

Appendix H: Specialists Reports

Appendix H1: Aquatic Biodiversity Specialists Report



F.E.N. Consulting

Applying science to the real world

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Name: Christel du Preez
Date: Wednesday, 27 October 2021
Ref: FEN 20-2150

SLR Consulting

68 on Main, Old Main Road
Kloof, Durban
3640
Tel: 011 467 0945
Email: amothilal@slrconsulting.com

Attention: Ms. A. Mothilal

RE: AQUATIC ECOLOGICAL COMPLIANCE STATEMENT AS PART OF THE S24G RECTIFICATION PROCESS FOR THE CANAL WALK SHELL RETAIL SERVICE STATION, CENTURY CITY, WESTERN CAPE.

1. INTRODUCTION AND BACKGROUND SETTING

Freshwater Ecological Network (FEN) Consulting (Pty) Ltd was appointed by SLR Consulting to prepare an aquatic/freshwater compliance statement as per the Department of Forestry, Fisheries and Environment (DFFE) Screening Tool as part of the Section 24G rectification process for the existing Canal Walk Shell retail service station, located in Century City, Western Cape Province (hereafter referred to as the 'study area') (Figure A1 and A2 in Appendix A). The Canal Walk Shell retail service station is located on Erf 5419 (total extent of 0.17 ha), within an urbanised setting and Century Boulevard is located along its eastern boundary. Initial site operations commenced in 2002 without obtaining the relevant environmental authorisations. As such, a Section 24G rectification process is required for the unlawful commencement of listed activities in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) and the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).

A 500 m "zone of investigation" around the study area, in accordance with Government Notice (GN) 509 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998), was used as a guide in which to assess possible sensitivities of the receiving freshwater environment. This area – i.e. the 500 m zone of investigation around the study area – will henceforth be referred to as the "investigation area".

This verification report will follow the requirements as stated in the 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 (Act No. 107 of 1998) (NEMA).

The outcome of this site sensitivity verification assessment will present the recorded site assessment results so as to:

- Confirm or dispute the current use of the land and the environmental sensitivity as identified by the screening tool (DFFE, 2020), such as new/upgrading of developments or infrastructure, the changes (if any) to the watercourse Present Ecological State (PES) or status etc.; and
- Present a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

2. OUTCOMES OF THE APPLICATION OF THE DFFE SCREENING TOOL

The protocol for the assessment of freshwater and aquatic biodiversity prepared in support of the Department of Forestry, Fisheries and Environment (DFFE) (previously the Department of Environmental Affairs (DEA)) national web based environmental screening tool, provides the criteria for the assessment and reporting of impacts on aquatic/freshwater biodiversity for activities requiring Environmental Authorisation (EA). For the aquatic/freshwater biodiversity theme, the requirements are for sites which support various levels of biodiversity. The relevant aquatic/freshwater biodiversity theme in the national web based environmental screening tool has been provided by the South African National Biodiversity Institute (SANBI). Based on the sensitivity rating, a suitably qualified specialist must prepare the relevant report or opinion memorandum which is to be submitted as part of the EA application.

According to the guidelines, an applicant intending to undertake an activity on a site identified as being of “very high sensitivity” for an aquatic biodiversity theme must submit an Aquatic Biodiversity Impact Assessment or if the area is identified as being of “low sensitivity” then an Aquatic Biodiversity Compliance Statement must be compiled and submitted to the competent authority. It is noted, however, that during a site survey undertaken by a suitably qualified freshwater ecologist should the sensitivity be determined different from that assigned by the screening tool (i.e. that a high risk to the regional aquatic biodiversity or watercourses in the area is likely even though it is assigned as a “low” sensitivity, or if it is assigned a high sensitivity, however, the proposed develop risk are deemed low) then the relevant assessment approach must be followed based on the site survey results and not the DFFE screening tool allocation. According to the national web based environmental screening tool, the study area is located within an area of **very high aquatic/ freshwater biodiversity significance**.

3. DEFINITIONS AND LEGISLATIVE REQUIREMENTS

The legislation considered during this investigation included the following:

- The Constitution of the Republic of South Africa, 1996¹;
- The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
- The National Water Act, 1998 (Act No. 36 of 1998) (NWA); and
- Government Notice 509 (GN 509) as published in the Government Gazette 40229 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998).

3.1 Definitions

The National Water Act, 1998 (Act No. 36 of 1998) is aimed at the protection of the country’s water resources, defined in the Act as “a watercourse, surface water, estuary or aquifer”. According to the National Water Act, 1998 (Act No. 36 of 1998) a watercourse means:

(a) a river or spring;

¹ Since 1996, the Constitution has been amended by seventeen amendments acts. The Constitution is formally entitled the ‘Constitution of the Republic of South Africa, 1996’. It was previously also numbered as if it were an Act of Parliament – Act No. 108 of 1996 – but since the passage of the Citation of Constitutional Laws Act, neither it nor the acts amending it are allocated act numbers.

- (b) a natural channel in which water flows regularly or intermittently;
- (c) a wetland, lake or dam into which, or from which, water flows; and
- (d) any collection of water which the Minister may, by notice in the Gazette, declare a watercourse.

The Act further provides definitions of wetland and riparian habitats as follows:

Wetland habitat is “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.”

Riparian habitat includes the physical structure and associated vegetation of the areas associated with a watercourse which are commonly characterized by alluvial soils, and which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent area.

The watercourse delineation took place, as far as possible, according to the method presented in the “Updated manual for the identification and delineation of wetland and riparian resources” (DWAf, 2008). The foundation of the method is based on that watercourses have several distinguishing factors including the following:

- Landscape position;
- The presence of water at or near the ground surface;
- Distinctive hydromorphic soils; and
- Vegetation adapted to saturated soils.

During the site assessment, the presence of any watercourse characteristics as defined by DWAf (2008) and by the National Water Act, 1998 (Act No. 36 of 1998), were noted.

4. DESKTOP INVESTIGATION FINDINGS

A background study of relevant national, provincial and municipal datasets (such as the National Freshwater Ecosystem Priority Areas [NFEPA] 2011 database; the Department of Water and Sanitation Research Quality Information Services [DWS RQIS PES/EIS], 2014 database, the National Biodiversity Assessment (NBA) 2018 and the City of Cape Town Wetlands dataset (2017) was undertaken to aid in defining presence of any watercourses prior to the site survey of the study area (see Appendix B, Table 1) as well as the associated 500 m investigation area.

The results are summarised in the points below with the relevant maps presented in **Appendix B**.

- According to the NFEPA Database, no wetlands are located within the study area. A cluster of artificial wetlands (flats and depressions) are located approximately 180 m north of the study area. These artificial wetlands form part of the Intake Island wetland and bird sanctuary which is a conservancy focussed on managing the constructed wetlands. Another artificial flat wetland is located approximately 350 m south of the study area. From digital satellite imagery, this wetland can be identified as an artificial stormwater management pond;
- According to the City of Cape Town Dataset (2017), no wetlands are located within the study area. Several artificial (anthropogenic – stormwater ponds) and natural to semi-natural wetlands are located in the investigation area; and
- According to the NBA 2018: SAIIAE no wetlands or rivers are located within the study area. Several natural depression wetlands are located in the northern portion of the investigation area.

5. SITE SURVEY RESULTS

A site investigation of the study area was undertaken on the 20th of October 2021, using visual assessment methods as well as digital satellite imagery. In addition, a bucket soil auger was used to verify soil characteristics that may indicate the presence, or lack of any potential wetland/riparian features within the study area.

Based on the outcome of the desktop database investigation, no natural watercourses are located within the study area. This was also confirmed during the site investigation, as the study area has been completely developed into a retail fuel service station, with tar surface covering most of the study area (Figure 1). The only vegetation noted in the study area was kikuyu grass (*Pennisetum clandestinum*) located along the sidewalk on the southern and eastern boundary of the study area. A small garden hosting ornamental vegetation species was noted across from the eastern boundary of the study area, hosting *Aloe* species, restio species, *Strelitzia reginae* (Bird of Paradise) and three large Mexican Fan Palms (*Washingtonia robusta*) (Figure 1). No facultative vegetation was noted in the study area.



Figure 1: Overview photographs of the study area (Top). Kikuyu grass (*Pennisetum clandestinum*) is present along the sidewalk on the southern and eastern boundary of the study area (bottom left). A landscaped garden on an island, located across the eastern boundary of the study area (bottom right).

Upon investigation of the watercourses identified by the relevant desktop databases located in the investigation area, several reconstructed pan wetlands (associated with the Intaka Island Bird and Wetland sanctuary), water canals and stormwater management ponds were identified within the investigation area (Figure 2). Based on the Environmental Management Plan (EMP) for the operational phase of the wetlands and canals at Century City (CSIR, 2019)² the Intaka Island Bird and Wetland

² CSIR. 2019. Environmental Management Plan (EMP) for the operational phase of the wetlands and canals at Century City, Cape Town. Prepared for: Century City Property Owners Association (CCPOA). Available from: https://storage.googleapis.com/intaka-assets/Intaka%20Operations%20EMP_31Aug2019_FINAL-2020-02-14_09:24:15.pdf

sanctuary consists of two main components: the 8-hectare Constructed Wetland Zone and the 8-hectare Seasonal Pan Zone, which is surrounded by a perimeter canal that forms part of the canal water bodies at Century City. The constructed wetlands were designed to fulfil a role in improving the water quality within the wider canal system of the Century City development, as well as providing additional ecological and social benefits. The Seasonal Pan Zone comprises rare ephemeral pan and Sand Plain fynbos habitats.



Figure 2: Digital aerial photography showing the study area (red polygon) and the investigation area (black polygon) and the natural watercourses (blue). The stormwater pond (orange) and the canal (green) are represented for context.

6. LEGISLATIVE REQUIREMENTS

The definition and motivation for a regulated zone of activity for the protection of watercourses can be summarised as follows:

Table 1: Articles of Legislation and the relevant zones of regulation applicable to each article.

Regulatory authorisation required	Zone of applicability
<p>Water Use License Application for water uses as stipulated in Section 21(c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998).</p> <p>Department of Water and Sanitation (DWS)</p>	<p>Government Notice 509 as published in the Government Gazette 40229 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998)</p> <p>In accordance with GN509 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998), a regulated area of a watercourse in terms of water uses as listed in Section 21 (c) and 21(i) is defined as:</p> <ul style="list-style-type: none"> • 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; • in the absence of a determined 1 in 100 year flood line or riparian area the area within 100 m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench; or • a 500 m radius from the delineated boundary (extent) of any wetland or pan in terms of this regulation.
<p>Listed activities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) EIA Regulations (2014), as amended.</p> <p>Department of Forestry, Fisheries and Environment (DFFE)</p>	<p>Activity 12 of Listing Notice 1 (GN 327) of the National Environmental Management Act, 1998 (Act No.107 of 1998) EIA regulations, 2014 (as amended) states that:</p> <p>The development of –</p> <p>(i) Dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square meters; or</p> <p>(ii) Infrastructure or structures with a physical footprint of 100 square meters or more;</p> <p>Where such development occurs –</p> <p>(a) Within a watercourse;</p> <p>(b) In front of a development setback; or</p> <p>(c) If no development setback exists, within 32 meters of a watercourse measured from the edge of a watercourse.</p>

As per the table above, the following applies to the identified natural watercourses:

- A 32 m Zone of Regulation (ZoR) in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) is applicable to all natural watercourses;
- A 500 m ZoR in accordance with the National Water Act, 1998 (Act No. 36 of 1998) is applicable to the wetlands.

