

SECTION B: PERMIT HOLDER'S DETAILS

Permit Holder	:	Robben Island Museum
Company Registration Number	:	1987/025978/23
Address	:	Private Bag 51806, Waterfront, 8002
Contact Person	:	Mr. Edgar Blouw
Designation	:	SHEQ Officer
Tel	:	021 413 4244
E-mail	:	edgarb@robben-island.org.za

SECTION C: ACTIVITY DETAILS

Activity That Produces Effluent	:	Domestic Municipality effluent
Discharge volume	:	300 m³ per day
Number of Pipelines	:	Pipe line with three (3) diffusers
Port spacing	:	46 metres
Receiving Environment	:	Offshore
Coordinates	:	33°11'12" E 18°11'12"

SECTION D: DESCRIPTION OF PROCESS, LOCATION OF SITE AND POINT OF DISCHARGE

1. Robben Island is situated with in Table Bay and Waste Water Treatment Plant was upgraded in 2001 to address excessive sludge build-up and corrosion of the septic tanks which caused blockages and uncontrolled bypassing. The upgraded Sewage Package Plant has a treatment capacity of 108000 m³ per annum and all the sewage and domestic effluent generated on the Island are discharged via a marine outfall in to the coastal environment after it has been treated.
2. The treatment plant comprise of large chambers and the system enables long retention times and thus allowing biological colonies in the chambers to reduce sludge production to minimal levels.
3. The treatment process of the Robben Island WWTW include the following processes:
 - Anaerobic Primary Settler**- oxidation and sludge stabilisation and wasted sludge storage as well as the beginning phase of some biological phosphate removal.
 - Anoxic second settler**- insulates the primary settler from nitrates whilst promoting denitrification and the overall treatment process efficiency and effluent quality.
 - Aerobic Bio Reactor** -is provided with submerged bio-media with fine bubble aeration generated oxygen-rich effluent flow to complete complex degradation through nitrification to nitrates before the anoxic final settling denitrification phase.
 - Anoxic final Settler**-during this stage denitrification converts nitrates to nitrogen gas which is lost to atmosphere. The sludge from the process will be used a fertiliser or transported to the mainland for disposal as an appropriate landfill facility.

