

## **Appendix E**

### **ADDITIONAL INFORMATION**

## **Appendix E1**

### **EAP DECLARATION AND EXPERTISE**



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

### DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:  
NEAS Reference Number:  
Date Received:

DEA/EIA

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

#### PROJECT TITLE

Working for Wetlands Programme

#### Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

#### Departmental Details

##### Postal address:

Department of Environmental Affairs  
Attention: Chief Director: Integrated Environmental Authorisations  
Private Bag X447  
Pretoria  
0001

##### Physical address:

Department of Environmental Affairs  
Attention: Chief Director: Integrated Environmental Authorisations  
Environment House  
473 Steve Biko Road  
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:  
Email: [EIAAdmin@environment.gov.za](mailto:EIAAdmin@environment.gov.za)

## 1. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP Company Name:	Aurecon South Africa (Pty) Ltd		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	Percentage Procurement recognition	
EAP name:	Margaret Lowies		
EAP Qualifications:	M.Sc. Geography		
Professional affiliation/registration:	Pr. Sci. Nat. – Water Resources Sciences (Reg. no. 115529) Cert. Nat. Sci. – Environmental Sciences (Reg. no. 115529) Institute of Waste Management of South Africa (IWMSA) (Membership no. 40116065) South African Wetland Society (Membership no. JDVY5WIZ) International Association of Impact Assessment South Africa (IAIAsa) (Membership no. 2899) Society of Wetland Scientists (Membership no. 073370)		
Physical address:	Lion Roars Office Park Cnr Heugh Rd/3rd Ave Walmer 6070 Port Elizabeth South Africa		
Postal address:	PO Box 5328 Walmer Port Elizabeth		
Postal code:	6065	Cell:	073 678 6409
Telephone:	041 503 3900	Fax:	086 600 4037
E-mail:	Margaret.lowies@aurecongroup.com		

The appointed EAP must meet the requirements of Regulation 13 of GN R982 of 04 December 2014, as amended.

## 2. DECLARATION BY THE EAP

I, Margaret L. Lowies, declare that –

- I act as the independent environmental assessment practitioner in this application;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I will take into account, to the extent possible, the matters listed in Regulation 13 of the Regulations when preparing the application and any report relating to the application;
- I undertake to disclose to the applicant and the Competent Authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the Competent Authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the Competent Authority, unless access to that information is protected by law, in which case it will be indicated that such information exists and will be provided to the Competent Authority;
- I will perform all obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in Section 49B of the Act.

**Disclosure of Vested Interest (delete whichever is not applicable)**

- ☒ I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;



Signature of the Environmental Assessment Practitioner

Aurecon SA. (pty) Ltd.


Name of Company:

25/01/2019

Date

**3. UNDERTAKING UNDER OATH/ AFFIRMATION**

I, Margaret L. Lowies, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the Environmental Assessment Practitioner

Aurecon SA (pty) Ltd.

Name of Company

25/01/2019

Date



Signature of the Commissioner of Oaths

25/01/2019

Date

**INGRID KILIAN**  
COMMISSIONER OF OATHS  
PORT ELIZABETH  
AURECON, LYNX OFFICE PARK, C/O  
HEUGH RD + 3RD AVE, WALMER P.E  
9/1/8/2 PORT ELIZABETH  
~ APP 23/ 1/2007





# Margaret Lowies

## Environmental Specialist

### Qualifications

MSc Geography

BSc (Geography and Environmental Management)

BSc Geography (Hons)

Environmental Assessment Practitioner, Interim Certification Board of Environmental Assessment Practitioners of South Africa

Candidate Natural Scientist, South African Council for Natural Scientific Professions (SACNASP)

Member, International Association for Impact Assessment (IAIA), South Africa

Member, Institute of Waste Management of Southern Africa (IWMSA)

### Specialisation

Environmental Specialist

### Years in industry

7,91

Margaret is an environmental specialist currently based in Aurecon's Port Elizabeth office. She has over seven years of experience in environmental impact assessment (EIA) processes, water use licence applications, waste licence applications, environmental compliance auditing, mining permit applications, wetland assessments, due diligence assessments and water quality assessments.

She obtained a BSc degree in Geography and Environmental Management, a BSc in Geography (Hons) as well as an MSc degree in Geography from the University of Johannesburg, South Africa in 2008, 2010 and 2014 respectively. She is registered as an environmental assessment practitioner with the Environmental Assessment Practitioners Association of South Africa (EAPSA) and is a registered candidate natural scientist with the South African Council for Natural Scientific Professions (SACNASP). She is also member of the Institute of Waste Management of South Africa (IWMSA) and the International Association of Impact Assessment (IAIA) in South Africa.

## Experience

### **Construction of Zone 7 municipal infrastructure to service the TNPA Tank Farm, Eastern Cape Province, South Africa, Coega Development Corporation (CDC), 10/2007 - 12/2025, Environmental Control Officer**

The project involved the construction of roads, a stormwater detention pond and the installation of various services. Responsible ensuring compliance with environmental assessment (EA) and CDC standard environmental specifications.

