South African
NATIONAL PARKS

REQUEST FOR QUOTATION

Terms of Reference

APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES AS AND WHEN REQUIRED FOR A PERIOD OF TWO (2) YEARS AT TABLE MOUNTAIN NATIONAL PARK- WATER TREATMENT PLANT

RFQ NUMBER: 32083/TMNP/2026-27

REQUEST FOR QUOTATION	
APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES AS AND WHEN REQUIRED FOR A PERIOD OF TWO (2) YEARS AT TABLE MOUNTAIN NATIONAL PARK- WATER TREATMENT PLANT	
RFQ NUMBER:	**32083/TMNP/2026-27**
ADVERTISEMENT DATE:	**06 July 2026**
CLOSING DATE:	**21 July 2026**
CLOSING TIME:	**11:00am**
RFQ DOCUMENT DELIVERY ADDRESS:	**tablemountain.scm@sanparks.org** **NB! All responses (Quotations) must be submitted to the above mailbox – No hand delivery or late submissions will be considered. Use RFQ number as the subject line.**
COMPULSORY SITE CLARIFICATION MEETING	**Venue: Waste - Water Treatment Plant: Table Mountain National Park - Cape Point.** **Enter through Table Mountain National Park Main Gate Entrance, use the main route all the way to Cape Point** **Pin Point : 34°21'02.92"S 18°29'02.03"E** **Date: 14 July 2026** **Time: 10:00 am NB: (All service provider must ensure to arrive at the venue by 10:15. No service provider will be accepted as attended the briefing after 10:15)**
RFQ VALIDITY PERIOD:	**90 days (commencing from the RFQ Closing Date)**
TECHNICAL RELATED QUERIES	**Ramotshwane Mogomotsi,** **Mogomotsi.Ramotshwane@sanparks.org** **061 447 0388**
SCM RELATED QUERIES	**Zanele Tamara** Zanele.Tamara**@sanparks.org** **021 741 2350**

Bidders should ensure that bids are delivered timeously to the correct address. If the bid is late, it will not be accepted for consideration. Bidders shall submit proposal responses in accordance with the prescribed manner of submissions as specified above. Bids received after the time stipulated shall not be considered.

Where applicable, the successful bidder will be required to fill in and sign a written Contract Form (SBD 7).

Bidders are not allowed to contact any other SANParks staff in the context of this RFQ other than the indicated officials under SBD 1 or as indicated above.

NB: **No proposal shall be accepted by SANPARKS if submitted in any manner other than as prescribed above.**

PART A
INVITATION TO BID (SBD 1)

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE SOUTH AFRICAN NATIONAL PARKS					
BID NUMBER:	**32083/TMNP/2026-27**	CLOSING DATE:	**21 July 2026**	CLOSING TIME:	**11am**
DESCRIPTION	**APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES AS AND WHEN REQUIRED FOR A PERIOD OF TWO (2) YEARS AT TABLE MOUNTAIN NATIONAL PARK- WATER TREATMENT PLANT**				
BID RESPONSE DOCUMENTS MUST BE SENT TO THE DESIGNATED EMAIL ADDRESS					
tablemountain.scm@sanparks.org **Use RFQ number as the subject line, for submission**					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			**TECHNICAL ENQUIRIES MAY BE DIRECTED TO:**		
CONTACT PERSON	**Zanele Tamara**		CONTACT PERSON	**Ramotshwane Mogomotsi**	
TELEPHONE NUMBER	**021 741 2350**		TELEPHONE NUMBER	**061 447 0388**	
E-MAIL ADDRESS	Zanele.Tamara@sanparks.org		E-MAIL ADDRESS	Mogomotsi.Ramotshwane@sanparks.org	
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		**OR**	CENTRAL SUPPLIER DATABASE No:	MAAA
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE	TICK APPLICABLE BOX] ☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	[TICK APPLICABLE BOX] ☐ Yes ☐ No	
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐Yes ☐No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR **THE GOODS /SERVICES /WORKS OFFERED?**	☐Yes ☐No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]	
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO					

DOES THE ENTITY HAVE A BRANCH IN THE RSA?	☐ YES ☐ NO
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	☐ YES ☐ NO
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?	☐ YES ☐ NO
IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?	☐ YES ☐ NO

IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER BELOW.

PART B
TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.

1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.**

1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

1.4. **THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).**

2. TAX COMPLIANCE REQUIREMENTS

2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.

2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.

2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.

2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.

2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.

2.6 WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER: ……

CAPACITY UNDER WHICH THIS BID IS SIGNED: ……
(Proof of authority must be submitted e.g. company resolution)

DATE: ……..

1. PURPOSE

The purpose of this RFQ is to invite service providers to submit formal price quotations for the appointment of a qualified service provider for electrical, mechanical maintenance and repairs services for a period of (two)2 years as and when required at Table Mountain National Park (TMNP).

2. BACKGROUND

South African National Parks (SANParks) is a public entity functioning under National Environmental Management: Protected Areas Act 57 of 2003 (Act 57 of 2003); with the mandate to conserve; protect; control; and manage national parks and other defined protected areas and their biological diversity (Biodiversity). As a public entity, SANParks is also governed by the Public Finance Management Act, Act 1 of 1999 (as amended by Act 29 of 1999), and it is listed as Schedule 3 Part A: public entities.

SANParks' operations are totally guided by its vision statement and mission statement. As a public entity, the organisation is committed to act in pursuance of transformation of South Africa's society in support of entrenching South Africa's democracy. In this regard, the organisation has adopted a transformation mission to guide its efforts accordingly.

3. SCOPE OF WORK

Table Mountain National Park (TMNP) has bulk water and sewer infrastructure- Water Treatment Plant that requires regular maintenance and repairs. From time-to-time faults occur that require repair to conform to safety standards and ensure that acceptable levels of services are provided to over 2 million paying visitors every year.

The scope is but not limited to:

3.1 Scope 1:

3.1.1 The Service Provider is required to Provide services of supplying and installing electrical and mechanical work and/or repairs to Table Mountain National Park's Water Treatment Plant on as and when required basis. The Service provide will be required to price a schedule of rates for various electrical/mechanical material which will be supplied and installed as and when required, a call out fee, labour rates per hour which will form part of the contract and will also be used to provide a quotation of the work prior any commencement and approval.

3.1.2 Strip and quote services.
3.1.3 Provide mechanical and electrical engineering services in relation to Wastewater Treatment Plant.
3.1.4 Provide for callout and an hourly rate for repairs during working hours (including transport)
3.1.5 Transport will be based on the Contractors Main Facilities to the Site of Works.
3.1.6 Transport rates will be in accordance with the AA Rates.
3.1.7 Supply, deliver and install electrical/mechanical parts and equipment on as and when required basis.
3.1.8 Provide for an hourly rate for work/ repairs after hours, weekends and public holidays (including transport) for qualified and ECSA registered Engineers, Technologists, Technicians and registered process controllers as per DWES Regulation 3630.
3.1.9 Ensure same day callout as per the work approval procedures.