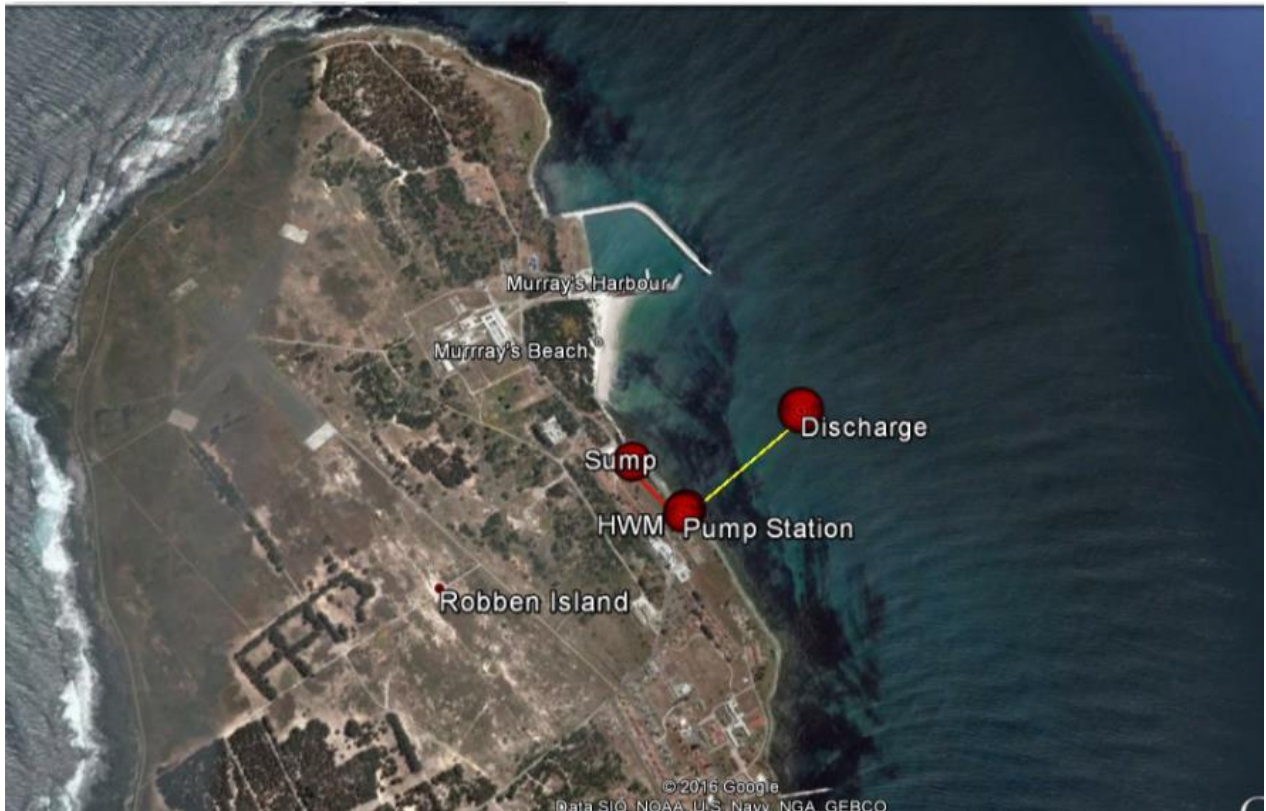


Figure 1: Aerial view showing Robben Island treatment facilities and the discharge location

SECTION E: GENERAL CONDITIONS

1. This permit is issued to the permit holder as stipulated in Section B, for the activity stipulated in Section C and at the locations stipulated in Section D of this permit.
2. This permit may not be transferred or assigned to any other person or organisation, except with prior written permission from this Department.
3. As stipulated in section 74 (4) of the ICM Act, an appeal against this permit does not suspend the effect of this permit, unless directed otherwise by the Minister.
4. The permit holder will be liable for an annual fee as prescribed by the Minister in the Government Gazette from time to time, as contemplated in sections 83 (2) and (3) of the ICM Act.
5. Access to the site must be granted to any authorised official representing the Department who requests access for the purposes of assessing and / or monitoring compliance with the conditions of this permit or to collect monitoring samples, at any reasonable time during the validity or review period of this permit.
6. A copy of this permit must be kept at the site and must be produced to any authorised official representing the Department or any employee or agent of the permit holder who works or undertakes work at the site upon request.
7. The Department reserves the right to revoke, suspend or cancel this permit or to amend any condition of this permit, other than the permit validity period, if –
 - 7.1 the holder of the permit contravenes or fails to comply with a condition subject to which this permit is issued;

- 7.2 the permitted use is in conflict with a relevant coastal management programme or will significantly prejudice the attainment of a relevant coastal management objective;
- 7.3 Changes in circumstances require such revocation, suspension, cancellation or amendment of the permit. These circumstances include, inter alia, if action is necessary or desirable to prevent deterioration or further deterioration of the quality of the coastal environment and / or if it is in the interest of the whole community; and / or
- 7.4 it is necessary to meet the Republic's international obligations.
8. The Department reserves the right to instruct the permit-holder to modify any monitoring programme or to implement any supplementary monitoring if the Department suspects that the monitoring programme implemented by the permit-holder:
 - 8.1 does not meet the requirements of this permit,
 - 8.2 does not meet the environmental quality objectives for the receiving environment, and
 - 8.3 does not provide adequate information to determine the effects of the effluent on the receiving environment.
9. If an incident, occurs (whether the requisite permission has been obtained from the Department or not), the permit-holder must report the incident immediately to the Department, or where that is not possible, at the earliest opportunity, which must be within seven calendar days, providing full details of the:
 - 9.1 cause of the incident,
 - 9.2 alternatives considered other than the discharge of effluent,
 - 9.3 the volume of effluent released,
 - 9.4 the location of the effluent released, and
 - 9.5 any other information requested by the Department subsequent to the reporting of the emergency.
10. The permit holder must, in addition to the above, comply with the requirements of Section 30 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), where applicable.
11. The permit holder must ensure compliance with the provisions of the duty of care and remediation stipulated in Section 58 of the ICM Act and Section 28 of the NEMA.
12. The permit holder must ensure that the release of the waste water effluent does not conflict with the Environmental Management Plan developed by South African National Parks.
13. The permit holder must ensure compliance with the provisions of the duty of care and remediation stipulated in Section 58 of the ICM Act and Section 28 of NEMA.
14. All reports and correspondence to the Department relating to this permit must be submitted to:

