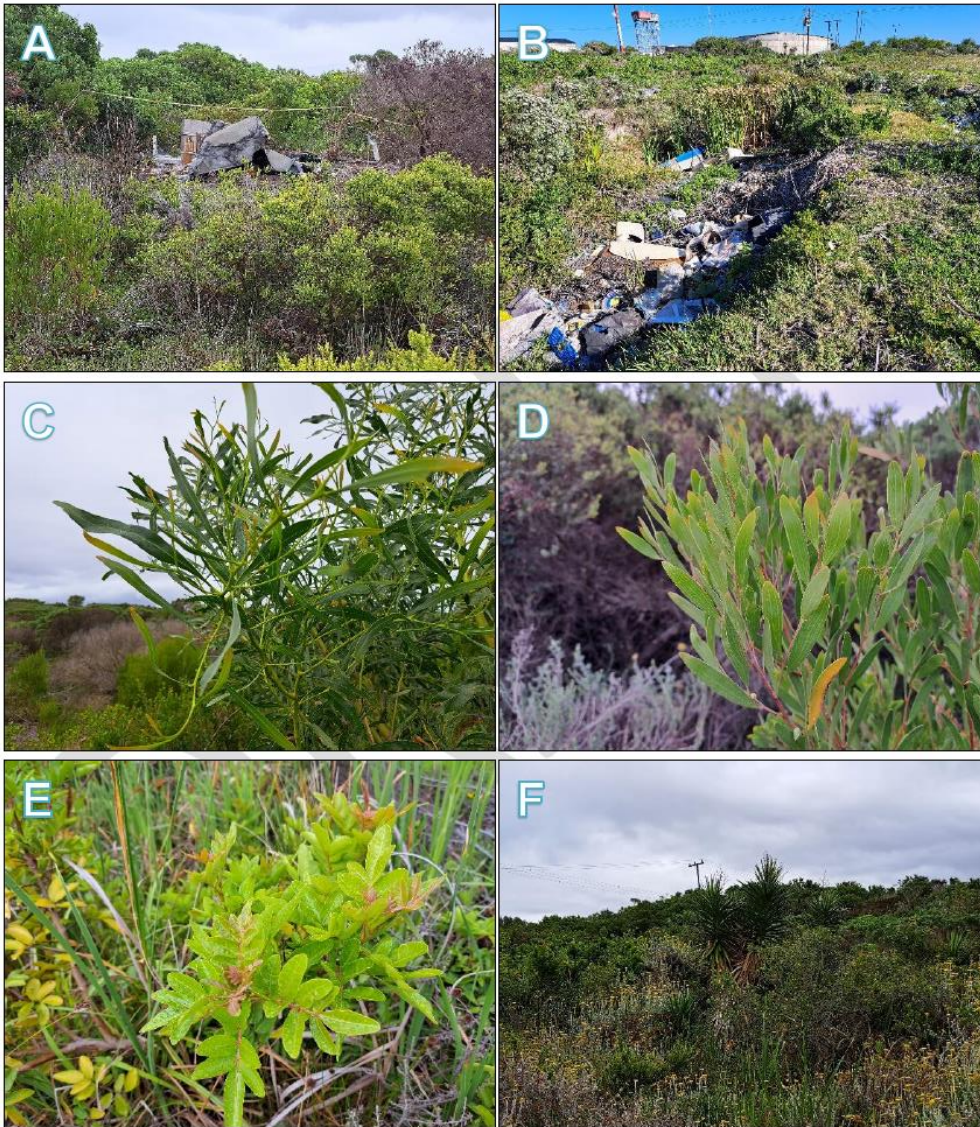


Figure 12: Photographs illustrating current impacts to the wetlands including temporary shelters (A), dumping and littering (B), *A. saligna* (C), *A. cyclops* (D), *S. Terebinthifolius* (E) and *A. sisalana*. Taken from Wetland Assessment Report by Confluent Environmental.

This section is taken from the Terrestrial Biodiversity Impact Assessment by SRK Consulting, December 2023 (Appendix D2).

The development site is situated next to an existing light industrial area and within 1 km of low cost housing, as well as middle to upper class residential areas. There is a large amount of rubble on site, indicating illegal dumping, and grazing by goats and cattle is clearly evident. A large section of the site has been brushcut, and the Alien Invasive Plants (AIP) rooikranz (*Acacia cyclops*) and Port Jackson Willow (*Acacia saligna*) occurs in medium densities where brushcutting has not occurred recently.

It is not clear if the area is exposed to periodic fires, as required by a dune thicket-fynbos mosaic. Development impacts the burning frequency in different ways. Sites in close proximity to urban development usually only experience fire infrequently to prevent the threat of fire to the surrounding development or burns too regularly as a result of illegal fires to increase the quality of grazing or negligence. Proximity to the development would also result in the loss of many faunal-related ecological processes, such as grazing, pollination and dispersal, but smaller fauna, including insects

and birds, would largely persist on site. Where brushcutting hasn't occurred, the vegetation look moribund or overburnt. Grazing, a minor process in coastal fynbos, would continue as a result of domestic herbivory.

Irrespective of these current disturbances, the vegetation is in good condition, maintaining a relatively high species diversity for a site exposed to many threats. The site is dominated by fynbos shrubs, many of which are endemic to coastal vegetation. Thicket shrubs, including *Rhamnus prunoides* and *Searsia* spp., are found on the flats, whereas thicket shrubs and trees (*Sideroxylon inerme*) are found on the dune ridge that crosses the site in an east-west direction.

4.1. Vegetation Type

According to the National South African Vegetation Map (Mucina & Rutherford, 2018), the study area falls within the Albany Thicket Bioregion, within the Albany Thicket Biomes. The main historical vegetation types that occur in the study area is St. Francis Dune Thicket (Figure 13), previously considered an azonal vegetation type called Algoa Dune Strandveld. The vegetation type was reclassified in 2018.

St. Francis Dune Thicket (AT57) is a mosaic of small low (1-3m) thicket bush clumps in a matrix of low asteraceous fynbos (Grobler et.al. 2018). The bushclumps, dominated by small trees and woody shrubs, are best developed in fire-protected dune slacks, and the fynbos shrubland occurs on upper dune slopes and crests. It is largely restricted to the Schelmshoek Formation, in coastal stretches of flat to moderately undulating coastal dunes, from near Tsitsikamma River Mouth to the Sundays River Mouth. St. Francis Dune Thicket has a conservation status of Least Concern. Approximately 14% of the vegetation has been transformed due to mining, alien invasions by *Acacia cyclops* and urban sprawl. It is poorly protected and has a conservation target of 19%.



Figure 13: Vegetation type.



Figure 14: (A) Example of sandy fynbos on site that has recently been brushcut but remains dominated by indigenous species, (B) transformed areas dominated by the grasses such as *Cynodon dactylon*, a few alien species and rubble, (C) the vegetated dune in the north of the site, dominated by *Restio eleocharis* in the open patches, (D) wetland on site dominated by *Typha capensis*, (E) small wetland within degraded St. Francis Dune Thicket dominated by *Metalasia muricata* and woody thicket species, (F) A resprouting *Rapanea gilliana*, an Endangered species on site. Taken from the Terrestrial Biodiversity Report by SRK Consulting, December 2023.

