Outlook

RE: Proposed mixed- use development on Erf 998 and remainder of farm Zandhoogte NO. 139 in Mossel Bay.

From James Dabrowski <james@confluent.co.za>
Date Thu 05 Feb 2026 15:36
To onela@sescc.net <onela@sescc.net>
Cc 'Michael Bennett' <michael@sescc.net>

Dear Onela

My compliance statement remains valid. In addition, I'm supportive of the stormwater management plan layout – it's seldom that developments make provision for stormwater attenuation – so this appears to be a good plan.

Kind regards

James

Dr. James Dabrowski
Director & Aquatic Specialist
Pr. Sci. Nat. (Water Resource & Ecology)

7 St. Johns Street
Dormehls Drift,
George, 6529

+27 83 557 5688
james@confluent.co.za
www.confluent.co.za

From: onela@sescc.net <onela@sescc.net>
Sent: Thursday, February 5, 2026 11:26 AM
To: James Dabrowski <james@confluent.co.za>
Cc: 'Michael Bennett' <michael@sescc.net>
Subject: Proposed mixed- use development on Erf 998 and remainder of farm Zandhoogte NO. 139 in Mossel Bay.

Good morning Dr. Dabrowski,

I trust you are well. We are in the process of resuming the application for Environmental Authorization for the proposed mixed- use development on Erf 998 and remainder of farm Zandhoogte NO. 139 in Mossel Bay.

Could you please kindly confirm whether the Freshwater Compliance statement attached, dated May 2023 remains valid?

Please also find attached the stormwater management plan layout. Could you please let us know whether this stormwater management layout will affect your findings, and if any further updates to the specialist report will be required as a result?

If there is any additional information you need from our side, please let me know.

Kind regards,

Onela Mhobo
Candidate Environmental Assessment Practitioner
EAPASA Reg. No.2022/4522
BSc Geography & Botany
BSc Hons Environmental Management

TEL: (044) 873 4923
EMAIL: onela@sescc.net

17 Cathedral Square, George
PO Box 9087 | George | 6530

WEB: www.sescc.net

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FRESHWATER COMPLIANCE STATEMENT

Consolidated ERF - Portion of the Remainder Farm Zandhoogte RE/139 and Plot 998, Tergniet, Mossel Bay.

Prepared for Sharples Environmental Services

by

Dr. James M. Dabrowski

(Confluent Environmental – james@confluent.co.za)

confluent

aquatic consulting & research

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;
- I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;
- This document and all information contained herein is and will remain the intellectual property of Confluent Environmental. This document, in its entirety or any portion thereof, may not be altered in any manner or form, for any purpose without the specific and written consent of the specialist investigators.
- All the particulars furnished by me in this document are true and correct.

Specialist: Dr. James Dabrowski (Ph.D., Pr.Sci.Nat. Water Resources – Reg. No 114084)

Date: May 2023

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1. INTRODUCTION

Confluent Environmental was appointed by Sharples Environmental Services to undertake a freshwater survey for a proposed mixed-use development on Consolidated ERF - Portion of the Remainder Farm Zandhoogte RE/139 and Plot 998, Tergniet, Mossel Bay Local Municipality. The site has been classified as having '**Low**' 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).

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 **Low** aquatic biodiversity. According to the protocol, 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 **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 National Water Act (NWA, 1998)

The Department of Water & Sanitation (DWS) is the custodian of South Africa's water resources and therefore assumes public trusteeship of water resources, which includes watercourses, surface water, estuaries, or aquifers.

A watercourse means:

- A river or spring;
- A natural channel in which water flows regularly or intermittently;
- A wetland, lake or dam into which, or from which, water flows; and
- Any collection of water which the Minister may, by notice in the Gazette, declare to be watercourse, and
- A reference to a watercourse includes, where relevant, its bed and banks.

For the purposes of this assessment, a wetland area is defined according to the NWA (Act No. 36 of 1998):

"Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil".

Wetlands must therefore have one or more of the following attributes to meet the NWA wetland definition (DWAF, 2005):

- A high water table that results in the saturation at or near the surface, leading to anaerobic conditions developing in the top 50 cm of the soil;
- Wetland or hydromorphic soils that display characteristics resulting from prolonged saturation, i.e. mottling or grey soils; and
- The presence of, at least occasionally, hydrophilic plants, i.e. hydrophytes (water loving plants).