The Deputy-Director General: Oceans and Coasts,
Department of Environmental Affairs, Fisheries and Forestry
P. O. Box/Private Bag x4390,
Cape Town, 8002,

for the attention of: The Director: Coastal Pollution Management or electronically to cwdp@environment.gov.za and copy tjacobs@environment.gov.za and bgumbi@environment.gov.za quoting reference number in all correspondence.

15. Any written agreements entered into between the permit holder and the Department relating to this permit must be attached to the permit as appendices and must be considered to form part of these permit conditions.

SECTION F: SPECIFIC CONDITIONS

1. EFFLUENT QUANTITY (FLOW)

- 1.1 The maximum discharge volume of **300 m³ per day** stipulated in Section C of this permit must not be exceeded without an authorisation from the Department.
- 1.2 The quantity of effluent discharged must be metered by a continuous recording device or pump capacity records must be used to determine the maximum daily volume.

2. EFFLUENT QUALITY

- 2.1 No material other than the effluent and its constituents authorised by this permit may be discharged.
- 2.2 The specific maximum limits prescribed in Table 1 for the listed constituents of the effluent must not be exceeded.

Table 1: Limits for parameters in the effluent prior to discharge into the coastal environment

Constituent	Limit	Frequency
pH	5.5 -9.5	Weekly
Total Suspended Solids	25 mg/l	Weekly
Chemical Oxygen Demand	75 mg/l	Weekly
Ammonia (as N)	6 mg/l	Weekly
Arsenic	0.02 mg/l	Weekly
Cadmium	0.005 mg/l	Weekly
Copper	0.01 mg/l	Weekly
Chromium	0.05 mg/l	Weekly
Cyanide	0.02 mg/l	Weekly
Mercury	0.005 mg/l	Weekly
Lead	0.01 mg/l	Weekly

Zinc	0.1 mg/l	Weekly
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3. MONITORING

3.1 Compliance with monitoring requirements

- 3.1.1 Failure to comply with the monitoring requirements of this permit may affect the decision to amend, revoke, suspend or cancel the permit during the compliance review and may affect the decision to renew the permit or issue a new permit once the validity period has lapsed.
- 3.1.2 The Department reserves the right to request additional monitoring.
- 3.1.3 Failure to comply with the requirements of this permit is an offence in terms of Section 79 of the ICM Act and the permit holder may be liable, upon conviction, of the penalties prescribed in Section 80 of the ICM Act.

3.2 Effluent quality monitoring

- 3.2.1 The quality of the effluent discharged must comply with the emission limits for constituents/properties by taking a grab sample prior to discharge at the frequencies indicated in **Table 1**.
- 3.2.2 The date, time and monitoring points in respect of each sample taken must be recorded, together with the results.

4 ENVIRONMENTAL MONITORING

- 4.1 The permit-holder must submit a monitoring programme to the Department within six months from the date of issue of this permit.
- 4.2 The monitoring programme must include, as a minimum, the following aspects:
 - 4.2.1 Validate the extent of the mixing zone for the brine;
 - 4.2.2 An aerial map with the monitoring points in the receiving environment;
 - 4.2.3 Management strategies and actions to ensure compliance with the permit conditions;
 - 4.2.4 Management strategies and actions to ensure compliance with the environmental quality objectives as per the South African Water Quality Guidelines for Coastal Marine Waters (Volume 1): Natural Environment, published by the Department of Water Affairs in 1995, or any amended version thereof and effectiveness thereof;
 - 4.2.5 Assessment of potential marine impact resulting from the brine effluent discharges;
 - 4.2.6 Trends, status and changes in the receiving environment related to the health of important ecosystems and designated beneficial uses;
- 4.3 Additional sampling points may be requested by the Department if deemed necessary;
- 4.4 The monitoring programme may, upon written agreement by the Department, be conducted in conjunction with any other institution.