The vegetation is dominated by coastal fynbos shrubs and dwarf shrubs, including *Euclea racemosa*, *Felicia echinata*, *Helichrysum cymosum*, *Osteospermum moniliferum*, *Metalasia muricata*, *Morella cordifolia*, *M. quercifolia*, *Rapanea gilliana*, *Senecio oederiifolius* and *Syncarpha argentea*. Herbs such as *Chaenostoma campanulatum*, *Gazania krebsiana*, *Pelargonium grossularioides* and *G. capitatum*, the geophyte *Hypoxis villosa* and the common succulent *Carpobrotus deliciosus* occur on site. *Cynodon dactylon*, *Imperata cylindrica* and *Restio eleocharis* are the dominant graminoids. A number

of tall shrubs, including *Searsia* spp., *Rhamnus prinoides* and *Sideroxylon inerme* occurs on the flats between the fynbos shrubs.

This St. Francis Dune Thicket community occurs as three different sub-communities on site. Brushcut coastal fynbos mosaic consists of fynbos that has recently been brushcut, but remains dominated by resprouting fynbos and thicket species, including *Rapanea gilliana*. It generally occurs on the shallow calcrete soils on the southern side of the site. Small patches of non-brushcut thicket-fynbos mosaic occurs within this area as well. Degraded dune fynbos mosaic occurs in the centre of the site on deeper aeolian sands, although shallow calcrete outcrops and channels occur. The vegetation is dominated by *Metalasia muricata* and woody thicket species. Scattered in this vegetation are wetlands that do occur as discrete units but often grade into the surrounding vegetation. These wetlands are dominated by the reed *Typha capensis*, but other sedges and grasses, as well as herbs such as *Apium graveolens*, are common. A large wetland occurs in the east of the site, at the base of the reservoir.

A vegetated dune community occurs on the dune that traverses the site on the northern side of the site. It contains many of the same species as the coastal fynbos mosaic, but has a considerably higher cover of woody thicket species, including *Cassine peragua*, *Olea exasperata*, *Gymnosporia buxifolia*, *Psydrax obovata*, *Pterocelastrus tricuspidatus*, *Searsia* spp. and *Sideroxylon inerme*. Open spaces are dominated by *Restio eleocharis* and *Metalasia muricata*.

4.2. Species of Conservation Concern

One plant species of conservation concern (SCC) was observed within the study area during the survey. It should be noted that, although not observed during the site visits, certain SCCs (as listed as occurring within St. Francis Dune Thicket) could potentially be present on site but could have been overlooked due to the timing of these site visits. Although it is possible that these species also occur within the site boundary, it is unlikely due to the size of the development footprint. Species of conservation concern observed on site by SRK Consulting are included in figure 13.

Rapanea gilliana, or dwarf Cape Beech, is an Endangered species that occurs in dune fynbos and fynbos mosaics between Sedgefield in the Western Cape and Port Alfred in the Eastern Cape. It grows in shallow to deep coastal sands and is tolerant of fire (Victor 2006). It is relatively tolerant of disturbance, including brushcutting, as it has the ability to resprout, but will not tolerate transformation.

The species has an Extent of Occurrence (EOO) of 2940 km² and an Area of Occupancy of 10.95 km² (SANBI 2020). The population consists of approximately 15 small severely fragmented subpopulations (Victor 2006). Current threats are habitat loss as a result of coastal development, alien plant invasions and industrial development in the Coega Special Economic Zone. Where it is found, including the development site, it can be one of the dominant species. It is estimated that there are between 50-100 individuals on site.

The SANBI guidelines for Endangered species (Criterion B, C, D) are that no further loss of habitat should be permitted as the likelihood is high that the species will go extinct if current pressures continue (Raimondo et al. 2009). *R. gilliana* remains common in the surrounding intact dune fynbos, and occurs in surrounding protected areas. As the site is located between residential and industrial development exposed to multiple threats, the species is unlikely to persist without intervention

Two other threatened species are considered to have a MEDIUM possibility of occurring on site. *Hyobanche robusta* occurs in deep coastal sands and only emerges from below ground during its flowering season in July to November. The potential habitat for this species is limited to the vegetated dune community on site.

The vegetation on site is the correct habitat for Vulnerable species 588 and the species has been recorded in the vicinity of the site. However, it is difficult to identify as recent brushcutting has taken place.



Figure 15: Current habitat types on site. *Rapanea gilliana*, an Endangered species - red dots (SRK Consulting: Terrestrial Biodiversity Impact Assessment, December 2023).

4.3. Protected Species

No species listed on the NEMBA ToPS list occur on site. One tree species, namely the white milkwood (*Sideroxylon inerme* var. *inerme*), listed under the National Forests Act No. 84 of 1998 or NEMBA were identified on site. A number of individuals, including saplings and mature trees, are located within and in close proximity of the proposed boathouse footprint. A permit will be required from the Department of Forestry, Fisheries and Environment: Forestry Directorate for their removal.

4.4. Eastern Cape Biodiversity Conservation Plan

The Eastern Cape Biodiversity Conservation Plan (ECBCP) is a broad-scale biodiversity plan. It identifies and maps Critical Biodiversity Areas (CBAs) and priorities for conservation in the province. It also provides land use planning guidelines, recommending biodiversity-friendly activities in priority areas. The ECBCP integrates other existing broad-scale biodiversity plans in the province and fills in the gaps using mainly national data. It has been designed to serve as the basic biodiversity layer in Strategic

Environmental Assessments, State of Environment Reports, SDFs, EMFs and Bioregional Plans and contains maps of terrestrial and aquatic CBAs, as well as suggested land use guidelines.

A land management objectives-based approach has been adopted in the ECBCP. This approach rests on the concept of Biodiversity Land Management Classes (BLMCs). Each BLMC sets out the desired ecological state that an area should be kept in to ensure biodiversity persistence.

The site is located within a terrestrial CBA1 and CBA2 according to the ECBCP (Figure 6). This requires that the biodiversity be maintained in near natural state with minimal loss of ecosystem integrity. According to Berliner, et al. (2007), no transformation of natural habitat should be permitted. The site is also located in and aquatic ESA 1 (Figure 14).



Figure 16: ECBCP Terrestrial Critical Biodiversity Area (CBA) map. Legend: dark blue = CBA2.

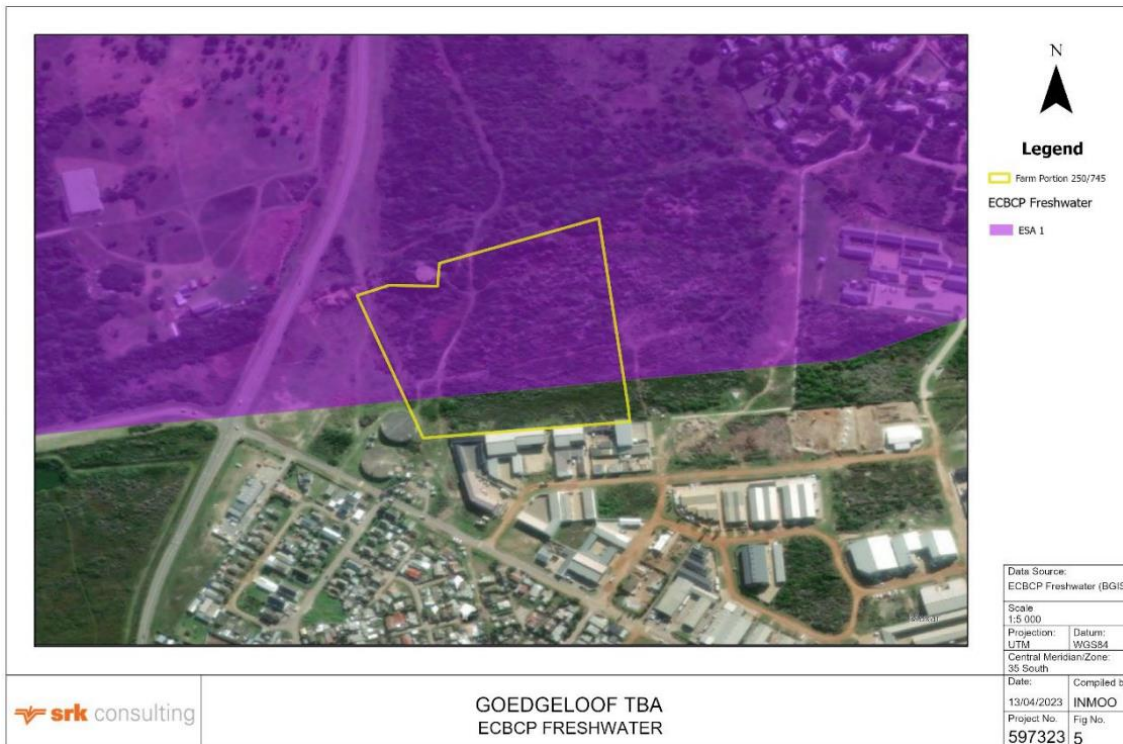


Figure 17: ECBCP Aquatic Critical Biodiversity Area (CBA) Map.