3.2 Scope 2:

3.3 MAINTENANCE REPAIRS AND SERVICES WILL INCLUDE BUT NO LIMITED TO:

- Replace buffer pumps including duckfoot bends, guiderails, chains, cables pipework and valves with 11m3/h @ 10m head submersible pump in Restaurant Feed Tank and add required level control.
- Install an inline 3mm screw filter between the buffer tank and the Anoxic tank
- Install FOG emulsifier dosing point between the kitchen pump station and the inlet screens, including dosing pump and chemical tank
- Increase aeration blower to 260 Nm3/h of air @ 350mBar with increased pipework and diffuser manifold for appropriate aeration. Add 49 x No of 9" EPDM disc diffusers
- Replace existing MBR frames and membranes and add one more MBR frame and membranes for sufficient filtration. Supply and install complete flat sheet MBR units with built-in diffusers.
- Remove all suspended media from the MBR chambers and move to aeration chamber. Install a sieve to prevent suspended media from entering MBR chamber at the overflow pipework between the aeration chamber and the MBR chambers.
- Separate secondary MBR chamber from balancing tank by closing the apertures between the two tanks.
- Add scour blower capacity by installing a bigger scour blower as required by the membrane supplier
- Supply and installation of new self-priming permeate pumps with 5m3/h flow and 10m head
- Replace dosing pumps with new 8L/hr @ 4bar diaphragm pumps
- Correct pipework around AFM filters as per Runxin backwash valve flow direction
- Replace AFM media in two GRP vessels
- Replace GAC media in GRP vessel
- Supply and install sludge thickening silo
- Supply and install sludge drying system
- Replace the MCC with new MCC and PLC
- Check and refurbish or replace ablution reservoir supply pump
- Replace all instruments
- Replace recycled water switchover ball float system
- Investigate reed bed polishing system and treated effluent discharge

3.3 Scope 3:

3.3.1 Supply, delivery and installation of plant machines and equipment as per the BOQ / items/parts listed in the operation manual (Annexure D)

3.4 PLANT MACHINES AND EQUIPMENT

NB: Please refer to annexure D – OPERATIONS AND MAINTENANCE MANUAL
To be used as BOQ guideline for supply and delivery as and when required

Bidders must note that wherever this document refers to any particular trademark, name, patent, design, type, specific origin or producer, such reference shall be deemed to be accompanied by the words “or equivalent”.

NB: please note that as a public entity, constant supply of electrical is essential in order to keep our guests, clients and the public happy.

3.5 Work Callout procedures: These steps are to be followed without exception.

3.5.1 The Section or Senior Section Ranger, or Technical Services Department will notify the contractor of any electrical fault/ emergency repair/ problem.
3.5.2 Contractor dispatches staff to assess and cost the electrical fault/mechanical emergency repair/ problem.
3.5.3 The quotation for materials is to be submitted to the Technical Manager/ Senior Section Ranger for approval. Time and travel will be at a set rate and to be logged and signed off by the Technical Manager / Senior/ Section Ranger prior to invoicing.

3.6 Site safety

Note: Please note that the Table Mountain National Park is a public facility and as such the utmost care needs to be taken to ensure public safety at all times.

PLEASE REFER ANNEXURES A, B AND C for complete details regarding, health and safety, environmental management and code of conduct for conducting any work in the Table Mountain National Parks – SANParks.

PPE should be worn at all times

Site inspections:
a) Evaluate the site and condition and maintenance needs before undertaking work
b) Do planning before work can be done
c) Assess the risks involved before performing the work
d) Assess the scope of the work to ensure public safety throughout the repairs/ maintenance
e) Establish the work needs and components required to be done before quoting

Surroundings:
a) Signage at the place of work
b) Access and escape routes
c) Environmental considerations

Work positioning and starting machinery:
a) Equipment and fuel storage
b) Pre-start checks

3.7 Access
Access via Cape of Good Hope Main Gate to be coordinated with the Section and or Technical Officer before entry. Approval from the Technical Manager or Senior Section Ranger is required before after-hours, weekends or public holidays will be permitted. The successful contractor will be supplied with a list of SANParks contact numbers relevant to access of facilities in the Table Mountain National Park.

3.8 Special Instruction
- Be available to provide a service 365 days a year.

- Work according to the OHS Act in relation to safety.
- No subcontracting is allowed.

TERMS OF REFERENCE

Appointment of a qualified service provider for electrical and mechanical maintenance and repairs services for a period of two (2) years at Table Mountain National Park- Water Treatment Plant as and when required.

All prices offered must include all expenses, disbursements and costs (e.g. transport, accommodation etc.) that may be required for the execution of the obligations in terms of the Contract, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the Contract as well as overhead charges and profit (in the event that the bid is successful). All prices tendered will be final and binding." The required services from the appointed panel of service providers will be by obtaining quotations on an "as and when required" basis. No retainer arrangements or payments are applicable.

NB: BIDDERS TERMS AND CONDITIONS ARE NOT ACCEPTABLE.

INTENTION TO SELL

Is the bidder in the process of selling the bidding company?	❑ YES ❑ NO
Does the bidder have any intension of selling the bidding company within the next 12 months?	❑ YES ❑ NO
Does the bidder have any intension of selling the bidding company within the next 12 months to 60 months?	❑ YES ❑ NO

SANParks reserves the right not to award to any bidder who answers any of the questions above "yes" should the bidder be the overall highest points scorer. However the decision not to award will be on a case-by-case basis**.**

THE BIDDING SELECTION PROCESS

EVALUATION PHASES

4. PHASE 1: FUNCTIONALITY CRITERIA

Only those bidders who achieve the minimum score for functionality as stated below will be declared responsive.

The description of the functionality criteria and the maximum possible score for each is shown in the table below. The score achieved for functionality will be the sum of the scores achieved, in the evaluation process, for the individual criteria.

NB: The minimum qualifying score for functionality is **60** out of a maximum of **100**.

Bidders shall ensure that all relevant information has been submitted with the offer in the prescribed format to ensure optimal scoring of functionality points for each Evaluation Criteria. Failure to provide all information **IN THIS SUBMISSION** could result in the bidder not being able to achieve the specified minimum scoring of 60.