- 4.5 The monitoring programme (s) mentioned above, must be implemented by a suitably qualified person(s) appointed by the permit-holder.
- 4.6 The Department may request investigations of any other issues regarding effluent discharge and the marine environment if and when it is considered necessary.
- 4.7 The Marine Impact Assessment (MIA) must take into account the historical baseline data to determine the impact of the effluent at each monitoring location and must be conducted annually for two (2) years from the date of issue of this permit and every three (3) years thereafter.
- 4.8 The monitoring programme, referred to above, must not be changed or amended without prior written permission from the Department.
- 4.9 Compliance with **Table 2** must be achieved within 100m from the discharge point.

Table 2: Water quality target values for the natural environment at the end of the mixing zone

Substance / parameter	Target Value/Concentration
Salinity	33 – 36 ppt
Temperature	The maximum acceptable variation in ambient temperature is 1°C
Turbidity / Colour	Turbidity and colour acting singly or in combination should not reduce the depth of the euphotic zone by more than 10% of background levels.
Dissolved oxygen	Should not fall below 5 mg/l (99 % of the time) and below 6 mg/l (95 % of the time)
Total Suspended Solids	The concentration of suspended solids should not be increased by more than 10% of the ambient concentration

5 ANALYSIS OF SAMPLE

- 5.1 All sample analysis must be carried out in accordance with methods prescribed by and obtainable from the South African National Accreditation System, in terms of the Standards Act, 1982 (Act No. 30 of 1982), unless another comparable method has been approved of, in writing, by the Department.
- 5.2 The permit holder must give access to the Department's official / representative undertaking any audit sampling at any given time.
- 5.3 The Department may request the method of analysis to be changed depending on new technologies and requirement.

6 MAINTENANCE

- 6.1 Flow metering and recording must be maintained in a sound state of repair and calibrated by a competent person at intervals prescribed in the operational manual. Records and calibration certificates shall be available for inspection by the Department.

7 MALFUNCTIONS / ABNORMAL CONDITIONS

- 7.1 Accurate, up-to-date records of all system malfunctions resulting in the disposal of effluent not in accordance with the requirements of this permit must be kept.
- 7.2 The permit holder must conduct monitoring as normal during upset / abnormal conditions as specified in this permit.
- 7.3 The following headings must be used for the above records, accompanied by a full explanation of all contributory circumstances and proposed / implemented mitigation measures:
 - 7.3.1 operating errors;
 - 7.3.2 mechanical failure (including design, installation, calibration, inspections and maintenance);
 - 7.3.3 Environmental factors (e.g. floods, storms, lighting, etc.)
 - 7.3.4 Loss of supply services (e.g. power failure, water supply failure, etc.);
 - 7.3.5 other causes; and
 - 7.3.6 Undetermined

8 CONTINGENCY PLANS

- 8.1 The permit holder must provide mechanisms and procedures for the detection of problems in the operation of the plant prior to and during the discharge of the effluent.
- 8.2 The permit holder must ensure that the conditions below are included in the Risk Abatement Plan. The permit holder must submit an updated Risk Abatement Plan/Contingency plan to the Department for approval within **6 (six) months** of the date of issue of this permit and must consist of stipulated procedures, schedules and responsibilities which include, *inter alia*:
 - 8.2.1 standard operating procedures for detection of problems and responding to emergency incidents as well as upset conditions;
 - 8.2.2 staff schedules;
 - 8.2.3 programmes for the maintenance, calibration, replacement and surveillance of the physical condition of equipment, facilities and pipelines;
 - 8.2.4 standby / alternative personnel / service companies for the continued operation and maintenance of effluent discharge facilities during employee shortages (strikes, incidents, ill-health, etc.);
 - 8.2.5 stock lists and suppliers for chemicals, spare parts and equipment components that can adequately ensure the continued operation of the effluent discharge facility during an emergency or breakdown;
 - 8.2.6 emergency standby power facilities for high-risk areas;
 - 8.2.7 emergency standby pumps; and
 - 8.2.8 provision for sufficient storage capacity to cope with the normal or typical load for the area during power failures, etc.
 - 8.2.9 schedule of monitoring and sampling analysis when emergency or upset conditions occur at the plant.