4.5. Protected Areas

The proposed development site does not neighbour any protected areas but is approximately 1.8 km away from the Sand River Nature Reserve, and 3.5 m from Irma Booysen Nature Reserve. The site is not situated within any priority area identified in the NPAES or ECPAES.

4.6. Site Ecological Importance

One vegetation type, namely degraded St. Francis Dune Thicket, is recorded on site. The vegetation type has been divided into three communities, based on dominant plant species and sediment. However, their sensitivity is assessed as a single vegetation type as these sub-communities are a natural aspect of St. Francis Dune Thicket. This habitat type is considered to have a HIGH sensitivity, due to the vegetation remaining dominated by indigenous species, irrespective of disturbance, as well as containing *Rapanea gilliana*, an Endangered plant species. The recommended practice for a High sensitivity site is avoidance mitigation where possible. Minimisation mitigation should be implemented, where changes need to be made to project infrastructure design to reduce the amount of habitat lost and only impacts assessed to have a low impact to be acceptable. Offset mitigation may be required for high impact activities.

The wetlands on site are considered to have a VERY LOW sensitivity, from an SCC perspective, due to the lack of SCCs found in wetlands in this area, as well as their resilience. There is also a strong possibility that the wetlands on site are strongly influenced by anthropogenic activities, including the pipeline that traverses the site.

The SEI methodology requires the buffer areas around threatened species to be rated as VERY HIGH. The recommended buffer area for SCCs are 200 m (Raimondo et. al. 2009), however this was deemed to be excessive for the small site, and a 50 m buffer was considered to be adequate to ensure the preservation of the sub population of the SCC on site. This resulted in the majority of the site being considered to have a VERY HIGH sensitivity. The recommendation for the site is that no destructive development activities should be considered.

Conservation and Biodiversity features of the Garden Route BSP (CBAs, SCCs, EPAs) and ECBCP (Aquatic and Terrestrial CBAs, EPAs, PAs) were identified and combined with the sensitivity map for SEI (Figure 16). The site is identified as a CBA by both conservation plans. The recommended land use guideline for CBAs is no further loss of natural vegetation.



Figure 18: Sensitivity Map of the proposed Goedgeloof Warehouse and Storage Facility overlaid on Alternative Layout 2.

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:

The surrounding area is a mixture of developed and undeveloped land. The site neighbours a light industry area, as well as residential development of a low cost and middle to upper income nature.

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)

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:

N/A

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

N/A

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

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.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

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

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
 - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—

- (i) illiteracy;
- (ii) disability; or
- (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

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

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

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

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE MEASURES

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

5. COMMENTS AND RESPONSE REPORT

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

6. AUTHORITY PARTICIPATION

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

Table 3: List of authorities informed.

STATE DEPARTMENTS			
Name	Contact Person	Postal Address	Email
Eastern Cape Department of Economic Development, Environmental Affairs and Tourism	Andries Struwig	Private Bag X5001, Greenacres, Port Elizabeth, 6057	Andries.Struwig@dedea.gov.za
Eastern Cape Department of Economic Development, Environmental Affairs and Tourism	Charmaine Struwig	Private Bag X5001, Greenacres, Port Elizabeth, 6057	Charmaine.Mostert@dedea.gov.za
DFFE Oceans and Coasts	Tabisile Mhlana	Private Bag X4390, Cape Town, 8000	OCEIA@dffe.gov.za / tmhlana@dffe.gov.za
DFFE Biodiversity & Conservation	Mr Seoka Lekota	Environmental House 473 Steve Biko, Arcadia Pretoria 0083	BCAdmin@dffe.gov.za
DFFE Protected Areas, Planning and Management Effectiveness	Mr Thivhulawi Nethononda	Environmental House 473 Steve Biko, Arcadia Pretoria 0083	Tnethononda@dffe.gov.za
Department of Water and Sanitation Eastern Cape	Ncamile Dweni	140 Govan Mbeki Ave, 7 th Floor Starport Building Port Elizabeth, 6000	DweniN@dws.gov.za
Department of Water and Sanitation Eastern Cape	Ngcobo Siyabonga	140 Govan Mbeki Ave, 7 th Floor Starport Building Port Elizabeth, 6000	NgcoboS@dws.gov.za
DALRRD (East London office)	Ms Nomsa Moyo	Private Bag X 04, TECOMA, East London 043 704 6820	NomsaK@dalrrd.gov.za

DALRRD (Communication Services)	Ms Linda Page	600 Lilian Ngoyi Street, Pretoria, 0001 Postal: Private Bag X833, Pretoria (012) 312 9648/ 8438	queries@dalrrd.gov.za
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ORGANS OF STATE

Name	Contact Person	Postal Address	Email
Eastern Cape Parks and Tourism Agency	Shanè October	17-25 Oxford Street, East London CBD, 5201	info@ecpta.co.za
Eastern Cape Provincial Heritage Resources Authority	Sello Mokhanya	Corner Scholl and Amalinda Drive, East London, 5247	smokhanya@ecphra.org.za
South African Civil Aviation Authority	Ayanda Manunga	Private Bag X73, Halfway House, Midrand	obstacles@caa.co.za/mail@caa.co.za

MUNICIPALITIES

Name	Contact Person	Postal Address	Email
Sarah Baartman District Municipality: Municipal Manager	Ms Unati Daniels	PO Box 318, Port Elizabeth, 6000	cmabindla@sbdm.co.za
Kouga Municipality: Municipal Manager	Mr Charl du Plessis	PO Box 21, Jeffreys Bay, 6330	jreed@kouga.gov.za
Kouga Municipality: Infrastructure, Planning and Development	Mr Eddie Oosthuizen	PO Box 21, Jeffreys Bay, 6330	ljeggels@kouga.gov.za
Kouga Municipality: Planning, Development & Tourism	Fezeka Faith Mabusela	PO Box 93, St Francis Bay 6312.	aswarf@kouga.gov.za
Kouga Municipality: Ward 1 Councillor	Cllr Nozuko Ntshota	PO Box 137, St Francis Bay, 6312	ntshota@kouga.gov.za
Kouga Municipality Ward 12 Councillor	Cllr Lorraine Maree	082 892 4664	lmaree@kouga.gov.za

List of authorities from whom comments have been received:

Comments will be made available after the first round of PPP, to be included in the comments and Response Report.

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):

Comments will be made available after the first round of PPP, to be included in the comments and Response Report.

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.

To be included in the Draft BAR - Comments and Response Report.

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

To be included in the Draft BAR - Comments and Response Report.