### **Somerset East wastewater treatment works (WWTW): Phases 2 and 3, Eastern Cape Province, South Africa, Blue Crane Route Local Municipality, 06/2012 - 12/2020, Environmental Control Officer/Environmental Specialist**

The existing wastewater treatment works (WWTW) consisted of an aerated pond system, with the influent in excess while the effluent quality was below the Department of Water Affairs' (DWA) standard for pond systems and it did not end up being released into the natural surface water resources. Upgrading to these standards was implemented, and included improvements and new facilities incorporating the inlet works, bioreactor, secondary settling tanks, process pipelines, return activated sludge (RAS) and effluent pump stations, irrigation, chlorination and control buildings. Aurecon compiled a technical report outlining the shortcoming of the existing works, the parameters to which such a wastewater treatment works (WWTW) should comply and the needs to meet these parameters. This report formed the basis of a municipal infrastructure grant (MIG) application. Aurecon assisted the client in achieving the required Green Drop status by introducing design requirements to reach the goal. Aurecon also provided project management by giving guidance through the full design process, tendering, procurement and contract appointment, monitoring and administration. Responsible for report review.



**Churchill water treatment works (WTW), Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 03/2007 - 12/2020, Environmental Assessment Practitioner**

Aurecon was appointed as the lead consultant on all aspects of the project including the planning, design and contract administration. Aurecon was also involved in the preparation, invitation and assessment of contract tender documents. The upgrade of the treatment works involves the installation of a new 100 MI coagulation, flocculation and sedimentation facility as well as the replacement of all electrical and mechanical equipment and refurbishment of civil structures. Aurecon was also appointed to obtain the required environmental authorisations, water use licences and waste licences. Responsible for report review and ad hoc advisory.

**Upgrade of Brickfields pre-treatment works, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality, 12/2010 - 07/2020, Environmental Assessment Practitioner**

This project formed part of the sewer maintenance backlog study for the Nelson Mandela Bay Metropolitan Municipality. The upgrade of the Brickfields pre-treatment works includes the upgrade of all mechanical equipment and civil structures as well as the construction of a second holding pond. Responsible for the environmental impact assessment (EIA) process.

**Sewer maintenance backlog study for the Nelson Mandela Bay Metropolitan Municipality, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 10/2004 - 07/2020, Environmental Assessment Practitioner**

The project involved an assessment of the sewerage maintenance backlog, the quantification of the magnitude of the backlog in terms of scope, risk and cost and the preparation of a programme for the systematic elimination of the backlog. During the maintenance assessment, four modes of failure were considered, namely structural failure by sulphate attack, structural failure by cracking/root intrusion, blockage by silt, and other blockages. Responsible for ad hoc screening and due diligence reviews related to environmental legislation.

**Environmental impact assessment for pipe upgrade of Eastbury Drive Sewer, KwaZulu-Natal Province, South Africa, eThekweni Municipality, 06/2016 - 05/2019, Environmental Assessment Practitioner**

The project comprised an environmental impact assessment for the pipe upgrade of Eastbury Drive Sewer in Mount Edgecombe, Ward 102. Responsible for ad hoc advisory services.

**Reconciliation strategy for Algoa Water Supply System (WSS), Eastern Cape Province, South Africa, Department of Water and Sanitation, 04/2016 - 03/2019, Environmental Specialist - Advisory**

The project objectives are to put arrangements and resources in place for the ongoing implementation of the recommendations and maintenance of the Algoa Reconciliation Strategy; to evaluate the efficiency of the Orange-Fish-River Project and to remove potential operating system constraints for the sustainable delivery of the Orange River bulk water supply to the Lower Sundays River Government Water Scheme (LSRGWS) and to Nelson Mandela Bay Municipality (NMBM) for water requirements up to 2040. In order to evaluate the efficiency of the Orange River Project Aurecon will estimate water use efficiency; determine catchment yields of the Fish and Sundays catchments; give recommendations for the phasing-out of current gratis allocations; identify potential water savings and provide options for re-allocation as well as confirm an official allocation from the Teebus Tunnel to the Orange-Fish System (OFS) in the Eastern Cape. While the focus is on providing additional balancing storage in addition to the Scheepersvlakte Balancing Dam, the provision of storage at other potential locations in the bulk transfer infrastructure must also be considered. Responsible for ad hoc advisory relating to environmental legislation compliance and general environmental matters.





**Working for Wetlands Programme: Steenkampsberg Phase 2, Mpumalanga Province, South Africa, Department of Environmental Affairs, 10/2016 - 04/2018, Environmental Assessment Practitioner - Coordinator of the Mpumalanga Provincial team**

Aurecon was appointed in 2016 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.

**Working for Wetlands Programme: Fairview Phase 1 and 2, Eastern Cape Province, South Africa, Department of Environmental Affairs, 10/2016 - 04/2018, Environmental Assessment Practitioner - Coordinator of the Eastern Cape Provincial team**

Aurecon was appointed in 2016 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.

**Environmental services for upgrading of R75, Eastern Cape Province, South Africa, South African National Roads Agency Limited (SANRAL), 02/2015 - 02/2018, Project Leader/Environmental Assessment Practitioner**

The project involves the upgrade/reconstruction of the R75 between Jansenville and Graaff-Reinet. This includes obtaining the required environmental authorisations, mining licences and water use licences. Responsible for project management and review of report.

**Coega Zone 7 Phase 1, Eastern Cape Province, South Africa, Coega Development Corporation (Pty) Ltd (CDC), 04/2015 - 01/2018, Environmental Control Officer**

The Coega Development Corporation (CDC) required services for infrastructure in Zone 7 of the Industrial Development Zone (IDZ) which will include the construction of roads, water and sewer reticulation networks, stormwater systems, communication ducting, electrical work and street lights. Aurecon/BVI joint venture was appointed to undertake the detailed design, contract administration and site monitoring for the construction. Responsible for monthly compliance audits.