Functionality Criteria	**Functionality (proof)**	**Points allocation**	**Weighting**
1. Company experience in successfully completing Electrical and Mechanical related engineering projects at Water treatment plant.	1. Client reference/ Completion letters/Recommendation Letters Clearly indicating: 2. Scope of Work, 3. Timeframe (duration of contract/project) 4. Value of Project 5. Performance Status **Please note: The Client reference/ Completion letters/Recommendation Letters must be in the recommending company's letter head and it must list all the above-mentioned 5 items to be able to score points** **Please note: Certificate of completion without indication of project duration will not count as compliant** **To all 5-functionality evidence listed above**	1 to 2 letters = 20 points 3 to 5 letters = 60 points 6 to 8 letters = 80 points 9 and more letters = 100 points	100
Total		100	

PHASE 2. PRICING SCHEDULE - Professional Services and Labour

APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES AS AND WHEN REQUIRED FOR A PERIOD OF TWO (2) YEARS AT TABLE MOUNTAIN NATIONAL PARK- WATER TREATMENT PLANT			
Item No	**Item Description**	**Per hour**	**Price excl. VAT**
1.	Engineer/Scientist Rate per hour / normal working hours (Mon – Friday 08:00 – 16:30	1	
2.	Engineer/Scientist Rate per hour / after hours (Mon – Friday after 16:30	1	
3.	Engineer/Scientist Rate / Saturdays	1	
4.	Engineer/Scientist Rate (Sundays/Public Holidays)	1	
5.	Technician Rate (Monday – Friday: 08:00 – 16:30)	1	
6.	Technician Rate (Monday - Friday: after 16:30)	1	
7.	Technician Rate (Saturdays)	1	
8.	Technician Rate (Sundays/Public Holidays)	1	
9.	Process Controller Rate (Monday – Friday: 08:00 – 16:30)	1	
10.	Process Controller Rate (Monday – Friday – After 16:30)	1	
11.	Process Controller Rate (Saturdays)	1	
12.	Process Controller Rate (Sundays/Public Holidays)	1	
13.	Travel Rate /km	1	
Total			
Vat @ 15%			
Grand Total			

NB: Please note that the above pricing schedule is strictly meant for adjudication purposes. The RFQ is for as when required for 2 years period. The pricing schedule is rate based. Furthermore, such prices should be presented in South African Rand (ZAR).

5. CONTEXT OF THIS PROCUREMENT

APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES FOR A PERIOD OF TWO (2) YEARS AT TABLE MOUNTAIN NATIONAL PARK – WATER TREATMENT PLANT.

The purpose of the services is, amongst others to ensure:

1. Compliance with legislation, internal policies, and procedures.
2. Transparent supply chain management processes.
3. Credible supply chain management processes.
4. Risk management.

The service provider/s is required to obtain sufficient, appropriate evidence for all established criteria. The service provider's decision must be supported by robust facts and documentary evidence.

The required services from the appointed panel of service providers will be by obtaining quotations on an “as and when required” basis. No retainer arrangements or payments are applicable.

5. COMPLIANCE AND GOVERNANCE VERIFICATION DOCUMENTS (Standard Bidding Documents)

The verification during this phase is to assess the bid responses for purposes of verifying compliance with RFQ requirements, whereby a bidder may be disqualified if they do not fully comply with which requirements as stipulated below:

- Submission of fully completed SBD1 (Invitation to Bid).
- Submission of fully completed SBD 4 (Bidder's disclosure).
- Submission of fully completed SBD6.1 (Preferential points claim form).
- In order to qualify for preference points for HDI and/or Specific Goals, it is the responsibility of the bidder to submit documentary proof (BBBEE certificate or sworn affidavits) in support of bidders claims for such preference for that specific goal.
- Bidders are further referred to the content of the (SBD 6.1) Preference Schedule for the full terms and conditions applicable to the awarding of preference points.
- Submission of BBBEE certificate or Sworn affidavit: Issued in Terms of the Amended Construction Sector Code
- Submission of SARS Tax Pin

6. PHASE 3 MANDATORY REQUIREMENTS

The bidder who does not meet mandatory requirements will be regarded as non-responsive

Description	Comply	Non-Comply
Registration with CIDB 2ME OR Higher or 2EP or Higher		
Valid letter of good standing for Compensation for Occupational Injuries and Diseases Act, 130 of 1993 (COIDA):		

CIDB GRADING - Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contactor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations, for a **CIDB 2ME or 2 EP** or higher class are eligible to submit tenders.

7. CENTRAL SUPPLIER DATABASE

Bidders are required to be registered on the Central Supplier Database (CSD) of National Treasury prior to submitting their bid (open tenders). Failure to being registered on the CSD and failure to submit the requested proof of registration on CSD information will lead to disqualification. (Please provide proof of registration on the Central Supplier Database).

8. PROTECTION OF PERSONAL INFORMATION ACT, 4 OF 2013 (POPIA)

SANParks adheres to the Protection of Personal Information Act, 4 of 2013 (POPIA) requirements regarding personal information which came into effect 1 July 2021.

As SANParks, we are committed to protecting your privacy and ensuring that personal information collected is used properly, lawfully and transparently

9. OCCUPATIONAL HEALTH AND SAFETY

The service provider acknowledges that he is fully aware of the provisions of the OHS Act 85 of 1993 and that he is an employer in his own right with duties and responsibilities as prescribed in the Act.

10. TIMELINES

The Successful supplier will be required to deliver the goods immediately after appointment as per the terms of reference on the RFQ, failure to deliver SANParks reserve the right to cancel the Purchase Order.

11. CONTRACT PERIOD

An agreement (/SBD 7/SLA/contract) may be entered into between the successful service provider/s for a period of two (2) years from the date of signing the contract.

12. FINANCIAL PAYMENT

Payment will be made in accordance with the PFMA (**within 30 days of receipt of invoice**) after the service has been rendered.

13. FINAL AWARD

SANParks recommends the bidder who has quoted on all the items as required in terms of the RFQ for the contract award, subject to the bidder having supplied the relevant administrative documentation and complied in all aspects with the terms and conditions and requirements of

the RFQ.

14. SITE INFORMATION

The site is situated at the SANParks Table Mountain National Park

15. GENERAL CONDITIONS OF CONTRACT (GCC)

This bid is subject to the preferential procurement policy framework act, the General Conditions of Contract (GCC) and, if applicable, any other special conditions of contract

SBD4

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest1 in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	**Identity Number**	**Name of State institution**

1 the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:

……

……

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:

……

……

3 DECLARATION

I, the undersigned, (name)…… in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect.

3.1 I have read, and I understand the contents of this disclosure;

3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect.

3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium2 will not be construed as collusive bidding.

3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.

3.5 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening

2 Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

or of the awarding of the contract.

