FRESHWATER COMPLIANCE STATEMENT

George Aerotropolis, George, Western Cape.

Prepared for Cape EAPrac

by

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(Confluent Environmental)

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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)

Date: 13 August 2021

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1. INTRODUCTION

Confluent Environmental was appointed by George Aerotropolis (Pty) Ltd to undertake a site verification for the development of the proposed George Aerotropolis, near George Airport, George, Western Cape. The development will cover Portions 130, 131 and 132 of the Farm 208. The development will include warehousing, light industrial space, retail space and associated parking (Figure 1). 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 George Aerotropolis.

1.1 National Environmental Management Act

According to the protocols specified in GN 320 (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 within a Strategic Water Source Area. 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 National Water Act

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. The National Water Act (NWA) (Act No. 36 of 1998) aims to protect water resources, through:

- The maintenance of the quality of the water resource to the extent that the water resources may be used in an ecologically sustainable way;
- The prevention of the degradation of the water resource; and
- The rehabilitation of the water resource.

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 a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

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.

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 whether activities may be generally authorised (Low Risk according to the Risk Assessment Matrix) or require a WUL (Medium or High Risk according to the Risk Assessment Matrix).

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.

2. APPROACH

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 George (CapeNature, 2017).
- A site visit was undertaken, during which time the any watercourses within the footprint of the site and within 500m of the site were identified and classified according to methods detailed in Ollis et al. (2013).

3. DESKTOP SURVEY

The site falls within Primary Catchment K (Kromme) area and in quaternary catchment K30B and also falls within the Outeniqua SWSA (Figure 2). No freshwater features are indicated to occur within the footprint of the property or within close proximity to the property (Figure 3). A non-perennial river grading into a channelled-valley bottom wetland is indicated to occur to the south of the development and a non-perennial drainage line is indicated to occur to the east (Figure 3).