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

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

2.2. Impact and Risk Assessment

Each potential environmental impact and risk identified was assessed according to specific criteria. These included the nature, extent, duration, consequence, probability and frequency of identified impacts, including the degree to which these impacts can be reversed, may cause irreplaceable loss of resources, and can be avoided, managed or mitigated. The criteria are based on the EIA Regulations, published by the Department of Forestry, Fisheries and the Environment (April 1998) in terms of the Environmental Conservation Act No. 73 of 1989. These criteria include:

Nature of the impact

This is an estimation of the type of effect the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected and how.

Mitigation Measures

Ways in which an impact can be avoided, minimised, or managed to reduce its environmental significance.

Extent of the impact - the scale of the impact	
Rating	Definition of Rating
Very Limited	Extending only as far as the development site area
Limited	Limited to the site and its immediate surroundings
Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic.
National	National scale or across international borders

Duration of the impact - the lifespan or length of time the impact will last	
Rating	Definition of Rating
Brief	Impact will not last longer than 1 year
Short term	Impact will last between 1 and 2 years
Medium Term	Impact will last between 2 and 15 years
Long Term	Impact will last more than 15 years
Permanent	Impact may be permanent, or in excess of 20 years

Intensity - the severity of the impact	
Rating	Definition of Rating
Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Low	Natural and/or social functions and/or processes are slightly altered
Medium	Natural and/or social functions and/or processes are notably altered
High	Natural and/ or social functions and/ or processes are significantly altered
Very High	Natural and/ or social functions and/ or processes are severely altered

Probability of occurrence - the probability of the impact occurring	
Rating	Definition of Rating
Improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere
Possible	Has occurred here or elsewhere and could therefore occur
Probable	It is most likely that the impact will occur
Definite	There are sound scientific reasons to expect that the impact will occur

Reversibility - the ability of the impacted environment to return to its pre-impacted state	
Rating	Definition of Rating
Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.
Partly reversible	the impact is reversible but more intense mitigation measures are required
Barely reversible	the impact is unlikely to be reversed even with intense mitigation measures
Irreversible	the impact is irreversible, and no mitigation measures exist

Irreplaceable loss of resources - the degree to which resources will be irreplaceably lost	
Rating	Definition of Rating
Negligible	No loss of resources
Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Medium	the resource is damaged irreparably but is represented elsewhere
High	Irreparable damage and is not represented elsewhere

Cumulative effect - An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development.	
Rating	Definition of Rating
Negligible	the impact would result in negligible to no cumulative effect
Low	the impact would result in insignificant cumulative effects
Medium	the impact would result in minor cumulative effects
High	the impact would result in significant cumulative effects

Confidence - the level of confidence in the assessment rating	
Low	Judgement is based on intuition
Medium	Determination is based on common sense and general knowledge
High	Substantive supportive data exists to verify the assessment

Significance - Significance of impacts are determined through a synthesis of the assessment criteria		
Rating		Definition of Rating
	Very high negative (-)	The impact will have highly significant effects and are unlikely to be able to be mitigated adequately
	High negative (-)	The impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact
	Medium negative (-)	The impact will have moderate negative effects and will require moderate mitigation
	Low negative (-)	The impact will have minimal effects and would require little mitigation
	Negligible	The impact will have negligible effects and would require little or no mitigation
	Low positive (+)	The impact will have minor positive effects
	Medium positive (+)	The impact will have moderate positive effects
	High positive (+)	The impact will have significant positive effects
	Very High positive (+)	The impact will have highly significant positive effects.

2.2. Impacts foreseen during the construction phase for Alternative 1 (Preferred Layout):

Project Phase	Construction			
Impact	Direct loss of vegetation and habitat			
Description of impact	Loss of St. Francis Dune Thicket - possible loss of habitat for endemic species, irreversible loss of possible species assemblages within the site boundary.			
Mitigable	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> ❖ During the construction phase, the construction area (including site camp, laydown areas and access tracks) must be clearly demarcated and all other areas deemed as no-go areas for the duration of construction; ❖ The position of the construction site camp should be on an already disturbed area and should be identified in consultation with the Environmental Control Officer (ECO); ❖ Stripping of topsoil during the site clearing activities at the commencement of construction and appropriate storage for the duration of construction; ❖ Harvesting and collection of any flora, other than that performed under a permit from the Department of Economic Development, Environmental Affairs & Tourism, must be strictly prohibited; ❖ No open fires should be allowed on site outside of designated areas; ❖ A designated smoking area, outside of any areas where the risk of fire is prevalent, must be designated. Smoking shall not be permitted outside of designated smoking area; ❖ The objective of rehabilitation of natural areas must be to re-establish indigenous vegetation (coverage of at least 80% should be attained); ❖ Rehabilitation of disturbed areas must commence immediately after construction has been completed in that area. General rehabilitation measures include: <ul style="list-style-type: none"> o Loosen compacted soils within construction footprint which do not form part of the BESS footprint (e.g. access roads, site camp area, stockpile and laydown areas, etc.); o Spread stored topsoil over disturbed areas and water regularly until vegetation has sufficiently established; and o All area undergoing rehabilitation must be demarcated as no-go areas; ❖ During construction, erosion control measures must be implemented in areas sensitive to erosion such as exposed soil, areas with dispersive soils, etc. These measures include but are not limited to the use of sand bags, hessian sheets, silt fences and/ or replacement of vegetation. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Negative	
Duration	Long Term	Impact will last between 16 and 30 years	Long Term	Impact will last between 16 and 30 years
Extent	Local	Extending across the site and to nearby settlements	Local	Extending across the site and to nearby settlements
Intensity	High	Natural and/ or social functions and/ or processes are significantly altered	Medium	Natural and/or social functions and/or processes are notably altered
Probability	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur

Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Low	The resource is not damaged irreparably or is not scarce
Significance	Medium negative		Medium negative	
Comment on significance	The development will result in the permanent loss of approximately 32490.10 m ² of lightly degraded indigenous vegetation (<i>St. Francis Dune Thicket</i>). A number of small wetlands will be lost as well.			
Cumulative impacts	If rehabilitation of disturbed areas is not adequately conducted, further impacts to areas outside the site boundary could occur due to erosion or fires.			

Project Phase	Construction			
Impact	Loss of Species of Conservation Concern (SCC)			
Description of impact	The proposed construction activities will result in a direct loss of a sub-population of one plant SCC and their habitat.			
Mitigable	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> ❖ Demarcate the areas indicated as Public Open Space and Private Open Space as No Go Areas and manage accordingly; ❖ Apply for relocation and destruction permits for protected species from the relevant authority (DEDEAT); ❖ Identify offset areas of at least an equal extent of the area that will be lost to transformation that contain a viable population of <i>Rapanea gilliana</i>; ❖ Conduct a Search and Rescue exercise before the start of construction, ahead of any clearing of vegetation; ❖ A suitably qualified and experienced individual should oversee the Search and Rescue operation; ❖ Sufficient time for Search and Rescue must be allowed before construction commences; and ❖ Replant rescued SSCs in No Go areas. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low negative	
Duration	Long Term	Impact will last between 16 and 30 years	Long Term	Impact will last between 16 and 30 years
Extent	Local	Extending across the site and to nearby settlements	Local	Extending across the site and to nearby settlements
Intensity	High	Natural and/ or social functions and/ or processes are significantly altered	Medium	Natural and/or social functions and/or processes are notably altered
Probability	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur	Certain / Definite	There are sound scientific reasons to expect that the impact will definitely occur

Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Low	The affected environment will not be able to recover from the impact - permanently modified	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Low	The resource is not damaged irreparably or is not scarce
Significance	High negative		Medium negative	
Comment on significance	<p>At least 100 individuals of <i>Rapanea gilliana</i> occur within the development site, and it can be considered one of the dominant species in the sandy fynbos on shallow soils. There is clear evidence of recruitment on site, including vegetative regrowth in areas where brushcutting has taken place. It is doubtful whether the species can be readily translocated as it is a woody shrub species. Furthermore, translocation is not considered a mitigation measure for the loss of SCCs, according to SANBI (2020). Individuals occur across the site, both within the footprint and within areas that have been excluded from development, including the dune in the north of the site and the drainage line.</p> <p>Besides plant SCCs, the CBAs are habitat for threatened animal species, including the mammalian Vulnerable Species 8 and the avian species African Marsh Harrier (<i>Circus ranivorus</i>), Knysna Woodpecker (<i>Bradypterus sylvaticus</i>), Denham's bustard (<i>Neotis denhami</i>), White-bellied Korhaan (<i>Eupodotis senegalensis</i>) and Crowned Eagle (<i>Stephanoaetus coronatus</i>). It is however unlikely that most of these species persist on site, due to the high level of transformation and disturbance in the vicinity.</p> <p>The significance of the impact for the development is rated as High (-ve) and this cannot be reduced as translocation is not considered a mitigatory management by the Species Environmental Assessment Guidelines (SANBI 2022) for the conservation of SCCs, due to the general low rate of success. Avoidance mitigation should be exercised and no destructive development should take place within Very High SEI. However, as the majority of the site is considered Very High, preventing any viable development, it is recommended that the only mitigation measure would be to conserve an offset area that contains a healthy population of <i>Rapanea gilliana</i>.</p>			
Cumulative impacts	If construction activities are not controlled, further individuals or species could be impacted. However, due to the small footprint, the site can be considered to be comprehensively assessed, and it is unlikely that any more SCCs are present.			

Project Phase	Construction	
Impact	Spread of Invasive Alien Species	
Description of impact	Change in plant communities, increase in the risk of Invasive Alien Plants (IAPs) establishing in the disturbed sites and spreading to the surrounding areas.	
Mitigable	High	Mitigation exists and will notably reduce significance of impacts
Potential mitigation	❖ All invasive alien species cleared for the construction of the storage facility must be collected and disposed of as waste. Care must be taken not to disperse seeds or seed pods in the surrounding environment during the removal thereof;	

	<ul style="list-style-type: none"> ❖ Remove any new alien invasive plant species in the construction footprint as soon as they are detected, preferably by physical removal or by spraying herbicides should physical removal not be feasible (to be conducted in conjunction with the ECO); ❖ Monitoring and removing of alien invasive plants should be conducted from the start of the construction phase, during clearing, until rehabilitation has been complete at the end of the liability period; ❖ After construction, ongoing control of invasive alien plants must be addressed by the property owner. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low Negative	
Duration	Long Term	Impact will last between 16 and 30 years	Short term	Impact will last between 1 and 5 years
Extent	Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic	Local	Extending across the site and to nearby settlements
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are somewhat altered
Probability	Possible	Has occurred here or elsewhere and could therefore occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	High	Completely reversible – the impact can be reversed with the implementation of minor mitigation measures.	High	Completely reversible – the impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	High negative		Negligible	
Comment on significance	<p>There is a high potential of the further spread of IAPs on site as a result of construction activities as a number of species are already established on site. Dense stands of <i>Acacia cyclops</i> and <i>A. saligna</i> occur in the area, and sandy coastal fynbos has a high invasability. The seasonally saturated soils around the site would also aid in the propagation and spread of invasive alien species (most specifically invasive <i>Acacia</i> species).</p> <p>The impact is rated with a High (-ve) significance without mitigation but can be reduced to Very Low (-ve) if the recommended measures are applied.</p>			
Cumulative impacts	The density of IAP stands will increase in the future, irrespective of whether the development goes ahead, if the site is not managed correctly.			

Project Phase	Construction
Impact	Loss of Ecological Function of Landscape
Description of impact	Loss of natural vegetation, increased area of hard surfaces, transforming the water flow dynamics of the site, increased amount of stormwater produced over short periods, and almost complete loss of habitat for useful fauna within the footprint of the development.

Mitigable	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> ❖ Manage all Open Space to maintain indigenous vegetation cover; ❖ Implement proper stormwater management principles, including the provision of retention ponds; ❖ Limit access to Open Space areas, particularly for cattle; ❖ Limit large areas of hard surfaces to improve stormwater flow 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low negative	
Duration	Long Term	Impact will last between 16 and 30 years	Long Term	Impact will last between 16 and 30 years
Extent	Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic	Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic
Intensity	Low	Natural and/or social functions and/or processes are somewhat altered	Low	Natural and/or social functions and/or processes are somewhat altered
Probability	Possible	Has occurred here or elsewhere and could therefore occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Low	The resource is not damaged irreparably or is not scarce
Significance	Medium negative		Low negative	
Comment on significance	<p>The site is currently in an acceptable state of ecological function, although it has been negatively impacted by a number of activities, such as overgrazing, invasion by IAS and the illegal dumping of rubble and other waste products. It provides a number of ecological services to the surrounding area, including stormwater control, erosion control, supply of habitat for pollinators, dispersers and other essential invertebrates, and open space.</p> <p>The impact is rated with a Low (-ve) significance without mitigation, but can be reduced to Very Low (-ve) if the recommended measures are applied.</p>			
Cumulative impacts	<p>The construction of the warehouse and storage facility will have a moderate cumulative impact on the terrestrial environment, mostly limited to an increase in the disturbance of the vegetation and habitat of the region. The region is situated in a sensitive dune environment with a number of wetlands and has experienced high rates of habitat transformation due to urban residential development, agriculture and the historic stabilisation of the Oyster Bay Bypass Dunefield. The cumulative loss will be reduced as a result of the relatively small footprint (5 ha) and the moderate degree of intactness of the vegetation type, St. Francis Dune Thicket. The vegetation type has experienced a current cumulative loss of 24%, and the proposed development will further increase the loss by almost 1%.</p>			

Project Phase	Construction			
Impact	Loss or disturbance to artificial wetland habitat			
Description of impact	Loss or disturbance to artificial wetland habitat caused by heavy machinery and various construction activities (e.g. laydown areas and stockpiles).			
Mitigable	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> ❖ Implement a buffer zone around the wetland (see Section 11). The buffer and the delineated wetland area should be considered as a No-Go area for construction activities (apart from construction of stormwater infrastructure (e.g headwall outlets, gabions etc.). ❖ Laydown areas and stockpiles must all be located outside of the delineated wetland area and its associated buffer. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low negative	
Duration	Medium Term	Impact will last between 2 and 15 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very Limited	Extending only as far as the development site area
Intensity	Low	Natural and/or social functions and/or processes are somewhat altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.	Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	Low negative (-)		Negligible	
Comment on significance	<p>Alternative 2 will result in the loss of most of the existing wetland habitat and the creation of new artificial wetland habitat in the open space area which is planned to receive and attenuate stormwater. Alternative 1 will preserve the existing artificial wetland habitat by adjusting the layout such that the planned open space overlaps with the existing wetland habitat. Vehicles, heavy machinery and various construction activities (e.g. laydown areas and stockpiles) may however disturb wetland habitat under this alternative, which could in turn compromise the hydro-functional attributes of the wetland and any fauna and flora that have established in the wetland.</p>			