No activity may take place within a watercourse unless it is authorised by the Department of Water and Sanitation (DWS). According to Section 21 (c) and (i) of the National Water Act, an authorization (Water Use License or General Authorisation) is required for any activities that impede or divert the flow of water in a watercourse or alter the bed, banks, course or characteristics of a watercourse. The regulated area of a watercourse for section 21(c) or (i) of the Act water uses means:

a) The outer edge of the 1 in 100-year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam;

b) In the absence of a determined 1 in 100-year flood line or riparian area the area within 100m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench (subject to compliance to section 144 of the Act); or

c) A 500 m radius from the delineated boundary (extent) of any wetland or pan.

According to Section 21 (c) and (i) of the NWA, any water use activities that do occur within the regulated area of a watercourse must be assessed using the DWS Risk Assessment Matrix (GN 509) to determine the impact of construction and operational activities on the flow, water quality, habitat and biotic characteristics of the watercourse. Low Risk activities require a General Authorisation (GA), while Medium or High Risk activities require a Water Use License (WUL).

1.3 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.

- Determine whether any activities fall within the regulated area of a watercourse as defined by the NWA.

2. APPROACH

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

- In the event that watercourses are confirmed to fall within the development footprint and that these watercourses will be impacted by the development, 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) – the latest national wetland inventory map for South Africa;
    - 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 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. ASSUMPTIONS & LIMITATIONS

- The assessment of the site visit represents a brief temporal snapshot of conditions on the site. Changes in season or short-term changes in climatic conditions may possibly result in the formation of aquatic habitats (e.g. temporary or seasonal wetlands) under significantly wetter conditions. Despite this limitation the sensitivity of aquatic biodiversity on the site was determined with a very high level of confidence.

4. DESKTOP SURVEY

The site falls within Primary Catchment K (Kromme) area and in quaternary catchment K10F (Figure 1). According to geospatial data sources no freshwater features are indicated to occur within the footprint of the property or within close proximity to the property (Figure 2). No aquatic features have been included in the Western Cape Biodiversity Spatial Plan (WCBSP) covering the property (Figure 3). Furthermore, the site does not fall within a sub-quaternary catchment (SQC) that has been categorised as a Freshwater Ecosystem Priority Area (FEPA)

or a Strategic Water Source Area (SWSA). The proposed site development plan is indicated in Figure 4.