Since the study area is not located within 32 m of any watercourses, no listed activities applicable to watercourses, in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) are triggered. Considering that the wetlands are located within 170 m of the study area, it is recommended that the proponent consult with the Department of Water and Sanitation (DWS), the custodian of water resources in South Africa, to determine what relevant authorisation process (if any) should be followed in terms of the requirements of the National Water Act 1998 (Act No. 36 of 1998).

7. BUSINESS CASE, OPPORTUNITIES AND CONSTRAINTS APPLICABLE TO THE STUDY AREA

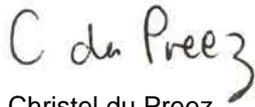
During the field assessment, no natural watercourses were identified within the study area, however natural wetlands were identified within the investigation area. Due to the distance the wetlands are located from the Canal Walk Shell retail service station (approximately 170 m), and the existing infrastructure located between the service station and wetlands, from a watercourse management perspective, impacts on the freshwater receiving environment due to the construction of the Canal Walk Shell retail service station would have been unlikely to impact upon any watercourse services or functions.

The study area is located in a Strategic Water Source Area as per the outcome of the screening tool (Appendix B), classifying the study area as being of 'very high' aquatic sensitivity. Based on the outcome of the site visit, in which no watercourses were identified within the study area, it is the opinion of the freshwater ecologist, the study area can be considered of 'low' aquatic sensitivity from a freshwater resource management and conservation point of view. The study area may potentially be subject the

500m zone of regulation in accordance with GN509 as it relates to the National Water Act, 1998 (Act o. 36 of 1998) (Table 1), however, it is the opinion of the specialist that the construction of the service station did not pose any quantum of risk to the identified watercourses.. This compliance statement must be submitted to the relevant competent authority for consideration as part of the Section 24G rectification process.

We trust that we have interpreted your requirements correctly. Please do not hesitate to contact us if there are any aspects of this memorandum that you would like to discuss.

Yours Faithfully,



Christel du Preez

Pr. Sci. Nat

Reviewed and signed off by K. Marais (SACNASP REG No. 117137/17)
Declaration of independence and CV included in Appendix

8. REFERENCES

- Department of Water Affairs and Forestry (DWAF). 2005. Final draft: A practical field procedure for identification and delineation of wetlands and Riparian areas.
- Department of Water Affairs and Forestry (DWAF). 2008. *Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas*, prepared by M. Rountree, A. L. Batchelor, J. MacKenzie and D. Hoare. Report no. X. Stream Flow Reduction Activities, Department of Water Affairs and Forestry, Pretoria, South Africa.
- Department of Water and Sanitation (DWS). 2014. A Desktop Assessment of the Present Ecological State, Ecological Importance and Ecological Sensitivity per Sub Quaternary Reaches for Secondary Catchments in South Africa. Secondary: C2 Compiled by RQIS-RDM: Online available: <https://www.dwa.gov.za/iwqs/rhp/eco/peseismodel.aspx>.
- Nel, J.L., Driver, A., Strydom W.F., Maherry, A., Petersen, C., Hill, L., Roux, D.J., Nienaber, S., Van Deventer, H., Swartz, E. & 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, Water Research Commission, Pretoria.
- NFEPA: Driver, A., Nel, J.L., Snaddon, K., Murrui, K., Roux, D.J., Hill, L., Swartz, E.R., Manuel, J. and Funke, N. 2011. Implementation Manual for Freshwater Ecosystem Priority Areas. Water Research Commission. Report No. 1801/1/11. Online available: <http://bgis.sanbi.org/nfepa/project.asp>
- Van Deventer, H., Smith-Adao, L., Collins, N.B., Grenfell, M., Grundling, A., Grundling, P-L., Impson, D., Job, N., Lötter, M., Ollis, D., Petersen, C., Scherman, P., Sieben, E., Snaddon, K., Tererai, F. & Van der Colff, D. 2019. *South African National Biodiversity Assessment 2018: Technical Report. Volume 2b: Inland Aquatic (Freshwater) Realm*. CSIR report number CSIR/NRE/ECOS/IR/2019/0004/A. South African National Biodiversity Institute, Pretoria. <http://hdl.handle.net/20.500.12050/6230>.
- Van Deventer, H.; Smith-Adao, L.; Mbona, N.; Petersen, C.; Skowno, A.; Collins, N.B.; Grenfell, M.; Job, N.; Lötter, M.; Ollis, D.; Scherman, P.; Sieben, E.; Snaddon, K. 2018. *South African Inventory of Inland Aquatic Ecosystems*. South African National Biodiversity Institute, Pretoria. Report Number: CSIR report number CSIR/NRE/ECOS/IR/2018/0001/A; SANBI report number <http://hdl.handle.net/20.500.12050/5847>.

APPENDIX A – LOCALITY MAP



Figure A1: A digital satellite image depicting the study area and associated investigation area in relation to the surrounding area.



Figure A2: The study area and associated investigation area depicted on a 1:50 000 topographical map in relation to the surrounding area.

APPENDIX B – DESKTOP BACKGROUND INFORMATION

Table 2: Desktop data relating to the characteristics of the watercourses associated with the study area.

Aquatic ecoregion and sub-regions in which the study area is located		Detail of the study area in terms of the National Freshwater Ecosystem Priority Area (NFEPA) (2011) database	
Ecoregion	Southern Coastal Belt	FEPACODE	The study area is located within a sub-quaternary catchment not classified as a catchment of freshwater ecosystem importance.
Catchment	Berg/Bot/Potberg		
Quaternary Catchment	G22C	NFEPA Wetlands (Figure B1)	According to the NFEPA Database, no wetlands are located in the study area. A cluster of artificial wetlands (flats and depressions) are located approximately 170 m north of the study area. These artificial wetlands form part of the Intake Island wetland and bird sanctuary which is a conservancy focussed on managing the constructed wetlands. Another artificial flat wetland is located approximately 350 m south of the study area. From digital imagery, this wetland can be identified as an artificial stormwater management pond. The wetlands in the investigation area are all considered to be in a heavily to critically modified ecological condition (WETCON = Z3).
WMA	Berg		
subWMA	Greater Cape Town		
Dominant characteristics of the Southern Coastal Belt Ecoregion Level II (24.03) (Kleynhans <i>et al.</i> , 2007)			
Dominant primary terrain morphology	Plains, Moderately Undulating Plains		
Dominant primary vegetation types	Mountain fynbos, Sand plain fynbos, West coast Renosterveld, Dune Thicket.	Wetland Vegetation Type	The study area is situated within the Southwest Sand Fynbos (Critically Endangered) Wetland Vegetation Type. The threat status is provided by Mbona <i>et al.</i> (2015).
Altitude (m a.m.s.l)	Sand Plain Fynbos, Dune Thicket, West Coast Renosterveld, Strandveld Succulent Karoo		
MAP (mm)	500 - 1000	NFEPA Rivers	As per the NFEPA database, no rivers are located within the study or investigation area.
The coefficient of Variation (% of MAP)	0 – 100		
Rainfall concentration index	100 – 400		
Rainfall seasonality	30 – 40		
Mean annual temp. (°C)	50 – 60		
Winter temperature (July)	Winter	NFEPA Rivers	As per the NFEPA database, no rivers are located within the study or investigation area.
Summer temperature (Feb)	16 – 18		
Median annual simulated runoff (mm)	6 – 20		
Importance of the study area according to the City of Cape Town Dataset (2017) (Figure B2 and B3)			
According to the City of Cape Town Dataset (2017), no wetlands are located within the study area. Several artificial (anthropogenic – stormwater ponds) and natural to semi-natural wetlands are located in the investigation area. The artificial features located nearest to the study area are classified as Other Ecological Support Areas (OESAs). OESAs are open space area irreversibly modified by agriculture or other activities. These sites are essential for protected sites. The natural to semi-natural wetlands located in the investigation area are classified as Critical Biodiversity Areas (CBA) 2. CBA2's host critically endangered vegetation of restorable condition. Needed for biodiversity targets but not for management consolidation, connectivity or viability of priority Biodiversity Network sites.			
Importance of the study area according to the City of Cape Town Biodiversity Network (2017) (Figure B4)			
According to the City of Cape Town Biodiversity Network (2017), no areas of biodiversity importance are associated with the study area. An area located to the north of the study area is classified as an Other Ecological Support Area (OESAs) (see definition above) and as a Protected Area (not in perpetuity). These areas are currently being managed as part of existing reserves or core flora sites (Intaka Island Bird and Wetland sanctuary) but have no formal protected area status as yet.			
National Biodiversity Assessment (2018): South African Inventory of Inland Aquatic Ecosystems (SAIIAE) (National Wetland Map 5 is included in the NBA) (Figure B5)			
According to the NBA 2018: SAIIAE no wetlands or rivers are located within the study area. Several natural depression wetlands are located in the northern portion of the investigation area. The Ecosystem Threat Status (ETS) of the natural depression wetlands are endangered, and the ecosystem protection level (EPL) thereof is poorly protected. Artificial depression wetlands are located in the southern portion of the investigation area, corresponding to a large stormwater management pond.			
National web based environmental screening tool (2020)			
The screening tool is intended for pre-screening of sensitivities in the landscape to be assessed within the EIA process. This assists with implementing the migration hierarchy by allowing developers to adjust their proposed development footprint to avoid sensitive areas.		The study area is located in an area considered of very high aquatic biodiversity sensitivity, due to it the study area being located in a strategic water source area .	

