

External Audit of Stonewood Estate



September 2019

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External Audit of Stonewood Estate

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Executive Summary

This document presents the findings of an external compliance audit of Stonewood Estate in August 2019.

The level of environmental protection was found to adequately mitigate impacts on the surrounding environment. The EMPr was found to be adequate for the planning of such mitigation and the implementation thereof by the ECO was found to be adequate. No changes to the EMPr are recommended.

Overall broad compliance with the EA was found. One non-compliance was found in that the first external audit was not conducted within the prescribed time period. It is understood that the ECO had considerable difficulty finding suitable auditors since there is not a central database or registry of suitable experienced auditors. This resulted in a delay in appointment of the auditors. This non-compliance is of an administrative nature and did not have any material consequence on environmental protection on site.

One uncertainty was found regarding the implementation of the odour monitoring programme. The ECO contends that this should only commence in the operational phase of the development. While this logic is supported by the auditors, the wording in the EA does not give sufficient guidance. Clarity on this should be sought from DEA&DP to prevent any further confusion in future audits.

As part of the air quality conditions, the applicant is required to implement "*a multi-step odour control programme*" in the event that odour levels exceed specifications. The odours emanate from the municipal waste-water treatment works over which the applicant has no control. It is therefore not possible that the applicant could implement any such control measures. For this reason, the applicant is urged to apply for a Part 1 amendment and have this clause removed since it is impossible to implement.

This document satisfies the requirement for an external audit of the development. The auditors are satisfied that all appropriate measures for environmental protection are being implemented and that they are effective in achieving the desired level of environmental protection.

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1 Introduction

This document details the results of an external compliance audit conducted on the Stonewood Estate, Kraaifontein in August 2019. It details:

- the qualification of the auditor;
- the terms of reference dictated by the conditions in the Environmental Authorisation 16/3/3/1/A5/40/2028/17 dated 6 February 2018 supplemented by those prescribed by legislation;
- the approach used to conduct the audit; and,
- the audit findings and recommendations.

1.1 Project Team

The audit was conducted in August 2019 by Errol Cerff and Erik Botha.

Details of the Lead Environmental Auditor

Name of the lead auditor:	Errol Cerff		
Person who compiled this Report:	Errol Cerff		
SACNASP Reg No.	Pr.Sci.Nat 400047/12		
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EAP Qualifications:	M.Sc Estuarine Ecophysiology		

Box 1: Errol Cerff Expertise

Errol Cerff is a qualified environmental auditor and management system consultant with over twenty years of experience in auditing a range of activities from post construction audits to ongoing environmental risk assessments of manufacturing and mining concerns. Specifically, his involvement in phase one due diligence investigations for a number of organisations has given him the ability to identify possible pollution source and impacts and then manage phase two detailed investigations to confirm the pollution and plan remediation.

He has participated in and managed environmental risk assessments and compiled environmental and waste management plans for heavy industry and SMMs as well as construction companies. His involvement in Enterprise-wide Risk Assessments has given a more strategic, business-based and corporate governance approach to both environmental risk assessments and environmental management plans.

As an indication of his expertise, he tendered successfully for the external compliance audits of Working for Wetlands for five consecutive years.

His strength is his ability to think outside of the box and adapt to a variety of situations and teams to provide pragmatic and practical solutions to environmental problems. His experience gained while participating in total quality management teams has enabled him to design management systems that dovetail smoothly with client's existing systems and not exist as add-ons.

Box 2: Declaration of Independence of Lead Auditor**Declaration of Independence**

(in terms of Chapter 5 of the National Environmental Management Act of 1998).

I, Errol Christopher Cerff hereby declare that I have no conflicts of interest related to the work of this report.

Specifically, I declare that I have no personal financial interests in the property and/or development being assessed (audited) in this report,

and that I have no personal or financial connections to the relevant property owners, developers, planners, financiers or consultants of the development.

I declare that the opinions expressed in this report are my/our own and a true reflection of my professional expertise.

16 September 2019



Box 3: Declaration of Independence of Auditor**Declaration of Independence**

(in terms of Chapter 5 of the National Environmental Management Act of 1998).

I, Wynand Frederik Botha hereby declare that I have no conflicts of interest related to the work of this report.

Specifically, I declare that I have no personal financial interests in the property and/or development being assessed (audited) in this report,

and that I have no personal or financial connections to the relevant property owners, developers, planners, financiers or consultants of the development.

I declare that the opinions expressed in this report are my/our own and a true reflection of my professional expertise.

16 September 2019


1.2 Scope of Work

The terms of reference are prescribed by the conditions detailed in the Environmental Authorisation and other legislative requirements of the National Environmental Management Act (No 1107 of 1998 as amended) (NEMA()) required the audit to:

1. Assess compliance with the Environmental Authorisation (EA) and all EMPs arising from that decision (both construction and operational);
2. Assess the effectiveness of compliance to these documents in achieving the level of environmental management anticipated by the EA; and,
3. Make recommendations for any improvements as appropriate.

Box 4: External Audit Requirements detailed in the EA of February 2018**Environmental audit reports**

15. The holder must, for the period during which the Environmental Authorisation and EMPr remain valid-
 - 15.1 ensure that the compliance with the conditions of the Environmental Authorisation and the EMPr is audited; and
 - 15.2 submit at least two environmental audit reports to the relevant competent authority. The holder must submit one audit report six months after commencement of the construction phase, and another audit report six months after completion of the construction period.
16. The environmental audit report must be prepared by an independent person and must address the objectives and contain all the information set out in Appendix 7 of the EIA Regulations, 2014.

In addition to the above, the environmental audit report, must -

- 16.1 provide verifiable findings, in a structured and systematic manner, on-
 - (a) the level of compliance with the conditions of the Environmental Authorisation and the EMPr and whether this is sufficient or not; and
 - (b) the extent to which the avoidance, management and mitigation measures provided for in the EMPr achieve the objectives and outcomes of the EMPr and highlight whether this is sufficient or not;
- 16.2 identify and assess any new impacts and risks as a result of undertaking the activity;
- 16.3 evaluate the effectiveness of the EMPr;
- 16.4 identify shortcomings in the EMPr;
- 16.5 identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr;
- 16.6 indicate the date on which the construction work was commenced with and completed or in the case where the development is incomplete, the progress of the development and rehabilitation;
- 16.7 include a photographic record of the site applicable to the audit; and
- 16.8 be informed by the ECO reports.
- 17. The holder must, within 7 days of the submission of the environmental audit report to the competent authority, notify all potential and registered

While this was the primary focus of the audit, the legislated requirements for external compliance audits for developments which have received environmental authorisation were taken into account.

Box 5: Environmental Impact Assessment Regulations, Government Notice: GN R982 in GG 38282 of 4 December 2014 as amended

Part 3: Auditing and amendment of environmental authorisation, environmental management programme and closure plan

Auditing of compliance with environmental authorisation, environmental management programme and closure plan

34.

- (1) The holder of an environmental authorisation must, for the period during which the environmental authorisation and EMPr, and where applicable the closure plan, remain valid-
 - (a) ensure that the compliance with the conditions of the environmental authorisation and the EMPr, and where applicable the closure plan, is audited; and
 - (b) submit an environmental audit report to the relevant competent authority.
- (2) The environmental audit report contemplated in subregulation (1) must-
 - (a) be prepared by an independent person with the relevant environmental auditing expertise;
 - (b) provide verifiable findings, in a structured and systematic manner, on-
 - (i) the level of performance against and compliance of an organization or project with the provisions of the requisite environmental authorisation or EMPr and, where applicable, the closure plan; and
 - (ii) the ability of the measures contained in the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity;
 - (c) contain the information set out in Appendix 7; and
 - (d) be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation.
- (3) The environmental audit report contemplated in subregulation (1) must determine-
 - (a) the ability of the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an ongoing basis and to sufficiently provide for the , avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and
 - (b) the level of compliance with the provisions of environmental authorisation, EMPr and where applicable the closure plan.
- (4) Where the findings of the environmental audit report contemplated in subregulation (1) indicate-
 - (a) insufficient mitigation of environmental impacts associated with the undertaking of the activity; or
 - (b) insufficient levels of compliance with the environmental authorisation or EMPr and, where applicable the closure plan;

the holder must, when submitting the environmental audit report to the competent authority in terms of subregulation (1), submit recommendations to amend the EMPr or closure plan in order to rectify the shortcomings identified in the environmental audit report.

(5) When submitting recommendation in terms of subregulation (4), such recommendations must have been subjected to a public participation process, which process has been agreed to by the competent authority and was appropriate to bring the proposed amendment of the EMPr and, where applicable the closure plan, to the attention of potential and registered interested and affected parties, including organs of state which have jurisdiction in respect of any aspect of the relevant activity and the competent authority, for approval by the competent authority.