**Dordrecht water and sanitation services upgrade, Eastern Cape Province, South Africa, Chris Hani District Municipality, 10/2015 - 12/2017, Environmental Control Officer**

This project is divided into four future projects, which includes the construction of new sewage treatment facilities; the construction of new reticulation in Dordrecht; immediate water supply upgrades and long-term bulk water supply upgrades. Responsible for report review.

**Northern outfall sewers, Mthatha, Eastern Cape Province, South Africa, Amatola Water - Amanzi, 06/2013 - 12/2017, Environmental Control Officer**

The project entailed consulting engineering, social facilitation and environmental services for the construction of the outfall sewers along the banks of the Mthatha River. This involved the installation of 1 200 mm diameter sewer pipes, crossing the river above ground and below the river bed level. The sewage will discharge into a 17 m-deep pump station, from where it will be pumped into the head of the existing wastewater treatment works (WWTW). The project also entailed the application for a water use licence



application (WULA). Responsible for management of environmental site officer, report writing and WULA report/application review.

**Motherwell North Bulk Sewer, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 12/2015 - 10/2017, Project Leader/Environmental Assessment Practitioner**

Aurecon was appointed to undertake environmental authorisations for the Motherwell North Bulk Sewer project. This included environmental impact assessment (EIA), heritage, water use licenses (WUL) and specialist studies for the 1.5 m diameter collector sewer of 10 km. Responsible for project management and review of report.

**Woodchem water use licence, Mpumalanga Province, South Africa, KAP Diversified Industrial (Pty) Ltd, 04/2016 - 07/2017, Environmental Specialist**

The project comprises the registration and licencing of various consumptive and non-consumptive water uses for the WoodChem plant in Piet Retief. Responsible for compilation of an integrated waste and wastewater plan, stormwater management plan, water monitoring programme and providing ad hoc advisory to the client.

**Misgund augmentation bulk water supply, Eastern Cape Province, South Africa, Amatola Water - Amanzi, 01/2014 - 06/2017, Environmental Assessment Practitioner/Specialist**

The project entailed a study to determine the technical feasibility of bulk water supply in Misgund as per the Department of Water Affairs (DWA) guidelines for Regional Bulk Infrastructure Grant (RBIG) projects. Responsible for environmental impact assessment (EIA) process, water use licence application (WULA) and wetland assessment.

**Environmental impact assessment (EIA) for Coega wastewater treatment works (WWTW), Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 12/2014 - 05/2017, Project Leader/Environmental Assessment Practitioner**

Aurecon was appointed to undertake an environmental impact assessment (EIA) and related permit applications for a 130 Ml/d wastewater treatment works in the Coega Industrial Development Zone (IDZ) for the Nelson Mandela Bay Municipality. Responsible for project management and review of report.

**Fort Beaufort bulk water supply upgrade, Eastern Cape Province, South Africa, Amathole District Municipality (ADM), 10/2013 - 12/2016, Environmental Specialist**

Aurecon was appointed for the planning, project management and site supervision for the upgrade of the raw water abstraction, water treatment works (WTW), storage and reticulation infrastructure of the town of Fort Beaufort to increase water supply. Responsible for wetland assessment and water use licence application (WULA).

**Construction of Graaff-Reinet solid waste site, Eastern Cape Province, South Africa, Camdeboo Local Municipality, 12/2010 - 12/2016, Environmental Control Officer**

The project comprised the construction of a new solid waste site outside Graaff-Reinet. Responsible for monitoring compliance with the environmental management plan (EMP) and record of decision (ROD).

**Working for Wetlands Programme: Lowveld Phase 2, Mpumalanga Province, South Africa, South African National Biodiversity Institute (SANBI), 06/2013 - 10/2016, Environmental Assessment Practitioner - Coordinator of the Mpumalanga Provincial team**

Aurecon was appointed in 2013 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro



enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.

**Working for Wetlands Programme: Chrissiesmeer Phase 2, Mpumalanga Province, South Africa, Department of Environmental Affairs, 06/2013 - 10/2016, Environmental Assessment Practitioner - Coordinator of the Mpumalanga Provincial team**

Aurecon was appointed in 2013 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.

**Working for Wetlands Programme: Steelpoort, Phase 2, Mpumalanga Province, South Africa, Department of Environmental Affairs, 06/2013 - 10/2016, Environmental Assessment Practitioner - Coordinator of the Mpumalanga Provincial team**

Aurecon was appointed in 2013 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.

**Working for Wetlands Programme: Inkomati Phase 2, Mpumalanga Province, South Africa, Department of Environmental Affairs, 06/2013 - 10/2016, Environmental Assessment Practitioner - Coordinator of the Mpumalanga Provincial team**

Aurecon was appointed in 2013 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.

**Working for Wetlands Programme: Wakkerstroom Phase 2, Eastern Cape Province, South Africa, Department of Environmental Affairs, 06/2013 - 10/2016, Environmental Assessment Practitioner - Coordinator of the Mpumalanga Provincial team**

Aurecon was appointed in 2013 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.



**Working for wetlands Programme: Kromme Phase 2, Eastern Cape Province, South Africa, Department of Environmental Affairs, 06/2013 - 10/2016, Environmental Assessment Practitioner - Coordinator of the Eastern Cape Provincial team**

Aurecon was appointed in 2013 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.