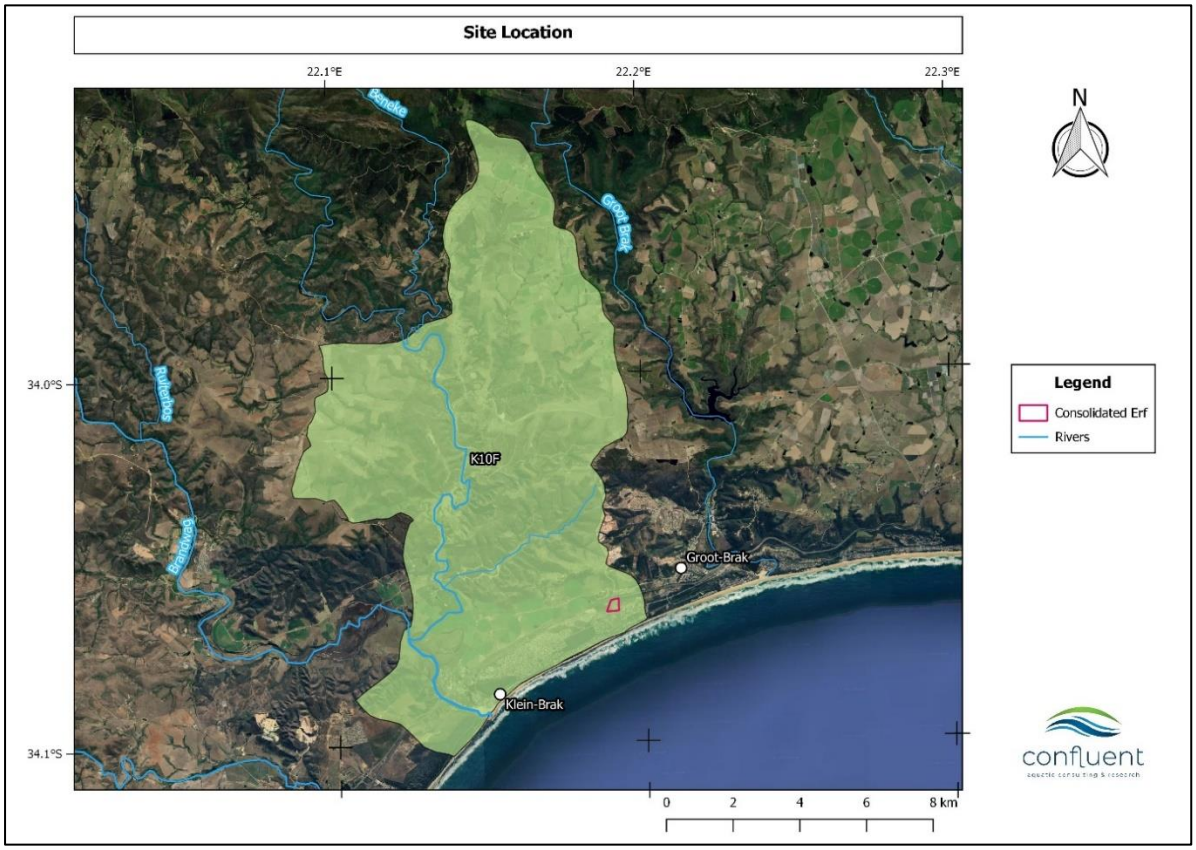

Figure 1: Map indicating the location of the property relative to the quaternary catchment area.

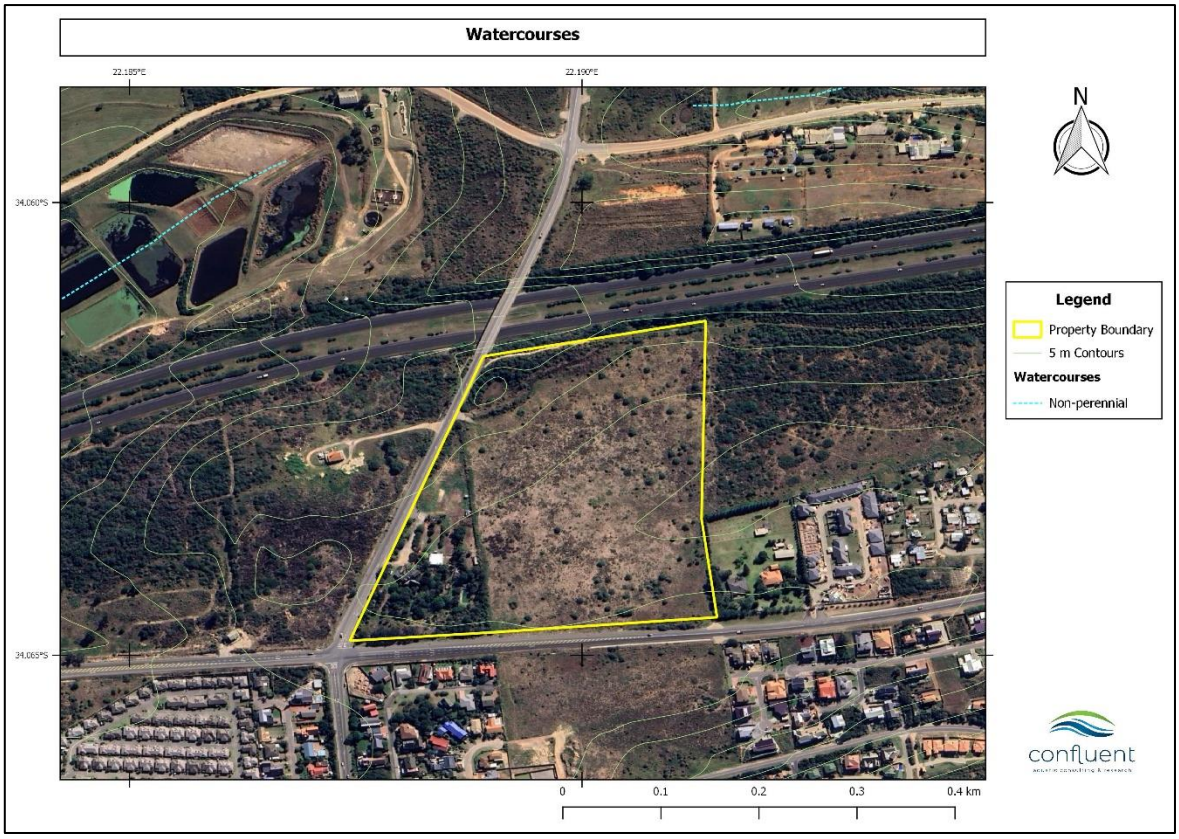

Figure 2: Location of the property in relation to watercourses.