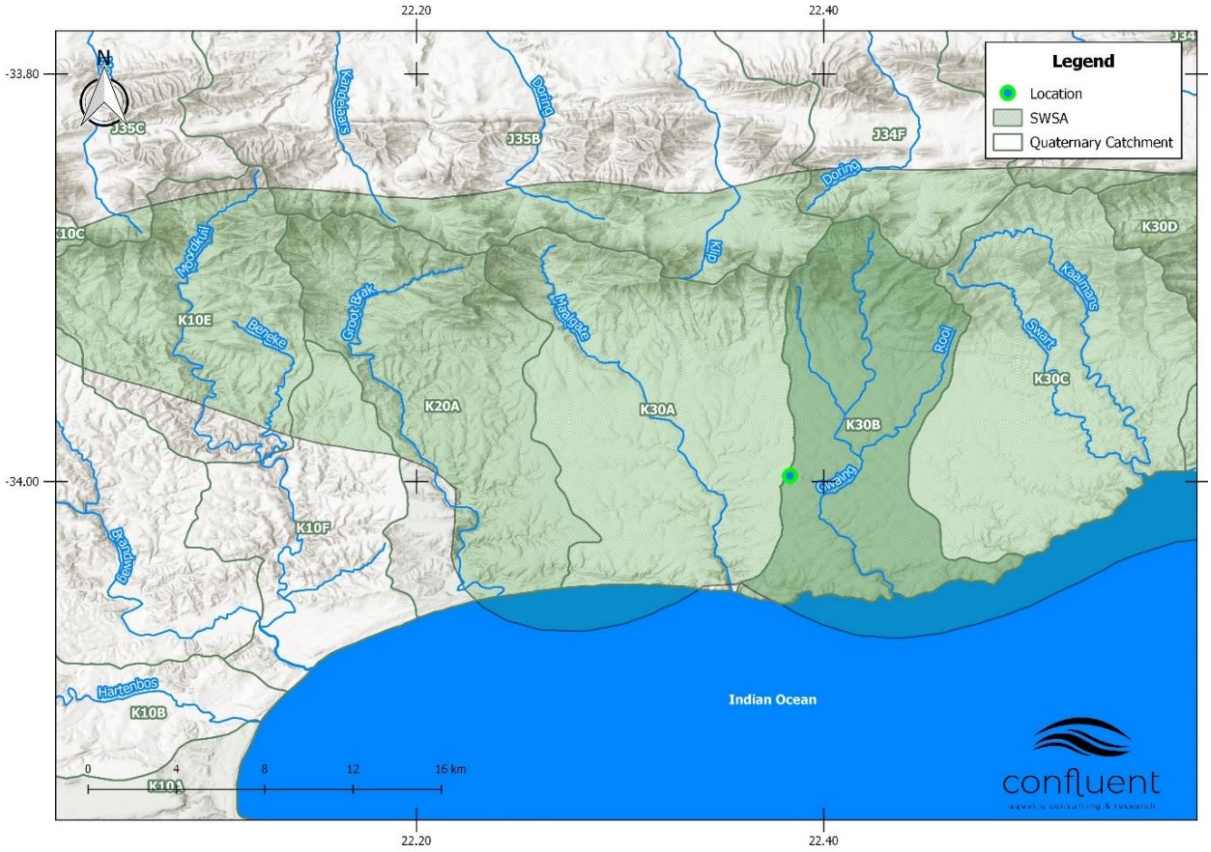

Figure 2: Location of development in relation to quaternary catchments and SWSAs.

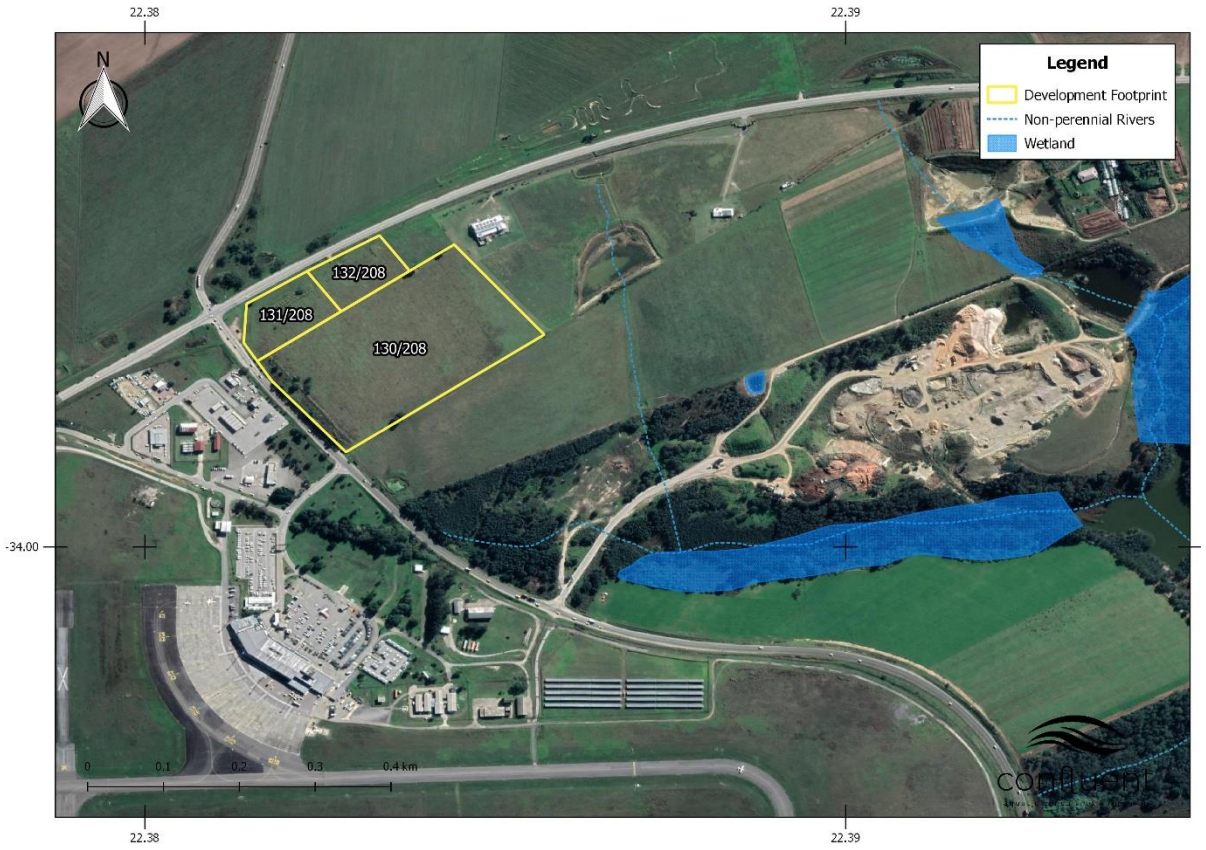

Figure 3: Location of the development in relation to mapped freshwater features.