(6) Within 7 days of the date of submission of an environmental audit report to the competent authority, the holder of an environmental authorisation must notify all potential and registered interested and affected parties of the submission of that report, and make such report immediately available-

- (a) to anyone on request; and
- (b) on a publicly accessible website, where the holder has such a website.

(7) An environmental audit report must contain all information set out in Appendix 7 to these Regulations.

Box 6: Environmental Impact Assessment Regulations, 2014 (GN 982) as amended by GN 326 of 2017 – Appendix 7

Environmental Audit Report

1. The environmental audit report must provide for recommendations regarding the need to amend the EMPr, and where applicable, the closure plan.

Objective of the environmental audit report

2. The objective of the environmental audit report is to –
 - (a) report on—
 - (i) the level of compliance with the conditions of the environmental authorisation and the EMPr, and where applicable, the closure plan; and
 - (ii) the extent to which the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan achieve the objectives and outcomes of the EMPr, and closure plan;
 - (b) identify and assess any new impacts and risks as a result of undertaking the activity;
 - (c) evaluate the effectiveness of the EMPr, and where applicable, the closure plan;
 - (d) identify shortcomings in the EMPr, and where applicable, the closure plan; and
 - (e) identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan.

Content of environmental audit reports

3. Content of environmental audit reports
 - (1) An environmental audit report prepared in terms of these Regulations must contain—
 - (a) details of the—
 - (i) independent person who prepared the environmental audit report; and
 - (ii) expertise of the independent person that compiled the environmental audit report;
 - (b) a declaration that the independent auditor is independent in a form as may be specified by the competent authority;
 - (c) an indication of the scope of, and the purpose for which, the environmental audit report was prepared;
 - (d) a description of the methodology adopted in preparing the environmental audit report;
 - (e) an indication of the ability of the EMPr, and where applicable, the closure plan to—
 - (i) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on going basis;
 - (ii) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and
 - (iii) ensure compliance with the provisions of environmental authorisation, EMPr, and where applicable, the closure plan;
 - (f) a description of any assumptions made, and any uncertainties or gaps in knowledge;
 - (g) a description of any consultation process that was undertaken during the course of carrying out the environmental audit report;
 - (h) a summary and copies of any comments that were received during any consultation process; and
 - (i) any other information requested by the competent authority.

1.3 Approach/ Methodology

Stonewood Estate was authorised on 6 February 2018 (16/3/3/1/A5/40/2028/17).

The audit comprised site inspections on 26 August 2019 in the company of Dr Neethling (site ECO). These were augmented by review of documents provided by the ECO.

1.4 Assumptions and uncertainties

This report is issued subject to the following assumptions and uncertainties.

1. The audit findings were based upon information provided to the auditor by the ECO and visual site inspections. The auditor cannot be held responsible for incorrect conclusions resulting from hidden or withheld information.
2. The audit comprised physical site inspections and document review only. No biological or chemical testing was conducted.

2 Findings

The findings of this audit are detailed below.

Table 1: Assessment of Compliance with EA Conditions

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
1. The holder is authorised to undertake the listed activities specified in Section B above in accordance with and restricted to the preferred alternative, described in the BAR dated 15 November 2017 on the site as described in Section C above.	Yes	The final approval was issued in February 2018. It is confirmed that the listed activities approved have been undertaken.
2. Authorisation of the activities is subject to compliance with the conditions set out in this Environmental Authorisation. The holder must ensure compliance with the conditions by any person acting on his/her behalf, including an agent, sub-contractor, employee or any person rendering a service to the holder.	N/A	Refer to individual conditions for auditor's findings regarding compliance.
3. The holder must commence with, and conclude, the listed activities within the stipulated validity period which this Environmental Authorisation is granted for, or this Environmental Authorisation shall lapse and a new application for Environmental Authorisation must be submitted to the competent authority. This Environmental Authorisation is granted for-	Yes	Please see findings 3 (a) and (b) below.
3.1. A period of five (5) years, from the date of issue, during which period the holder must commence with the authorised listed activities; and	Yes	The Environmental Authorisation (EA) was granted on 6 February 2018. Written notice of intent to commence was given by Dr J Neethling Environmental Services cc (the appointed ECO) on 10 May 2018 and acknowledged by DEA&DP on 28 September 2018.
3.2. A period of ten (10) years, from the date the holder commenced with an authorised listed activity, during which period the authorised listed activities for the construction phase, must be concluded.	Yes	The stated deadline has not yet lapsed.
4. The activities that have been authorised may only be carried out at the site described in Section C above in terms of the approved "Environmental Management Programme" ("EMPr").	Yes	The auditor inspected site plans and drawings and found that these conform to the site boundaries as described in Section C of the EA.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
5. Any changes to, or deviations from the scope of the description set out in Section B and Condition 2 above must be accepted or approved, in writing, by the competent authority before such changes or deviations may be implemented, In assessing whether to grant such acceptance/approval or not, the competent authority may request such information to evaluate the significance and impacts of such changes or deviations, and it may be necessary for the holder to apply for further authorisation in terms of the applicable legislation.	Yes	The auditor inspected site plans and drawings and found that there have not been any changes to, or deviations from, the original scope of the description set out in Section B and Condition 2 to date.
Notification of authorisation and right to appeal		
6. The holder of the authorisation must in writing, within 14 (fourteen) calendar days of the date of this decision - 6.1. notify all registered Interested and Affected Parties of - 6.1.1.the outcome of the application; 6.1.2.the reasons for the decision; 6.1.3.the date of the decision; and 6.1.4. the date of issue of the decision;	Yes	Written proof of these notifications was sent to DEA&DP by the appointed ECO on 10 May 2018.
6.2. draw the attention of all registered Interested and Affected Parties to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulation, 2014;	Yes	These notifications referred to above in Condition 6 included mention of IAPs right to appeal, and the mechanism thereof.
6.3. draw the attention of all registered Interested and Affected Parties to the manner in which they may access the decision; and	Yes	These notifications referred to above in Condition 6 included mention of IAPs right to appeal, and the mechanism thereof.
6.4. provide the registered Interested and Affected Parties with: 6.4.1.the name of the holder (entity) of this Environmental Authorisation, 6.4.2.name of the responsible person for this Environmental Authorisation, 6.4.3.postal address of the holder, 6.4.4.telephonic and fax details of the holder, 6.4.5.e-mail address, if any; 6.4.6. the contact details (postal and/or physical address, contact number, facsimile and e-mail address) of the decision-maker and all registered Interested and Affected Parties in the event that an appeal is lodged in terms of the National Appeals Regulations 2014.	Yes	The auditor confirmed that the notice to IAPs contained these details.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
Commencement		
7. The listed activities, including site preparation, must not commence within 20 (twenty) calendar days from the date the applicant notified the registered Interested and Affected Parties of this decision.	Yes	Notifications was sent to registered I&AP's of the EA on 10 February 2018. Written notice of intent to commence was given to DEA&DP by ECO on 10 May 2018.
8. In the event that an appeal is lodged with the Appeal Administrator, the effect of this Environmental Authorisation is suspended until such time as the appeal is decided. In the instance where an appeal is lodged the holder may not commence with the activities, including site preparation, until such time as the appeal has been finalised and the holder is authorised to do so.	Yes	No such appeal was lodged.
Written notice to the competent authority		
9. Seven calendar days' notice, in writing, must be given to the competent authority before commencement of construction activities. Commencement for the purpose of this condition includes site preparation.	Yes	The Environmental Authorisation (EA) was granted on 6 February 2018. Written notice of intent to commence was given to DEA&DP by the ECO on 10 May 2018 and acknowledged by DEA&DP on 28 September 2018.
9.1. The notice must make clear reference to the site details and EIA Reference number given above.	Yes	The auditor was provided with a copy of the above notice and was able to verify that this requirement had been met.
9.2. The notice must also include proof of compliance with the following conditions described herein: Conditions: 6, 7, 14 and 21.	Yes	The auditor was provided with a copy of the above notice and was able to verify that this requirement had been met.
Management of activity		
10. The draft EMPr submitted as part of the application for Environmental Authorisation is hereby approved and must be implemented.	Yes	Evidence in support of this finding include various instances where relevant sections of the EMPr were implemented and recorded by the ECO in his reports.
11. An application for amendment to the EMPr must be submitted to the competent authority in terms of Chapter 5 of the EIA Regulations, 2014 if any amendments are to be made to the outcomes of the EMPr, and these may only be implemented once the amended EMPr has been authorised by the competent authority.	N/A	No amendments have been required to date.
12. The EMPr must be included in all contract documentation for all phases of implementation.	Yes	The documentation was seen during the site inspection