CBA = Critical Biodiversity Area; DWS = Department of Water and Sanitation; EI = Ecological Importance; ES = Ecological Sensitivity; EPL = Ecosystem Protection Level; ESA = Ecological Support Area; ETS = Ecosystem Threat Status; m.a.m.s.l = Metres Above Mean Sea Level; MAP = Mean Annual Precipitation; NBA = National Biodiversity Assessment; NFEPA = National Freshwater Ecosystem Priority Areas; PES = Present Ecological State; SAIIAE = South African Inventory of Inland Aquatic Ecosystems; WMA = Water Management Area

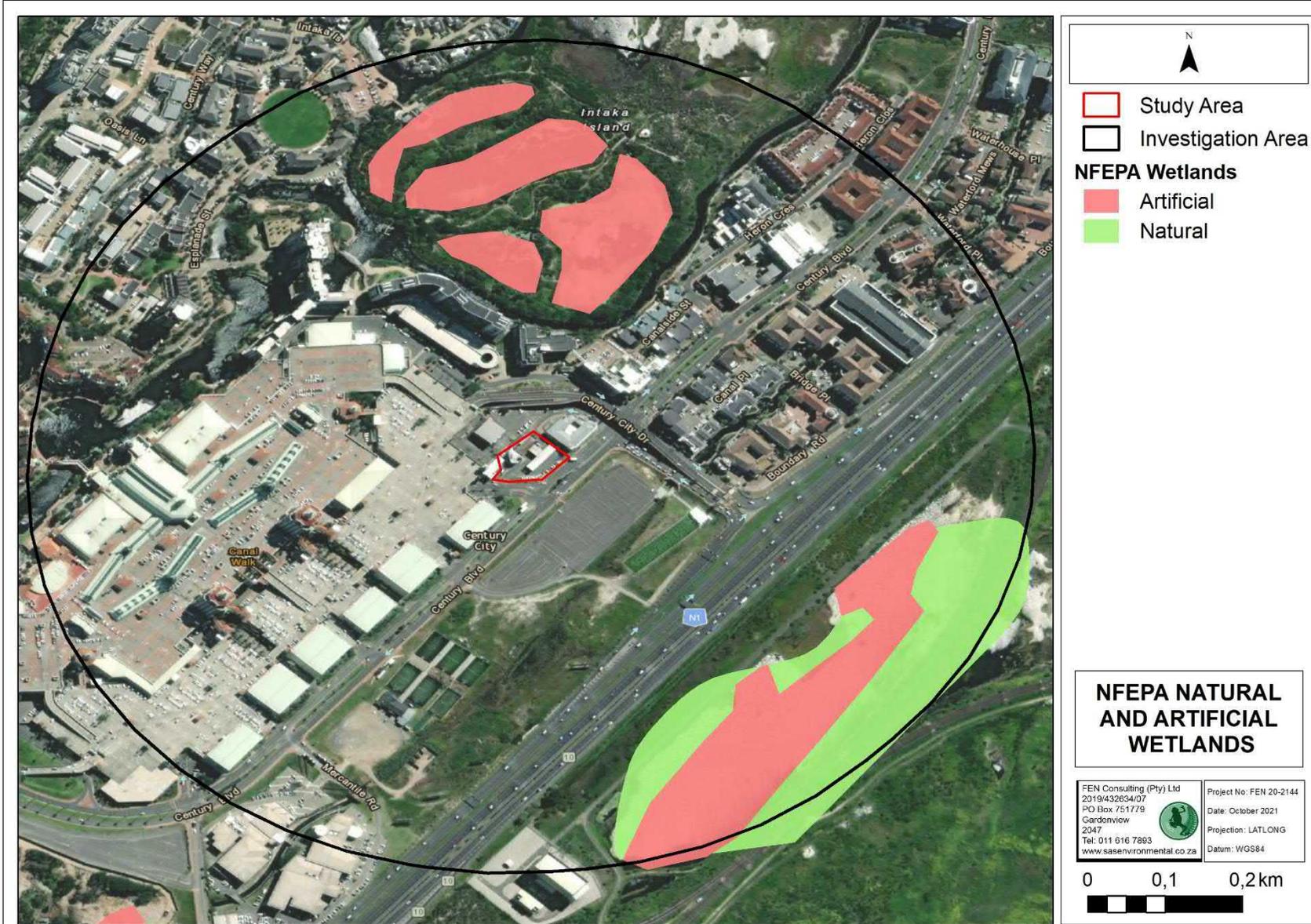


Figure B1: Natural NFEPA wetlands associated with the study and investigation areas as indicated by the NFEPA database (NFEPA, 2011).

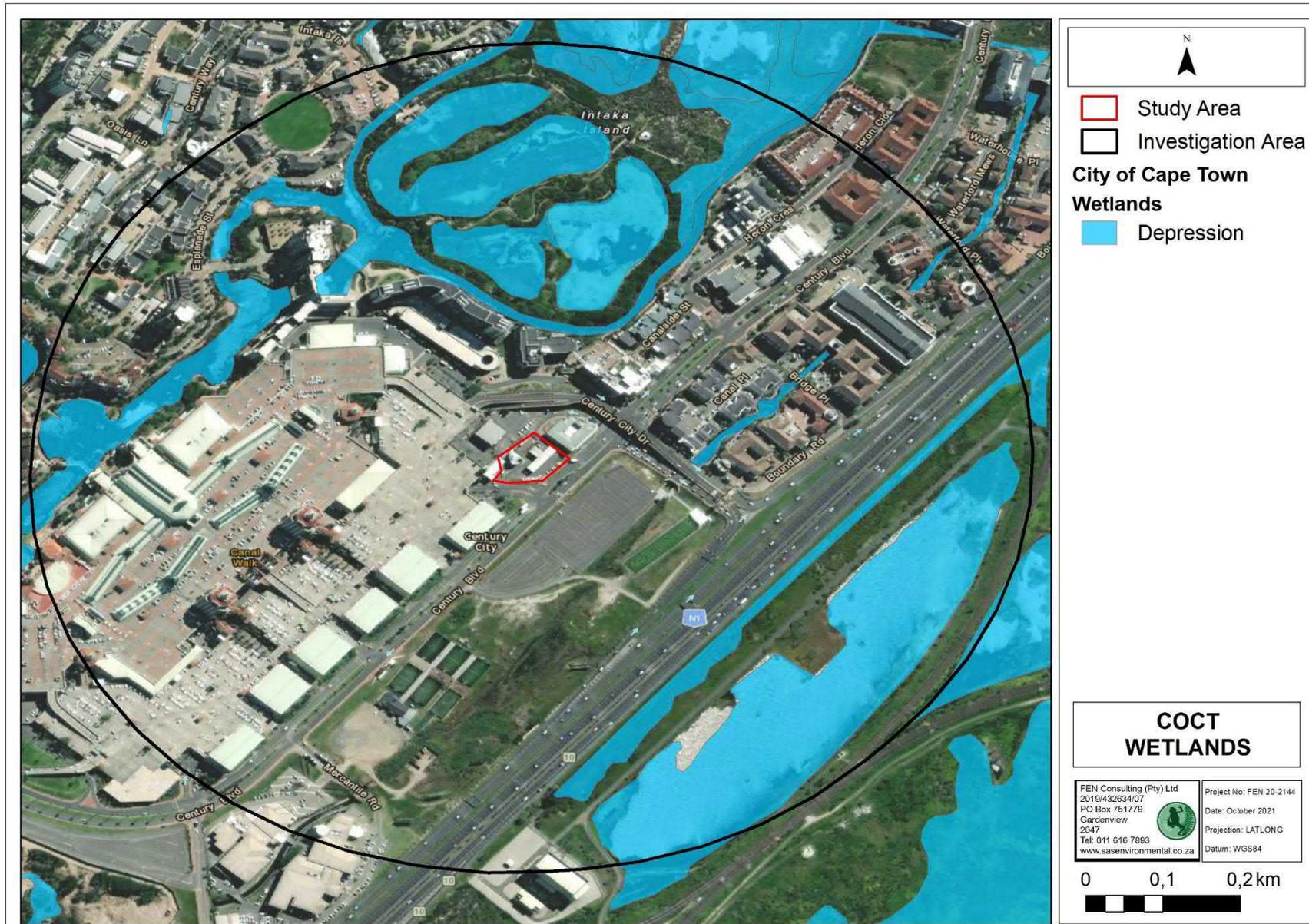


Figure B2: Wetlands identified to be associated with the study and investigation areas, as identified by the City of Cape Town Wetlands Dataset (2017).



Figure B3: Anthropogenic and natural wetlands identified to be associated with the study and investigation areas, as identified by the City of Cape Town Wetlands Dataset (2017).

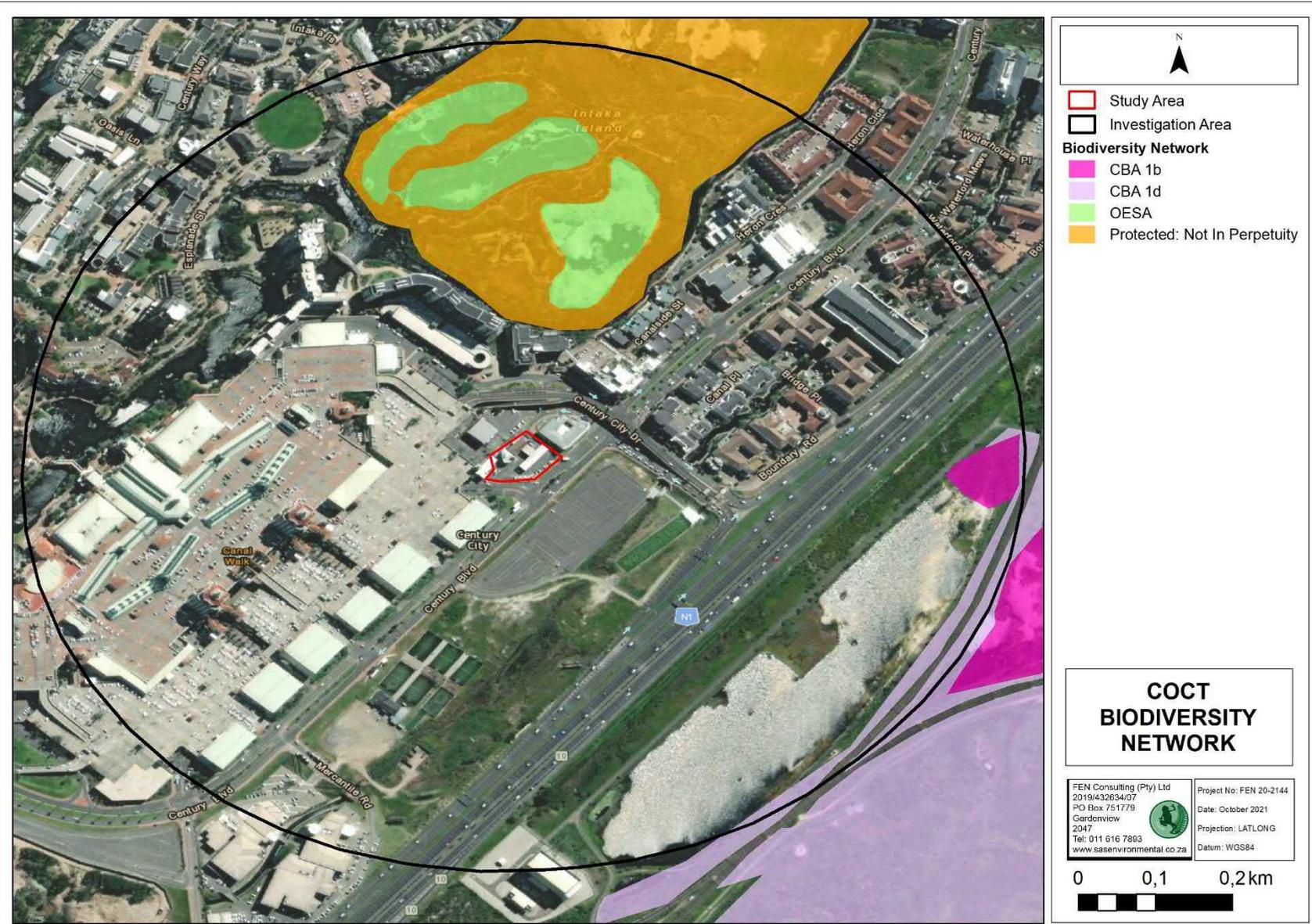


Figure B4: Biodiversity importance classification of the wetlands identified to be associated with the study and investigation areas, as identified by the City of Cape Town Biodiversity Network (2017).