**Working for Wetlands Programme: NMBM Pond 6, Phase 2, Eastern Cape Province, South Africa, Department of Environmental Affairs, 06/2013 - 10/2016, Environmental Assessment Practitioner - Coordinator of the Eastern Cape Provincial team**

Aurecon was appointed in 2013 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and report writing.

**Construction environmental management plan (EMP) for Ugie particle board plant, Eastern Cape Province, South Africa, PG Bison, 08/2006 - 08/2016, Environmental Control Officer**

The project entailed a construction environmental management plan (EMP), operation environmental management plan (OEMP), atmospheric emissions license (AEL) reviews and ongoing monitoring for the Ugie particle board plant. Responsible for operational compliance auditing.

**Sidwadweni Bulk Regional Water Supply Scheme, Eastern Cape Province, South Africa, Amatola Water - Amanzi, 09/2012 - 07/2016, Environmental Control Officer**

The project included the construction of river abstraction, raw water reservoir, water treatment works (WTW), clear water pump station and bulk supply mains for the Sidwadweni Bulk Regional Water Supply Scheme. Responsible for report review.

**Swartkops steel bridge environmental management plan (EMP), Eastern Cape Province, South Africa, ExelCorp (Pty) Ltd, 06/2016 - 07/2016, Environmental Assessment Practitioner**

The project entailed the refurbishment of the Swartkops River steel bridge. Aurecon was appointed by ExelCorp to compile an environmental management plan (EMP). Responsible for report writing.

**Upgrading and permitting of the Klipplaat landfill site, Eastern Cape Province, South Africa, Ikwezi Local Municipality, 10/2011 - 06/2016, Environmental Assessment Practitioner**

The project involved the upgrading and permitting of the existing Klipplaat landfill site. This includes a scoping-environmental impact assessment (EIA) process as well as waste licence application process. Responsible for managing the EIA process, including public participation and report writing and review.

**Water use licence application (WULA) and wetland assessment for Grassridge to Melkhout 132 kV line, Eastern Cape Province, South Africa, Eskom SOC Ltd, 11/2014 - 12/2015, Environmental Specialist/Project Leader**

The appointment comprised a water use licence application (WULA) process and associated studies for the Grassridge powerline. Responsible for project management, application review, site assessment and report compilation.



**Idutywa East Water Supply Scheme (WSS), Eastern Cape Province, South Africa, Amathole District Municipality (ADM), 05/2006 - 12/2015, Environmental Control Officer**

Aurecon undertook the design and construction of the Idutywa East Water Supply Scheme (WSS) in the Eastern Cape Province. Responsible for ensuring environmental compliance and report review.

**Construction of additional lanes at Stanford Road Interchange and Cotswold, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 06/2013 - 12/2015, Environmental Control Officer**

The project involved the construction additional lanes at an interchange. Responsible for report review.

**Coega water quality monitoring, Eastern Cape Province, South Africa, Coega Development Corporation (Pty) Ltd (CDC), 02/2014 - 12/2015, Project Leader/Environmental Specialist**

Aurecon was appointed to undertake water quality monitoring (including stormwater) for the Coega Development Corporation in Port Elizabeth in the Eastern Cape. By providing recommendations on water quality, Aurecon was able to recognise trends in the test results. Responsible for project management, report review and quality control.

**Augmentation of the Swartkops low level collector sewer: basic assessment, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 06/2013 - 10/2015, Environmental Assessment Practitioner/Specialist**

This project involved the augmentation of a low level collector sewer pipeline with another 1 200 mm, 8 km long pipeline. The project included obtaining the required environmental authorisations and water use licences. Responsible for report writing and review, public participation.

**Walmer Heights Mount Pleasant collector sewer - basic assessment, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 04/2012 - 05/2015, Environmental Assessment Practitioner**

The project involved the construction of a phased collector sewer. Responsible for report review.

**Ntabankulu sewer and water reticulation, Eastern Cape Province, South Africa, Alfred Nzo District Municipality (ANDM), 07/2010 - 05/2015, Environmental Control Officer**

The project sought to address the challenges the Alfred Nzo District Municipality (ANDM) is facing due to dilapidated sanitation infrastructure and water shortages in the town of Ntabankulu. Aurecon was appointed to provide design and construction supervision for a sewer reticulation and wastewater treatment works (WWTW). Responsible for report review.

**Bende water supply scheme, Eastern Cape Province, South Africa, Amathole District Municipality, 05/2014 - 02/2015, Environmental Assessment Practitioner**

Aurecon was appointed for the environmental management for the proposed implementation of two rural water supply schemes at Bende and Shixini in the Eastern Cape Province. Responsible for report review, appointment of specialists and management of environmental impact assessment (EIA) process.

**Coega Digistics Warehouse, Eastern Cape Province, South Africa, Coega Development Corporation (Pty) Ltd (CDC), 10/2013 - 01/2015, Environmental Control Officer**

Aurecon was appointed for the construction of the new Digistics Warehouse consisting of a steel frame, aluminium clad side and roof; the office is a brick-infill concrete framed building. The scope included a 2 500 m<sup>2</sup> concrete hardstand, paved yard car park, guardhouse and palisade fencing. Responsible for ensuring environmental compliance and auditing.





**Khayamnandi housing development project, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 02/2011 - 01/2015, Environmental Control Officer**

The project entailed environmental services for the development of Khayamnandi extension on erven 114, 609, 590 and 24337, Bethelsdorp, including the construction of 7 960 residential stands, business stands and community facilities and supporting infrastructure. Responsible for overall environmental monitoring and inputs as well as compilation/review of monthly audit reports.