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
13. A copy of the Environmental Authorisation and the EMPr must be kept at the site where the listed activities will be undertaken. Access to the site referred to in Section C above must be granted and, the Environmental Authorisation and EMPr must be produced to any authorised official representing the competent authority who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein. The Environmental Authorisation and EMPr must also be made available for inspection by any employee or agent of the applicant who works or undertakes work at the site.	Yes	The auditors verified that a copy of the EMPr is currently included in the Contractor's Environmental Site File.
Monitoring		
14. The holder must appoint a suitably experienced Environment Control Officer ("ECO"), for the duration of the construction and rehabilitation phases of implementation.	Yes	Johan Neethling Environmental Services cc was formally appointed as the ECO on the 2 nd of June 2018.
The ECO must-		
14.1. Be appointed prior to commencement of any land clearing or construction activities commencing;	Yes	Johan Neethling Environmental Services cc was appointed as the ECO on the 2 nd of June 2018. However, he appears to have been active as ECO prior to this as is evidenced by his notice to DEA&DP regarding Commencement, dated 10 May 2018. Given that this notice pre-dates commencement of the activity the auditor finds the Holder compliant on this item.
14.2. ensure compliance with the EMPr and the conditions contained herein;	Yes	Monthly ECO reports were provided to the auditors. These demonstrate the ECOs efforts in this regard.
14.3. keep record of all activities on site; problems identified; transgressions noted and a task schedule of tasks undertaken by the ECO;	Yes	The auditors examined the ECO's files and site inspection reports and found them to be compliant with this condition.
14.4. remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed.	Yes	The ECO is currently employed and active on site.
Environmental audit reports		
15. The holder must, for the period during which the Environmental Authorisation and EMPr remain valid-		
15.1. ensure that the compliance with the conditions of the Environmental Authorisation and the EMPr is audited; and	Yes?	The fact of the current audit is evidence of compliance with this particular condition as read on its own. However, please note that the timing of the current audit constitutes a non-compliance with Condition 14.6 below.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
15.2. submit at least two environmental audit reports to the relevant competent authority. The holder must submit one audit report six months after commencement of the construction phase and another audit report six months after completion of the construction period.	No	Although notice of commencement was submitted to DEA&DP on 10 May 2018, construction activities only started in September 2018. Significant difficulties were reported to have been experienced finding suitable auditors since there is no central registry of auditors. As a consequence, appointment procedures only started in July 2019. This audit was formally commissioned on 6 August 2019, 15 months after notice of commencement of activities, although only 10 months after construction actually started.
16. The environmental audit report must be prepared by an independent person and must address the objectives and contain all the information set out in Appendix 7 of the EIA Regulations, 2014.	Yes	Errol Cerff has been appointed as the external auditor. Please refer to Section 1.1 of this audit report for his Declaration of Independence. This audit report contains all the information set out in Appendix 7 of the EA regulations of 2014.
In addition to the above, the environmental audit report, must -		
16.1. provide verifiable findings, in a structured and systematic manner, on- a. the level of compliance with the conditions of the Environmental Authorisation and the EMPr and whether this is sufficient or not; and b. the extent to which the avoidance, management and mitigation measures provided for in the EMPr achieve the objectives and outcomes of the EMPr and highlight whether this is sufficient or not;	Yes	This audit report is formatted in such a manner as to provide evidence of compliance with each condition in a structured manner.
16.2. identify and assess any new impacts and risks as a result of undertaking the activity;	Yes	The auditors did not find any new impacts or risks associated with the activity.
16.3. evaluate the effectiveness of the EMPr:	Yes	The EMPr was found to be effective in addressing the impacts and risks associated with the activity. All relevant sections of the EMPr are being applied and implemented by the Contractor.
16.4. identify shortcomings in the EMPr:	Yes	The auditors have identified a potential area of concern around the wording of Condition 22.3, and to a lesser extent, Condition 22.2. These concerns are discussed in the auditor's comments on the relevant condition below.
16.5. identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr;	Yes	The auditors have identified a potential area of concern around the wording of Condition 22.3, and to a lesser extent, Condition 22.2. These concerns are discussed in the auditor's comments on the relevant condition below.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
16.6.indicate the date on which the construction work was commenced with and completed or in the case where the development is incomplete, the progress of the development and rehabilitation;	Yes	Construction commenced on 28 September 2019 and is still underway. Bulk earthworks and services construction is nearing completion.
16.7.include a photographic record of the site applicable to the audit; and	Yes	The audit report includes a number of photographs, used to illustrate findings or areas of concern.
16.8.be informed by the ECO reports.		
17. The holder must, within 7 days of the submission of the environmental audit report to the competent authority, notify all potential and registered Interested and Affected Parties of the submission and make the report available to anyone on request and, where the holder has such a facility, be placed on a publicly accessible website.	N/A	The audit report has not yet been submitted.
Specific conditions		
18. Surface or ground water must not be polluted due to any actions on the site. The applicable requirements with respect to relevant legislation pertaining to water must be met.	Yes	A complaint was received from a member of the public, alleging that the contractors were illegally extracting water from the Maastricht Canal and the municipal potable water pipeline for construction purposes. This allegation proved to be unfounded. A minor sewerage spill occurred during the replacement of a faulty valve. The spill was contained, and no environmental damage ensued. Both these incidents were recorded in detail by the ECO and, where required, reported to the relevant authorities.
		Surface water management infrastructure is being constructed as part of the overall bulk services provision on site. These structures include a (wet) retention pond, textured spillway, storm water catch pits (acting as stilling basis) and landscaped flow rate reduction facilities. Please see photographs below.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
		
19. An integrated waste management approach, which is based on waste minimisation and incorporates reduction, recycling, re-use and disposal, where appropriate, must be employed. Any solid waste must be disposed of at a waste disposal facility licensed in terms of the applicable legislation.	Yes	Relevant method statements are in place and waste management issues are included in induction material. Oil spill kits are provided (see photograph below).

