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# **FRESHWATER COMPLIANCE STATEMENT**

**Portion 19 of Farm 257, Vleesbaai.**

**Prepared for Cape EAPrac**

**by**

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**(Confluent Environmental)**



## DECLARATION OF SPECIALIST INDEPENDANCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
- At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;
- Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;
- I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;
- I do not have any influence over decisions made by the governing authorities;
- I undertake to disclose all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by a competent authority to such a relevant authority and the applicant;
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- All the particulars furnished by me in this document are true and correct.



Specialist: Dr. James Dabrowski (Ph.D., Pr.Sci.Nat. Water Resources)

Date: 29 October 2020

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### 1. INTRODUCTION

Confluent Environmental was appointed by Cape EAPrac to undertake a freshwater survey for a proposed residential property development on Portion 19 of Farm 257, near Vleesbaai in the Western Cape. The development involves the construction of a single dwelling and a detached cottage. The site has been classified as having ‘**Very High**’ aquatic biodiversity by the Department of Environmental Affairs (DEA) screening tool.

The scope of work for this report is guided by the legislative requirements of the National Environmental Management Act (NEMA) and the National Water Act (NWA).

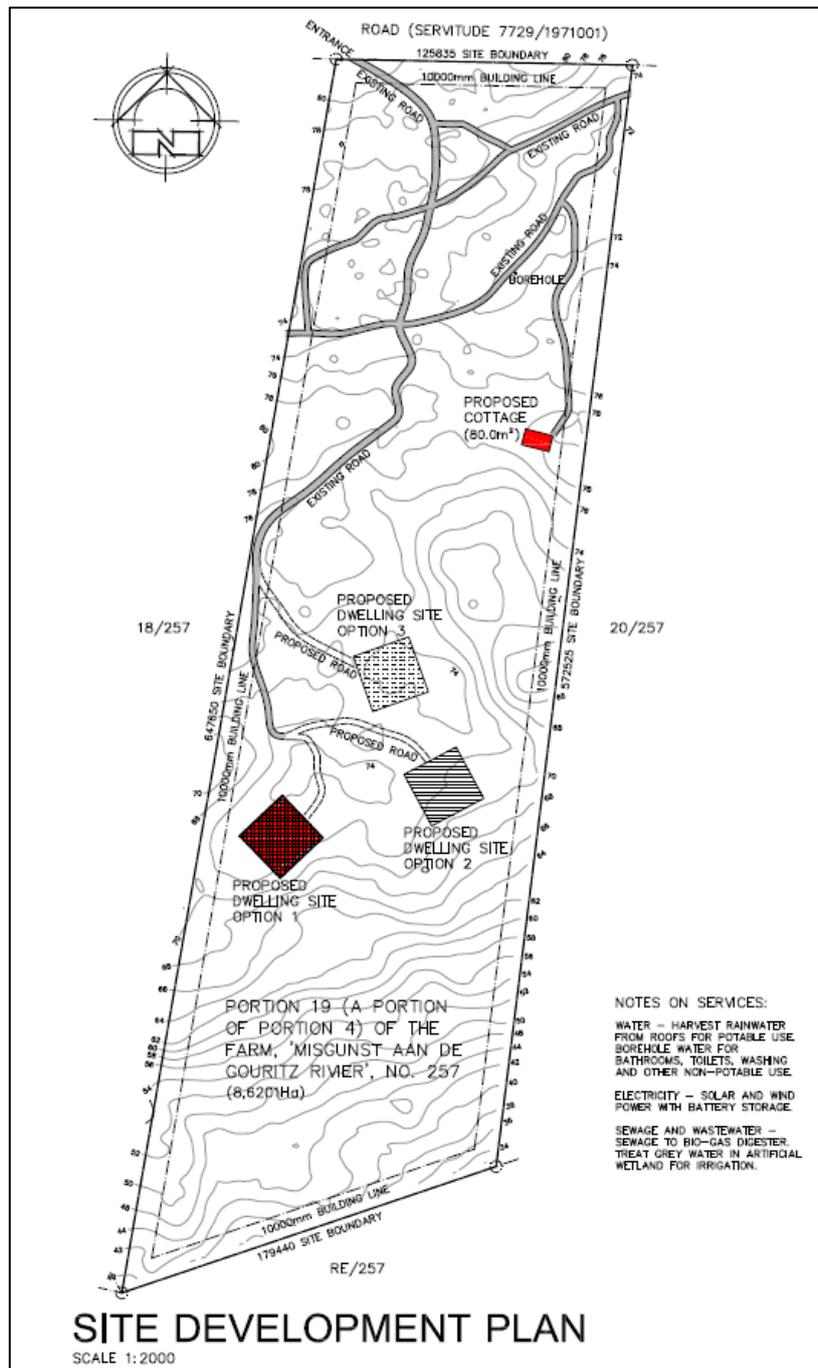


Figure 1: Plan of the proposed development on Portion 19 of the Farm 257.