- 8.3 The permit holder must provide the details on the type of mitigating measures to be implemented for discharge into the coastal environment that exceeds the limits prescribed in this permit.
- 8.4 Clear action plan(s) on mitigating measures to protect other users of the affected coastal environment (such as site notice boards or media releases (newspapers, radio or television) informing users (public) of the potential risks; demarcation of polluted areas, if required; notification of industrial users of seawater and marine aquaculture farms, as well as procedures to be followed in assisting with protection of such facilities against pollution), must be provided by the permit holder.
- 8.5 If an incident resulting in a discharge that exceeds the limits prescribed in this permit occurs (whether the requisite permission has been obtained from the Department or not), the permit holder must report the incident immediately to the Department, or where that is not possible, at the earliest opportunity, which must be within seven calendar days, providing full details of the:
- 8.5.1 cause of the incident,
 - 8.5.2 the measures taken to mitigate the incident,
 - 8.5.3 alternatives considered other than the discharge of effluent,
 - 8.5.4 the volume of effluent released,
 - 8.5.5 the location of the effluent released, and
 - 8.5.6 Any other information requested by the Department subsequent to the reporting of the emergency.
- 8.6 The permit holder must comply with the requirements of Section 30 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), where applicable.
- The permit holder must ensure that the contingency plan, once approved by this Department, is immediately implemented.

9 REPORTING REQUIREMENTS

- 9.1 All reporting to the Department must occur on prescribed forms, where available or in a format as agreed to, in writing, by the Department.
- 9.2 The permit holder may establish or join an effluent discharge monitoring forum (or equivalent body). Such a body must meet, as a minimum, two times a year, to discuss any breach of permit conditions, current and future monitoring initiatives, continuous improvement initiatives, contingency plans, incidents and reporting requirements as well as general effluent issues. This forum may be facilitated by an independent facilitator and comprise of the permit holder (or a representative), interested and affected parties (such as NGO's, local interested groups, etc.) and relevant government institutions. Effluent discharge monitoring forums may be established for either a single pipeline (i.e. one permit holder) or a receiving environment (i.e. several permit holders).
- 9.3 The following must be reported **quarterly** to the Department:
- 9.3.1 The exact volume discharged, showing daily, weekly and monthly discharge volumes (in litres).
 - 9.3.2 Incidences that have occurred during emergency (section 30 report as per NEMA), malfunction or upset conditions (detailed report via Email).

9.3.3 The result / findings of the monitoring requirements in terms of this permit and where further monitoring is required.

9.4 The following must be reported on or presented **annually**, to the Department:

9.4.1 A report on the monitoring of trends and incidents as well as the results of the marine impact assessment, as soon as it becomes available, but not later than 2 (two) months after being surveyed unless otherwise agreed to, in writing, by the Department.

9.5 The following must be reported on and presented at the compliance review meeting to the Department:

9.5.1 A report detailing compliance with Section F of this permit.

9.5.2 Any investigations carried out in terms of Section F:10 at the compliance review and upon submission of a renewal / new application.

9.5.3 Any defects or deficiencies in terms of the coastal outfall pipeline must be reported to the Department immediately, or where that is not possible, at the earliest opportunity, which must be within 7 (seven) calendar days. Where necessary, repairs must be carried out on the pipeline immediately.

10 INVESTIGATIONS

10.1 The permit-holder may need to investigate methods for continuous improvement of the effluent quality where deemed necessary.