**Cookhouse Wind Farm project, Eastern Cape Province, African Clean Energy Developments (ACED), 12/2012 - 12/2014, Environmental Control Officer**

Aurecon was appointed as owner's engineer for the construction of a 140 MW wind farm in the Eastern Cape Province of South Africa. The scope of services included design review, site supervision, environmental monitoring, health and safety monitoring and witnessing of commissioning and testing. The Cookhouse Wind Farm Stage 1 comprise 66 x Suzlon S88 2.1 MW wind turbines, associated roads and foundations, electrical reticulation, substation, supervisory control and data acquisition (SCADA) system as well as a 132 kV overhead line (OHL) to the Poseidon substation. The scope of owner's engineer services has been structured to align with the role and obligations of the owner's engineer defined in the draft engineering, procurement and construction (EPC) agreement for the project. Responsible for overseeing environmental compliance of the project including updating of the environmental management plan (EMP), approval of method statements, environmental authorisation and layout amendments, bi-weekly audits with a monthly environmental assessment (EA) and EMP compliance report.

**Owner's engineer for Cookhouse Wind Farm project, Eastern Cape Province, South Africa, Renewables Cookhouse Wind Farm, 12/2012 - 12/2014, Environmental Control Officer**

Aurecon was appointed as owner's engineer for the construction of a 140 MW wind farm. The scope of services included design review, site supervision, environmental monitoring, health and safety monitoring and witnessing of commissioning and testing. The Cookhouse Wind Farm Stage 1 comprise 66 x Suzlon S88 2.1 MW wind turbines, associated roads and foundations, electrical reticulation, substation, supervisory control and data acquisition (SCADA) system as well as a 132 kV overhead line (OHL) to the Poseidon substation. Responsible for overseeing environmental compliance of the project including updating of the environmental management plan (EMP), approval of method statements, environmental authorisation and layout amendments, bi-weekly audits with a monthly environmental assessment (EA) and EMP compliance report.

**Coega warehouse for Famous Brands, Eastern Cape Province, South Africa, Coega Development Corporation, 08/2012 - 12/2014, Environmental Control Officer**

Aurecon was appointed for the structural and civil engineering and project management for a new general logistics warehouse for Famous Brands, to be built within the Coega Industrial Development Zone 1 (IDZ). The facility consists of a warehouse, office, trucking yard and entrance, along with all site works. Responsible ensuring compliance with environmental assessment (EA) and Coega Development Corporation (CDC) standard environmental specifications.

**Upgrading of National Route 61 Section 6 (R61/6) from All Saints (Km 68.5) to Section 7 - Baziya (Km 12), between Baziya and Queenstown, Eastern Cape Province, South Africa, South African National Roads Agency Limited (SANRAL), 04/2012 - 12/2014, Environmental Assessment Practitioner/Environmental Specialist**

Aurecon was appointed by Jeffares & Green (J&G), on behalf of the South African National Roads Agency Limited (SANRAL), to undertake an all environmental authorisation and public participation process (PPP) for the proposed road upgrade of National Route R61. The project involved the upgrading of a 36 km stretch of road as well as replacing five bridges. Responsible for project management, report writing and water quality specialist report.



**Construction of zone 7 municipal infrastructure to service the TNPA Tank Farm, Eastern Cape Province, South Africa, Coega Development Corporation, 12/2012 - 12/2014, Environmental Control Officer**

The project involved the construction of roads, a stormwater detention pond and the installation of various services. Responsible ensuring compliance with environmental assessment (EA) and CDC standard environmental specifications.

**Oysterbay 132 kV overhead line, Eastern Cape Province, South Africa, Eskom SOC Ltd, 10/2012 - 11/2014, Environmental Control Officer**

The project comprised the construction of a 132 kV overhead line and switching station near Humansdorp. Responsible for report review.

**Galatyeeni substation and 132 kV loop-in/out lines - basic assessment, Eastern Cape Province, South Africa, Eskom Holdings SOC Limited, 04/2013 - 11/2014, Environmental Assessment Practitioner**

The project involved the proposed construction of the Galatyeeni substation and 132 kV loop- in/out lines. Responsible for report writing.

**Transnet OEMP audit, Eastern Cape Province, South Africa, Transnet Port Terminals (TPT), 04/2014 - 10/2014, Environmental Specialist**

The project involved undertaking an audit of the operational environmental management plans (OEMPs) to determine the level of compliance thereof for Transnet Port Terminals (TPT). Responsible for report writing and specialist input for water quality monitoring.

**Decommissioning of existing solid waste facility in Graaff-Reinet, Eastern Cape Province, South Africa, Camdeboo Local Municipality, 09/2010 - 08/2014, Environmental Control Officer**

The project comprised the decommissioning of the existing Graaff-Reinet solid waste facility, including the rehabilitation of a landfill site. Responsible for report review.

**Khayamnandi housing development project, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 04/2011 - 08/2014, Environmental Control Officer**

The project involved the development of Khayamnandi extension on erven 114, 609, 590 and 24337, Bethelsdorp including the construction of 7960 residential stands, business stands and community facilities and supporting infrastructure. Responsible for overall environmental monitoring and inputs as well as compilation/review of monthly audit reports.