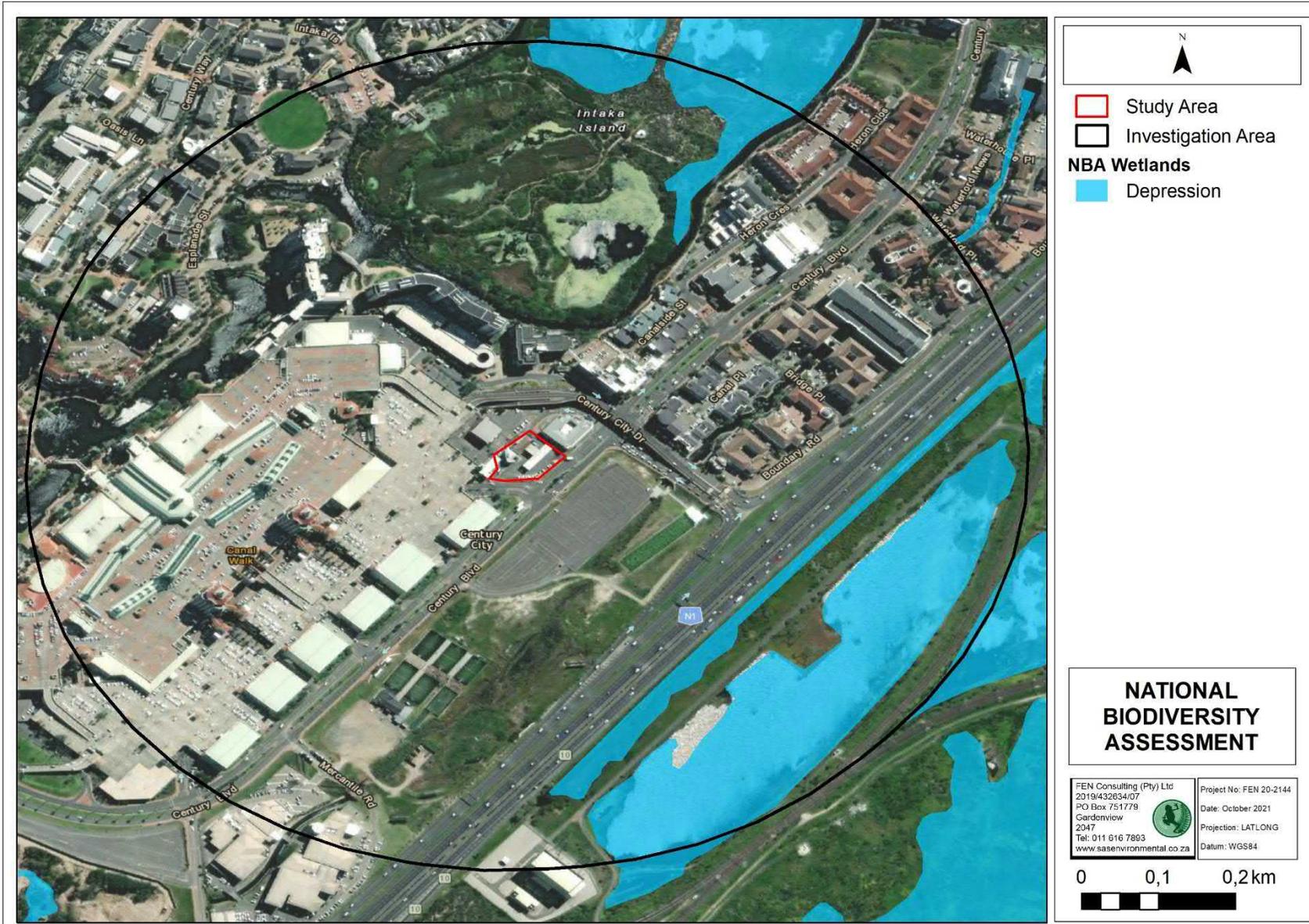


Figure B5: Wetlands identified to be associated with the study and investigation areas, as identified by the National Biodiversity Assessment (2018).

APPENDIX C - DECLARATION OF INDEPENDENCE

DETAILS, EXPERTISE AND CURRICULUM VITAE OF SPECIALISTS

1. (a) (i) Details of the specialist who prepared the report

Stephen van Staden MSc (Environmental Management) (University of Johannesburg)
 Kim Marais BSc Hons (Zoology) (University of Witwatersrand)
 Christel du Preez MSc Environmental Sciences (North West University)

1. (a). (ii) The expertise of that specialist to compile a specialist report including a curriculum vitae

Company of Specialist:	SAS Environmental Group of Companies		
Name / Contact person:	Christel du Preez		
Postal address:	221 Riverside Lofts, Tygerfalls Boulevard, Bellville,		
Postal code:	7539	Cell:	074 580 6823
Telephone:	011 616 7893	Fax:	086 724 3132
E-mail:	christel@sasenvgroup.co.za		
Qualifications	MSc Environmental Sciences (North West University)		
Registration / Associations	Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP)		

1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority.

I, Stephen van Staden, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct.



 Signature of the Specialist

I, Kim Marais, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct.

Kim Marais

Signature of the Specialist

I, Christel du Preez, declare that -

- I act as the **independent specialist** in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct

C du Preez



**SAS ENVIRONMENTAL GROUP OF COMPANIES –
SPECIALIST CONSULTANT INFORMATION
CURRICULUM VITAE OF STEPHEN VAN STADEN**

PERSONAL DETAILS

Position in Company	Group CEO, Water Resource Discipline Lead, Managing Member, Ecologist, Aquatic Ecologist
Joined SAS Environmental Group of Companies	2003 (year of establishment)

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP)
Accredited River Health Practitioner by the South African River Health Program (RHP)
Member of the South African Soil Surveyors Association (SASSO) Member of the Gauteng Wetland Forum
Member of the Gauteng Wetland Forum
Member of International Association of Impact Assessors (IAIA) South Africa;
Member of the Land Rehabilitation Society of South Africa (LaRSSA)

EDUCATION
Qualifications

MSc Environmental Management (University of Johannesburg)	2003
BSc (Hons) Zoology (Aquatic Ecology) (University of Johannesburg)	2001
BSc (Zoology, Geography and Environmental Management) (University of Johannesburg)	2000

Short Courses

Integrated Water Resource Management, the National Water Act, and Water Use Authorisations, focusing on WULAs and IWWMPs	2017
Tools for Wetland Assessment (Rhodes University)	2017
Legal liability training course (Legricon Pty Ltd)	2018
Hazard identification and risk assessment training course (Legricon Pty Ltd)	2018
Wetland Management: Introduction and Delineation (WLID1502S) (University of the Free State)	2018
Hydropedology and Wetland Functioning (TerraSoil Science and Water Business Academy)	2018

AREAS OF WORK EXPERIENCE

South Africa – All Provinces
Southern Africa – Lesotho, Botswana, Mozambique, Zimbabwe Zambia
Eastern Africa – Tanzania Mauritius
West Africa – Ghana, Liberia, Angola, Guinea Bissau, Nigeria, Sierra Leona
Central Africa – Democratic Republic of the Congo

DEVELOPMENT SECTORS OF EXPERIENCE

1. Mining: Coal, chrome, Platinum Group Metals (PGMs), mineral sands, gold, phosphate, river sand, clay, fluorspar
2. Linear developments (energy transmission, telecommunication, pipelines, roads)
3. Minerals beneficiation
4. Renewable energy (Hydro, wind and solar)
5. Commercial development
6. Residential development
7. Agriculture
8. Industrial/chemical

KEY SPECIALIST DISCIPLINES

Legislative Requirements, Processes and Assessments

- Water Use Applications (Water Use Licence Applications / General Authorisations)
- Environmental and Water Use Audits
- Freshwater Resource Management and Monitoring as part of EMPR and WUL conditions

Freshwater Assessments

- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Maintenance and Management Plans
- Plant Species and Landscape Plans
- Freshwater Offset Plans
- Hydropedological Assessment
- Pit Closure Analysis

Aquatic Ecological Assessment and Water Quality Studies

- Habitat Assessment Indices (IHAS, HRC, IHIA & RHAM)
- Aquatic Macro-Invertebrates (SASS5 & MIRAI)
- Fish Assemblage Integrity Index (FRAI)
- Fish Health Assessments
- Riparian Vegetation Integrity (VEGRAI)
- Toxicological Analysis
- Water quality Monitoring
- Screening Test
- Riverine Rehabilitation Plans

Biodiversity Assessments

- Floral Assessments
- Biodiversity Actions Plan (BAP)
- Biodiversity Management Plan (BMP)
- Alien and Invasive Control Plan (AICP)
- Ecological Scan
- Terrestrial Monitoring
- Biodiversity Offset Plan

Soil and Land Capability Assessment

- Soil and Land Capability Assessment
- Hydropedological Assessment

Visual Impact Assessment

- Visual Baseline and Impact Assessments
- Visual Impact Peer Review Assessments



SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF **KIM MARAIS**

PERSONAL DETAILS

Position in Company	Senior Scientist
	Water Resource Manager
Joined SAS Environmental Group of Companies	2015

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Professional member of the South African Council for Natural Scientific Professions (SACNASP – Reg No. 117137/17)
Member of the Western Cape Wetland Forum (WCWF)

EDUCATION

Qualifications

BSc (Hons) Zoology (University of the Witwatersrand)	2012
BSc (Zoology and Conservation) (University of the Witwatersrand)	2011

Short Courses

Aquatic and Wetland Plant Identification (Crispis Environment)	2019
Tools for Wetland Assessment (Rhodes University)	2018
Certificate in Environmental Law for Environmental Managers (CEM)	2014
Certificate for Introduction to Environmental Management (CEM)	2013

AREAS OF WORK EXPERIENCE

South Africa – Gauteng, Mpumalanga, KwaZulu-Natal, Northern Cape, Eastern Cape,
Africa - Uganda