3.1 Strategic Water Source Area (SWSA)

Strategic Water Source Areas (SWSAs) are defined as areas of land that either:

a) Supply a disproportionate (i.e. relatively large) quantity of mean annual surface water runoff in relation to their size and so are considered nationally important; or

b) Have high groundwater recharge and where the groundwater forms a nationally important resource; or

c) Areas that meet both criteria (a) and (b).

The development footprint falls within the Outeniqua SWSA, which is considered to be of national importance. SWSAs are vital for water and food security in South Africa and also provide the water used to sustain the economy. Given this context, management and implementation guidelines have been developed with the objective of facilitating and supporting well-informed and proactive land management, land-use and development planning in these nationally important and critical areas (Le Maitre, et al., 2018). The primary principle behind this objective is to protect the quantity and quality of the water they produce by maintaining or improving their condition. The proposed development footprint falls within an urban 'working landscape' and in this context the management objectives are to maintain at least the present condition and ecological functioning of these landscapes, to restore where necessary, and to limit or avoid further adverse impacts on the sustained production of high-quality water.

4. SITE VISIT

The development footprint currently comprises of open fields for pasture. There are no watercourses located within the development footprint. The closest watercourse is a non-perennial stream located approximately 100 m to the east of the development. This is an area of natural drainage with no distinct watercourse features (i.e. no bed or banks).

The watercourse to the south is a 1st order non-perennial stream that originates immediately to the east of the George Airport, runs beneath the R404 and eventually discharges into the Gwaaing River (Figure 4). The stream was dry at the time of the visit and is only likely to flow during high rainfall conditions. The portion of stream to the west of the R404 had a poorly defined channel and riparian vegetation was dominated by exotic species – most likely as a result of landscaping of the airport grounds. These include common species such as White Poplar (*Populas alba*), Plane Tree (*Platanus acerifolia*), Chinese Maple (*Acer buergerianum*) and *Cotoneaster sp.* The stream runs through a culvert beneath the R404 and daylights to the east of the road into a reach that is heavily invaded by Black Wattle (*Acacia mearnsii*). The site visit confirmed that the watercourse is a non-perennial stream and not a wetland as indicated in Figure 3. The regulated area of the watercourse is therefore 100 m from the edge of the watercourse as indicated in (Figure 5).

Figure 4: Photographs illustrating the watercourse to the south of the development footprint.

Figure 5: Map indicating regulated area of the watercourse.

5. CONCLUSION

Based on the results of the desktop review and the site survey, the sensitivity of aquatic biodiversity on Portions 130, 131 and 132 of Farm 208 can be regarded as **Low**. The main factors influencing the statement include the following:

- No freshwater features were identified within the footprint area of the site or in close proximity to the site; and

- While the development falls within a SWSA, it will in no way the affect the supply of water or the ecological condition of any watercourses responsible for supplying water from this SWSA.

This compliance statement therefore meets the requirements of the protocols for aquatic biodiversity as listed in GN320 of the NEMA.

Furthermore, the development will not require any water use authorisation, as according to the site assessment and the definitions in GN509 of the NWA, the development footprint falls outside the regulated area of a watercourse.

5.1 Proposed Impact Management Actions

Compliance with industry best practice standards related to storm water management will be required to ensure that rainwater runoff is appropriately managed and does not result in erosion during the construction or operational phase of the development.

6. REFERENCES

CapeNature (2017). *2017 WCBSP George [Vector] 2017*. Available from the Biodiversity GIS website, downloaded on 26 March 2019

Council for Scientific and Industrial Research (CSIR). (2018). National Wetland Map 5 and Confidence Map [Vector] 2018. Available from the Biodiversity GIS website, downloaded on 30 September 2020.

Le Maitre, D.C., Walsdorff, A., Cape, L., Seyler, H., Audouin, M, Smith-Adao, L., Nel, J.A., Holland, M. and Witthüser. K. (2018). Strategic Water Source Areas: Management Framework and Implementation Guidelines for Planners and Managers. WRC Report No. TT 754/2/18, Water Research Commission, Pretoria.

Nel, J.L., Driver, A., Strydom, W.F., Maherry, A., Peterson, C., Hill, L., Roux, D.J., Nienaber, S., van Deventer, H., Swartz, E. and Smith-Adao, L.B. (2011) Atlas of freshwater ecosystem priority areas in South Africa: Maps to support sustainable development of water resources. Water Research Commission Report No. TT 500/11.

Ollis, D., Snaddon, K., Job, N., & Mbona, N. (2013). Classification system for wetlands and other aquatic ecosystems in South Africa. South African National Biodiversity Institute.