## 1.1 National Environmental Management Act

According to the protocols specified in GN 1540 (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when Applying for Environmental Authorisation), assessment and reporting requirements for aquatic biodiversity are associated with a level of environmental sensitivity identified by the national web-based environmental screening tool (screening tool). An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of:

- **Very High** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment; or
- **Low** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Compliance Statement.

The screening tool classified the site as being of **Very High** aquatic biodiversity due to its location with a river Freshwater Ecosystem Priority Area (FEPA). According to the protocol, prior to commencing with a specialist assessment a site sensitivity verification must be undertaken to confirm the sensitivity of the site as indicated by the screening tool:

- Where the information gathered from the site sensitivity verification differs from the screening tool designation of **Very High** aquatic biodiversity sensitivity, and it is found to be of a **Low** sensitivity, an Aquatic Biodiversity Compliance Statement must be submitted.
- Similarly, where the information gathered from the site sensitivity verification differs from the screening tool designation of **Low** aquatic biodiversity sensitivity, and it is found to be of a **Very High** sensitivity, an Aquatic Biodiversity Specialist Assessment must be submitted.

## 1.2 Scope of Work

The objectives of this assessment included the following:

- To undertake a desktop analysis and site inspection to verify the sensitivity of aquatic biodiversity as **Very High** or **Low**; and
- Compile an Aquatic Biodiversity Compliance Statement or Aquatic Biodiversity Specialist Assessment based on the site verification of the sensitivity of the site.

## 2. APPROACH

The following rationale was adopted to determine the sensitivity of aquatic biodiversity within the footprint of the site:

- The location of the site within a FEPA sub-quaternary catchment (SQC) flags the site as being of a **Very High** sensitivity. This is a precautionary approach and therefore requires that a site visit be undertaken to determine whether any watercourses that may not have been identified by widely available desktop mapping resources may in fact be present on the site;

- In the event that watercourses are confirmed to fall within the development footprint then the site sensitivity is confirmed as **Very High** and a full specialist freshwater assessment is required; and
- In the event that no watercourses are identified within the development footprint the site sensitivity is confirmed as **Low** and an Aquatic Compliance statement is required.

The determination of the site sensitivity relied upon the following approaches:

- Interrogation of available desktop resources including:
  - DWS spatial layers;
  - National Freshwater Ecosystem Priority Areas (NFEPA) spatial layers (Nel et al., 2011);
  - National Wetland Map 5 and Confidence Map (CSIR, 2018)
  - Western Cape Biodiversity and Spatial Plan (WCBSP) for Mossel Bay (CapeNature, 2017).
- A site visit was undertaken, during which time the following activities were undertaken:
  - Identification and classification of watercourses within the footprint of the site and within 500m of the site according to methods detailed in Ollis et al. (2013);
  - Soil augering to confirm the presence of soil indicators (DWAF, 2005) that may indicate the presence of a wetland (if applicable); and
  - Identification of hydrophilic plant species that may indicate the presence of wetland plant species (if applicable).

### 3. DESKTOP SURVEY

The site falls within Primary Catchment K (Kromme) area and in quaternary catchment K10A. No freshwater features are indicated to occur within the footprint of the property or within close proximity to the property (Figure 2).



Figure 2: Location of the property in relation to mapped freshwater features.

### 3.1 National Freshwater Ecosystem Priority Areas (NFEPA)

Aquatic biodiversity within the site has been identified as **Very High** on the basis that the site falls within a Freshwater Ecosystem Priority Area (FEPA). Rivers FEPAs achieve biodiversity targets for river ecosystems and threatened/near-threatened fish species and were identified in rivers that are currently in a good condition (A or B ecological category). Their FEPA status indicated that they should remain in a good condition in order to contribute to national biodiversity goals and support sustainable use of water resources (Nel et al., 2011).

For river FEPAs, the whole sub-quaternary (or quinary) catchment is identified as a FEPA, although the FEPA status applies to the actual river reach within such a sub-quaternary catchment. The shading of the whole sub-quaternary catchment indicates that the surrounding land and catchment area needs to be managed in a way that maintains the good ecological condition of the river reach.

From the perspective of SQC 9292, the main unnamed river reach for which a FEPA status was assigned runs south of the Petro SA refinery into the Indian Ocean (Figure 3). Given its coastal location, the SQC includes numerous additional minor coastal rivers and streams that flow directly into the Indian Ocean, most of which do not flow into the main river reach that has been identified as a FEPA. The site and the associated freshwater features that are considered in this report fall well outside the catchment area of this main river reach. The **Very High** sensitivity, as specified by the screening tool, is therefore not necessarily applicable to all freshwater features that fall within the SQC.