KEY SPECIALIST DISCIPLINES

Biodiversity Assessments

- Biodiversity Action Plans (BAP)
- Alien and Invasive Control Plans (AICP)
- Faunal Eco Scans
- Faunal Impact Assessments

Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Watercourse Maintenance and Management Plans
- Freshwater Offset Plan

Aquatic Ecological Assessment and Water Quality Studies

- Riparian Vegetation Integrity (VEGRAI)
- Water quality Monitoring
- Riverine Rehabilitation Plans

Legislative Requirements, Processes and Assessments

- Water Use Applications (Water Use Licence Applications / General Authorisations)
- Water Use Audits
- Freshwater Resource Management and Monitoring as part of EMPR and WUL conditions
- Public Participation processes



SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF CHRISTEL DU PREEZ

PERSONAL DETAILS

Position in Company Senior Scientist (Watercourse ecology)
 Joined SAS Environmental Group of Companies 2016

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Professional member of the South African Council for Natural Scientific Professions (SACNASP)
 (SACNASP – Reg No. 120240/19)
 Member of the Western Cape Wetland Forum (WCF)
 Member of the Gauteng Wetland Forum (GWF)

EDUCATION

Qualifications

MSc Environmental Sciences (North West University) 2017
 BSc Hons Environmental Sciences (North West University) 2012
 BSc Environmental and Biological Sciences (North West University) 2011

Short Courses

Wetland and Aquatic plant Identification presented by Carin van Ginkel (Crispis Environmental) 2019
 Wetland Management: Introduction and Delineation presented by the Centre of Environmental Management
 University of the Free State 2018
 Tools for Wetland Assessment presented by Prof. F. Ellery and Rhodes University 2017
 Basic Principles of ecological rehabilitation and mine closure presented by the Centre for Environmental
 Management North West University 2015

AREAS OF WORK EXPERIENCE

South Africa – Gauteng, Mpumalanga, Limpopo, Western Cape, Northern Cape, Eastern Cape

KEY SPECIALIST DISCIPLINES

Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Maintenance and Management Plans
- Plant species and Landscape Plan
- Freshwater Offset Plan

Appendix H1: Terrestrial Biodiversity Specialists Report



F.E.N. Consulting

Applying science to the real world

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Chris Hooton
Date: Friday, 29 October 2021
Ref: FEN 20-2150

SLR Consulting
68 on Main, Old Main Road
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Tel: 011 467 0945
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Attention: Ms. A. Mothilal

RE: TERRESTRIAL ECOLOGICAL COMPLIANCE STATEMENT AS PART OF THE S24G RECTIFICATION PROCESS FOR THE CANAL WALK SHELL RETAIL SERVICE STATION, CENTURY CITY, WESTERN CAPE.

1. INTRODUCTION AND BACKGROUND SETTING

Freshwater Ecological Network (FEN) Consulting (Pty) Ltd was appointed by SLR Consulting to prepare a Terrestrial Biodiversity Verification and compliance statement as per the Department of Forestry, Fisheries and Environment (DFFE) Screening Tool as part of the Section 24G rectification process for the existing Canal Walk Shell retail service station, located in Century City, Western Cape Province (hereafter referred to as the 'study area') (Figure A1 in **Appendix A**). The Canal Walk Shell retail service station is located on Erf 5419 (total extent of 0.17 ha), within an urbanised setting and Century Boulevard is located along its eastern boundary. Initial site operations commenced in 2002 without obtaining the relevant environmental authorisations. As such, a Section 24G rectification process is required for the unlawful commencement of listed activities in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) and the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). This memorandum focuses on the possible presence of the African Marsh Harrier (*Circus ranivorus* (EN)), the Black Harrier (*Circus maurus* (EN)), the Perringuey's Meadow Katydid (*Conocephalus peringueyi* (VU)) and the Bladder Grasshopper (*Bullacris obliqua* (VU)) as listed in the DFFE Screening Tool (**Appendix B**) for the study area. The memorandum will also address the Very High sensitivity indicated for the Terrestrial Biodiversity theme and the Low Plant Species sensitivity theme.

This verification report will follow the requirements as stated in the 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 (Act No. 107 of 1998) (NEMA).

The outcome of this site sensitivity verification assessment will present the recorded site assessment results so as to:

- Confirm or dispute the current use of the land and the environmental sensitivity as identified by the screening tool (DFFE, 2020), such as new/upgrading of developments or infrastructure, the change in vegetation cover or status etc.; and
- Present a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

2. OUTCOMES OF THE APPLICATION OF THE DFFE SCREENING TOOL

The protocol for the assessment of terrestrial (fauna and flora) biodiversity is prepared in support of the national web based environmental screening tool (DFFE, 2020) which provides the criteria and requirements for the assessment and reporting of impacts on terrestrial biodiversity for activities requiring Environmental Authorisation (EA). For terrestrial biodiversity, the requirements are for landscapes and/or sites which support various levels of threatened or unique biodiversity. The relevant faunal and floral biodiversity data stated within the national web based environmental screening tool (DFFE, 2020) has been provided by the South African National Biodiversity Institute (SANBI).

According to the screening tool applied to the study area, the area is of “Very High” terrestrial biodiversity combined sensitivity (Table 1 – **Appendix B**). The study area is considered “Medium” for combined Animal Species Theme Sensitivity as the distribution ranges of African Marsh Harrier (*Circus ranivorus* (EN)), Black Harrier (*Circus maurus* (EN)), Peringuey’s Meadow Katydid (*Conocephalus peringueyi* (VU)) and the Bladder Grasshopper (*Bullacris obliqua* (VU)) encompass the study area. For the combined Plant Species sensitivity the site is indicated as “Low” and no sensitive or threatened species have been indicated as occurring within the site. For this report, focus on the possible presence of the faunal species as listed above will be investigated. The overall terrestrial sensitivity as indicated by the screening tool will also be addressed.

The applicant, intending to undertake an activity within the study area identified as being of “very high sensitivity” for terrestrial biodiversity on the national web based environmental screening tool must submit a Terrestrial Biodiversity Compliance Statement to the competent authority unless the initial site survey or findings by the specialist determine that a high risk to the regional terrestrial biodiversity in the area is likely, in which case a biodiversity assessment must be undertaken.

3. DEFINITIONS AND LEGISLATIVE REQUIREMENTS

The legislation considered during this investigation included the following:

- The Constitution of the Republic of South Africa, 1996¹;
- The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
- The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA);
- Government Notice R598 Alien and Invasive Species Regulations as published in the Government Gazette 37885 dated 1 August 2014 as it relates to the National Environmental Management Biodiversity Act, 1998 (Act No.107 of 1998);
- The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) (CARA); and
- City of Cape Town. 2017 City of Cape Town Biodiversity Network [Vector] 2017. Available from the Biodiversity GIS [website](#).

¹ Since 1996, the Constitution has been amended by seventeen amendments acts. The Constitution is formally entitled the ‘Constitution of the Republic of South Africa, 1996’. It was previously also numbered as if it were an Act of Parliament – Act No. 108 of 1996 – but since the passage of the Citation of Constitutional Laws Act, neither it nor the acts amending it are allocated act numbers.

4. INVESTIGATION FINDINGS

A database review and desktop analyses was undertaken in terms of the study area whilst the surrounding landscape was also taken into consideration. The results of which are presented in Appendix B with the relevant maps. For ease of reference the results of the background assessment have been summarised in the points below:

- The National List of Threatened Ecosystems indicates that the study area is located in the Critically Endangered Cape Flats Sand Fynbos (FFd 5); and
- The study area does not represent any areas of conservation importance (CBA/ESA or Other Natural Areas) within the City of Cape Town Biodiversity Network.

A field investigation to ground truth the desktop findings was undertaken on the 20th of October 2021. The broader area surrounding the study area was considered utilising digital satellite imagery prior to and after the field investigation. At the time of the survey, it was early summer, which in the Western Cape corresponds to reduced rainfall and a general reduction in faunal species activity.

The study area has been completely developed into a retail fuel service station, with tar and paved surface covering most of the study area (Figure 1). The only vegetation noted in the study area was of kikuyu grass (*Pennisetum clandestinum*) located along the sidewalk on the southern and eastern boundary of the study area which is regularly mowed and remains short. A small garden hosting ornamental vegetation species is located to the east of the study area across Century Boulevard, hosting *Aloe* species, *Restio* species, *Strelitzia reginae* (Bird of Paradise) and three large Mexican Fan Palms (*Washingtonia robusta*) (Figures 1 and 2). The study area itself does not offer any habitat for faunal species due to the overall level of development (Figures 1, 2 and 3).

During the site assessment, only a small number of common avifaunal species well adapted to urban areas were observed including species in the family Columbidae (pigeons and doves) and *Passer melanurus* (Cape Sparrow). These species likely forage over the larger urban area and are not solely reliant on the study area. The study area was devoid of mammals and reptile species, likely due to the highly urban environment and lack of suitable habitat. Invertebrate species were also limited to common, ubiquitous species associated with urban areas, notably species of the Order Lepidoptera (Butterflies and moths) as well as the Orders Hemiptera (Bugs) and Diptera (Flies).



Figure 1: Overview photographs of the study area.



Figure 2: Kikuyu grass (*Pennisetum clandestinum*) is present along the sidewalk on the southern and eastern boundary of the study area (bottom left) which is regularly mowed. A landscaped garden on an island, located across the eastern boundary of the study area (bottom right).



Figure 3: Digital aerial photography showing the study area (red polygon) within the larger landscape which is absent of suitable corridors for faunal movement between the study area and Intake Island (yellow arrow).

Species of Conservation Concern identified by the DFFE screening tool (2020)

The following paragraphs provide insight into the relevant faunal Species of Conservation Concern (SCC) as flagged by the DFFE screening tool (2020) and provides substantiated reasoning for whether these species may be associated with the study area or any nearby surroundings.

Peringuey's Meadow Katydid (*Conocephalus peringueyi* (VU)) is known from mountains in the Fynbos biome. Given the urbanised environment in which the study area is located, the developed state of the site and the lack of suitable vegetation (habitat) available to support this species, it is unlikely that this species will occur within the study area. Considering that the Intaka Island Bird and Wetland sanctuary is located approximately 150 m north of the study area, hosting areas with indigenous Fynbos vegetation, it is possible that suitable habitat for this species will be provided therein. It must however

be noted that according to the iNaturalist database, there are currently no records for this species at this site.

The life history, habitat choice and ecology of the **Bladder Grasshopper (*Bullacris obliqua* (VU))** has not been researched, thus making predictions on suitable habitat difficult. Considering that there is no habitat within the study area coupled with the human interferences from lights and vehicles in this high density urban area, it is considered highly unlikely that this species occurs within the study area.