3.6 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

3.7 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.
I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

…… ……

Signature Date

…… ……

Position Name of bidder

SBD 6.1

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

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1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 To be completed by the organ of state

(*delete whichever is not applicable for this tender*).

a) The applicable preference point system for this tender is the 80/20 preference point system.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

(a) Price; and

(b) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	**100**

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

(a) **"tender"** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;

(b) **"price"** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;

(c) **"rand value"** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

(d) **"tender for income-generating contracts"** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and

(e) **"the Act"** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 **or** **90/10**

$$Ps = 80\left(1 - \frac{Pt - P\,min}{P\,min}\right) \text{ or } \qquad Ps = 90\left(1 - \frac{Pt - P\,min}{P\,min}\right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 **or** **90/10**

$$Ps = 80\left(1 + \frac{Pt - P\,max}{P\,max}\right) \text{ or } \qquad Ps = 90\left(1 + \frac{Pt - P\,max}{Pmax}\right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system, then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

***Note to tenderers: The tenderer must indicate how they claim points for each preference point system.*)**

The specific goals allocated points in terms of this tender	**Number of points allocated (80/20 system) (To be completed by the organ of state)**	**Number of points claimed (80/20 system) (To be completed by the tenderer) Must complete each column**
Percentage of ownership		
Black people with at least 51% shareholding or more	5	
Exempted Micro Enterprises; - 10 points Qualifying Micro Enterprise; - 5 points Generic; - 2 points	10	
Woman ownership with at least 30% shareholding or more – 5 points maximum	5	
TOTAL POINTS CLAIMED BY THE SERVICE PROVIDER	20	

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm…….

4.4. Company registration number: ……...

4.5. TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

i) The information furnished is true and correct.

ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;

iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –

(a) disqualify the person from the tendering process.

(b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct.

(c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation.

(d) recommend that the tenderer or contractor, its shareholders, and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution, if deemed necessary

.....

SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:
.....

DATE: .....

ADDRESS: .....

.....

1. Compulsory Enterprise Questionnaire

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	**Name of institution, public office, board or organ of state and position held**	**Status of service (tick appropriate column)**	
		Current	**Within last 12 months**

1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: CSD Number:

Section 5: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

** Complete only if sole proprietor or partnership and attach separate page if more than 3 partners*

Section 6: Particulars of companies and close corporations

Company registration number:

Close corporation number:

Tax reference number:

Section 7: SBD 1 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 8: SBD4 issued by National Treasury must be completed for each tender and be attached as a tender requirement.
Section 9: SBD6 issued by National Treasury must be completed for each tender and be attached as a tender requirement.
The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise: i) Authorises the Employer to obtain a tax clearance certificate from the South African Revenue Services that it is in order. ii) Confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004; iii) Confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption; iv) Confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and iv) Confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Name	Position	Signed

Enterprise name	Date

SBD 7.2

CONTRACT FORM - RENDERING OF SERVICES

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SERVICE PROVIDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SERVICE PROVIDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE SERVICE PROVIDER)

1. I hereby undertake to render services described in the attached bidding documents to (name of the institution)……SANPARKS: TMNP……. in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number: TMNP033/2025-26.. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid .

2. The following documents shall be deemed to form and be read and construed as part of this agreement:

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Proof of tax compliance status;
   - Pricing schedule(s);
   - Filled in task directive/proposal;
   - Preference claim form for Preferential Procurement in terms of the Preferential Procurement Regulations;
   - Bidder's Disclosure form;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and
   (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.

5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

NAME OF FIRM …….

DATE …….

WITNESSES

1 …….

CONTRACT FORM - RENDERING OF SERVICES

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I……. in my capacity as……...……..
accept your bid under reference number ……dated……for the rendering of services indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating service delivery instructions is forthcoming.

3. I undertake to make payment for the services rendered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice.

DESCRIPTION OF SERVICE	PRICE (ALL APPLICABLE TAXES INCLUDED)	COMPLETION DATE	TOTAL PREFERENCE POINTS CLAIMED	POINTS CLAIMED FOR EACH SPECIFIC GOAL
APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES FOR A PERIOD OF 2 YEARS AT TABLE MOUNTAIN NATIONAL PARK - WATER TREATMENT PLANT				

4. I confirm that I am duly authorised to sign this contract.

SIGNED AT ……ON……..

NAME (PRINT) …….

SIGNATURE ……

OFFICIAL STAMP

WITNESSES

1 ……

ANNEXURE A:

HEALTH AND SAFETY SPECIFICATIONS

Annexure A

Health and Safety Specifications for South African National Parks

PROJECT:

APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES FOR 2 YEARS AT TABLE MOUNTAIN NATIONAL PARK – WATER TREATMENT PLANT

HEALTH & SAFETY
SPECIFICATIONS
FOR

APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES FOR A PERIOD OF TWO (2) YEARS AT TABLE MOUNTAIN NANTIONAL PARK - WATER TREATMENT PLANT

CONTRACT NO: TO BE CONFIRMED

The contractor shall familiarize themselves with Occupational Health and Safety Regulations Act 85 of 1993 and comply with all applicable regulations and legislation to working on site (Table Mountain National Parks- SANParks)

The OHS Act document is to be read and understood in Conjunction with the following inter alia:

- Occupational Health and Safety Act (Act 85 of 1993)
- SABS codes and standards referred to by the Occupational Health and Safety Act
- Regulations as per the Occupational Health and Safety Act (Act 85 of 1993) with specific reference but not limited to:
    - General Safety Regulations (GN 928, 25 June 2003)
    - General Machinery Regulations (GN R1521, 5 August 1988)
    - Electrical Machinery Regulations (GN R250, 25 March 2011)
    - Electrical Installation Regulations (GN R242, 6 March 2009)
    - Driven Machinery Regulations (GN R1010, 18 July 2003)
    - Hazardous Chemical Substance Regulations (GN R930, 25 June 2003)
    - Hazardous Biological Agents Regulations (GN R 1390, 27 December 2001)
- Asbestos Regulations:
- Asbestos Abatement Regulations, 2020
- Asbestos Abatement Regulations, 2020 as Amended
- Construction Regulations, 2014
- Explosives Regulations, 2003
- Explosives Regulations Annexture 1, 2025
- Environmental Regulations for Workplaces, 1987
- Ergonomics Regulations, 2019
- Hazardous Biological Agents Regulations:
- Hazardous Biological Agents Managing the Risks on the Health Care Premises
- Explosives Regulations

- Facilities Regulations, 1990
- General Administrative Regulations, 2003
- Hazardous Chemical Agents Regulations:
- Noise Exposure Regulations, 2024
- Pressure Equipment Regulations, 2009
- Draft Pressure Equipment Regulations, 2021
- Guidance Notes to the PER (2017)

AND

- Basic Conditions of Employment Act (Act 75 of 1997)
- SANParks Environmental Management Plan
- SANParks Code of Conduct of working in a National Park

HEALTH AND SAFETY SPECIFICATION ACKNOWLEDGEMENT RECEIPT

Contractor's Acknowledgement:

I,_____ representing

_____ (Contractors), have satisfied

myself with the content of this Health and Safety Specification and have made the relevant provision

under my Preliminary & General Section for any and all costs involved to ensure compliance of this Specification and shall we be the successful contractor, we shall ensure that our employees and contractors on site comply with the requirements of this documents, our safety documentation and health and safety legislation.