10.2 The Department reserves the right to instruct the applicant to implement any improvements identified in the investigations described in this permit.

11 DECOMMISSIONING

11.1 The permit holder must provide a decommissioning plan for the pipeline one year prior to the actual date of the decommissioning of the pipeline, to the Department.

12 COMPLIANCE REVIEW COMMITTEE

12.1 A compliance review consisting of authorities (as determined by the department) will be established.

12.2 The committee will convene when necessary to review the status of compliance of the permits conditions.

12.3 The committee may recommend amending, revoking or suspending the permit if it is deemed necessary to prevent further environmental deterioration due to the effluent discharge or non-compliance with permit conditions.

12.4 The committee may invite any specialist or technical experts to participate in the review processes and committee meetings and to make recommendations on prohibiting or continuing with the discharge at any time during the validity period.

13 PERMIT VALIDITY

13.1 This permit is valid for a period of **10 (ten) years**, subject to a compliance review at 30 (thirty) months or as deemed necessary by the Department during the validity period of this permit.

- 13.2 The permit holder must submit a renewal application at least 6 (six) months before the expiry of this permit to the Department. Where a renewal application has been submitted to the Department before the lapsing of the validity period, the validity of this permit will automatically be extended (“the period of administrative extension”) from the day before this permit would otherwise have lapsed, until the renewal application has been decided.

SECTION G: APPEALS

In terms of section 74 (2) of the ICM Act:

“A person who is dissatisfied with any decision taken to issue, refuse, amend, suspend or cancel an authorisation, may lodge a written appeal against that decision with –

- (a) the Minister, if the decision was taken by a person exercising powers which have been delegated by the Minister to such person in terms of this Act”

Formal, motivated appeals must be made in writing within 30 (thirty) calendar days of the date of issuing of this permit by means of one of the following methods:

By post: to the Minister: Environmental Affairs

Private Bag X447

Pretoria

0001

By hand: 473 Steve Biko Street

Green House

Arcadia,

Pretoria

0083

If the appellant is not the permit holder, the latter must be informed of the appeal within the appeal period referred to above and the appellant must provide the permit holder with reasonable access to a full copy of the appeal, if requested.

Appeals should be addressed to and appeal forms can be obtained from:

Adv. Mokete Rakgogo

Director: Appeals and Legal Review

Department of Environmental Affairs, Fisheries and Forestry

E-mail: Mrakgogo@environment.gov.za / Appeals@environment.gov.za

SECTION H: REASONS FOR THE DECISION

1. During the validity period of this permit, the discharge of effluent into coastal waters from **Robben Island Waste Water Treatment Work** is unlikely to:

- 1.1 Cause irreversible or long-lasting adverse effects that cannot satisfactorily be mitigated;
 - 1.2 Prejudice significantly the achievement of any coastal management objectives contained in a coastal management programme or;
 - 1.3 Be contrary to the interests of the whole community.
2. In reaching its decision, the Department, *inter alia*, considered the following:
- 2.1 The information contained in the application for a coastal waters discharge permit, dated 14 May 2014
 - 2.2 Marine Ecological Assessment Report, entitled: “*Basic Assessment for a marine outfall at Robben Island, South Africa*”, dated January 2014, prepared by Pisces Environmental Services (Pty) Ltd.
 - 2.3 The Marine Dispersion Study entitled “*Robben Island Marine Outfall Specialist Study for Basic Assessment of Diffuser Performance*” dated 12 February 2014, prepared by WSP.
 - 2.4 The site inspection conducted by officials on the 4th September 2018.
 - 2.5 The objectives and requirements of relevant legislation, policies and guidelines, including Sections 2 and 69 of the ICM Act and Section 2 of the NEMA.
 - 2.6 The declaration that all information submitted by the permit holder in connection with the granting of this permit is complete, factual and accurate in all material respects.

SECTION I: DISCLAIMER

The Department of Environmental, Fisheries and Forestry is exempt from any claims against loss or damage incurred by the permit-holder in applying for, obtaining and complying with the conditions of this permit or any non-compliance thereof.

-----END OF PERMIT-----