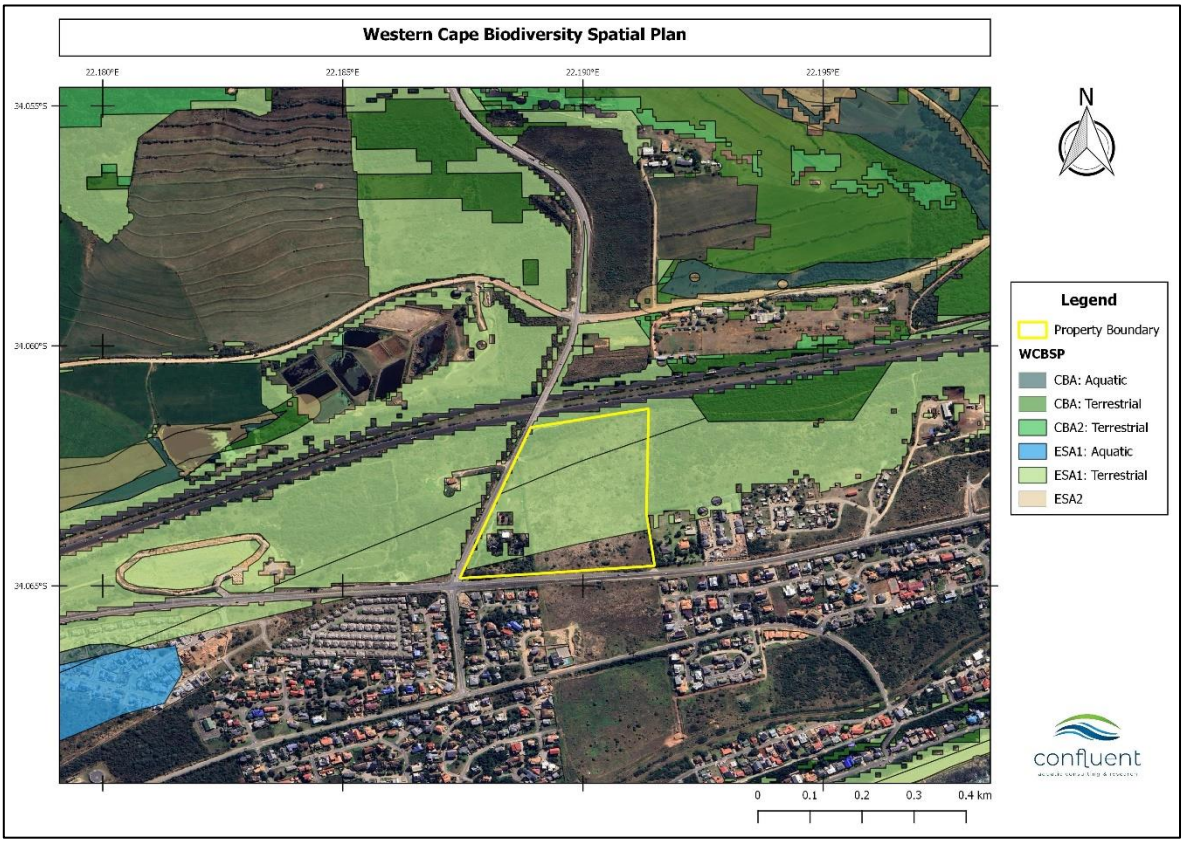

Figure 3: Map of the property relative to the Western Cape Biodiversity Spatial Plan (WCBSP).