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
		

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
20. Should any heritage remains be exposed during excavations or any actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape (in accordance with the applicable legislation). Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape. Heritage remains include: archaeological remains (including fossil bones and fossil shells); coins; indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone artifacts and bone remains; structures and other built features; rock art and rock engravings; shipwrecks; and graves or unmarked human burials. A qualified archaeologist must be contracted where necessary (at the expense of the applicant and in consultation with the relevant authority) to remove any human remains in accordance with the requirements of the relevant authority.	N/A	No remains have been uncovered.
21. A search and rescue operation for geophytes and transplantable species must be undertaken before commencement of site clearing or construction activities. The rescued plants must be incorporated into the landscaping and/or translocated to Bracken Nature Reserve in conjunction with the City of Cape Town's Biodiversity Management Branch. The search and rescue must be done by a suitably qualified and experienced botanist/landscape architect/indigenous landscaper.	Yes	Greg Nicolson Consulting were appointed to conduct the search and rescue operation on site. The auditors were provided with a copy of their report, detailing the search and rescue operations they performed.
22. The following recommendations as detailed in the Air Quality Impact Assessment and Buffer Zone Determination dated April 2017, compiled by DDA Environmental Engineers, must be adopted and implemented: 22.1. A buffer zone must be established on the site.	Yes	A buffer to exclude any residential development within the 30U line has been included in the site plans.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
22.2. Bi-annual hydrogen sulphide and ammonia ambient air quality monitoring must be performed along the northern, western and eastern boundaries of the site. 22.3. If regular odour complaints are recorded, the frequency of the monitoring must be quarterly and a multi-step odour control programme be implemented.	uncertain	The ECO noted that the air quality monitoring is related to the operational phase only and for this reason has not commenced. Assessment of compliance rests on the validity of this interpretation. There is no indication in the wording of the condition that the monitoring is linked to any specific phase although logic supports the view of the ECO. Further, it is questionable whether the developer can be held responsible for implementing measures (<u>"and a multi-step odour control programme"</u>) to control odours from a facility over which he has no control. It is recommended that a definitive interpretation be obtained from the case officer as to whether this condition applies to the construction phase as well as operational phase and whether the condition relating to odour control applies to the developer, as a matter of urgency. Failing which, it is recommended that a Part 1 amendment be applied for to remove the responsibility for odour control from the developer as he cannot influence the functioning of the water treatment works and this clause is therefore not applicable and should be removed.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
23. The following recommendations as detailed in the Noise Impact Assessment dated October 2017, compiled by DDA Environmental Engineers, must be adopted and implemented: 23.1. Any industries that will be located along the southern side of the light industrial phase must ensure that the noise level increase outside its boundary does not exceed by more than 3dB the SANS day-and-night- time guidelines for Urban Residential Districts of 55dB(A) and 45dB(A), respectively. 23.2. The most noise intensive industries must be positioned towards the northern side, along the common boundary with the Kraaifontein WWTW and towards the western side, closer to Okavango Road. 23.3. Any noisy industries that operate on a continuous basis and which may cause the night-time noise levels to increase outside the southern boundary of the site must be kept as far away as possible from that boundary, or alternatively, noise mitigation measures must be investigated and implemented. 23.4. The industries must maintain their noise emission levels, so as not to cause a noise level increase above the indicated level increase capacity values for day-time and for night-time. 23.5. Any proposed noisy industry must perform a Noise Impact Assessment study to establish how the available noise increase capacities are affected both within and outside the site. 23.6. The available noise increase capacity contours must be updated every two years or every time an industry with significant noise emissions will be established in the development area. 23.7. Environmental noise monitoring must be carried out on a biannual basis at specific positions, to ensure compliance with the regulations and enable corrective measures to be taken where warranted.	N/A	The project is still in the bulk services provision phase.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
24. The holder of the Environmental Authorisation must install water saving mechanisms and/or water recycling systems in order to reduce water consumption that include <i>inter alia</i>, the following: 24.1. A dual-flush toilet system. 24.2. All taps must be fitted with water saving devices, that is, tap aerators, flow restrictors and low flow shower heads. 24.3. Water-wise landscaping must be done. 24.4. Indigenous plants and/or plants that require little water must be used. 24.5. The use of kikuyu grass must be prohibited in all landscaped areas. Non-invasive, low-water use grass must be used for any lawns on site	N/A	The project is still in the bulk services provision phase.
25. The holder of the Environmental Authorisation must ensure that the development incorporate energy/electricity saving measures, which include <i>inter alia</i>, the following: 22.1 Use of energy efficient lamps and light fittings. Low energy bulbs must be installed and replacement bulbs must also be of the low energy consumption type. 22.2 Street lighting must be kept to a minimum and downlighting must be used to minimize light impacts. Street light must be switch off during the day. 22.3 All geysers must be covered with geyser 'blankets'.	N/A	The project is still in the bulk services provision phase.
26. Notwithstanding this Environmental Authorisation, the holder must comply with any other statutory requirements that may be applicable when undertaking the listed activities.	Yes	No transgressions of related environmental legislation were discovered.
27. If the holder does not commence with the listed activities within the period referred to in Condition 3, this Environmental Authorisation shall lapse for the activities, and a new application for Environmental Authorisation must be submitted to the competent authority. If the holder wishes to extend the validity period of the Environmental Authorisation, an application for amendment in this regard must be made to the competent authority prior to the expiry date of the Environmental Authorisation.	N/A	The holder commenced within the allotted period.
28. The holder must submit an application for amendment of the Environmental Authorisation to the competent authority where any detail with respect to the Environmental Authorisation must be amended, added, substituted, corrected, removed or updated. If a new holder is proposed, an application for amendment in terms of Part 1 of the EIA Regulations, 2014 must be submitted.	N/A	No amendments have been required to date.

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
Please note that an amendment is not required if there is a change in the contact details of the holder. In this case, the competent authority must only be notified of such changes.		Noted
29. The manner and frequency for updating the EMPr is as follows: Amendments to the EMPr, other than those mentioned above, must be done in accordance with Regulations 35 to 37 of GN No. R. 982 of 4 December 2014 or any relevant legislation that may be applicable at the time.	N/A	No amendments have been required to date.
There is no condition 30 in the EA		
31. Non-compliance with a condition of this Environmental Authorisation or EMPr may render the holder liable to criminal prosecution.		Noted
APPEALS		
Appeals must comply with the provisions contained in the National Appeal Regulations 2014 (as amended).		
1. An appellant (if the holder of the decision) must, within 20 (twenty) calendar days from the date notification of the decision was sent to the holder by the competent authority - 1.1. Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations 2014 (as amended) to the Appeal Administrator; and 1.2. Submit a copy of the appeal to any registered Interested and Affected Parties, any Organ of State with interest in the matter and the decision-maker i.e. the competent authority that issued the decision.		Noted
2. An appellant (if NOT the holder of the decision) must, within 20 (twenty) calendar days from the date the holder of the decision sent notification of the decision to the registered Interested and Affected Parties - 2.1. Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations 2014 (as amended) to the Appeal Administrator; and 2.2. Submit a copy of the appeal to the holder of the decision, any registered Interested and Affected Party, any Organ of State with interest in the matter and the decision-maker i.e. the competent authority that issued the decision.		Npted

Scope of authorisation	Compliant Yes / No	Comment / Evidence / Verification
3. The holder of the decision (if not the appellant), the decision-maker that issued the decision, the registered Interested and Affected Party and the Organ of State must submit their responding statements, if any, to the appeal authority and the appellant within 20 (twenty) calendar days from the date of receipt of the appeal submission.		Npted

As note above only one non-compliance was noted with the conditions of approval and this relates to the frequency and scheduling of external audits. Compliance with a further condition relating to air quality monitoring is uncertain.

2.1 Compliance with EMPr

As noted above, broad compliance with the specifications of the EMPr were found.

2.2 Applicability of EMPr

The EMPr was found to be sufficiently comprehensive and applicable and adequate to ensure environmental protection during construction.

3 Conclusion

The audit of August 2019 has found broad compliance with the EA and EMPr. The only non-compliance was with the need for annual external compliance audits. A finding of uncertain was made for the implementation of odour monitoring. While no complaints have been received, the prescribed odour monitoring programme has not been implemented. This results from the interpretation by the ECO that this applies to the operational phase only. Although this is regarded by the auditors as logical, the wording of the condition does not support this. Interpretation. The ECO is urged to obtain clarity from DEA&DP on the implementation of this clause. In the same clause is the instruction that the applicant must implement a multi-level odour control programme if odours levels are breached. The odour emanates from a municipal waste-water treatment works, over which the applicant has no control. It is difficult to see how this clause can be implemented and for this reason, it is recommended that the ECO apply for a Part 1 amendment to have it removed.

In general, the ECO and construction team are to be commended on their efforts in environmental protection.

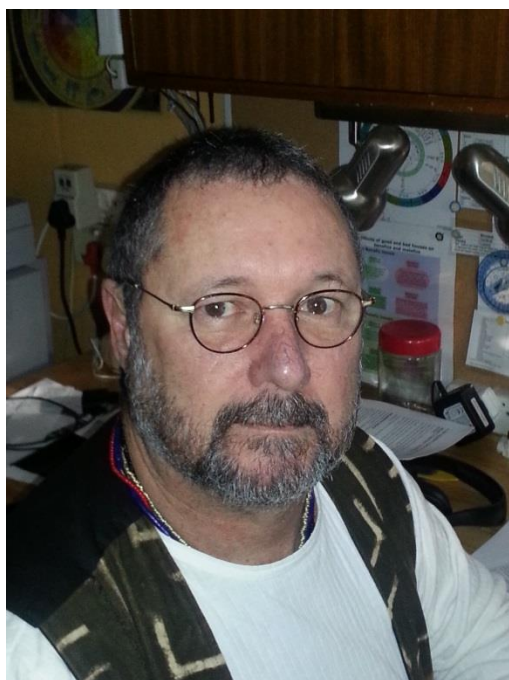
Compliance with regard to NEMA specifications which have not been addressed in the assessment above is detailed in is assessed in Table in 2 below.

Table in 2: Details of compliance with NEMA Audit Objectives

NEMA Audit Objective	Audit compliance
1. The objective of the environmental audit report is to – (a) report on—	
(i) the level of compliance with the conditions of the environmental authorisation and the EMPr, and where applicable, the closure plan; and	Broad compliance with the conditions of authorisation was found. The only non-compliance found was that required external audit had not been completed six months after commencement.
(ii) the extent to which the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan achieve the objectives and outcomes of the EMPr, and closure plan;	The avoidance provisions were found to be adequate.
(b) identify and assess any new impacts and risks as a result of undertaking the activity;	No new risks or impacts were identified.
(c) evaluate the effectiveness of the EMPr, and where applicable, the closure plan;	The EMPr was found to be effective.
(d) identify shortcomings in the EMPr, and where applicable, the closure plan; and	None were identified
(e) identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan.	None were identified.

This document satisfies the requirement for an annual audit of Stonewood Estate.

