



P326-Dec15

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15 April 2021

Marielle Penwarden
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Dear Marielle

**PROPOSED INTEGRATED RAPID TRANSIT SYSTEM ON THE CAPE FLATS, PHASE 2A EAST –
LANSDOWNE-WETTON CORRIDOR FOR TRUNK E1, E2, E3 AND E4 GOVAN MBEKI ROAD BETWEEN
HEINZ AND MONWOOD: FRESHWATER RISK ASSESSMENT**

The City of Cape Town proposes to develop a network of routes in which public transport bus services can easily operate (referred to as the Integrated Rapid Transport (IRT) System). As part of this development, a number of routes within the Cape Flats area have been selected for initial development. Phase 2A of the proposed project will link the south-eastern suburbs of Cape Town (Metro- South East) with nodes along the Southern Suburbs rail line. The focus area of this freshwater assessment report comprises of the proposed upgrades to Govan Mbeki Road / M9 from Heinz and Monwood.

Freshwater features occurring within the study area comprise of the middle reaches of the Lotus Canal as well as permanently to seasonally inundated wetland areas. In general, the habitat integrity of the wetlands as well as the Lotus Canal within the study area is in an extensively to critically modified ecological state. Furthermore, the ecological importance and sensitivity of these freshwater features is mostly low. The development of a rapid transport bus network along the proposed routes is not likely to have any significant ecological impacts from a freshwater perspective given the current state of these aquatic ecosystems and the existing impacts of the surrounding land use activities on them.

The final extent of the proposed road upgrades will not result in any significant loss of aquatic habitat and thus no wetland offset areas are deemed to be required. The proposed works will however be directly adjacent to aquatic habitats and thus pose a risk of altering the characteristic of the wetland/watercourses. For this reason, a risk assessment has been undertaken for the proposed works. Given the current ecological condition of the wetlands and watercourse, the risk of the works resulting in further degradation of these aquatic ecosystems is considered to be low and the water use could be authorised under the General Authorisations for Section 21(c) and (i) water use activities of the National Water Act, Act 36 of 1998.

Please feel free to contact me should you have any questions regarding the above.

Kind regards

A handwritten signature in black ink, appearing to read 'Belcher', written in a cursive style.

Toni Belcher (P. Sci. Nat. 400040/10)

DECLARATION OF INDEPENDENCE BY THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I, Antonia Belcher, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I :

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the “Review Specialist”) that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:



Name of Company:

BlueScience (Pty) Ltd

Date:

15 April 2021

ABBREVIATED CURRICULUM VITAE:

Organisation: BlueScience (Pty) Ltd

Contact details: PO Box 455, Somerset Mall, 7137

Names: Ms Toni Belcher

Profession: Senior Aquatic Ecologist for BlueScience, SACNASP No 400040/10

Expertise: BlueScience (Pty) Ltd provides water resource management services and includes the following:

- Rivers and wetlands scoping and impact assessments;
- River rehabilitation plans and implementation;
- Wetland rehabilitation plans and implementation;
- Water use authorisation applications (WULA);
- Biomonitoring of rivers (including macro-invertebrates, fish & water quality);
- Water use compliance auditing (internal auditing);
- Water use compliance monitoring and reporting for license holders (including water quality sampling and measurements);
- Ecological Reserve determination of rivers and wetlands;
- River Maintenance and Management Plans (MMP);
- NEMBA – alien vegetation assessment and management plans; and
- Water resources capacity building and training.