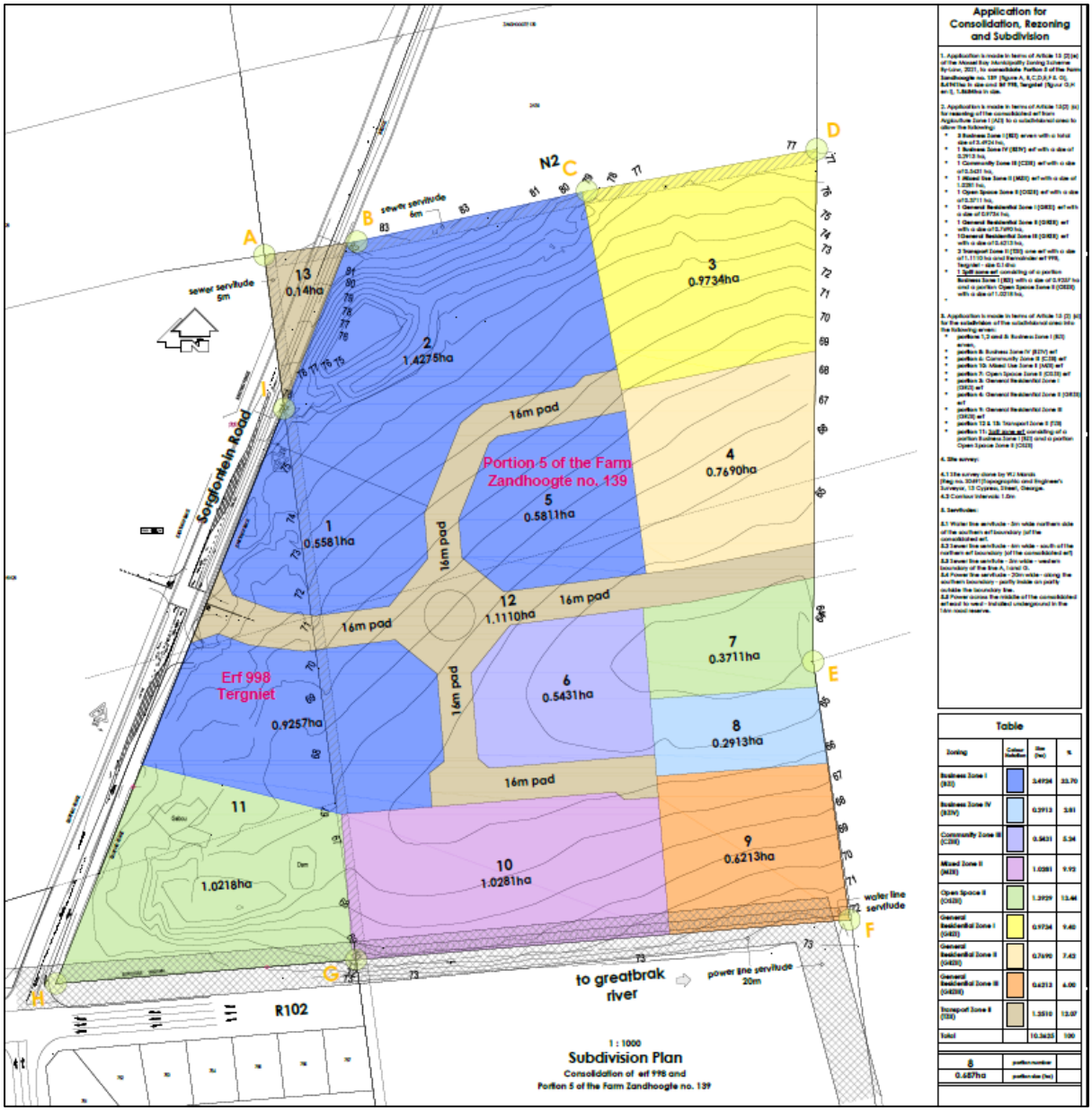

Figure 4: Proposed Site Development Plan.

5. SITE VISIT

The site visit was conducted on 21 April 2023 during which time the entire extent of the property was traversed by foot. The property slopes gradually inwards from the north and south to form a broad valley. There are however no clear areas of natural drainage on the property and no hydro-geomorphological landscape features (depressions, confined valleys, channels etc.) indicating the presence of a watercourse (i.e. stream, river or wetland) (Figure 5). A small dam is present in the north-western most corner of the property. This dam is clearly artificial and was dry at the time of the visit. The dam does not appear to receive water regularly and the basin of the dam was vegetated with predominantly terrestrial plant species. There were a few small patches of hydrophilic wetland plant species (e.g. *Juncus*) where water is likely to accumulate following periods of heavy rainfall. The dam is not a natural wetland and provides no ecological function from an aquatic biodiversity perspective. Soil on the site is very sandy and, under wetter seasonal or short-term climatic conditions, is unlikely to retain

water for long enough to result in the formation of temporary or seasonal wetland habitat. It can therefore be concluded, with a high degree of confidence, that no freshwater features occur within the footprint of the property.