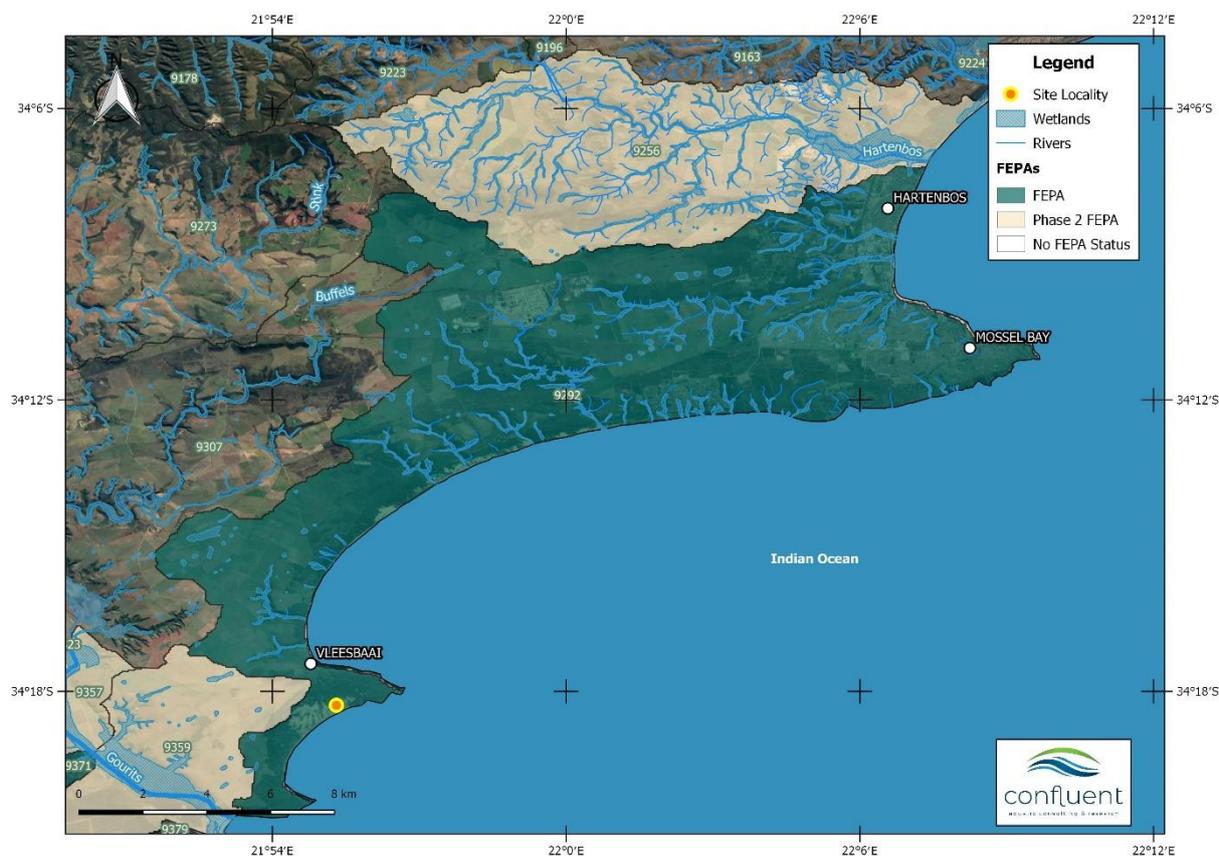


Figure 3: Location of site relative to FEPAs

#### 4. SITE VISIT

According to the specialist botanical report (McDonald, 2020), the vegetation on the property consists of two distinct types that grade into one another. The vegetation found on the foredunes is Cape Seashore Vegetation as classified by Mucina et al. (2006 in Mucina & Rutherford, 2006). This vegetation occurs above the high-water mark inland to the high primary dunes. The second type is Hartenbos Dune Thicket, a newly described type (Grobler et al. 2018) and mapped by SANBI (2018) that replaces the former classification of the vegetation as Groot Brak Dune Strandveld (Rebello et al. 2006 in Rutherford & Mucina, 2006).

The botanical report (McDonald, 2020) also noted that the Fransmanshoek area is generally heavily invaded by alien invasive woody plants, particularly *Acacia cyclops* (rooikrans; rooipitjie). Other species such as *Myoporum spp.* (Manatoka) occur sporadically and *Ricinus communis* (castor oil -semi-woody shrubs) are prevalent on open cleared areas. Clearing of rooikrans has happened from time-to-time and the cut branches have been used to cover open, exposed areas to prevent sand movement by wind. It was noted, however, that this practice has a negative effect on the natural vegetation by stifling growth of the indigenous vegetation found on the dunes.

No freshwater features were identified within the footprint of the property or within 500m of the property development.



Figure 4: Photographs indicating the vegetation on the site.

## 5. AQUATIC BIODIVERSITY COMPLIANCE STATEMENT

Based on the results of the desktop review and the site survey, the sensitivity of aquatic biodiversity on Portion 19 of Farm 257 can be regarded as **Low**. The main factors influencing the statement include the following:

- While the SQC in which the site falls is a FEPA, the site falls well outside the catchment area of the river reach for which the FEPA status was determined; and
- No freshwater features were identified within the footprint area of the site or within close proximity (i.e. within 2 km) of the site.

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