Project Phase	Construction	
Impact	Sedimentation of artificial wetland habitat	
Description of impact	Sedimentation of artificial wetland habitat caused by erosion due to clearance of vegetation.	
Mitigable	Medium	Mitigation exists and will notably reduce significance of impacts

Potential mitigation	<ul style="list-style-type: none"> ❖ Ensure that construction activities do not cause any preferential flow paths and concentrated surface runoff during rainfall events. ❖ Implement a 10m buffer zone around the wetland. The buffer and the delineated wetland area should be considered as a No-Go area for construction activities. ❖ Reduce transport of sediment through use silt fences that must be placed around the outside of the buffer zone. ❖ Clearly demarcate the construction area and ensure that heavy machinery does not compact soil or disturb vegetation outside of these demarcated areas. ❖ Revegetate exposed areas once construction has been completed. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low negative	
Duration	Short term	Impact will last between 1 and 2 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very Limited	Extending only as far as the development site area
Intensity	Low	Natural and/or social functions and/or processes are somewhat altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.	Completely reversible	the impact can be reversed with the implementation of minor mitigation measures.
Resource irreplaceability	Low	Marginal loss, the resource is not damaged irreparably or is not scarce	Low	Marginal loss, the resource is not damaged irreparably or is not scarce
Significance	Low negative (-)		Negligible (-)	
Comment on significance	Clearing of vegetation in order to prepare the site will expose soil, making it vulnerable to erosion, which can cause sedimentation of the wetland. Given the relatively flat profile of the site and the sandy texture of the soil, the intensity of this impact is not expected to be very high.			

2.3. Impacts foreseen during the operational phase:

Project Phase	Operation			
Impact	Direct Anthropogenic Disturbance to Ecology of Site			
Description of impact	Increase in the number of people utilising the area, increasing disturbance of existing habitat and ecosystem processes, and edge effects on the disturbed and intact vegetation and habitat in its vicinity.			
Mitigable	Medium	Mitigation exists and will considerably reduce the significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> • Limit vehicle access to areas designated for access and parking; • Provide waste bins and animal proof waste handling facilities to prevent litter and attracting pests; • Limit the collection of firewood on site and from the surrounding vegetation; • Discourage pets from entering and hunting in the development site and surrounding landscape; and • Appropriate fire-fighting equipment must be available on site at all times and serviced at regular intervals; 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low Negative	
Duration	Long Term	Impact will last between 16 and 30 years	Long Term	Impact will last between 16 and 30 years
Extent	Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic	Local	Extending across the site and to nearby settlements
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are somewhat altered
Probability	Possible	Has occurred here or elsewhere and could therefore occur	Possible	Has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	High	The affected environmental will be able to recover from the impact
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	Medium - negative		Low - negative	
Comment on significance	The impact is rated with a Medium (-ve) significance without mitigation, but can be reduced to Very Low (-ve) if the recommended measures are applied.			
Cumulative impacts	The transformation of the development footprint will cause a number of edge effects on the disturbed and intact vegetation and habitat in its vicinity. This will increase disturbance to the ecological function and species composition, resulting			

	in the compaction of soil, reduction in pollinators and dispersers, collection of plant material such as wood and flowers, and trampling.
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Project Phase	Operation			
Impact	Wetland degradation			
Description of impact	Degradation of wetland habitat and alteration of the hydroperiod of the artificial wetland caused by increased stormwater input into the wetland.			
Mitigable	High	Mitigation exists and will considerably reduce the significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> ❖ Rainwater harvesting tanks must be installed where feasible – both as a water conservation and stormwater management strategy; ❖ Use of swales and detention ponds to attenuate stormwater runoff, encourage infiltration and reduce the speed, energy and volumes at which stormwater is discharged from the site; ❖ Use of permeable paving to encourage infiltration into the soil; ❖ Headwall outlets discharging into the wetland must include energy dissipation (e.g. stilling basin) and erosion protection (e.g. reno mattress). 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low Negative	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Permanent	Impact may be permanent, or in excess of 20 years
Extent	Limited	Limited to the site and its immediate surroundings	Very Limited	Extending only as far as the development site area
Intensity	Low	Natural and/or social functions and/or processes are somewhat altered	Very low	Natural and/ or social functions and/ or processes are slightly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur, although unlikely
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	High	The affected environmental will be able to recover from the impact	High	The affected environmental will be able to recover from the impact
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	Low - negative		Negligible - negative	
Comment on significance	The hydroperiod is likely to change as a result of the stormwater inputs and will most likely result in longer periods of saturation and inundation. The artificial wetland habitat is therefore expected to become more enhanced, which will likely lead to a transition to more seasonal to permanent wetland habitat. Given the wetland is artificial, this alteration of the hydroperiod is not considered as a significant impact. High energy, high volume stormwater inputs can also cause degradation of the wetland due to alteration of flow paths and erosion of the wetland.			

Project Phase	Operation			
Impact	Waste pollution			
Description of impact	Pollution of artificial wetland habitat caused by litter and disposal of hazardous products into the stormwater system.			
Mitigable	High	Mitigation exists and will considerably reduce the significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> ❖ Visible signage and lease agreements must clearly prohibit the disposal of pollutants into the stormwater system. The stormwater system must only accommodate surface runoff following rainfall. ❖ Oil water separators must be installed in areas where storage, spillage and or use of hydrocarbons is expected to be relatively high (e.g. warehouses). ❖ Adequate waste disposal bins must be provided on site. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low negative	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Short term	Impact will last between 1 and 2 years
Extent	Limited	Limited to the site and its immediate surroundings	Very Limited	Extending only as far as the development site area
Intensity	Medium	Natural and/or social functions and/or processes are notably altered	Low	Natural and/or social functions and/or processes are slightly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur, although unlikely
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	High	The affected environmental will be able to recover from the impact	High	The affected environmental will be able to recover from the impact
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	Low - negative		Negligible - negative	
Comment on significance	Pollutants (e.g. oil, paint, discarded pesticides etc.) are often disposed into stormwater systems which can pollute wetlands and rivers. Given the endorheic nature of the artificial wetlands on site, they are relatively sensitive to pollution.			

Project Phase	Operation			
Impact	Alien invasive plant species			
Description of impact	Invasion of artificial wetland by alien invasive plant species.			
Mitigable	High	Mitigation exists and will considerably reduce the significance of impacts		

Potential mitigation	<ul style="list-style-type: none"> ❖ Implement an alien invasive control plan to remove current invasive species and prevent their further spread. Relevant alien invasive plant (AIP) species must be identified by a suitably qualified ecologist or botanist. ❖ AIPs must be controlled using the cut-stump method – cutting the main stem close to the ground and applying a suitable, registered herbicide to the freshly cut stump. ❖ AIPs must NOT be controlled using a foliar herbicide. ❖ Felled plants must be removed from the wetland area. ❖ Follow up control must be implemented annually until AIPs have been eradicated. ❖ Follow up inspections must be undertaken annually. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Low negative	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Permanent	Impact may be permanent, or in excess of 20 years
Extent	Limited	Limited to the site and its immediate surroundings	Very Limited	Extending only as far as the development site area
Intensity	Low	Natural and/or social functions and/or processes are slightly altered	Negligible	Natural and/ or social functions and/ or processes are negligibly altered
Probability	Probable	It is most likely that the impact will occur	Possible	Has occurred here or elsewhere and could therefore occur, although unlikely
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	High	The affected environmental will be able to recover from the impact	High	The affected environmental will be able to recover from the impact
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	Low - negative		Negligible - negative	
Comment on significance	<p>For Alternative 1, the planned open space occurs through an area that is currently quite disturbed with a relatively high abundance of weedy species. The density of established indigenous vegetation is relatively low compared with other parts of the site and the likelihood of dense thickets of alien invasive plant species establishing in the designated open space area is relatively high.</p> <p>For Alternative 2, while alien invasives are present throughout the wetland, indigenous vegetation is quite well-established and the density of invasion is currently relatively low. It is possible that these invasives may become more dominant over time, particularly due to disturbance of soils during the construction process. Alien invasives currently established within the wetland can be controlled with relatively low effort.</p>			

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:

- 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 construction and operation of the development will not have a significant impact on climate change with regard to society and the economy. Environmentally sustainable technology will be incorporated into the proposed development which will ensure that the activity will not add much to the already strained sectors of water supply and electricity supply.