The **African Marsh Harrier (*Circus ranivorus* (EN))** makes use of wetlands for its habitat, however it is absent from areas with less than 300 mm of annual rainfall. It occurs in high densities in higher rainfall coastal regions from Zululand down to Western Cape, as well as in Mpumalanga, Gauteng, Limpopo and North West provinces. The primary threat faced by this species is loss and degradation of its sensitive wetland habitats, brought about by drainage or damming for development and agriculture, as well as pollution. Changes in the extent of moist wetland edges and surrounding grassland (i.e. prey habitat) could be more significant than changes in the extent of permanently inundated wetland and reedbeds although the species may partly be able to adapt to constructed wetlands, e.g. dams and sewage works. It is noted that the study area does not provide the appropriate habitat for these species. Given that Intaka Island Bird and Wetland sanctuary (which is a reconstructed wetland system) is located approximately 150 m north of the study area, these species may potentially be present in the area however the urbanised environment surrounding the Intaka Bird and Wetland sanctuary and also the reduced available hunting areas significantly reduces the likelihood of this species permanently utilising the area. Furthermore, according to the iNaturalist database, there are currently no records for this species at this site or listed on the 'Bird Checklist' as provided by Intaka Island².

The **Black Harrier (*Circus maurus* (EN))**, is a range-restricted harrier species with the core of its range located in the Fynbos Biome. The Black Harrier has a polarised distribution in the Fynbos Biome, with breeding birds restricted to the coastal strip and inland in the mountains. This distribution is a reflection of the birds' preference for cooler south-facing slopes and mountains, as well as land-use patterns in the region. Given that the study area is located in a high density urban area, it is considered highly unlikely that this species occurs within or will utilise the study area.

Due to the transformation of the study area, the results of the site visit do not align with the findings reported in the national web based screening tool (DFFE, 2020). The study area comprises no vegetation that can be considered characteristic of the vegetation or landscape in which the African Marsh Harrier (*Circus ranivorus* (EN)), the Black Harrier (*Circus maurus* (EN)), the Peringuey's Meadow Katydid (*Conocephalus peringueyi* (VU)) or the Bladder Grasshopper (*Bullacris obliqua* (VU)) would occur.

5. BUSINESS CASE, OPPORTUNITIES AND CONSTRAINTS APPLICABLE TO THE STUDY AREA.

The study area occurs within an urban landscape, has been completely transformed from the reference vegetation state and is without natural corridors that would allow for the dispersal of plant propagules and fauna. The Intaka Island Bird and Wetland sanctuary, located approximately 150 m north of the study area, may offer potential habitat for the triggered species, however, as there is insufficient habitat in the study area and limited interconnected movement corridors, species are unlikely to migrate/move from Intaka Island into the study area.

Floral and faunal habitat is limited to small garden areas/flower beds across from the study area comprising of ornamental species, which does not mimic the features described for the reference vegetation type (Mucina and Rutherford, 2006). Very few, if any faunal species are anticipated to utilise

² Available from: [https://storage.googleapis.com/intaka-assets/Intaka-BirdsList-4%20\(1\)-2016-03-24_11:31:52.pdf](https://storage.googleapis.com/intaka-assets/Intaka-BirdsList-4%20(1)-2016-03-24_11:31:52.pdf)

the study area as a result of the aforementioned habitat transformation, notable for SCC. Thus, the faunal and floral composition of the study area is not anticipated to be of significant conservation value from a terrestrial biodiversity perspective and impacts on the receiving environment from the construction of the Canal Walk Shell retail service station would have been very low and unlikely to impact upon any terrestrial ecosystem services, functions or species.

Therefore, it is the opinion of the specialists that the construction of the Canal Walk Shell retail service station posed no direct impact to any terrestrial features, from a biodiversity resource management point of view. No unique (including floral SCC) or undisturbed habitat with the necessary characteristics required to support African Marsh Harrier (*Circus ranivorus* (EN)), the Black Harrier (*Circus maurus* (EN)), the Peringuey's Meadow Katydid (*Conocephalus peringueyi* (VU)) or the Bladder Grasshopper (*Bullacris obliqua* (VU)) or any other faunal SCC were observed in the study area. Thus, FEN Consulting does not support the Medium Animal Species theme or Very High Terrestrial Sensitivity theme for the study area. The **overall sensitivity for the study area is deemed to be low**, congruent with the current level of habitat therein.

We trust that we have interpreted your requirements correctly. Please do not hesitate to contact us if there are any aspects of this memorandum that you would like to discuss.

Yours Faithfully,



Christel du Preez
Pr. Sci. Nat

Reviewed and signed off by C. Hooton and K. Marais (SACNASP REG No. 117137/17)
Declaration of independence and CV included in Appendix C and D respectively

REFERENCES

- City of Cape Town. 2017 City of Cape Town Biodiversity Network [Vector] 2017. Available from the Biodiversity GIS [website](#),
- IBA: Marnewick MD, Retief EF, Theron NT, Wright DR, Anderson TA. 2015. Important Bird and Biodiversity Areas of South Africa. Johannesburg: BirdLife South Africa. Online available: <http://bgis.sanbi.org/IBA/project.asp>
- Mucina, L & Rutherford, MC. 2012. The vegetation of South Africa, Lesotho and Swaziland. SANBI Strelitzia 19, Pretoria.
- NPAES: DEA and SANBI. 2009. National Protected Areas Expansion Strategy Resource Document. Online available: <http://bgis.sanbi.org/protectedareas/NPAESinfo.asp>
- SAPAD: Department of Environmental Affairs. 2020. South Africa Protected Areas Database (SAPAD_OR_2020_Q3). Online available: [http://egis.environment.gov.za]
- Threatened Ecosystems: National Environmental Management Biodiversity Act: National list of ecosystems that are threatened and in need of protection (G 34809, GoN 1002). 2011. Department of Environmental Affairs. Online available: <http://bgis.sanbi.org/ecosystems/project.asp>

APPENDIX A- LOCALITY MAP

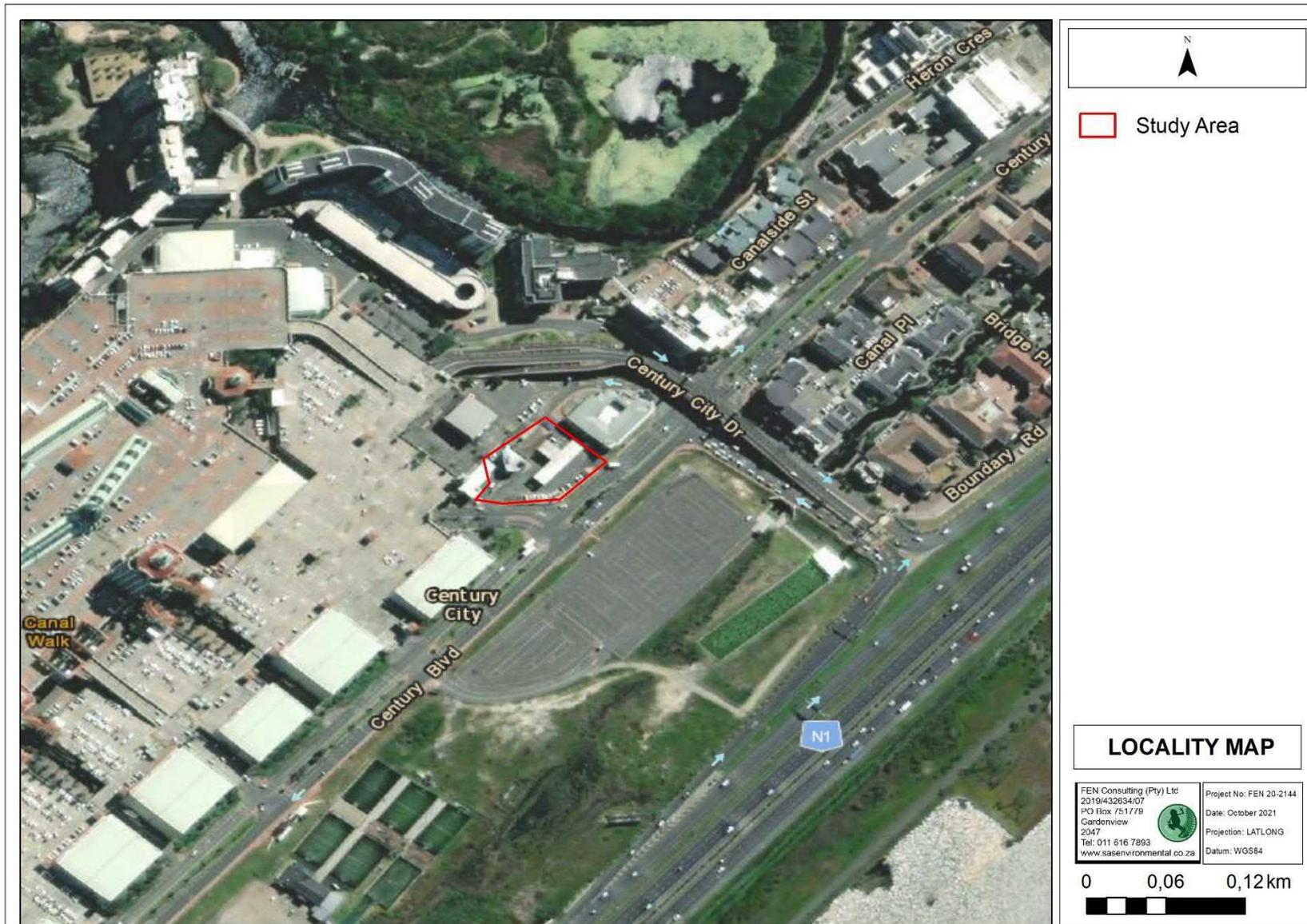


Figure A1: The locality of the study area in relation to its surroundings.

APPENDIX B- BACKGROUND INFORMATION

Table 1: Summary of the conservation characteristics for the study area with a focus on terrestrial database sets.