In terms of legislation pertaining to the NWA, the property falls outside of the regulated area of any nearby watercourses (i.e. greater than 100 m and 500 m away from a river/stream and natural wetland, respectively) (Figure 6).

Figure 5: Photographs of the property including view to the north (A), view to the south (B), view to the east (C) the basin of the dam (D) view of the dam from above (E).

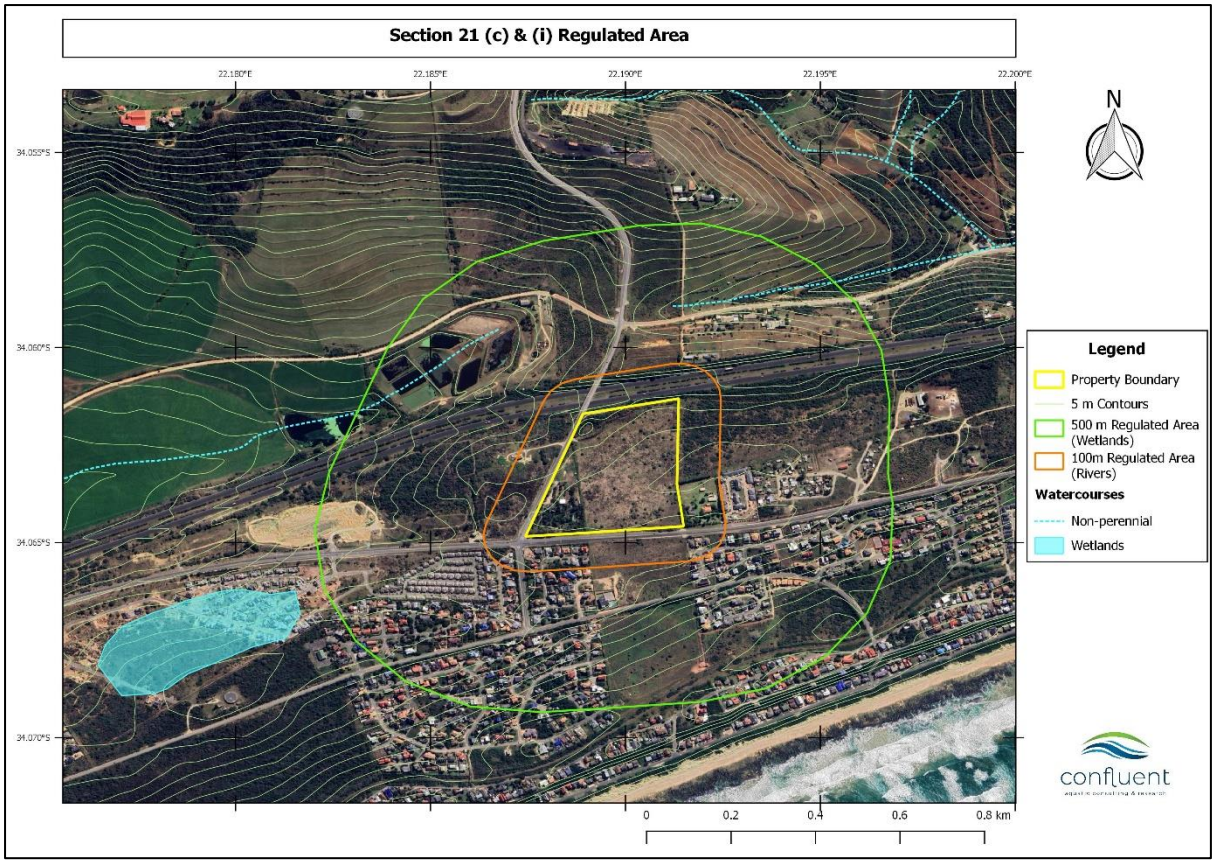

Figure 6: Map indicating no watercourses within 100 m of the property and no wetlands within 500 m of the property.

