

SPECIALIST STUDY:

**RISK ASSESSMENT FOR THE PROPOSED UPGRADE OF THE BAYDUNES SEWAGE
PUMP STATION, MOSSEL BAY**

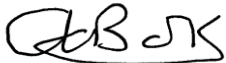
BY

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SACNASP PROFESSIONAL MEMBER (AQUATIC SCIENCES) REGISTRATION NUMBER 400406/11

NOTE:

- 1) This Risk Assessment Matrix is based on the DWS 2015 publication: Section 21(c) and 21(i) water use Risk Assessment Protocol.
- 2) The small, normally closed unnamed estuary located approximately 160m SW of the Baydunes Sewer Pump Station site is a designated NFEPA wetland and therefore the project site falls within the 500m area from a wetland that is regulated by the Department of Water and Sanitation.
- 3) The above wetland/closed estuary does not appear to have any direct hydrological connection with the site of the Baydunes Sewer Pump Station.



Anton H. Bok

Date: 9/11/2023

PROPOSED UPGRADE OF THE BAYDUNES SEWER PUMP STATION, MOSSEL BAY

NAME and REGISTRATION No of SACNASP Prof Mem **Anton Hidde Bok**

Reg. No. **400406/11** (Aquatic Sciences)

Risk to be scored for construction and operational phases of the project. MUST BE COMPLETED BY SACNASP PROFESSIONAL MEMBER REGISTERED IN AN APPROPRIATE FIELD OF EXPERTISE.

No	Phases	Activity	Aspect	Impact	Severity				Severity	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal issues	Detection	Likelihood	Significance	Risk Rating	Confidence level	Control Measures
					Flow Regime	Physico & Chemical (Water Quality)	Habitat (Geomorph + Veg)	Biota													
1	Construction	Earthmoving activities within regulated area of wetland	Clearing of stabilising vegetation at and adjacent to construction site	Increased risk of destabilisation and erosion due to wind and rain	1	1	2	1	1.25	1	1	3.25	1	1	5	1	8	26	Low	80	Site revegetated on completion of project, wetland 170m to the SW of site
2	Construction	Machinery & vehicles used	Leaking hydrocarbons due to bad maintenance of machinery used	Pollution of site and adjacent areas, including groundwater via seepage	1	1	1	1	1	1	1	3	1	1	5	1	8	24	Low	75	Strict control & auditing during construction as set out in detail in EMMP
3	Construction	Concrete work for new wet well sump	Uncured cement, shutter-oils & harmful chemicals in runoff and seepage	Pollution of run-off and seepage into groundwater	1	2	1	1	1.25	1	1	3.25	1	1	5	2	9	29.25	Low	80	Strict control & auditing as set out in EMMP
4	Construction	Machinery & vehicles used for earthmoving	Uncontrolled access to natural habitats adjacent to work site	Destruction of natural dune thicket vegetation adjacent to site	1	1	1	2	1.25	1	1	3.25	1	1	5	1	8	26	Low	90	Construction work confined to demarcated area; rehabilitate with appropriate vegetation
6	Operation	Malfunction of equipment, power outages and breakdown of sewage pumps	New wet-sump could fill up & overflow resulting in raw sewage spillages	Pollution of groundwater and adjacent beach & ocean located downslope	1	2	1	1	1.25	1	1	3.25	1	1	5	1	8	26	Low	75	Emergency plans in place, clean-up equipment at hand, standby generator available - see EMMP for details
7	Operation	Construction activities in wetland regulated area	Destruction of existing vegetation, disturb soil surface	Colonization by invasive plant species harmful to wetland	1	1	1	2	1.25	1	1	3.25	1	1	5	1	8	26	Low	80	Aftercare to include regular clearing of alien plants and rehabilitate with indigenous plants



herewith certifies that

Anton Hidde Bok

Registration Number: 400406/11

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Aquatic Science (Professional Natural Scientist)

Effective **2 November 2011**

Expires **31 March 2024**



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Chairperson

A handwritten signature in black ink, appearing to read 'N. S. ...', is written over a horizontal line.

Chief Executive Officer