**Sundwana Water Supply Scheme Phase 1 - 3, Eastern Cape Province, South Africa, Amathole District Municipality, 05/2012 - 03/2014, Environmental Assessment Practitioner**

The primary objective of this project was to provide bulk domestic water supply to the remaining communities in the Sundwana area, according to the reconstruction and development programme's (RDP's) standards. The secondary objective entailed the provision of a regional bulk supply to augment the water supply to the Nqabara north and south schemes through the construction of a 1.8 million cubic meter dam in the Nqabara River. Aurecon's appointment entailed conducting the basic assessments and scoping - including environmental impact assessment (EIA) processes required for the various phases of the project. Responsible for registration process, report writing and review, water use licence application (WULA) and mining applications.

**Extension of Nieu-Bethesda wastewater treatment works (WWTW), Eastern Cape Province, South Africa, Camdeboo Local Municipality, 08/2010 - 03/2014, Environmental Specialist**

Aurecon was appointed to undertake project management and technical assistance for the extension of the existing wastewater treatment works (WWTW) in Nieu-Bethesda. The objective of the project was to extend the wastewater treatment works (WWTWs) sufficiently so as to serve the current township of Pienaarsig and



the future requirements of a subsidised housing project of 150 new houses. The extension to the first phase of the WWTW comprised an improvement of the concrete structure inlet works; the construction of an underground reinforced concrete septic tank; and a primary, secondary and three tertiary ponds to feed into an irrigation pond. The construction of the septic tank and pond system completely replaced the present undersized set of ponds. It was envisaged that the WWTW encampment be screened by vegetation. The existing provision for irrigation was adequately constructed, but the irrigable area was too small. It was thus decided to plant fruit trees, to be tended by the people of Pienaarsig Township, who could then generate an extra income from the fruits of their labour. Responsible for overall environmental compliance monitoring.

**Working for Wetlands Programme: Highveld Phase 2, Mpumalanga Province, South Africa, South African National Biodiversity Institute (SANBI), 06/2011 - 12/2013, Environmental Assessment Practitioner - Coordinator of the Mpumalanga Provincial team**

Aurecon was appointed in 2011 for a three-year cycle for the design, planning, environmental, project and risk management of the Working for Wetlands programme. The programme's objective is to rehabilitate damaged wetlands throughout South Africa, with an emphasis on complying with the principles of the Expanded Public Works Programme (EPWP) through employing only local small, medium and micro enterprises (SMMEs). Involvement included a rehabilitation plan and basic assessment report to enable the rehabilitation of various wetlands. Responsible for coordination of provincial team (wetland specialist, engineer and DEA Assistant Director) and reporting writing.

**Proposed construction of the Ingquza Hill Museum - basic assessment, Eastern Cape Province, South Africa, National Department of Arts and Culture, 08/2013 - 10/2013, Environmental Assessment Practitioner**

The project involved the proposed construction of a museum to commemorate the Ingquza Hill Massacre in 1960. The centre will be used by the local community as a work space, a museum and a community centre. Responsible for report writing.

**Upgrading and permitting of the Jansenville landfill site, Eastern Cape Province, South Africa, Ikwezi Local Municipality, 01/2012 - 10/2013, Environmental Assessment Practitioner**

The project comprised the upgrading and permitting of the existing Jansenville Landfill site. This includes a scoping-environmental impact assessment (EIA) process as well as waste licence application process. Responsible for report writing.

**Upgrading and permitting of the Steytlerville waste site: scoping-environmental impact assessment (EIA), Eastern Cape Province, South Africa, Baviaans Local Municipality, 12/2010 - 09/2013, Environmental Assessment Practitioner**

The project involved the upgrading and permitting of the existing Steytlerville Landfill site. This included a scoping-environmental impact assessment (EIA) process as well as waste licence application process. Responsible for managing the EIA process, including public participation and report writing and review.

**Water use licence application (WULA) for Nieu-Bethesda wastewater treatment works (WWTW), Eastern Cape Province, South Africa, Camdeboo Local Municipality, 01/2012 - 08/2013, Environmental Specialist**

Aurecon was appointed to provide bulk raw water supply and potable water reticulation services for the upgrading of water supply in Nieu-Bethesda. An environmental impact assessment (EIA) record of decision (RoD) was sought and obtained. The work involved the design of a new raw water supply source, rising main, gravity feed mains, treatment works and potable water reservoir. The existing supply source and structures were rehabilitated and redundant structures were demolished. Responsible for review forms and reports.





**Lorraine/Fairview high level collector sewer, Eastern Cape Province, South Africa, Nelson Mandela Metropolitan Bay Municipality (NMMBM), 06/2010 - 05/2013, Environmental Assessment Practitioner**

The project involved the construction of a phased collector sewer throughout the western parts of Port Elizabeth. Responsible for report compilation, application review, site assessment and specialist wetland report to Department of Water Affairs.

**Water use licence application (WULA) for the Enon wastewater treatment works (WwTW), Eastern Cape Province, South Africa, Sundays River Valley Local Municipality, 01/2012 - 04/2013, Environmental specialist**

The project involved the registration of the Enon WwTW for Section 21 (e) and 21 (g) water use at the Department of Water Affairs (DWA). Responsible for registration process.

**Graaff-Reinet bulk water upgrade, Eastern Cape Province, South Africa, Camdeboo Local Municipality, 10/2008 - 02/2013, Environmental Control Officer**

Aurecon was appointed for the upgrade of the Graaff-Reinet WWTW including the upgrade of mechanical equipment and expansion of civil structures. Responsible for monitoring compliance with the environmental management plan (EMP) and record of decision (ROD).