6. MANAGEMENT RECOMMENDATIONS

A key impact related to large residential developments is the generation of large volumes of stormwater associated with an increased area of impermeable surfaces (i.e. roads, roofs and other infrastructure). Stormwater is typically conveyed into watercourses, where high volumes (and associated high energy) cause degradation of watercourses, mainly due to the erosion of the bed and banks. These watercourses may not necessarily fall within the development footprint but may still ultimately receive stormwater by connecting the development into an existing stormwater network that discharges into the watercourse. In this way, stormwater generated from the site can still affect watercourses located far outside of the development footprint.

It is therefore important that stormwater generated on site should be managed according to Sustainable Drainage System (SuDS) principles. This requires that as much stormwater as possible should be attenuated within the development footprint. For example, the City of Cape Town guideline is that developments must provide for 24-hour extended detention of the 1-year return interval 24-hour storm event. In this respect the following measures, *inter alia*, should be considered:

- Rainwater harvesting tanks be installed at all residences;
- 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; and
- Use of retention ponds and artificial wetlands to capture stormwater runoff and prevent its discharge from the site.

7. AQUATIC BIODIVERSITY COMPLIANCE STATEMENT

Based on the results of the desktop review and the site verification, it can be concluded that the development will not impact on any freshwater biodiversity and that the sensitivity of aquatic biodiversity on the property can be regarded as **Low.**

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APPENDIX 1 – CV – JAMES MICHAEL DABROWSKI

JAMES MICHAEL DABROWSKI

(Ph.D., Pr. Sci. Nat. Water Resources)

NRF Rated Researcher (C2)

☎: +27 83 5575688

✉: james@confluent.co.za

ID: 7607205075083

DOB: 20 July 1976

Marital Status: Married

Citizenship: South Africa

TERTIARY EDUCATION

2002–2004:	Ph.D.: Freshwater Research Unit, Department of Zoology, University of Cape Town
2000–2001:	M.Sc. (Cum Laude): Department of Zoology, University of Stellenbosch
1999:	B.Sc. Honours: Department of Zoology, University of Stellenbosch
1996-1998:	B.Sc. in Zoology and Botany, University of Stellenbosch

EMPLOYMENT RECORD

Present:	Confluent Environmental - Co-Director
2006-2017:	CSIR (Natural Resources and Environment) – Principal Researcher
2004-2006:	Department of Water Affairs and Forestry - Specialist Scientist
2002-2004:	University of Cape Town - Scientific Officer

KEY EXPERTISE

Aquatic Biodiversity and Biomonitoring Surveys (Macroinvertebrates, Fish and Riparian and In-stream Habitat), Wetland Health Assessments, Wetland and Riparian Habitat Delineation, Aquatic Ecotoxicology, Ecological Risk Assessment, Interpretation and Analysis of Water Quality Data, Water Quality Guideline Development, Development of Integrated Water and Waste Management Plans (IWWMPs), Geospatial Mapping and Analysis, Catchment-scale Hydrological and Pollution Modelling; Project Management and Logistics.

PROFESSIONAL ASSOCIATIONS & OTHER QUALIFICATIONS

Research Affiliations

- Research Associate: Sustainability Research Unit, Nelson Mandela Metropolitan University
- Research Associate: Freshwater Research Centre

Professional Societies

- Society for Environmental Toxicology and Chemistry (SETAC)
- International Water Association (IWA)
- South African Council for Natural Scientific Professionals (SACNASP)

Scientific Review

- Associate editor: Bulletin for Environmental Toxicology and Chemistry
- Proposal reviewer: Water Research Commission and National Research Foundation
- Reference Groups: Water Research Commission

RELEVANT TRAINING

- River Health Ecostatus Models: (Department of Water Affairs and Forestry - 2006)
- Soil Water Assessment Tool (SWAT): (Stellenbosch University - July 2012)
- Water Governance in South Africa: Integrated Water Resource Management, the National Water Act, and Water Use Authorisations, focusing on Water Use License Applications and Integrated Water and Waste Management Plans (CBSS Training – August 2018)
- Wetland Management: Introduction and Delineation (Centre for Environmental Management, University of the Free State – November 2018)
- WRSM/PITMAN and WR2012 Website Information System Water Resources (Allan Bailey – September 2020)

SCIENTIFIC PUBLICATIONS

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