Appendix 1: Errol Cerff CV and Erik Botha



Curriculum Vitae: Errol Christopher Cerff:

**Sole Proprietor:
Independent Environmental
Consultant**

Personal Details

Date of birth	11 October 1958
ID Number	581011 5240 084
Citizenship	RSA
Home language	English

Contact Details

Address	15 Brigantine Avenue, Sun Valley, Fish Hoek 7975
Telephone	021-7855664
Cell	082-451 6880
e-mail	errol@errolcerff.co.za
website	www.errolcerff.co.za

Qualifications

Degree	B.Sc	B.Sc (Hons)	M.Sc
University	Natal (Durban)	Natal (Durban)	Natal (Durban)
Year	1981	1982	1989
Subjects	Environmental Biology Cell Biology	Estuarine ecophysiology Vertebrate physiology	Estuarine ecophysiology

Professional registration

South African Council for Natural Scientific Professions (SACNASP)	Registered as Principal Natural Scientist (Pr. Sci. Nat) Reg Number 400047/12
The Institute of Waste Management South Africa (IWMSA)	Member
The Institute of Risk Management South Africa (IRMSA)	Member
IAIA (SA)	Member
Environmental Management & Assessment (IEMA)	Formerly registered as international environmental auditor (registration

	allowed to lapsed in response to low recognition in SA)
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Summary Of Experience

Errol began his career with the CSIR conducting estuarine surveys and providing advice on coastal management to local authorities. He was then involved in developing coastal management plans before the advent of the National Environmental Management Act.

As he lives in a coastal city, Errol has maintained his connection and interest in coastal projects. Many of the contracts he has been involved in were for are coastal properties and he was involved in developing estuary management plans for two estuaries in the Western Cape.

He is a qualified environmental auditor and management system consultant with fifteen years of experience in auditing a range of activities from post construction audits to ongoing environmental risk assessments of manufacturing and mining concerns. Specifically his involvement in phase one due diligence investigations for a number of organisations has given him the ability to identify possible pollution source and impacts and then manage phase two detailed investigations to confirm the pollution and plan remediation.

He has participated in and managed environmental risk assessments and compiled environmental and waste management plans for heavy industry and SMMEs as well as construction companies. His involvement in Enterprise-wide Risk Assessments has given a more strategic, business-based and corporate governance approach to both environmental risk assessments

and environmental management plans.

His strength is his ability to think outside of the box and adapt to a variety of situations and teams to provide pragmatic and practical solutions to environmental problems. His experience gained while participating in total quality management teams has enabled him to design management systems that dovetail smoothly with client's existing systems and not exist as add-ons.

He has assisted a range of clients develop and refine waste management plans giving him a keen understanding of technical and practical issues in the management of wastes.

He is used to working both independently and as part of a large consulting team. He has both managed project teams and been a participant and he is equally comfortable in either role.

As a solo consultant he has had to find, negotiate and complete projects on his own and is a self-starter; able to keep to deadlines and budget.

His project management and people skills have encouraged other consultancies to contract him to head up projects on their behalf. He has an easy-going management style and is popular with both colleagues and clients.

He is rapidly able to assimilate new legislation and identify the implications to his projects – a skill which is useful when working in foreign countries but also in SA where legislation is changing at a rapid rate.

His experience as the Corporate Environmental Leader for PetroSA has further extended his experience in aspects of the oil and gas industry by being on the management side, rather than the advisory side. This has provided an additional perspective on environmental management which is critical in his consultancy practice.

Since 2016, he has managed four coastal projects for the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP). The first involved facilitating workshops aimed at institutionalising Estuary Management Forums, the second developing a provincial coastal access strategy and plan and the third to audit coastal access and conduct a pilot study for the coastal access by-law in Overberg District Municipality. This was followed by the audit of West Coast and Garden Route Coastal access.. His skills in developing and reviewing coastal management plans and synthesising large volumes of information in to succinct forms was invaluable in these projects and has placed him in the forefront of consultants developing general and issue-specific coastal management plans.

His portfolio of service offerings include:

- Strategic evaluation
- Strategic planning
- Environmental risk assessments
- Environmental audits
- Coastal and estuarine management plans
- Coastal access audits
- Monitoring and evaluation programmes
- Environmental strategy development
- Environmental management plans
- Waste minimisation
- Waste management plans
- Project management of environmental projects

More details on his work experience and project resume follow.

EMPLOYMENT RECORD			
Date	Employer	Position	Duties
Aug 2005 to present	Self Employed	Sole Proprietor: Independent Environmental Consultant	➤ Conduct strategic evaluation & planning ➤ Conduct Environmental Risk Assessments and audits ➤ Develop Environmental Management Plans (EMPs) ➤ Develop and perform monitoring and evaluation programmes ➤ Environmental ➤ Assemble teams to conduct cleaner production assessments ➤ Project manage general environmental projects
Mar 2002 to Aug 2005	Common Ground SDC (Pty) Ltd	Principal Environmental Consultant	➤ Conduct and/ or manage environmental audits, risk assessments, impact assessments and management systems design and general environmental consulting on a contract basis for various clients both private and public. ➤ Overall management of all project budgets for the company.
Aug 1996 to Feb 2002	Environmental Risk Services (Pty) Ltd (a division of Alexander Forbes) (Formerly called CRM International: a division of Price Forbes)	Environmental management consultant and then Deputy Managing Director from December 1997	➤ Conduct and/ or manage environmental audits, risk assessments, impact assessments and management systems design on a contract basis for various clients. ➤ Conduct training and awareness programmes for various clients. ➤ From 1997, as Deputy Managing Director, take functional responsibility for the preparation of the company's budget and both short and long term financial tracking and for the human resource management of the company. ➤ Take responsibility for initiating product development within the company in response to market needs (such as a revised environmental risk assessment technique.)

EMPLOYMENT RECORD

Date	Employer	Position	Duties
1991 – July 1996	CSIR: STELLBOSCH: Division of Earth, Marine & Atmospheric Science Technology (transfer)	Senior researcher, Coastal Environmental management Programme	➤ Participate in and conduct research into estuarine biology. ➤ Provide environmental management advice to developers and planners in the coastal zone. ➤ Participate in the development and implementation of a low level environmental monitoring programme (CLEO) for beaches and estuaries. ➤ Participate in the establishment of a CSIR core team to develop environmental auditing and management system design capabilities and skills in the CSIR. ➤ Conduct environmental audits for private enterprises. ➤ Develop environmental management systems for private enterprises. ➤ Develop and conduct environmental auditing and awareness courses.
1983 – 1991	CSIR: DURBAN: Division of Water Technology	Senior researcher, Natal Estuarine and Coastal Research Programme (NECRU)	➤ Conduct and manage biological surveys of all 73 estuaries on the Natal Coast on behalf of the Natal Town and Regional Planning Commission. ➤ Conduct ad hoc environmental investigations with respect to proposed developments or rezoning applications on behalf of Natal Town and Regional Planning Commission. ➤ Participate in the Coastal Zone Action Committee (COZAC) meetings chaired by the Natal Town and Regional Planning Commission (Physical Planning Directorate) as a scientific advisor. ➤ Development of coastal zone management plans for local authorities. ➤ Assist in the development of a coastal zone management manual on behalf of the Department of Environmental Affairs and Tourism and assist in the series of courses presented to local authorities in Natal and the Cape Provinces.

Recent Environmental Project Experience in South and Southern Africa

Year	Project Description	Client
Contracts and Projects as a Sole Proprietor		
2019	Development of a comprehensive performance assessment system for Working for Wetlands	DEFF
2018	Audit of coastal access on the West Coast ad Garden Route	DEADP
2018	Limited EMF of Mossel Bay	DEADP
2018	Audit of Coastal Access in the Overberg Municipality	DEADP
2017	Project Phakisa- assistance in the development of the National Oil Spill Contingency Plan and associated risk assessment and organisational structure	Phakisa B1
2017	Development of a waste management plan for Temane gas power station- Mozambique	Impacto Lda
2017	FTC Corporate Environmental Leader	PetroSA
2016	Screening for a proposed sand winning mine in Atlantis	Atlantic sands
2016	Limited EMF for Mossel Bay	DEADP
2016	Development of a Coastal Access Strategy for the Western Cape Government	DEA&DP
2016	FTC Corporate Environmental Leader	PetroSA
2016	Review of waste management impact specialist study for a refinery in Mozambique	Impact Lde
2016	EIR for Kamiesberg Landfill	Ecosense
2016	Facilitate two day workshop for Estuary Management Forums	DEADP
2015	Lecture on offshore risk and waste management for the Tanzanian Government's National Environmental Management Council	Lwandle Technologies
2015	Scoping report for a landfill for Kamiesberg Municipality	Ecosense
2015	Registration of a waste transfer station for Hondeklipbaai	Ecosense
2015	Risk assessment for Saldanha Bay mussel farm	Ecosense
2015	Development of a timeline for environmental approvals and stakeholder engagement for decommissioning of an oil field	PetroSA
2015	Registration of a waste transfer station and management plan development for Hondeklipbaai	Ecosense
2014	External ECO Offshore drilling program	PetroSA
2014-15	HSE Co-ordinator for metocean data collection for Palma offshore oil exploration by Anadarko	Lwandle technologies Pty Ltd
2014-15	HSE Co-ordinator for metocean data collection for Durban Dig-out Harbour	Lwandle technologies Pty Ltd
2014-16	Three year external audit cycle of all waste management facilities	City of Cape Town
2014	Incident management plan and hazardous materials handling plan for a sugar factory in Massingir, Mozambique	Impact Lda.
2014	External ECO Offshore drilling program	PetroSA
2014	External Performance Audit of Working for Wetlands	Working for Wetlands
2013	External compliance audit of the Water Use License at the GTL site	PetroSA