CONSERVATION DETAILS PERTAINING TO THE STUDY AREA (VARIOUS DATABASES)		DETAILS OF THE STUDY AREA IN TERMS OF MUCINA & RUTHERFORD (2006, 2018, 2012)					
<p>NATIONAL BIODIVERSITY ASSESSMENT (NBA): Ecosystem types are categorised as “not protected”, “poorly protected”, “moderately protected” and “well protected” based on the proportion of each ecosystem type that occurs within a protected area recognised in the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) (NEMPAA), and compared with the biodiversity target for that ecosystem type. The ecosystem protection level status is assigned using the following criteria:</p> <ol style="list-style-type: none"> I. if an ecosystem type has more than 100% of its biodiversity target protected in a formal protected area either a or b, it is classified as well protected; II. when less than 100% of the biodiversity target is met in formal a or b protected areas it is classified it as moderately protected; III. if less than 50% of the biodiversity target is met, it is classified it as poorly protected; and IV. If less than 5% it is hardly protected. 		Biome	The study area is situated within the Fynbos Biome .				
		Bioregion	The study area is located within the Southwest Fynbos Bioregion				
		Vegetation Type	The study area falls within the Cape Flats Sand Fynbos (FFd 5) .				
		Climate	Winter-rainfall regime with precipitation peaking from May to August, with overall MAP between 580 – 980 mm. Mists occur frequently in winter. Mean daily maximum and minimum monthly temperatures 27.1 °C and 7.3 °C for February and July, respectively. Frost incidence about 3 days per year.				
			MAP* (mm)	MAT* (°C)	MFD* (Days)	MAPE* (mm)	MASMS* (%)
			576	16.2	3	2034	65
<p>NBA (2018):</p> <ol style="list-style-type: none"> 1) Ecosystem Protection Level 2) Ecosystem Threat Status 	<p><u>NBA 2018 dataset:</u> The study area falls within the Cape Flats Sand Fynbos which is considered a Critically Endangered ecosystem and is currently Not Protected.</p>	Altitude (m)	20 – 200m				
		Distribution	Western Cape Province				
		Conservation	Critically Endangered . Target 30%. Less than 1% statutorily conserved. Almost 80% already transformed by urban sprawl or by cultivation. Alien species of <i>Acacia</i> , pines and gum trees (<i>Eucalyptus</i>) have replaced the original fynbos vegetation in large areas. Erosion generally very low.				
<p>National Threatened Ecosystems (2011)</p>	<p>The study area currently falls within an ecosystem that is critically endangered. For Environmental Impact Assessments (EIAs), the 2011 National list of Threatened Ecosystems remains the trigger for a Basic Assessment in terms of Listing Notice 3 of the EIA Regulations published under the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA).</p>	Geology & Soils	Acid, tertiary, deep, grey regic sands, usually white, often Lamotte form. Land types mainly Ga, Hb and Db.				
		Vegetation & landscape features	Moderately undulating and flat plains, with dense, moderately taal, ericoid shrubland containing scattered emergent tall shrubs. Proteoid and restioid fynbos are dominant, with asteraceous and ericaceous fynbos occurring in drier and wetter areas, respectively.				
<p>IBA (2015) (Figure A2)</p>	<p>According to the IBA Dataset, the Rietvlei Wetland: Table Bay Nature Reserve is located approximately 2.5 km north west of the study area. This IBA has the following trigger species: African Black Oystercatcher (<i>Haematopus moquini</i>) and Lesser Flamingo (<i>Phoeniconaias minor</i>), and regionally threatened species are Greater Flamingo (<i>Phoenicopterus roseus</i>), Great White Pelican (<i>Pelecanus onocrotalus</i>), Caspian Tern (<i>Hydroprogne caspia</i>), African Marsh Harrier (<i>Circus ranivorus</i>) and Lanner Falcon (<i>Falco biarmicus</i>). Biome-restricted species that are common in the IBA include Cape Spurfowl (<i>Pternistis capensis</i>) and Cape Bulbul (<i>Pycnonotus capensis</i>). Species that meet the 1% or more congregatory criteria are Great Crested Grebe (<i>Podiceps cristatus</i>) (maximum 52 individuals), Cape Shoveler (<i>Anas smithii</i>) (maximum 422 individuals), Pied Avocet (<i>Recurvirostra avosetta</i>) (maximum 456 individuals), Kelp Gull (<i>Larus dominicanus</i>) (maximum 1 019 individuals) and Hartlaub’s Gull (<i>Chroicocephalus hartlaubii</i>) (maximum 541 individuals).</p>						

<p>SAPAD (2021, Q2); SACAD (2021, Q2); NPAES (2009). Figure A3</p>	<p>According to the South African Protected Areas Database (SAPAD, 2021), the Bothasig Nature Reserve and Rietvlei Nature Reserve is located within the 5 km buffer of the study area. The Raapenberg Bird Sanctuary Nature Reserve, Cape Peninsula Nature Area and Tygerberg Nature Reserve are within the 10 km buffer.</p> <p>The National Protected Areas Expansion Strategy (NPAES, 2009) indicates that the Rietvlei Local Reserve within the 5 km buffer of the study area. The Raapenberg Bird Sanctuary Nature Reserve, Tygerberg (Bellville) Local Nature Reserv and the Table Mountain National Park MPA is located within the 10 km buffer of the study area. A nature reserve is a declared area, or regarded as having been declared, in terms of section 23 of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ((NEMPAA), as a nature reserve. Alternatively, it is an area which before or after the commencement of this Act was or is declared or designated in terms of provincial legislation for a purpose for which that area could in terms of section 23 (2) of NEMPAA be declared as a nature reserve.</p> <p>According to the South African Conservation Area Database (SACAD, 2021) the study area is within the Cape West Coast Biosphere Reserve. Biosphere reserves are sites established by countries and recognised under UNESCO’s man and the biosphere programme to promote sustainable development based on local community efforts and sound science. Biosphere reserves are organised into three interrelated zones that are regarded as sub-types in the classification scheme: 1) Core area 2) Buffer zone 3) Transition area. Only the core area requires legal protection and hence can correspond to an existing protected area such as a nature reserve or national park.</p> <p>The Cape West Coast Biosphere Reserve stretches between the Diep River mouth in the south and the Berg River in the north. The Langebaan Lagoon and Lower Berg River support a high diversity of wader bird species, with the latter providing the highest number of wader birds in South Africa. The area contains a number of urban areas including the dormitory town of Atlantis in the south and Saldanha Bay town and industrial complex in the north. The major ecosystem types include coastal plains, a marine-influenced fynbos area, marine areas and wetlands. At present, the vegetation in this region is characterized by a dominance of emergent shrublands, including West Coast Renosterveld (<i>Elytropappus rhinocerotis</i> shrublands), sand plain fynbos (<i>Phyllica cephalantha</i> shrubland) and dune thicket strandveld (<i>Euclea racemosa</i> shrubland). It is characterized by the richness of its plant species, which amount to about 8,700 species, and its high endemicity with 68% of plant species found only in the Cape Floral Kingdom. The unique West Coast Benguela marine system with its wind-induced upwellings of deep, cold, nutrient-enriched waters ranks as one of the most productive oceans areas in the world. More than 240 bird species have been observed on the tidal flats of the Lower Berg River. Mammal species include the Steenbok (<i>Rhaphicerus campestris</i>), the Cape grey mongoose (<i>Galerella pulverulensis</i>) and the porcupine (<i>Hystrix africaeaustralis</i>). In addition, several endemic animal species or species that historically occurred in the area have been reintroduced. These include, among others, the critically endangered Black rhinoceros (<i>Diceros bicornis</i>), the eland (<i>Taurotragus oryx</i>) and the red hartebeest (<i>Alcelaphus buselaphus caama</i>).</p> <p>The Cape Floral Region is a protected UNESCO World Heritage Site. The reserve also includes a Ramsar site – the Langebaan Lagoon.</p>
CITY OF CAPE TOWN BIODIVERSITY NETWORK (2017)	
<p>The study area does not fall within a Critical Biodiversity Area (CBA) or Ecological Support Area (ESA).</p>	
NATIONAL WEB BASED ENVIRONMENTAL SCREENING TOOL (2020)	
<p>The screening tool is intended to allow for pre-screening of sensitivities in the landscape to be assessed within the EA process. this assists with implementing the mitigation hierarchy by allowing developers to adjust their proposed development footprint to avoid sensitive areas</p>	
<p>Terrestrial Theme</p>	<p>The Terrestrial Sensitivity for the entire study area is considered of Very High sensitivity. The triggered sensitivity features include a Critically Endangered ecosystem (i.e. the Cape Flats Sand Fynbos as per the NBA, 2018).</p>
<p>Plant Species Theme</p>	<p>For the plant species theme, the study area is considered of Low sensitivity.</p>
<p>Animal Species Theme</p>	<p>For the animal species theme, the study area is considered of Medium (western portion) and High (eastern portion) sensitivity. Species identified by the EIA Screening tool: Aivfaunal species such as <i>Circus ranivorus</i> (African Marsh Harrier) and <i>Circus maurus</i> (Black Harrier). Invertebrate species such as <i>Conocephalus peringueyi</i> (Peringuey’s Meadow Katydid) and <i>Bullacris obliqua</i> (Bladder Grasshopper)</p>

CBA = Critical Biodiversity Area; DWS = Department of Water and Sanitation; EI = Ecological Importance; ES = Ecological Sensitivity; EPL = Ecosystem Protection Level; ESA = Ecological Support Area; ETS = Ecosystem Threat Status; m.a.m.s.l = Metres Above Mean Sea Level; MAP = Mean Annual Precipitation; NBA = National Biodiversity Assessment; NFEPA = National Freshwater Ecosystem Priority Areas; PES = Present Ecological State; SAIIE = South African Inventory of Inland Aquatic Ecosystems; WMA = Water Management Area