Signature of Contractor Date

Comments:

ANNEXURE B:

ENVIRONMENTAL MANAGEMENT PLAN

Environmental Management Plan

General construction activities in parks

Park: **Table Mountain National Park**

Project: **APPOINTMENT OF A QUALIFIED SERVICE PROVIDER FOR ELECTRICAL AND MECHANICAL MAINTENANCE AND REPAIRS SERVICES FOR A PERIOD OF TWO(2) YEARS AT TABLE MOUNTAIN NATIONAL PARK – WATER TREATMENT PLANT**

Prepared by:

South African
NATIONAL PARKS

South African National Parks
P.O. Box 787
PRETORIA
0001

Part 1

1. ENVIRONMENTAL MANAGEMENT PLAN

A. DECLARATION

I the undersigned in my capacity as designated below to hereby undertake to ensure that the conditions and recommendations in terms of the Environmental Management Plan (EMP) for the renovation, upgrading, and construction activities in a National Park are implemented and assume responsibility and accountability in this respect.

I further understand that officials from SANParks may during any phase of the project, conduct an inspection of the development in order to ensure compliance with the conditions and recommendations in the EMP.

EMPLOYER

Name: _____

Signature: _____

Date: _____

CONTRACTOR

Name: _____

Signature: _____

Date: _____

Part 1

1. ENVIRONMENTAL MANAGEMENT PLAN

1.1 GENERAL

Definition of an "**Environmental Management Plan**":
A plan or programme that seeks to achieve a required end state and describes how activities, that have or could have an adverse impact on the environment, will be mitigated, controlled, and monitored.

The EMP will address the environmental impacts during the design, construction and operational phases of a project. Due regard must be given to environmental protection during the entire project. In order to achieve this a number of environmental specifications/recommendations are made. These are aimed at ensuring that the contractor maintains adequate control over the project in order to:

- Minimise the extent of impact during construction.
- Ensure appropriate restoration of areas affected by construction.
- Prevent long term environmental degradation.

The contractor must be made aware of the environmental obligations that are stipulated in this document, and declares himself/herself to be conversant of all relevant environmental legislation. The contractor should also be aware that the Park Manager / Environmental Control Officer will monitor the implementation of the procedures.

1.2 OBJECTIVES OF THE EMP

The EMP has the following goals:

- Identifying those construction activities that my have a detrimental impact on the environment;
- Detailing the mitigation measures that will need to be taken, and the procedures for their implementation;
- Establishing the reporting system to be undertaken during the construction.

The EMP also serves to highlight specific requirements that will be monitored during the development and should the environmental impacts not have been satisfactory prevented or mitigated, corrective action will have to be taken. The document should, therefore, be seen as a guideline that will assist in minimising the potential environmental impact of activities.

Definition of "**mitigation measures**":
Mitigation seeks to find better ways of doing things, by the implementation of practical measures to reduce, limit, and eliminate adverse impacts or enhance project benefits and protect public and individual rights.

The EMP also defines the arrangements that will be put in place to ensure that the mitigation measures are implemented by including recommendations of the roles and

responsibilities of the project proponent, environmental management team and contractors.

1.3 COMPONENTS OF THE "EMP"

1.3.1 Introduction

This EMP adopted a precautionary approach, or in the case of management recommendations, a philosophy of 'best practice'. Mitigation measures may then be of a more generic nature without compromising its importance to be implemented.

Therefore the purpose of this EMP is to draft and maintain a detailed management plan that, if put into practise, will effectively prevent/minimise environmental degradation.

1.3.2 The EMP in Context

This EMP will form part of a project tender and contract. Pre-construction and construction phase mitigation guidelines and clauses should be written into the construction contract documents as specifications. The contents of this EMP shall be deemed to be included in the rates tendered to execute and complete the works.

1.3.3 Flexibility

The EMP is a dynamic and flexible document subject to review and updating. During the implementation of a project there is always the possibility that unforeseen issues could arise, this EMP should therefore be revised where necessary to mitigate unanticipated impacts.

1.3.4 EMP Implementation Period

The EMP will focus on and operate during the whole implementation / construction period and maintenance phase of the projects.

1.3.5 Roles and Responsibilities

Supervision and monitoring are fundamental to the successful implementation of an EMP. Therefore, it is vital that monitoring of the extent to which the mitigation measures of this EMP, are adhered to by consultants and contractors, takes place.

All of the issues described and discussed in this document will require monitoring, and it will be the responsibility of SANParks to undertake this monitoring according to the specifications of this EMP.

- To draft and implement a monitoring programme to assess compliance with the EMP.
- To appoint an Environmental Control Officer (ECO) during the Construction Phases.
- To undertake the monitoring of operations during the operational phase. Any problems that are identified or encountered must be reported to SANParks management so that appropriate action may be taken to rectify the situation.

1.3.5.1 Appointment of an Environmental Control Officer

The position of Environmental Control Officer has been created to ensure that the mitigation measures and other requirements set forth in the EMP are adhered to.

It is recommended that SANParks appoint an Environmental Control Officer (ECO) during the construction phase of the project. The ECO can be a Section Ranger.

The following guidelines apply to the functions of an ECO:

- The ECO should have the ability to understand the contents of the Environmental Management Plan (EMP) and explain it to the contractor, the site staff, the supervisors and any other relevant personnel or I&AP's.
- The ECO would have to be on site on a regular basis – preferably daily to supervise environmental actions associated with construction activities.
- The ECO should be able to understand, interpret, monitor, audit and implement the EMP. This is his most important function.
- The ECO must then give feedback of the audits to SANParks and Contractors. This must be in the form of a written report .
- The ECO must ensure that the contractor understands what is to be done to rectify and address any problems that have arisen from the audit.

1.3.6 Feedback to Park Manager and ECO

Reporting to the Park Manager and ECO should take place during site meetings – in the case of potential "fatal flaws"/crises developing due to implementation of the project, reporting should be done immediately and the potentially adverse activities immediately halted in order that corrective action can be taken.

Reporting on the status of implementation of the EMP and the results of the environmental monitoring programme must be recorded and summarised in a monthly report by the ECO and submitted to the Park Manager.

1.3.7 Failure to comply with EMP

Outlined below are a number of steps, relating to increasing severity of environmental problems, which will be implemented. The principle is to keep as many issues within the first few steps as possible.

- **Step 1**

The ECO discusses the problem with the contractor or guilty party, and they work out a solution together. The ECO records the discussion and the solution implemented.