Year	Project Description	Client
2013	External compliance audit of the GTL waste disposal facility	PetroSA
2013	Waste management impacts assessment for the proposed Massingir Sugar plantation and factory	Impacto Lda
2013	External performance assessment of Working Wetlands	SANBI
2013	Update the Breekon waste management procedure	Breekon Construction
2013	Development of a storm water management plan for Hotel Verde for LEED registration	Morroff and Kuhn
2013	Environmental Compliance Audit of Big Bay	Big Bay ELC
2013	Environmental Compliance Audit of Green Point Stadium	Ecosense
2013	Assistance with the development of aspect and impacts registers for GTL Refinery and associated facilities. Mossel Bay	PetroSA
2013	External Environmental Control Officer for the Project Ikhwezi offshore gas drilling programme	PetroSA
2012	Input to the marine impacts assessment of a proposed Manganese Terminal in Coega Harbour	Lwandle Technologies (Pty) Ltd
2012	Review of waste management compliance of two service providers	Bergstan (Pty) Ltd
2012	External performance assessment of Working Wetlands	SANBI
2012	oEMP for abalone ranching	Ecosense CC
2012	External compliance audit of Worcester Interchange	Ecosense CC
2012	Environmental risk assessment of abalone ranching in Hondeklip Bay	Ecosense CC
2012	External environmental compliance Audit of Green Point Stadium	Ecosense CC
2012	Development of an Integrated Waste Management Plan for Total*	Environment Counsel CC
2012	Baseline marine ecology survey for the proposed OTGC bulk storage facility, Ngqura Harbour*	Lwandle Technologies (Pty) Ltd
2012	Development of a waste management plan for Breekon Construction	Breekon Construction (Pty) Ltd
2011	Development of a waste management plan for Giuricich Construction	Giuricich Brothers Construction (Pty) Ltd
2011	Development of a waste management plan for Sea Kay Construction	Sea Kay Construction (Pty) Ltd
2011	Development of a construction phase and operational phase Environmental Management Programme for the City of Cape Town proposed Water Treatment works at Muldersvlei	Chand Environmental Consulting
2011	External Performance Audit	Working for Wetlands
2011	Risk report and waste management plan for BoysTown Nyanga	Ecosense CC
2011	Environmental review of FPT Group (Pty) Ltd – Durban	FPT Group (Pty) Ltd – Durban
2011	External environmental compliance Audit of Green Point Stadium	Ecosense CC

Year	Project Description	Client
2011	Phase One Environmental Investigation	Dorbyl Magnetto
2011	Facilitation of strategic planning workshops	Working for Wetlands
2011	Development of standard operating procedures for Working for Wetlands	Working for Wetlands
2010	External Performance Audit of Working for Wetlands	Working for Wetlands
2010	*Development of an Invasive Alien Species Policy for the City of Cape Town	City of Cape Town
2010	Development of clean-up method statement for Vusela Construction (Pty) Ltd	Vusela (Pty) Ltd)
2010	*Development of and inauguration of the Green Point Urban Park Forum	City of Cape Town
2010	Environmental compliance audit of the life science building at University of the Western Cape	Ecosense CC
2010	Environmental due diligence audit of Paarl Media Cape	Paarl Media Cape
2010	Environmental due diligence audit of Paarl Media Paarl	Chameleon Architects
2010	Environmental compliance audits of Grinaker-LTA Building division in Western and Eastern Cape	Grinaker-LTA Building Cape
2009-2010	*Revision of the EMPs of all PetroSA offshore installations and revision of decommissioning options for all offshore structures owned by PetroSA.	PetroSA
2009	External Compliance audit of Big Bay	Big Bay ELC
2009	External Performance Audit of Working for Wetlands	Working for Wetlands
2009	*Environmental audits of 4 General Motors Sites in Port Elizabeth for General Motors (including hazardous waste management facilities)	General Motors
2009-2010	*Development of the compliance management system for Green Point Stadium and Urban Park	City of Cape Town
2008	*Performance audits of 41 Working for Wetlands Rehabilitation sites	Working for Wetlands
2008	*Compilation of an Estuarine Management Plan for the Bot River	C.A.P.E
2008	Post construction environmental compliance audit of Fernkloof Golf Estate	Rabie Property Administrators
2008	External environmental audit of the waste management facility at the GTL Refinery: Mossel Bay	PetroSA
2008	External Audit of Big Bay	Big Bay ELC
2008	External audit of Green Point Stadium	Ecosense
2008	Feasibility study of using norms and standards for the regulation of environmental activities in SA	DEAT
2007	*Compilation of an Estuarine Management Plan for the Klein River	C.A.P.E
2007	*Environmental Risk Assessments and audits of selected Tiger Brands Sites	Alexander Forbes
2007	Post-construction environmental audit of Pinnacle Point Beach and Golf Estate: Mossel Bay	Pinnacle Point Development
2007	*Compilation of the South African Country Study on Wetlands	IUCN

Year	Project Description	Client
2007	Assistance with the evaluation of environmental impact assessment applications in terms of the ECA	DEADP
2007	*Evaluation of the impact of the poverty alleviation projects of the Western Cape Provincial Department of Social Development	Pdg (Pty) Ltd
2006	*Evaluation of decommissioning options for the decommissioning of the PetroSA Oribi/ Oryx Oilfields	Lwandle Technologies
2006	Interim Environmental Audit of Fernkloof Golf Estate	Ecosense CC
2006	Interim environmental audit of Big Bay, Melkbosstrand	Rabie Property Administrators
2006	*Supplementation for the EIA Regulations	DEADP
2006	Socio-economic evaluation of the ICLEI 2006 World Congress	ICLEI/ City of Cape Town
2006	*Supplementation of the EIA Regulations	DEA&DP
2005	*Strategic evaluation of the Upstream Training Trust	Upstream Training Trust
Contracts and Projects Whilst in the Employ of Common Ground Consulting		
2005	*Development of an overarching strategy for the Working for Wetlands Programme	Working for Wetlands
2003	External review of the appeal against the Record of Decision for the proposed upgrade of the Pavilion swimming pool in Sea Point	DEA&DP
2005	Environmental audit of Lake Michelle	Lake Michelle Home Owners Association
2004	Environmental risk assessments for three Meadowfeeds operations	Alexander Forbes
2004	*Development of a business plan for a cleaner production centre in Durban	Capacity Building, Leadership and Action (CBLA)
2003	Development of guidelines for the demolition of a Daphne class submarine	SA Navy
2003	Environmental due diligence/ property transfer audit of Biovac Laboratories	BIOVAC
2003	*Participated in review of the Danced cleaner production initiatives in the textile and metal finishing industries	DANCED
2003	Peer review of IEM briefing documents produced for the Department of Environmental Affairs and Tourism	CSIR
2003	*Development of an environmental management plan for the Cape Agulhas Municipal application for a recreation use area at Die Plaat	Cape Agulhas Municipality
2003	*Development of an environmental management plan for the construction of a test groyne to remedy erosion problems at Langebaan Lagoon	Saldanha Bay Municipality
2003	*Development of an environmental management plan for the demolition of damaged resort infrastructure at La Mercy Lagoon, KwaZulu Natal	eThekweni Municipality
2003	External review of the appeal against the Record of Decision for the proposed Arniston Pipeline	DEA&DP