- 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;

It is envisioned that the basic needs required to run the facility will make use of 'green' technology such as Solar Photo Voltaic (PV) Rooftop installations to generate energy and make use of rainwater tanks, as far as possible. Energy efficient lighting design, making use of LED lamps and motion / photo detectors to switch off lightning in un-used sections of buildings and to automatically adjust lightning levels according to the amount of natural lighting in the building etc.

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

The development is not envisaged to produce greenhouse gases.

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

N/A.

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

The development will not have a significant impact on the social, economic, natural, and built environment.

Protected Areas are the core areas in the network of biodiversity areas and are vital in supporting ecological sustainability and enhancing resilience to climate change. The proposed development site does not neighbour any protected areas but is approximately 1.8km away from the Sand River Nature Reserve, and 3.5 m from Irma Booysen Nature Reserve. The site is not situated within any priority area identified in the NPAES or ECPAES.

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

Climate change is not expected to impact the development as it is not within flood lines, coastal erosion areas or high-risk fire area.

- 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.

Pressure on municipal water supply is likely to be impacted with climate change, as an indirect impact on the development. However, there are no significant impacts as a result of climate change that are anticipated for this development.

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

It is envisioned that the basic needs required to run the facility will make use of 'green' technology such as Solar Photo Voltaic (PV) Rooftop installations to generate energy and make use of rainwater tanks, as far as possible. Energy efficient lighting design, making use of LED lamps and motion / photo detectors to switch off lighting in un-used sections of buildings and to automatically adjust lighting levels according to the amount of natural lighting in the building etc.

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.

Water Supply - Based on information received from Kouga Municipality staff, there appears to be adequate capacity in the St Francis Bay water supply network.

Sewerage - Based on initial investigation information and information received from Kouga Municipality staff, there should be adequate capacity in the affected portion of the St Francis Bay sewer infrastructure to receive the design flow from the proposed development.

Stormwater Drainage - Initial investigation input showed that stormwater generated from surrounding catchment area to the west of the site should have limited impact on the site.

Alternative Technology – This alternative will investigate the use of rainwater harvesting and solar panels. The use of alternative sources to supply the property with basic services will reduce strain being placed on the municipality.

Pollution- Solid waste will be produced during the construction and operational phases of the proposed development. This may include, inter alia, concrete rubble and bricks, material off-cuts and other surplus construction, and litter. The solid waste produced during the project has the potential to enter into the surrounding environment. Therefore, adequate waste bins must be provided, especially during the construction phase. Waste from the site must be disposed of on a weekly basis or more frequently if required. All litter bins must be covered to prevent loose litter being carried off the site.

Liquid waste that may result from accidental spillage of oils, cement-laden water, curing compounds, sealants, paints and other chemicals, temporary sanitation infrastructure, leaks from sewerage systems, and stormwater systems has the potential to be transported as contaminated run-off into the soil and groundwater systems. All hazardous chemicals or wastewater must be stored within closed and covered containers. All hazardous waste must be disposed of on a weekly basis.

No spillage may take place. All hazardous spills must be reported to the designated ECO and to the Department of Economic Development, Environmental Affairs and Tourism / DEDEAT immediately.

Loss of indigenous vegetation – The development will result in the permanent loss of approximately 32490.10 m² of lightly degraded indigenous vegetation (St. Francis Dune Thicket).

Terrestrial Biodiversity Assessment by SRK Consulting, December 2023

According to the National Vegetation Map by Mucina and Rutherford (2012), the proposed site falls within St. Francis Dune Thicket (FFs 28), listed as Least Concern. The majority of the vegetation on the site is moderately intact and consists of a mosaic of coastal fynbos species and thicket woody shrub and tree species. The site investigation identified 47 **indigenous plant species** within the site boundary. A number of **wetlands** are found on site although there is evidence that they may be a result of a number of leaks along a water pipeline that transects the site. The site is situated in a CBA 1 and CBA 2 and is required to meet the conservation targets of the vegetation type and threatened species.

The site is located directly next to an existing light industrial area, and formal low-income and medium- to high- income residential development occurs in the vicinity. Brushcutting has occurred over a large portion of the site, by the vegetation remains dominated by indigenous species. **Illegal dumping** occurs across the site and there is widespread evidence of **grazing by cattle**.

Six **alien invasive species** (AIS) occur with *Acacia cyclops* and *Acacia saligna* being the dominant invasives. It is important that all invasive aliens currently occurring on site (as well as potential future stands which may emerge due to the proposed disturbance on site) must be monitored, controlled and eradicated as per the landowner's Invasive Species Monitoring, Control and Eradication Plan according to Section 76(2)(a) of NEMBA (Act No. 10 of 2004).

One plant species of special concern (SCC) were observed within the study area during the survey. A viable sub-population of over 100 individuals of *Rapanea gilliana* occur on site. This species has managed to survive the current impacts occurring on site as it is able to resprout after severe disturbance. This species remains relatively common in the area and other populations exist that require conservation for its long-term persistence. A number of potential impacts relating to **loss of indigenous vegetation, loss of protected plant species, proliferation of alien invasive species, risk of vegetation degradation** due to anthropogenic disturbance are predicted to occur as a result of the proposed development. Mitigation measures are proposed to lower the significance of these impacts.

Species of Conservation Concern - The proposed development has been assessed to have a very high negative impact on dune fynbos on site, due to the presence of a sub-population of the Endangered *R. gilliana*, that will not tolerate the level of transformation expected. This species remains reasonably common in the area and offset areas in less threatened areas containing viable populations as well are present. The Species Environmental Assessment Guidelines (SANBI 2022) recommends that no destructive development should occur on a site similar to this. However, it is the recommendation of the specialist that the development can go ahead if all management measures, including offset areas, are implemented and included in the EMP (Terrestrial Biodiversity Assessment by SRK Consulting, December 2023).

Wetland Assessment by Confluent Environmental, November 2023

Loss or disturbance to artificial wetland habitat caused by construction activities: Alternative 1 (preferred alternative) will preserve the existing artificial wetland habitat by adjusting the layout such that the planned open space overlaps with the existing wetland habitat. Vehicles, heavy machinery and various construction activities (e.g. laydown areas and stockpiles) may however disturb wetland habitat under this alternative, which could in turn compromise the hydro-functional attributes of the wetland and any fauna and flora that have established in the wetland.

Sedimentation of artificial wetland habitat caused by erosion due to clearance of vegetation:

Clearing of vegetation in order to prepare the site will expose soil, making it vulnerable to erosion, which can cause sedimentation of the wetland. Given the relatively flat profile of the site and the sandy texture of the soil, the intensity of this impact is not expected to be very high.

Degradation of wetland habitat and alteration of the hydroperiod of the artificial wetland caused by increased stormwater input into the wetland:

The hydroperiod is likely to change as a result of the stormwater inputs and will most likely result in longer periods of saturation and inundation. The artificial wetland habitat is therefore expected to become more enhanced, which will likely lead to a transition to more seasonal to permanent wetland habitat. Given the wetland is artificial, this alteration of the hydroperiod is not considered as a significant impact. High energy, high volume stormwater inputs can also cause degradation of the wetland due to alteration of flow paths and erosion of the wetland.