- **Step 2**

The ECO or SANParks observes a more serious infringement, and notifies the guilty party in writing, with a deadline by which the problem must be rectified. All costs will be borne by the contractor.

- **Step 3**

The ECO shall order the contractor to suspend part, or all, the works. The suspension will be enforced until such time as the offending party(ies), procedure or equipment is corrected and/or remedial measures put in place if required. No extension of time will be granted for such delays and all cost will be borne by the contractor.

- **Step 4**

Breach of contract - One of the possible consequences of this is the removal of a contractor and/or equipment from the park and/or the termination of the contract, whether a construction contract or an employment contract. Such measures will not replace any legal proceedings that SANParks may institute against the contractor.

Mitigation / Management Action	Responsible Agent
The ECO must indicate/point out to contractors the areas that they will have in their possession for the duration of the contract (this shall include access roads to be used, construction lay-down areas, materials storage and delivery requirements, contractors' offices, operational demarcation etc.). Aspects pertaining to temporary housing for persons involved in the project shall also be included. A material delivery and storage area should be demarcated. The facility must be planned and laid out in such as way that the total footprint area is minimised.	ECO & Contractor

Part 2

2. DESCRIPTION OF MITIGATION MEASURES

This section of the report serves to prescribe mitigation measures to reduce, limit, eliminate or compensate for impacts, to acceptable/insignificant levels. In setting mitigation measures, the practical implications of executing these measures must be borne in mind. With early planning, both the cost and the impacts can be minimised.

The stipulations of this report should be conveyed to contractors prior to the commencement of construction.

2.1 PRE-CONSTRUCTION MANAGEMENT PLAN

The pre-construction or planning management plan is to be used as a guide during the planning, design and detailing of the development components. This part of the plan is to be referenced by all involved in decision making during the planning and design phases.

2.1.1 EMP TRAINING

Mitigation / Management Action	Responsible Agent
The Contractor shall arrange for Environmental and Heritage Awareness Training programmes for the personnel on site, to the satisfaction of the Park Manager and ECO, and familiarise his/her/its employees with the contents of this EMP, either in written format or verbally.	ECO & Contractor

2.1.2 CONTRACT AREAS

2.1.3 SENSITIVE ECOLOGY

Mitigation / Management Action	Responsible Agent
Prior to the commencement of construction, the proposed site/s and roads, must be inspected by SANParks Scientific Services (where necessary), in order to: • Confirm the absence of Red Data Book Species; • Relocate, demarcate or recommend conservation / preservation measures for any identified ecologically "sensitive" and/or protected species and areas, and • Point out and/or demarcate all ecologically "sensitive" areas to the contractors (e.g. red data habitats & species, rivers, streams, drainage lines, wetlands, sensitive soils, steep slopes and areas susceptible to erosion).	SANParks, ECO & Contractor

2.1.4 HERITAGE AREAS

Mitigation / Management Action	Responsible Agent
In known archaeological sensitive areas the South African Heritage Resources Agency (SAHRA) must inspect all above-mentioned contract areas, in order to: • Confirm the absence of archaeological sites and/or artefacts; • Relocate, demarcate or recommend further conservation / preservation actions and measures for any identified archaeologically "sensitive" area and/or artefacts prior to the commencing of any work at these sites, and • Point out and/or demarcate all archaeologically "sensitive" areas to the contractors.	SANParks, ECO & Contractor

2.1.5 ROADS

Mitigation / Management Action	Responsible Agent
The final alignment of the access routes and internal camp roads shall be planned in conjunction with the Park Manager, SANParks Scientific Services, Section Ranger and ECO and once finalised only the agreed roads must be used.	ECO & Contractor
Roads must be planned to deviate around significant trees and Red Data Species marked out in an approved manner by the ECO.	ECO & Contractor

2.1.6 SITE ESTABLISHMENT

Mitigation / Management Action	Responsible Agent
Construction camps and staff accommodation facilities on the site will be required to be established in appropriate locations prior to the commencement of construction, preferably within already disturbed areas. After completion of the contract, these areas will be required to be rehabilitated.	ECO & Contractor
Site Plan: Before construction can begin, the Contractor shall submit a site layout plan to the ECO for approval, including: • Site access (including entry and exit points). • All material and equipment storage areas (including storage areas for hazardous substances such as fuel and chemicals). • Construction offices and other structures. • Security requirements (including temporary and permanent fencing, and lighting) and accommodation areas for security staff. • Solid waste collection facilities and waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. • Storm water control measures. • Provision of potable water and temporary ablution facilities. • Only designated areas may be used for the storage of materials, machinery, equipment and site offices. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be disturbed areas along routes. Offices (and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles) must be located as far away as possible from any watercourse. Regardless of the chosen site, the Contractor's intended mitigation measures shall be indicated on the plan.	Contractor

Throughout the period of construction, the contractor shall restrict all activities to within the designated areas on the construction layout plan. Any relaxation or modification of the construction layout plan is to be approved by the ECO.	ECO & Contractor
Site Camps: The following restrictions or constraints should be placed on the site camp, and construction staff in general: • The use of rivers and streams for washing of clothes. • The use of welding equipment, oxy-acetylene torches and other bare flames where veld fires constitute a hazard. • Indiscriminate disposal of rubbish or construction wastes or rubble. • Littering of the site. • Spillage of potential pollutants, such as petroleum products. • Collection of firewood. • Poaching of any description. • Use of surrounding veld as toilets. • Burning of wastes and cleared vegetation. • No concrete structures allowed, if the site camp is within the Park boundaries.	ECO & Contractor
Vegetation clearing: The natural vegetation encountered on the site is to be conserved and left as intact as possible. Only trees and shrubs directly affected by the works, and such others as may be approved by the ECO in writing, may be felled or cleared. A firebreak shall be cleared and maintained around the perimeter of the site camp/s and office sites where necessary.	ECO & Contractor
Water for human consumption: Water for human consumption should be available at the site offices and at other convenient locations on site.	ECO & Contractor
Sewage Treatment: Sanitary arrangements should be to the satisfaction of the Park Manager and ECO. In no other ablution facilities are available, chemical toilets must be supplied (1 per 15 persons) and must be regularly cleaned and maintained by the contractor. The positioning of the chemical toilets is to be done in consultation with the ECO. The Contractor should arrange for regular emptying of toilets and will be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the ECO. If necessary, the ablution facilities must be screened from the public view. In remote areas where chemical toilets may not be a viable option, agreement must be reached on alternatives before construction starts.	ECO & Contractor
Cooking Fuel: The Contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. Collection of firewood is not permitted.	ECO & Contractor
Waste Management: Solid waste shall be stored in an appointed area within the site camp in covered drums for collection and disposal. Disposal of solid waste shall be at an approved landfill site – this must be agreed to with the Park Manager. During the construction period, the facilities shall be maintained in a neat and tidy condition, and the site is to be kept free of litter. At all places of work, the Contractor shall provide litter collection facilities for later safe disposal at approved waste disposal sites.	ECO & Contractor