Summary of projects undertaken by BlueScience since July 2012:

| Type of project | Number of projects undertaken |
|--|-------------------------------|
| Dam developments | 74 |
| Other freshwater and freshwater impact assessments | 364 |
| River reach MMP | 6 |
| ESKOM | 34 |
| Renewable energy (WEF and Solar) | 29 |
| Roads (Provincial and National roads) | 47 |
| River monitoring and rehabilitation projects | 58 |
| Water resource study | 12 |
| Water use authorisation applications (not linked to a freshwater assessment study) | 26 |
| Water use authorisation audits and licensing monitoring) | 7 |

ASPECTS AND IMPACT REGISTER/RISK ASSESSMENT FOR WATERCOURSES INCLUDING RIVERS, PANS, WETLANDS, SPRINGS, DRAINAGE LINES


COMPILED BY: Toni Belcher (400040/10), BlueScience

PROJECT: City of Cape Town Intergrated Rapid Transit Ph 2a, Work Package E1

Date: April 2021

| Nr. | Phases | Activity | Aspect | Impact | Severity | | | | Severity | Spatial scale | Duration | Consequence | Frequency of activity | Frequency of impact | Legal Issues | Detection | Likelihood | Significance | Risk Rating | Control Measures | Confidence | Type Watercourse |
|-----|--------------|---|--|--|-------------|------------------------------------|-------------------------------|-------|----------|---------------|----------|-------------|-----------------------|---------------------|--------------|-----------|------------|--------------|---|---|------------|--|
| | | | | | Flow Regime | Physico & Chemical (Water Quality) | Habitat (Geomorph+Vegetation) | Biota | | | | | | | | | | | | | | |
| 1 | Construction | Construction works associated with the IRT for Phase 2a E1 | Preparation of area for construction with clearing of vegetation and shaping of soil | Loss of biodiversity & habitat; impeding the flow; water quality impacts | 1 | 1 | 2 | 1 | 1.25 | 1 | 2 | 4.25 | 1 | 3 | 5 | 2 | 11 | 46.75 | L | <p>Activities within the aquatic features during the construction phase should be limited as far as possible in terms of their spatial and temporal extent. Construction work within or adjacent to the aquatic features should preferably take place before the onset of the rainfall period to ensure minimal impact on flow.</p> <p>Rubble and debris from existing structures and construction activities should be removed after construction is complete so as not to impede runoff to the aquatic features. Once construction is complete, the area should be rehabilitated to resemble that of the surrounding bed and banks and where necessary vegetated preferably with indigenous grasses such as fynkweek <i>Cynodon dactylon</i> and buffalo grass <i>Stenotaphrum secundatum</i>. Invasive kikuyu grass <i>Pennisetum clandestinum</i> should be removed where ever possible.</p> <p>Contaminated runoff from the construction site(s) should be prevented from entering the aquatic features within the immediate area. The laydown area and main construction site(s) for the aquatic features. If the construction site(s) need to be located near the aquatic features, all materials on the construction site(s) should be properly stored and contained. Disposal of waste from the site(s) should also be properly managed.</p> <p>Construction workers should be given ablution facilities at the construction works that are located away from the aquatic features (at least 30m) and regularly serviced. These measures should be addressed, implemented and monitored in terms of the Environmental Management Plan for the construction phase.</p> <p>Increased sedimentation or turbidity at each of the construction works within the aquatic features should be mitigated as far as possible by making use of sandbags, settling ponds or screens to minimise the load of sediment being washed downstream of the works.</p> | High | Lotus Canal and wetland areas: PES=seriously to critically modified; EIS = low; Edith Stevens Wetlands PES=moderately modified; EIS=high |
| | | | Construction of altered Lotus Canal with the new retainer wall | | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 5 | 1 | 2.5 | 5 | 2 | 10.5 | 52.5 | L | | | |
| 1 | Operation | Operational activities associated with the IRT System for Phase 2a E1 | Maintenance of/and ongoing disturbance associated with road | | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 1 | 2 | 5 | 2 | 10 | 40 | L | The new integrated rapid transit system should address the stormwater runoff and the associated litter from the road into the aquatic features. Any signs of erosion along the road, particularly as a result of storm water runoff to the watercourse, should be identified and addressed as soon as possible. | Medium/High | | |

Note: The extent of the final proposed road upgrade is such that there would not be any significant wetland area/functionality loss and thus NO wetland offset would be required

Signed: 
 Date: 15 April 2021