Year	Project Description	Client
2003	External review of the appeal against the Record of Decision for the proposed Kraaibosch Regional Shopping Mall	DEA&DP
2003	External review of the appeal against the Record of Decision for the proposed Lake Michelle Development in Noordhoek	DEA&DP
2003	*Technical inputs to a handbook on greening conferences and other events	IUCN
2003	*Waste minimisation guidelines for use in the EIA approval process focusing on the following industries: construction, resorts, wine cellars and feedlots and abattoirs	DEA&DP
2002	Monitoring and evaluation of the greening of the World Summit on Sustainable Development	IUCN
2002	Aspects and impacts register	Fresh produce Terminals
2002	*Briefing documents on sustainable development	BCSD
Contracts and Projects Whilst in the Employ of Environmental Risk Services (Pty) Ltd¹		
Institutional and Policy Work		
1999 / 2000	* Identification and evaluation of options for the development of an environmental management department in the iGoli unicity initiative	Cowi and Southern Metropolitan Substructure
1999	Project Management of the Global Carbon Initiative: National Strategy for Joint Implementation Study.	World Bank
1997	* Participation in the drafting of the Discussion Document and White Paper on Integrated Pollution and Waste Management	Department of Environmental Affairs and Tourism.
Legal Studies		
1998	* Legal review of aspects and impacts register of environmental management system in accordance with the requirements of ISO 14001	Metpro
1997	* Legal compliance audits of all operating entities	Ingwe
1996	* Environmental legal compliance audits of all operating companies	Samancor
Environmental Reviews		
2000	* Phase one environmental investigations	Meadowfeeds Pietermaritzburg and Paarl
2000	Phase one environmental investigation for Central East African Railways in Malawi to satisfy World Bank requirements.	CEARL
1999	* Environmental performance reviews	Meadowfeeds Pietermaritzburg and Paarl
1999	* Environmental surveys at fifty operations	Dorbyl
1999	Initial environmental reviews of four Consol operations	Consol

¹ Note: Prior to 1 April 1997, projects were conducted in the name of CRM International (Pty) Ltd

Year	Project Description	Client
1999	Environmental reviews of Plascon operations throughout South Africa	Plascon
1999	Initial environmental review of the National Accelerator in Faure	National Accelerator Centre
1998	Initial environmental review of a steel foundry	CISCO Steel
1997	Environmental reviews of seven power stations	Kenya Power and Lighting Company
1996	Environmental reviews of the Chapalet and Port Elizabeth sites of Cadburys Pty Ltd#	Cadburys Schweppes
1996	Environmental reviews of two Bromor Foods sites in the Western Cape#	Cadburys Schweppes
1996	Environmental reviews of a pine plantation and sawmill in the Mpumalanga area	Safcol
Environmental Management Systems Design		
1999	Development of an aspects and impacts register for ISO 14001	Metpro
1999/2000	ISO 14001 environmental management system	Plascon Inks Packaging and Coatings:: Epping
1998	Development of an integrated management plan for Robben Island Museum	Robben Island Museum
1997	* Initial environmental review towards the development of an ISO 14001 environmental management system	Delta Motor Corporation
1997	Development of an environmental management system (joint venture with Sue Lane and Associates and African Environmental Solutions)#	De Beers Marine
1997-1999	Development of an environmental management system#	Kenya Power and Lighting Company
Risk Surveys		
2000	Facilitate business risk workshops for AVMIN in Kitwe, Zambia	Avmin
1999	* Environmental risk surveys	Goldfields
1997	Assessment of environmental risks and liabilities at Telkom Submarine Cable Station, Melkbosstrand	Telkom
1997	Identification of environmental risks and liabilities at Telkom – Gauteng Central	Telkom
Due Diligence Audits		
2000	Environmental Due Diligence Assessment of 7 sites	Ethos Private Equity Ltd
2000	Environmental Due Diligence Assessment of 3 sites	Webber Wentzel Bowens
1998	* Environmental due diligence for tyre manufacturing operation#	First Corp Capital
1998	Environmental due diligence for quarrying operations	First Corp Capital

Year	Project Description	Client
Environmental Impact Assessments		
1998	* Scoping phase EIA for infrastructure upgrades	Robben Island Museum
1997	* Environmental impact assessments of two proposed bottling plants#	Century Bottling Company, Uganda
Chemical Handling/ Additional Services		
2000	* MHI risk assessment	Plascon
1999	* MHI risk assessment	Toyota
Training		
1998	* Environmental legal Training	Plascon
1998	General environmental and auditing training	Kenya Power and Lighting Company
1997	* Training of senior management in auditing, ISO 14000 series, South African legal requirements and the EIA process#	Plascon
Other		
1999	External review of submissions for the application for World Heritage Status of Sterkfontein	Kagiso-Cowi
2000-2001	* Enterprise wide risk management and development of risk management manual for BHP-Billiton	BHP Billiton
2001	Enterprise wide risk management for Duferco Steel	Duferco Steel Saldanha
2001	Development of a business continuity plan	I&J
Some Contracts and Projects Whilst in the Employ Of CSIR		
1996	Expert witness in the Township Appeal Board hearings in respect of the proposed Chloorkop hazardous waste landfill site	Midrand Town Council
1996	Development of a mine closure protocol	Chamber of Mines
1996	* Environmental impact assessment: FA Satellites Development Project	Mossgas
1996	* Environmental Impact Assessment: E-BT oil fields: Agulhas Bank	Soekor
1995	Environmental audit	Alusaf Hillside Smelter
1995	Environmental management system audit: Saldanha Bay:	Portnet Saldanha and SFF
1995	Development of an environmental policy	MMC
1995	Development of the environmental manager's portfolio	MMC
1995	* Environmental situation analysis: Manganese Metal Company: Krugersdorp and Nelspruit	MMC
1995	Property transfer audits	Siemens

Year	Project Description	Client
1995	Environmental situation analysis	PFG
1994	Environmental auditor training course	Sasol 1, 2 & 3
1994	*Development of an environmental management manual	Portnet Richards Bay
1994	Property transfer audits of nine sites in South Africa	CPC International
1994	Environmental situation analysis	Portnet Richards Bay
1993	Environmental management systems audit	Sasdiens
1991	*Drafting of a white paper on environmental auditing	DEAT

Curriculum Vitae: Wynand Frederik (Erik) Botha

Personal Details	
Date of birth	12 November 1967
ID Number	671112 5020 087
Citizenship	RSA
Language	English, Afrikaans

Contact Details	
Address	15 Brigantine Avenue, Sun Valley, Fish Hoek 7975
Telephone	021-7855664
Cell	082-451 6881
e-mail	erik@erikbotha.co.za
Fax	0866567442

Qualifications	
1990	B.Sc in Botany and Entomology from the University of Pretoria
1991	Basics of Environment Auditing for the Business Manager at UCT's GSB
1992	Certificate course in auditing techniques from ESKOM
1993	Advanced environmental auditing and management system design at IEA, Lincoln, UK
1994	Basic facilitator skills development, Participlan, Stellenbosch
2013	IRMSA Ongoing Training, Principles of Risk Management

Professional registration	
The Institute of Waste Management South Africa (IWMSA)	Member
The Institute of Risk Management South Africa (IRMSA)	Member

Summary of experience

Erik is a qualified and experienced environmental auditor and environmental management consultant. He has been involved in and managed a wide range of projects ranging from basic assessments, impact assessments, environmental risk assessments, management systems design and implementation, due diligence investigations, management plans, waste management plans and enterprise wide risk assessments.

These projects covered a wide range of public and private sector activities and included a variety of industries. Recently he has worked exclusively in the manufacturing sector and had opportunity to develop and consult on cleaner production strategies, resource optimisation, waste minimisation and energy saving strategies and technologies. This experience has also given him insights into the technical and financial challenges that production managers and line staff encounter and how this impacts on labour and capital prioritisation.

Service offerings include

- Environmental risk assessments
- Environmental audits
- Monitoring and evaluation programmes
- Environmental and cleaner production strategy development
- Waste management plans
- Cleaner production assessments
- Project management of environmental projects

Employment Record

Date	Employer	Duties
2012 to Current	Self Employed	• Participate in and project manage general environmental projects • Conduct Environmental Assessments (BAs and Scoping EIAs) • Conduct Environmental Risk Assessments and Audits • Develop Environmental Management Plans (EMPs) • Develop and perform monitoring and evaluation programmes • Conduct waste management assessments • Conduct cleaner production assessments
2000 to 2012	Self Employed	• Involved in a variety of activities and initiatives in the manufacturing industry
1995 to 2000	Environmental Risk Services (Pty) Ltd (a division of Alexander Forbes)	• Conduct and/ or manage environmental audits, risk assessments, impact assessments and management systems design on a contract basis for various clients. • Conduct training and awareness programmes for various clients.
1993 to 1995	CSIR: STELLBOSCH: Division of Earth, Marine & Atmospheric Science Technology	• Participate in the establishment of a CSIR core team to develop environmental auditing and management system design capabilities and skills in the CSIR. • Conduct environmental audits for private enterprises. • Develop environmental management systems for private enterprises. • Develop and conduct environmental auditing and awareness courses. • Participate in and manage Environmental Impact Assessments.
1991 to 1993	Department of Environment Affairs	• Assist in the Department's initiatives relating to environmental auditing and resource economics.
1990 to 1991	SANDF	• SO4 Ecological Services for Northern Province Command responsible for initiating and coordinating SANDF conservation programmes in the area.