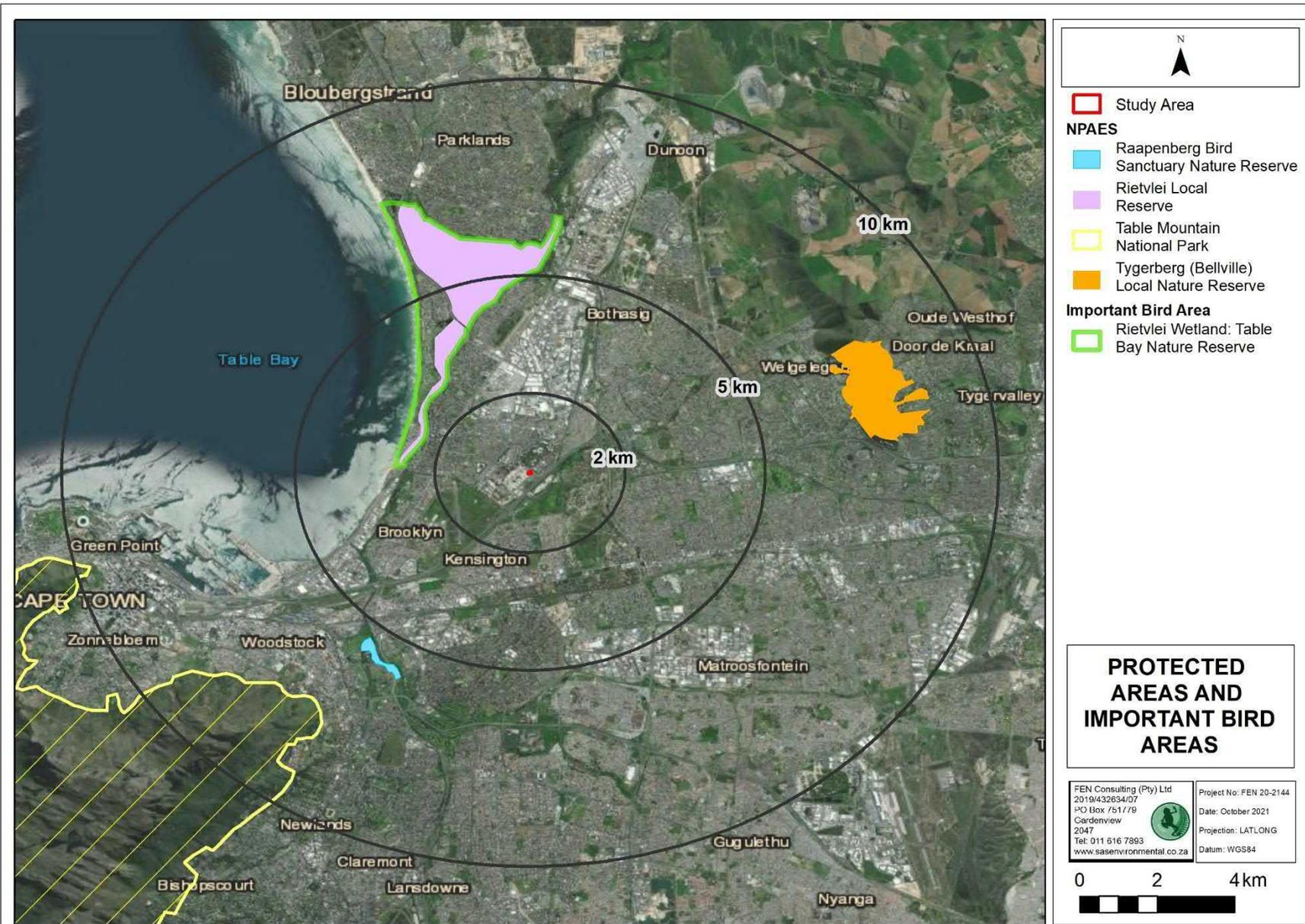


Figure A2: Important Bird Areas as per the IBA dataset (2015) and protected areas as per the National Protected Areas Expansion Strategy (NPAES, 2009) dataset.

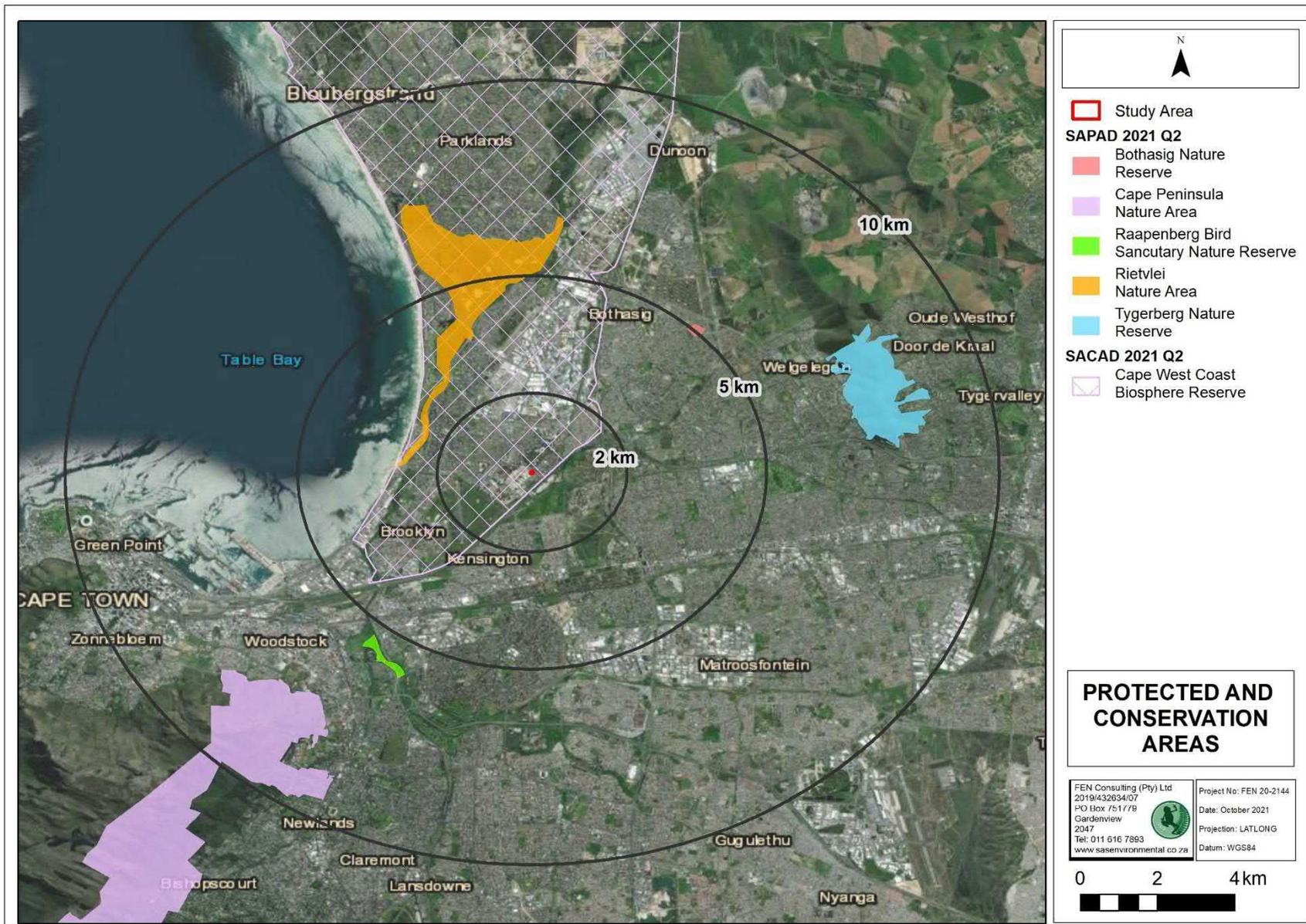


Figure A3: Protected and conservation areas within the 2 km, 5 km, and 10 km buffer zone of the study area as classified in the SACAD and SAPAD (2020) datasets.

APPENDIX C- Declaration of Independence

1. (a) (i) Details of the specialist who prepared the report

Christel du Preez MSc Environmental Sciences (North West University)
 Chris Hooton BTech Nature Conservation (Tshwane University of Technology)
 Kim Marais BSc (Hons) Zoology (Herpetology) (University of the Witwatersrand)

1. (a). (ii) The expertise of that specialist to compile a specialist report including a curriculum vitae

Company of Specialist:	FEN Consulting		
Name / Contact person:	Christel du Preez		
Postal address:	221 Riverside Lofts, Tygerfalls Boulevard, Bellville,		
Postal code:	7539	Cell:	074 580 6823
Telephone:	011 616 7893	Fax:	086 724 3132
E-mail:	christel@sasenvgroup.co.za		
Qualifications	MSc Environmental Sciences (North West University)		
Registration / Associations	Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP)		

1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority

I, Kim Marais, declare that -

- I act as the **independent specialist (reviewer)** in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct

Kim Marais

 Signature of the Specialist

1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority

I, Christel du Preez, declare that -

- I act as the **independent specialist** in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct

C du Preez

1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority

I, Chris Hooton, declare that -

- I act as the **independent specialist** in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct

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APPENDIX D- CV of specialist



SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF KIM MARAIS

PERSONAL DETAILS

Position in Company	Senior Scientist Water Resource Manager
Joined SAS Environmental Group of Companies	2015

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Professional member of the South African Council for Natural Scientific Professions (SACNASP – Reg No. 117137/17)
Member of the Western Cape Wetland Forum (WCWF)

EDUCATION

Qualifications

BSc (Hons) Zoology (University of the Witwatersrand)	2012
BSc (Zoology and Conservation) (University of the Witwatersrand)	2011

Short Courses

Aquatic and Wetland Plant Identification (Cripsis Environment)	2019
Tools for Wetland Assessment (Rhodes University)	2018
Certificate in Environmental Law for Environmental Managers (CEM)	2014
Certificate for Introduction to Environmental Management (CEM)	2013

KEY SPECIALIST DISCIPLINES

Biodiversity Assessments

- Biodiversity Action Plans (BAP)
- Alien and Invasive Control Plans (AICP)
- Faunal Eco Scans
- Faunal Impact Assessments

Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Watercourse Maintenance and Management Plans
- Freshwater Offset Plan

Aquatic Ecological Assessment and Water Quality Studies

- Riparian Vegetation Integrity (VEGRAI)
- Water quality Monitoring
- Riverine Rehabilitation Plans

Legislative Requirements, Processes and Assessments

- Water Use Applications (Water Use Licence Applications / General Authorisations)
- Water Use Audits
- Freshwater Resource Management and Monitoring as part of EMPR and WUL conditions
- Public Participation processes



SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF CHRISTOPHER HOOTON

PERSONAL DETAILS

Position in Company	Senior Scientist, Member Biodiversity Specialist
Joined SAS Environmental Group of Companies	2013

EDUCATION

Qualifications

BTech Nature Conservation (Tshwane University of Technology)	2013
National Diploma Nature Conservation (Tshwane University of Technology)	2008

AREAS OF WORK EXPERIENCE

South Africa – Gauteng, Mpumalanga, North West, Limpopo, KwaZulu-Natal, Eastern Cape, Western Cape, Northern Cape, Free State
Zimbabwe, Sierra Leone, Zambia

KEY SPECIALIST DISCIPLINES

Biodiversity Assessments

- Floral Assessments
- Faunal Assessments
- Biodiversity Actions Plan (BAP)
- Biodiversity Management Plan (BMP)
- Alien and Invasive Control Plan (AICP)
- Ecological Scan
- Protected Tree and Floral Marking and Reporting
- Biodiversity Offset Plan

Freshwater Assessments

- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning



SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF CHRISTEL DU PREEZ

PERSONAL DETAILS

Position in Company Senior Scientist (Watercourse ecology)
 Joined SAS Environmental Group of Companies 2016

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Professional member of the South African Council for Natural Scientific Professions (SACNASP)
 (SACNASP – Reg No. 120240/19)
 Member of the Western Cape Wetland Forum (WCF)
 Member of the Gauteng Wetland Forum (GWF)

EDUCATION

Qualifications

MSc Environmental Sciences (North West University)	2017
BSc Hons Environmental Sciences (North West University)	2012
BSc Environmental and Biological Sciences (North West University)	2011

Short Courses

Wetland and Aquatic plant Identification presented by Carin van Ginkel (Crispis Environmental)	2019
Wetland Management: Introduction and Delineation presented by the Centre of Environmental Management University of the Free State	2018
Tools for Wetland Assessment presented by Prof. F. Ellery and Rhodes University	2017
Basic Principles of ecological rehabilitation and mine closure presented by the Centre for Environmental Management North West University	2015

AREAS OF WORK EXPERIENCE

South Africa – Gauteng, Mpumalanga, Limpopo, Western Cape, Northern Cape, Eastern Cape

KEY SPECIALIST DISCIPLINES

Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Maintenance and Management Plans
- Plant species and Landscape Plan
- Freshwater Offset Plan