**Augmentation of the Driftsands collector sewer, Eastern Cape Province, South Africa, Nelson Mandela Bay Municipality, 12/2010 - 02/2013, Environmental Assessment Practitioner**

The project entailed the upgrade of the Driftsands collector sewer. Responsible for managing the environmental impact assessment (EIA) process and public participation.

**Water use licence application (WULA) for Driftsands wastewater treatment works (WWTW), Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 01/2012 - 06/2012, Environmental Specialist**

The Nelson Mandela Bay Metropolitan Municipality (NMBMM) identified the need to increase the treatment capacity of the Driftsands wastewater treatment works (WWTW). The project involved the registration of the Driftsands WWTW for Section 21 (e) and 21 (g) water use at the Department of Water Affairs (DWA). Responsible for registration process.

**Kroonvale housing development project, Eastern Cape Province, South Africa, Camdeboo Local Municipality, 05/2007 - 06/2012, Environmental Control Officer**

The project involved town planning to civil engineering services of a 455 unit housing development in Graaff-Reinet. The scope of works included roads, stormwater, sewers and a water network. Responsible for overall environmental monitoring.

**Construction of Road C10: Coega IDZ, Eastern Cape Province, South Africa, Coega Development Corporation, 11/2012 - 04/2012, Environmental Control Officer**

The project involved the construction of an internal access road in the Coega Development Corporation (CDC) industrial development zone (IDZ). Responsible for ensuring compliance with the environmental assessment (EA) and CDC standard environmental specifications.

**Extension of the Driftsands wastewater treatment works (WWTW), Eastern Cape Province, South Africa, Nelson Mandela Bay Municipality, 12/2010 - 12/2011, Environmental Control Officer**

The Nelson Mandela Metropolitan Municipality identified the need to increase the treatment capacity of the Driftsands WWTW and included both mechanical and civil upgrades. Responsible for monitoring compliance with the environmental management plan (EMP) and Record of Decision (ROD).



**Social impact assessment (SIA) for augmentation of the Driftsands collector sewer, Eastern Cape Province, South Africa, Nelson Mandela Bay Metropolitan Municipality (NMBMM), 08/2011 - 10/2011, Environmental Assessment Practitioner**

The project involved a survey of households in the Walmer Township that are impacted by the augmentation of the Driftsands sewer collector. Responsible for coordination of survey, capturing of data and report writing.

**Thembalesizwe housing development project in Aberdeen, Eastern Cape Province, South Africa, Camdeboo Local Municipality, 11/2009 - 03/2012, Environmental Control Officer**

The project involved the installation of bulk services for a phased housing development project. Responsible for overall environmental monitoring.

**Public Servant Association Social and Labour Plan (SLP), Eastern Cape Province, South Africa, Public Servant Association, 12/2010 - 02/2011, Environmental Assessment Practitioner**

The Social and Labour Plan (SLP) was done in order to obtain a mining right conversion for the Department of Mineral Resources (DMR) for the Gonubie Sand Mine. Responsible for compilation of SLP and communication with DMR.

**Mandela Park housing development project, Eastern Cape Province, South Africa, Camdeboo Local Municipality, 10/2003 - 02/2009, Environmental Control Officer**

The project involved the installation of bulk services for a phased housing development project in Graaff-Reinet. Responsible for overall environmental monitoring.

## **Appendix E2**

### **SPECIALIST DECLARATION AND EXPERTISE**



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


### DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

### PROJECT TITLE

Working for Wetlands Rehabilitation Programme: Free State

Specialist:	GroundTruth		
Contact person:	Matt Janks		
Postal address:	PO Box 916		
Postal code:	3245	Cell:	060 584 8074
Telephone:	033 343 2229	Fax:	
E-mail:	matt@groundtruth.co.za		
Professional affiliation(s) (if any)	SACNASP (Registration No. 117219)		

Project Consultant:	Aurecon South Africa Pty (Ltd)		
Contact person:	Claire Blanché		
Postal address:	PO Box 494		
Postal code:	8000	Cell:	082 445 5438
Telephone:	021 526 6937	Fax:	021 526 9500
E-mail:	Claire.Blanche@aurecongroup.com		

4.2 The specialist appointed in terms of the Regulations\_

I, Mark Jankis, declare that --

General declaration:

I act as the independent specialist in this application;

I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;

I declare that there are no circumstances that may compromise my objectivity in performing such work;

I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;

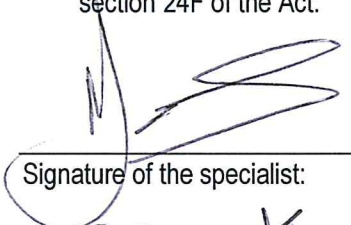
I will comply with the Act, Regulations and all other applicable legislation;

I have no, and will not engage in, conflicting interests in the undertaking of the activity;

I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;

all the particulars furnished by me in this form are true and correct; and

I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

  
Signature of the specialist:

Ground Truth  
Name of company (if applicable):

18/01/2019  
Date:

## Curriculum Vitae – Matthew Janks

### Personal Details:

Name: Matthew Janks  
Profession: Wetland Specialist  
Date of Birth: 07 September 1989  
Marital Status: Married  
Nationality: South African



# GroundTruth

Water, Wetlands and  
Environmental Engineering

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Web: [www.groundtruth.co.za](http://www.groundtruth.co.za)