Environmental Project Experience

Year	Project Description	Client
2018 ongoing	Coastal Access Audit for the West Coast and Eden Districts in accordance with the Provincial Coastal Access Strategy and Plan	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2018	Saldanha Bay Aquaculture Development Zone: Secretariat to the Consultative Forum and the Authorities Management Committee.	Department of Agriculture, Forestry and Fisheries
2018	Coastal access audit and pilot study for the Overberg District in accordance with the Provincial Coastal Access Strategy and Plan	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2017	Basic Assessment for the proposed Atlantic Sands, Sand winning operation in Saxonwold: Assistant EAP	Ecosense CC
2017	Basic Assessment for the proposed Atlantis Crematorium: Assistant EAP	Ecosense CC
2017	External Environmental Compliance Audit of Big Bay, Milnerton: Principal Auditor	Big Bay Master Property Owners Association
2017	Development of a Coastal Access Strategy for the Western Cape: Senior Consultant	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2016 - 2017	Development of a Limited Environmental Management Framework (EMF) in Support of the Mossel Bay Spatial Development Framework (SDF): Senior Consultant	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2016 - 2017	Scoping EIA for the proposed Garies landfill site: Assistant EAP	Ecosense
2016	Good Hope Construction: Erf 24745 Parow - Site Environmental Management Plan: Author	BPAS Architecture
2016	Tender No. 218Q/2014/15- Rehabilitation of De la Rey Street between Franci van Zijl Drive and Robert Sobukwe Road – Environmental Control Officer (ECO)	Knight Piésold (Pty) Ltd (Cape Town)

Year	Project Description	Client
2016	Project: 115Q/2015/16 Rehabilitation of various roads in Bishop Lavis – Environmental Control Officer (ECO)	Knight Piésold (Pty) Ltd (Cape Town)
2016	Develop a Demolition Phase Integrated Waste Management Plan for the Woodstock Quarter Project	Swish Property Eighteen (Pty) Ltd
2016	Facilitation and Reporting on an Estuary Management Stakeholder Workshop	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2014-17	City of Cape Town, Waste Disposal Facilities: External Compliance Auditing Program - Auditor	Chand Environmental
2015	Ravensmead Informal Settlement: Initial Screening	Bergstan SA
2015	Bodenzee, Cape Farm 953/12, Sardinia Drive (Sunnydale): Environmental Officer	3 Green Development
2015	Dock Road Office Building, V&A Waterfront: ECO	Ecosense CC
2015-2018	Basic Assessment for the proposed development of the Maroela Informal Settlement: Assistant EAP	Ecosense CC
2014	Development of a Framework Environmental Management Plan	DriftXtreme
2014	Working for Wetlands Annual External Audit: Auditor	Ecosense CC
2014	Development of a Generic Environmental Management Plan	MSD Construction
2014	Development of a Risk Based Methodology for Auditing of Monitoring Systems	Lwandle Technologies
2014-15	Rehabilitation and Stabilisation of Chapman's Peak Drive : Designated Environmental Officer	Penny Farthing Engineering (SA)
2014-15	Atlantic Beach Estate: Environmental Auditor	Ecosense CC
2013	ROADMAC MR282, Development of Method Statements	ROADMAC Cape (Pty) Ltd
2013-14	Massingir Agricultural Project Mozambique, Waste Assessment and Preparation of a Waste Management Plan: Specialist Consultant	Impacto
2013-14	Development of the CPV1 Solar Touwsriver Solar Power Plant: ECO	Ecosense CC
2013	Working for Wetlands Annual External Audit: Auditor	Ecosense CC
2013	PetroSA Water Use Licence Compliance Audit: Auditor	Lwandle Technologies
2013-14	Basic Assessment for the Proposed upgrading of the Kalkfontein Informal Settlement: Assistant EAP	Ecosense CC
2013	Hotel Verde Stormwater Management Plan and LEED registration: Lead Environmental Practitioner	Moroff & Kuhne Consulting Engineers
2013	Ad Hoc Setback Application for Erf 404 Clifton: Assistant EAP	Ecosense CC
2013	Green Point Stadium Closure Audit: Assistant Auditor	Ecosense CC
2013	Big Bay Development Annual Environmental Audit: Lead Auditor	City of Cape Town
2013	Green Point Stadium Audit: Assistant Auditor	Ecosense CC
2012	Develop environmental management procedures for Sun International	Chand Environmental Consulting
2012	Assist with data collation and report review of Working for Wetlands External Performance Audit	Ecosense CC

Year	Project Description	Client
2002	Monitoring and evaluation of the greening of the World Summit on Sustainable Development	IUCN
2001	Enterprise wide risk management and development of risk management manual for BHP-Billiton	BHP Billiton
2000	Phase one environmental investigations	Meadowfeeds Pietermaritzburg and Paarl
2000	MHI risk assessment	Plascon
1999/ 2000	ISO 14001 environmental management system	Plascon Inks Packaging and Coatings:: Epping
1999	Environmental performance reviews	Meadowfeeds Pietermaritz-burg and Paarl
1999	Environmental surveys at fifty operations	Dorbyl
1999	Initial environmental reviews of four Consol operations	Consol
1999	Environmental reviews of Plascon operations throughout South Africa	Plascon
1999	Environmental risk surveys	Goldfields
1999	MHI risk assessment	Toyota
1998	Development of an integrated management plan for Robben Island Museum	Robben Island Museum
1998	Environmental due diligence for tyre manufacturing operation	First Corp Capital
1998	Environmental due diligence for quarrying operations	First Corp Capital
1998	Scoping phase EIA for infrastructure upgrades	Robben Island Museum
1998	General environmental and auditing training	Kenya Power and Lighting Company
1997- 1999	Development of an environmental management system	Kenya Power and Lighting Company
1997	Legal compliance audits of all operating entities	Ingwe
1997	Environmental reviews of seven power stations	Kenya Power and Lighting Company
1997	Initial environmental review towards the development of an ISO 14001 environmental management system	Delta Motor Corporation
1997	Environmental impact assessments of two proposed bottling plants	Century Bottling Company, Uganda
1996	Environmental legal compliance audits of all operating companies	Samancor
1996	Environmental reviews of the Chapalet and Port Elizabeth sites of Cadburys Pty Ltd	Cadburys Schweppes
1996	Environmental reviews of two Bromor Foods sites in the Western Cape	Cadburys Schweppes
1996	Environmental impact assessment: FA Satellites Development Project	Mossgas
1996	Environmental Impact Assessment: E-BT oil fields: Agulhas Bank	Soekor
1995	Environmental audit	Alusaf Hillside Smelter
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1993	Environmental management systems audit	Sasdiens

Appendix 2: Documents reviewed

- Stonewood Air Quality Assessment for the Proposed Stonewood Development 04.pdf
- Stonewood Appeal EA Notifications.zip
- Stonewood Appendix H EMPr Construction and Operational Maintenance.zip
- Stonewood DEA&DP acknowledge Receipt 7 day notice and compliance visit.pdf
- Stonewood ECO Appointment Letter (1).pdf
- Stonewood ECO Appointment Letter.pdf
- Stonewood ECO Complaint from CoCT Environment Official re illegal extraction of water..pdf
- Stonewood ECO Complaint Illegal Removal of water Tiaan clarifies all in order.pdf
- Stonewood ECO Reports No's 1 to 8 (1).zip
- Stonewood ECO Reports No's 1 to 8.zip
- Stonewood ECO Reports No's 9 to 13.zip
- Stonewood Final EMPr Construction and Operational Maintenance audit protocol.docx
- Stonewood Final EMPr Construction and Operational Maintenance.docx
- Stonewood ROD audit protocol eb inputs.docx
- Stonewood ROD Pages 1 to 17.docx
- Stonewood ROD Pages 1 to 17.pdf
- Stonewood ROD Pages 18 to 20.docx
- Stonewood ROD Pages 18 to 20.pdf
- Stonewood SDP 4 (Preferred) Final with odour line.pdf
- Stonewood Search and Rescue Report.pdf
- Stonewood Submission 7 days notice to DEA&DP.pdf
- Stonewood Submission Withdrawal of Application 2016.pdf