2.1.7 MATERIALS HANDLING, USE AND STORAGE

Mitigation / Management Action	Responsible Agent
The Contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless of whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop) or not.	ECO & Contractor
Safety: All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the Contractor to, and used or worn by the staff whose duty it is to manage and maintain the Contractor's and his subcontractor's and supplier's plant, machinery and equipment. Contractor must comply with the Occupational Health and Safety Act (Act 85 of 1993) and Construction Regulations, 2003 as this governs what the contractor has to do/provide for his staff.	ECO & Contractor
Hazardous Material Storage: Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials will be stored in a secured, appointed area that is fenced and has restricted entry. Storage of hazardous products shall only take place using suitable containers approved by the ECO. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure.	ECO & Contractor
Fuels and Gas Storage: Fuel should be stored in a secure area in a steel tank supplied and maintained by the contractor according to safety procedures. Gas welding cylinders and LPG cylinders should be stored in a secure, well-ventilated area. The contractor must supply sufficient fire fighting equipment in event of an accident and strictly no smoking will be allowed where fuel is stored and used.	ECO & Contractor

2.1.8 WATER SUPPLY

Mitigation / Management Action	Responsible Agent
Water supply pipelines will be according to contract specifications, following the most direct, yet most ecologically responsible route agreed to with the engineer and as per contract documentation.	ECO & Contractor
Point out to contractors where they can obtain water (e.g. water for mixing of cement as well as for drinking). Contractors shall not make use of/collect water from any other source than those pointed out to them as suitable for use by them.	ECO

2.1.9 LIQUID WASTE

Mitigation / Management Action	Responsible Agent
Under the General Authorisations in terms of Section 39 of the National Water Act (Act No. 36 of 1998), DWAF does not permit the construction of wastewater disposal sites (such as septic tank systems) within the 100 year flood line of any watercourse, or alternatively, within 100 metres of the edge of a water resource.	SANParks
The treatment and disposal of effluent will comply with all applicable legislation and the relevant permit regarding the disposal of purified effluent into the natural environment will have to be obtained from DWAF if so required during construction and operations.	SANParks
The design, installation and operation of septic tanks and soak-aways will conform to Water Act, including all the regulations made under section 26 of the National Water Act.	SANParks

2.2 CONSTRUCTION MANAGEMENT PLAN

The Construction Management Plan forms part of the contract documentation. The plan must be read in conjunction with the contract documents including the relevant Bill of Quantities and Specifications.

2.2.1 VEHICULAR ACCESS AND MOVEMENT OF CONSTRUCTION VEHICLES

Mitigation / Management Action	Responsible Agent
During construction, use should be made of existing access routes to construction areas where possible. Construct approved vehicle turning areas, avoiding selected ecological sensitive areas or species, and have turning area routes approved by the ECO. Temporary access roads must be rehabilitated after usage as per prior agreement between the Park Manager and Contractor.	ECO & Contractor

2.2.2 MOVEMENT OF CONSTRUCTION PERSONNEL, LABOURERS AND EQUIPMENT

Mitigation / Management Action	Responsible Agent
The Contractor must ensure that all construction personnel, labourers and equipment remain within the demarcated construction sites at all times. Where construction personnel and/or equipment wish to move outside the boundaries of the site, the contractor/ labourers must obtain permission from the ECO.	ECO & Contractor

2.2.3 VEGETATION CLEARING

Mitigation / Management Action	Responsible Agent
The extent of all construction site footprints will be minimised and limited to existing and / or already disturbed areas wherever possible.	ECO & Contractor
The areas needing to be cleared and the degree of clearing required will be determined and demarcated in consultation with the ECO before clearing begins.	ECO & Contractor
The Contractor may not deface, paint or otherwise mark and / or damage natural features / vegetation on the site, unless agreed beforehand with the ECO. Any features / vegetation defaced by the Contractor will be restored to the satisfaction of the ECO.	ECO & Contractor
The ECO must be present during vegetation clearing.	ECO
Plant Search and Rescue: • Plant search and rescue (i.e. the location and removal of specified plant species, without unnecessary damage, and their transfer to a specified location) and the collection of seed, shall be conducted by the ECO prior to the onset of any site clearing operations, should the ecologist/ SANParks Scientific Services indicate this to be necessary. • Sensitive areas and/or species that have been selected for conservation by the ecologist / SANParks Scientific Services, Park Manager or ECO, shall be demarcated with danger tape. No activity shall take place at these areas. • De-stumping shall only occur at the request of the ECO. Where roots can act as erosion protection, trees should be cut as close as possible to the ground level. • During the clearing of woody vegetation no basal cover or grass and topsoil shall be removed and damage to this layer shall be minimised as far as possible.	ECO & Contractor
Vegetation Removal and Trimming in Watercourses: No heavy machinery shall be permitted within watercourses for any purpose, except emergency procedures, without the prior approval of the ECO. Clearing of vegetation shall be conducted by hand. All cleared and trimmed vegetation shall be removed from any watercourse to prevent flooding/snagging hazards being created.	ECO & Contractor
Rehabilitation: The Park Manager, ECO, and Contractor must agree on rehabilitation of areas. The Contractor shall be held responsible for rehabilitation for all areas disturbed during construction. This includes, for	ECO & Contractor

example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the Defects Liability Period.	

2.2.4 PROTECTION OF FAUNA

Mitigation / Management Action	Responsible Agent
• Under no circumstances shall any animals be handled, removed, killed or be interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees. • The Contractor and his employees shall not bring any domesticated animals onto the site. • The Contractor shall ensure that the work site be kept clean, tidy and free of rubbish that would attract animals. • No poaching of fauna and flora shall be tolerated by the Contractor or his personnel on Site or elsewhere.	ECO & Contractor

2.2.5 HERITAGE AND/OR ARCHAEOLOGICAL SITES

Mitigation / Management Action	Responsible Agent
Historical and Archaeological Sites: If any artifact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The Contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the ECO of such discovery. The South African Heritage Resources Agency (SAHRA) or the National Monuments Council shall be contacted such that an archaeological consultant can be appointed to excavate and record the site. Work may only resume once clearance is given in writing by the archaeologist. No stones/rock or any material may be removed from any site in the park without approval by the ECO, and after confirmation that materials do not form part of a cultural site.	ECO & Contractor

2.2.6 SOIL MANAGEMENT

Mitigation / Management Action	Responsible Agent
Topsoil: The Contractor is required to strip topsoil together with grass / groundcover from <u>all</u> areas where permanent or temporary structures are located, construction related activities occur, and access roads are to be constructed, etc. This must be read together with the contract specifications & conditions. Topsoil must be stockpiled for later use.	ECO & Contractor
Topsoil is to be handled twice only - once to strip and stockpile, and secondly to replace, level, shape and scarify.	ECO & Contractor
Topsoil stockpiles are not to exceed 1.5 m in height and should be protected to prevent erosion where needed.	ECO & Contractor
Topsoil stockpiles are to be maintained in a weed free condition. The ECO can assist with guidance as to which plants are weeds and require removal.	ECO & Contractor
Topsoil is to be replaced by direct return where feasible (i.e. replaced immediately on the area where construction is complete), rather than stockpiling it for extended periods.	ECO & Contractor
Spoil Material: The location of spoil stockpile sites shall be agreed upon by the ECO prior to the onset of any operations that will generate spoil materials. No spoil material shall be dumped outside the defined site. The Contractor shall ensure that the material does not blow or wash away. If the spoil	ECO & Contractor

material is in danger of being washed or blown away, the contractor shall cover it with a suitable material, such as hessian or plastic.	