### Key Qualifications:

Matthew Janks has been appointed as a Wetland Specialist at GroundTruth since July 2014, and specialises in wetland vegetation. His main tasks include the following:

- Mapping and infield delineation of wetland and riparian habitat;
- Assessing impacts on wetland ecosystems within current and proposed landscape settings;
- Assessing wetland ecosystem services (functioning) and ecological integrity;
- Wetland vegetation monitoring;
- Rehabilitation monitoring and evaluation;
- Specialist wetland Environmental Control Officer;
- Rehabilitation Planning;
- Geographic Information Systems;

His Master's in Botany thesis held the following title: Montane wetlands of the Great Escarpment of South Africa: plant communities and environmental drivers

His Honour's in Biodiversity and Conservation project held the following title: Using Mark-recapture to provide population census data for use in Red listing of invertebrates: the rare terrestrial snail *Prestonella bowkerii* as a case study

### Education and Training:

- 2015: Soil classification short course, Cedara College
- 2015: TWA (Tools for Wetland Assessment) course, Rhodes University
- 2015: Masters Degree (Botany), Rhodes University
- 2011: Honours Degree (Biodiversity and Conservation with distinction), Rhodes University
- 2010: Bachelor's Degree (Botany and Environmental Science), Rhodes University

### Professional Memberships

- Professional Natural Scientist (Pr.Sci.Nat) in Ecological Science – The South African Council for Natural Scientific Professions (Reg. No. 117219)

### Experience Record:

- July 2014 -Present GroundTruth – Water, Wetlands and Environmental Engineering Consultants. Assisting in wetland delineations, and GIS. Some of the projects include;
- Delineation of wetland habitats within KwaZulu-Natal and Mpumalanga;
  - Assessment of wetland habitats within KwaZulu-Natal and Mpumalanga;
  - Monitoring and evaluation of wetland rehabilitation projects within KwaZulu-Natal and Mpumalanga;
  - Inputs into developing a wetland rehabilitation monitoring and evaluation framework.
- June 2015: National Geographic Society assisting in botanical survey of the Cuito River, Angola.

- 2013-2014: Conservation Support Services. Assisting in desktop and field mapping. Some projects include:
- Updating the 1:50 000 maps of the Northern Cape
  - In field land use map verification
  - Alien invasive tree mapping

## Examples of Projects

- Foskop Richards Bay wetland delineation and assessment
- Edendale Ward 20 wetland delineation and assessment
- Clovelly dam wetland delineation
- Hilton erf 330 delineation and assessment
- Riverhorse Valley wetland rehabilitation wetland monitoring
- Riverhorse Valley wetland Environmental Control Officer
- Exxaro Coal Mine wetland rehabilitation monitoring
- Exxaro Coal Mine relocation site wetland delineation and assessment
- Empangeni mixed use development delineation and assessment
- Khayalisha pump station wetland specialist input
- Letseng Diamond Mine wetland creation monitoring and evaluation
- Letseng Diamond Mine nitrate dynamics study
- eThekweni wetland inventory
- Edendale Mall wetland monitoring and evaluation
- THD Ntshongweni wetland delineation and assessment
- Klipport Dam wetland delineation, assessment and conceptual rehabilitation plan
- MUT pipeline wetland delineation, assessment and conceptual rehabilitation plan
- Isipingo Waste Water Treatment Works upgrade wetland delineation and assessment
- Edendale Mall wetland monitoring and management protocol
- Working for wetlands rehabilitation planning
- Development of a framework to monitor and evaluate wetland rehabilitation projects in South Africa
- Msinga Cwaka New Town freshwater ecosystem delineation and assessment
- Umlalazi road upgrade wetland delineation and assessment
- Sani Pass Hotel wetland delineation and assessment report
- Sani Pass Hotel wetland monitoring protocol
- Umhlanga Ridge Town Centre wetland creation monitoring and evaluation

## Publications

- Janks, M.R., Barker, N.P. 2013. Using Mark-recapture to provide population census data for use in Red Listing of invertebrates: the rare terrestrial snail *Prestonella bowkeri* as a case study. *Biodiversity and Conservation*, 22(8):1609-1621
- Sieben, E.J.J., Mtshali, H., Janks, M. 2014. National wetland vegetation database: classification and analysis of wetland vegetation types for conservation planning and monitoring. WRC Report No. 1980/1/14, Water Research Commission, Pretoria
- Sieben, E.J.J., Collins, N.B., Corry, F.T.J., Kotze, D.C., Job, N., Muasya, A.M., Venter C.E., Mtshali, H., Zondo, S.A., Janks, M., Pretorius, L. 2016. The vegetation of grass lawn wetlands of floodplains and pans in semi-arid regions of South Africa: Description, classification and explanatory environmental factors. *South African Journal of Botany*, 104(2016):215-224
- Sieben, E.J.J., Collins, N.B., Kotze, D.C., Mofutsanyana S.S., Janks, M.R. 2017. Temperate grassy wetlands of South Africa: Description, classification and explanatory environmental variables. *South African Journal of Botany* 113:68-76
- Goyder, D.J., Barker, N., Bester, S.P., Frisby, A., Janks, M., Goncalves, M.P. 2018. The Cuito catchment of the Okavango system: a vascular plant checklist for the Angola headwaters. *Phytokeys*, 113:1-31

## **Appendix E3**

### **WETLAND FORUM MEETING MINUTES**