



**forestry, fisheries
& the environment**

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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Ref No.: 116/2/7/CB41G/C201/YI

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Ms Gail Andrews

RE: APPROVAL FOR RANDWATER ZUIKERBOSCH PANFONTEIN WATER TREATMENT DESIGN OF 32.7HA RESIDUE STOCKPILE PAD IN TERMS OF SECTION 50 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 - GAUTENG PROVINCE.

The above-mentioned application received on 02 June 2021 refers.

1. Background to Application/Request

1.1 The Application relates to the Rand Water proposed design of a 32,7ha stockpile pad for water treatment residue which is assessed as having a Type 3 waste risk, located within the Randwater Zuikerbosch Panfontein Water Treatment Work facility.

1.2 The following documentation and correspondence were considered for decision making:

1.2.1 Letter from Randwater to DFFE having reference 2/8/1/5/27/280, dated 3 May 2021, signed by Gail Andrews having Appendices:

- (i) Appendix 1 - Design "report", dated 10 April 2021, signed by Bongani Xaba
- (ii) Appendix 2 - Stockpile design drawings having drawing no's RA23900/ 07 to 12 signed by Maurice Chibu, Pr Eng #20150256
- (iii) Appendix 3 - Panfontein original waste disposal permit Ref:16/2/7/C212/W157/Y1/P491)
- (iv) Appendix 4 - Panfontein amended permit (Ref. 12/9/11/L19053090545/3/V)
- (v) Appendix 5 - Waste classification
- (vi) Appendix 6 -Waste risk assessment.



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1.2.2 NEMWA Checklist for basal barrier systems, dated 7 May 2021, and signed by Adil Saloojee, Pr Eng. #20130650

1.2.3 NEMWA Checklist for capping closure of WDFs dated 7 May 2021, and signed by Adil Saloojee, Pr Eng. #20130650

2. Consideration of Design Compliance with Norms and Standards

Based on the technical assessment of the Design Drawings and related Reports by the Department of Water and Sanitation, the application is acceptable and compliant with the requirements of National Norms and Standards for Disposal of Waste to Landfill, Regulation 636 dated 23 August 2013, and related water pollution prevention measures subject to conditions outline below:

2.1 General Conditions

- (a) **Limitations:** This recommendation does not exempt the designer from complying with any other legislation. This approval refers only to the activity as specified and described in the signed design report and drawings listed under documentation submitted for consideration.
- (b) **Notices of commencement:** One month's written notice must be given to this Department before commencement of construction activities. Such notice shall make clear reference to the site location details and the reference number of the project as indicated on the licence and include a high-level project programme to facilitate optional attendance of the preconstruction meeting (specified in SANS 10409 (2020)) by the Regulator and an inspection of the site during construction. One month's written notice must also be given to this Department before commencement of the operational phase activities.
- (c) **Deviation from accepted design:** The Licence Holder must notify this department in writing, within 24 (twenty-four) hours if any condition of this design and its acceptance cannot be, or is not, adhered to during construction and operation. The notification must be supplemented with reasons for non-compliance, and proposed rectification measures.
- (d) **Engineering Records:** Design and construction records, including topographical surveys and methodical materials test results (on all materials used), shall be maintained and archived and accessible for the life of the facilities (including decommissioning).
- (e) **Accountability:** The authorities shall not be held responsible for any damages or losses suffered by the applicant or its successor in title in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of approval as set out in this document or any other subsequent document emanating from these conditions of acceptance.
- (f) **Overtopping of leachate sumps and PCDs:** The discharge of leachate or polluted water from a sump or pollution control dam or similar to the environment is to be reported to the authorities as an incident within 24 hours, and treated as such, with appropriate remediation.

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- (g) Demarcation, cordons, barriers and warning systems: The Licence Holder must place cordons, barriers and warning systems around facilities to define the nature and extent of each disposal or waste management area and avoid intersection of different waste Types as per the NEMWA Regulations 2013, with particular attention to health and safety of persons.
- (h) Reporting to authorities: All significant differences between predicted and actual performance of waste management facilities shall be reported to the authorities annually in writing.
- (i) Independent Auditing: The facility owner is to ensure that there is no alignment between owner, engineer, contractor, subcontractors, material suppliers, and CQA agent in the development, and implementation, of the project, and is accountable, therefore.

2.2 Specific Conditions

- (a) Waste disposal facilities considered: This approval applies to the Rand Water Panfontein water treatment residue stockpile of 32,7ha in extent only.
- (b) Waste Type: This WTR stockpile area can accept Rand Water water treatment residue only and no other waste stream.
- (c) Due to the absence of subsurface drains, the floor area shall have a slope not less than 1v:75h to mitigate "whale" formation due to a vacillating groundwater level, or similar mitigation measure.
- (d) Independent CQA monitor: The licence holder shall appoint an ECSA registered person as CQA Monitor in accordance with SANS 10409(2020) to provide quality assurance (as opposed to the site supervision engineer's responsibility with respect to construction quality control).
- (e) Standard specifications: The SANS standards to be implemented are to be the latest versions thereof, notably SANS 1526 (2015), SANS 10409 (2020) and SANS 1200/2001 series.
- (f) CQA plan: Due to the failure of the engineer to include a CQA plan as required by R636 regulation 3(2), a CQA Plan meeting at least the standard of the Technical Advisory Note and latest version of the example CQA (incorporating ELLS) available on the DFFE website <http://sawic.environment.gov.za/documents/12496.pdf> and <http://sawic.environment.gov.za/documents/12493.pdf> shall be developed prior to the start of construction and implemented.
- (g) Stability of WTR stockpile: Due to the failure of the engineering "report" to quantify stability for the actual materials to be used on site, including waste, the licence holder and design engineer shall provide a written submission in accordance with SANS 1526(2015) defining the factor of safety for the actual materials employed on site prior to waste disposal. This confirmation shall be included in the Engineers certificate of completion supporting documentation.
- (h) Barrier performance due to tensile strain: Due to the absence of a method statement or a

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performance specification in respect of WTR placement above the geomembrane liner the licence holder shall demonstrate that the geomembrane total tensile strain is limited to less than 3% for loads including traffic, by means of either theoretical determination using the Tognon et al 2003 method, laboratory means such as the Homsey and Wishaw method or *in situ* measurement or similar approved.

- (i) Construction Completion report: The engineer's certificate of completion for the WTR stockpile facility shall be provided to the authorities with supporting evidence of the CQA implementation to confirm that the development is in accordance with the accepted design and conditions. This certificate of completion with its supporting evidence is to be accepted by the authorities in writing prior to the disposal of waste. The report shall include the results of the electric leak location survey (ELLS) undertaken on both the WRT stockpile area.
 - (j) Monitoring and reporting: The licence holder shall maintain records of the volume of waste stockpiled and recovered, as well as monitor the stormwater management system efficiency both at the stockpile stormwater outlets as shown on drawing RA23900/12 Rev0 and upstream catchment diversion. Such records shall be made available to the authorities every five years for licence review or upon request.
3. Based on the assessment of information provided and specialist comments made, the Department approves the Design Drawings submitted.

Should you have any queries please do not hesitate to contact this office.

Yours sincerely



MS MISHELLE GOVENDER

CHIEF DIRECTOR: HAZARDOUS WASTE MANAGEMENT AND LICENSING

DATE: 05/08/2021