Pollution of artificial wetland habitat caused by litter and disposal of hazardous products into the stormwater system: Pollutants (e.g. oil, paint, discarded pesticides etc.) are often disposed into stormwater systems which can pollute wetlands and rivers. Given the endorheic nature of the artificial wetlands on site, they are relatively sensitive to pollution.

Invasion of artificial wetland by alien invasive plant species: For Alternative 1, while alien invasives are present throughout the wetland, indigenous vegetation is quite well-established and the density of invasion is currently relatively low. It is possible that these invasives may become more dominant over time, particularly due to disturbance of soils during the construction process. Alien invasives currently established within the wetland can be controlled with relatively low effort.

Alternative 2 (alternative layout)

Water Supply - Based on information received from Kouga Municipality staff, there appears to be adequate capacity in the St Francis Bay water supply network.

Sewerage - Based on initial investigation information and information received from Kouga Municipality staff, there should be adequate capacity in the affected portion of the St Francis Bay sewer infrastructure to receive the design flow from the proposed development.

Stormwater Drainage - Initial investigation input showed that stormwater generated from surrounding catchment area to the west of the site should have limited impact on the site.

Alternative Technology – This alternative will investigate the use of rainwater harvesting and solar panels. The use of alternative sources to supply the property with basic services will reduce strain being placed on the municipality and inevitably natural.

Pollution- Solid waste will be produced during the construction and operational phases of the proposed development. This may include, inter alia, concrete rubble and bricks, material off-cuts and other surplus construction, and litter. The solid waste produced during the project has the potential to enter into the surrounding environment. Therefore, adequate waste bins must be provided, especially during the construction phase. Waste from the site must be disposed of on a weekly basis or more frequently if required. All litter bins must be covered to prevent loose litter being carried off the site.

Liquid waste that may result from accidental spillage of oils, cement-laden water, curing compounds, sealants, paints and other chemicals, temporary sanitation infrastructure, leaks from sewerage systems, and stormwater systems has the potential to be transported as contaminated run-off into the soil and groundwater systems. All hazardous chemicals or wastewater must be stored within closed and covered containers. All hazardous waste must be disposed of on a weekly basis. No spillage may take place. All hazardous spills must be reported to the designated ECO and to the Department of Economic Development, Environmental Affairs and Tourism / DEDEAT immediately.

Loss of indigenous vegetation – The development will result in the permanent loss of approximately 38 460m² of lightly degraded indigenous vegetation (St. Francis Dune Thicket).

Terrestrial Biodiversity Assessment by SRK Consulting, December 2023

According to the National Vegetation Map by Mucina and Rutherford (2012), the proposed site falls within St. Francis Dune Thicket (FFs 28), listed as Least Concern. The majority of the vegetation on the site is moderately intact and consists of a mosaic of coastal fynbos species and thicket woody shrub and tree species. The site investigation identified 47 **indigenous plant species** within the site boundary. A number of **wetlands** are found on site although there is evidence that they may be a result of a number of leaks along a water pipeline that transects the site. The site is situated in a CBA 1 and CBA 2 and is required to meet the conservation targets of the vegetation type and threatened species.

The site is located directly next to an existing light industrial area, and formal low-income and medium- to high- income residential development occurs in the vicinity. Brushcutting has occurred over a large portion of the site, by the vegetation remains dominated by indigenous species. **Illegal dumping** occurs across the site and there is widespread evidence of **grazing by cattle**.

Six **alien invasive species** (AIS) occur with *Acacia cyclops* and *Acacia saligna* being the dominant invasives. It is important that all invasive aliens currently occurring on site (as well as potential future stands which may emerge due to the proposed disturbance on site) must be monitored, controlled and eradicated as per the landowner's Invasive Species Monitoring, Control and Eradication Plan according to Section 76(2)(a) of NEMBA (Act No. 10 of 2004).

One plant species of special concern (SCC) were observed within the study area during the survey. A viable sub-population of over 100 individuals of *Rapanea gilliana* occur on site. This species has managed to survive the current impacts occurring on site as it is able to resprout after severe disturbance. This species remains relatively common in the area and other populations exist that

require conservation for its long-term persistence. A number of potential impacts relating to **loss of indigenous vegetation, loss of protected plant species**, proliferation of **alien invasive species**, risk of **vegetation degradation** due to anthropogenic disturbance are predicted to occur as a result of the proposed development. Mitigation measures are proposed to lower the significance of these impacts.

Species of Conservation Concern - The proposed development has been assessed to have a very high negative impact on dune fynbos on site, due to the presence of a sub-population of the Endangered *R. gilliana*, that will not tolerate the level of transformation expected. This species remains reasonably common in the area and offset areas in less threatened areas containing viable populations as well are present. The Species Environmental Assessment Guidelines (SANBI 2022) recommends that no destructive development should occur on a site similar to this. However, it is the recommendation of the specialist that the development can go ahead if all management measures, including offset areas, are implemented and included in the EMPr (Terrestrial Biodiversity Assessment by SRK Consulting, December 2023).

Wetland Assessment by Confluent Environmental, November 2023

Loss or disturbance to artificial wetland habitat caused by construction activities: Alternative 2 will result in the loss of most of the existing wetland habitat and the creation of new artificial wetland habitat in the open space area which is planned to receive and attenuate stormwater.

Sedimentation of artificial wetland habitat caused by erosion due to clearance of vegetation: Clearing of vegetation in order to prepare the site will expose soil, making it vulnerable to erosion, which can cause sedimentation of the wetland. Given the relatively flat profile of the site and the sandy texture of the soil, the intensity of this impact is not expected to be very high.

Degradation of wetland habitat and alteration of the hydroperiod of the artificial wetland caused by increased stormwater input into the wetland: The hydroperiod is likely to change as a result of the stormwater inputs and will most likely result in longer periods of saturation and inundation. The artificial wetland habitat is therefore expected to become more enhanced, which will likely lead to a transition to more seasonal to permanent wetland habitat. Given the wetland is artificial, this alteration of the hydroperiod is not considered as a significant impact. High energy, high volume stormwater inputs can also cause degradation of the wetland due to alteration of flow paths and erosion of the wetland.

Pollution of artificial wetland habitat caused by litter and disposal of hazardous products into the stormwater system: Pollutants (e.g. oil, paint, discarded pesticides etc.) are often disposed into stormwater systems which can pollute wetlands and rivers. Given the endorheic nature of the artificial wetlands on site, they are relatively sensitive to pollution.

Invasion of artificial wetland by alien invasive plant species: For Alternative 2, the planned open space occurs through an area that is currently quite disturbed with a relatively high abundance of weedy species. The density of established indigenous vegetation is relatively low compared with other parts of the site and the likelihood of dense thickets of alien invasive plant species establishing in the designated open space area is relatively high.

No-go alternative (compulsory)

The No-go alternative assumes that the development will not be constructed as proposed, and the status quo will remain in place. This will preserve the ecological value of the property and ecosystem functionality. It is assumed that impacts by grazing, alien invasive vegetation, tracks, paths, and illegal dumping and litter will continue, and will compromise the functioning of the wetlands on site.

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):

Public Participation must be undertaken and comments from important organs of state and I&APs received and addressed.

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:

This will be addressed in the Draft Basic Assessment.

SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

~~Appendix C: Facility illustration(s)~~

Appendix D: Specialist reports

~~Appendix E: Comments and responses report~~

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information