2.2.7 EROSION CONTROL

Mitigation / Management Action	Responsible Agent
The Contractor shall protect all areas susceptible to erosion and shall take measures, to the approval of the ECO. The Contractor shall not allow erosion to develop on a large scale before effecting repairs and all erosion damage shall be repaired as soon as possible.	ECO & Contractor
The specifics of erosion protection work will vary from situation to situation. These specifics should be cleared with the Park Manager and/or ECO and comply with the contract specifications.	ECO & Contractor
Where required, cut-off trenches can be installed to divert substantial run-off and prevent erosion.	ECO & Contractor
During construction, areas susceptible to erosion must be protected by installing temporary or permanent drainage works and energy dispersion mechanisms and could include – to be agreed to by SANParks and Contractor and with considerations of implications on costs: • Vegetation, • Mitre drains (afleivore), • Benches (grondwalle), • Benches consisting of sandbags, • Packing branches and rocks in small gullies and disturbed areas.	ECO & Contractor
Storm water drainage measures are required on site to control runoff and prevent erosion.	ECO & Contractor

2.2.8 SLOPE PROTECTION

Mitigation / Management Action	Responsible Agent
Cut and fill slopes shall be shaped and trimmed to approximate the natural condition and contours as closely as possible and, where possible, be undulating. Levels incongruous to the surrounding landscape, shall be reshaped as per contract specifications.	ECO & Contractor
Slopes that need protection shall be identified by the ECO and the specifications needed must be established using the latest approved methods and technology.	ECO & Contractor

2.2.9 ACCESS ROADS

Mitigation / Management Action	Responsible Agent
Construction staff may only use authorised paths and roads.	ECO & Contractor
The proclaimed speed limit in the Park must be strictly adhered to.	ECO & Contractor
ECO will monitor the conduct of drivers and report any negative impact to the contactor immediately.	ECO & Contractor
Construction roads must follow existing roads and tracks and should not be wider than necessary with a maximum width of 3 m. Should a wider road be required, this will require the approval of the ECO.	ECO & Contractor
If two-way traffic movement is to take place, passing bays are to be used where specified by the ECO to prevent access / detours into the surrounding areas. The drivers delivering construction materials to site are to be made aware of this. They may not drive off the road in order to allow another vehicle to pass.	ECO & Contractor
Continual use of dirt access roads by heavy machinery and increased transport loads means they will have to be carefully monitored and regularly graded as soon as potholes or rutting occurs.	ECO & Contractor

Upon completion of the construction period, the Contractor will ensure that the access roads are returned to a state no worse then prior to construction commencing.	ECO & Contractor

2.2.10 EXCAVATION, BACKFILLING AND TRENCHING

Mitigation / Management Action	Responsible Agent
Where at all possible, excavations must not stand open longer than 2 days, and should preferably be opened and closed on the same day. They should not be permitted to stand open longer than a week under any circumstances. Excavations must be marked with tape to clearly demarcate the area and warn against access.	ECO & Contractor
Excavations must not be undertaken until such time that all required materials / services etc. are available on-site, to facilitate immediate laying of such services or the construction of subsurface infrastructure.	ECO & Contractor
Any such excavations should ideally be undertaken within the confines of an established construction site - i.e. a site that is either protected with a peripheral fence, or a site that has a regular / continual human presence. Failing this, regular daily inspections are essential.	ECO & Contractor
If need be, spread the rocks in as natural a looking manner as possible in the veld.	ECO & Contractor
Excess rocks and sand as a result of excavation activities is not to be dumped along next to construction site – rocks to be spread in a natural looking manner in the surrounding area.	ECO & Contractor
Removed soil is to be used to backfill areas where required (i.e. such as existing and un-rehabilitated gravel pits).	ECO & Contractor
Excavated material is to be stockpiled along the trench within the working servitude, unless otherwise authorised.	ECO & Contractor
Deficiency of backfill material will not be made up by excavation within the protected area. Where backfill material is deficient, it must be made up by importation from an approved borrow pit.area.	ECO & Contractor

2.2.11 LEVELLING

Mitigation / Management Action	Responsible Agent
Excess sand and soil resulting from levelling activities of the work area should be stored in low heaps either on the access road or already disturbed area.	Contractor
Excess topsoil is to be spread evenly over the area in a manner that blends in with the natural topography.	ECO & Contractor
Once heavy machinery has cleared the bulk of these material stockpiles, the disturbed areas should be levelled and cleared of any foreign material manually e.g. with spades. It is unacceptable to leave foreign material behind with the knowledge that it will become hidden amongst the rejuvenating vegetation with time.	ECO & Contractor

2.2.12 SAND EXTRACTION

Mitigation / Management Action	Responsible Agent
This is a specialised and potentially environmentally impacting activity, which must be undertaken with the approval and overall management of the Park.	Contractor / SANParks
Regular inspections must be undertaken by the local Section Ranger and ECO to monitor and audit the effects and impacts of such removals.	ECO & Contractor

On completion of the sand-winning activity, the river bed will be rehabilitated to the satisfaction of the ECO and Section Ranger.	ECO & Contractor

2.2.13 STOCKPILING, HANDLING AND STORAGE OF BUILDING MATERIALS

Mitigation / Management Action	Responsible Agent
Stockpiles and storage yards will be demarcated in areas already disturbed or where they will cause minimal disturbance.	ECO & Contractor
Clearly indicate which activities are to take place in which areas within the site e.g. the mixing of cement, stockpiling of materials etc. Limit these activities to single sites only. This may not always be possible for example for heaps of topsoil, but should definitely be the case for other building materials.	ECO & Contractor
Stockpiles of expensive materials such as cement bags should be such that they can easily be removed from the site over weekends or during rainy weather.	Contractor
Specific sites should be allocated for construction waste e.g. empty cement bags, discarded planks, etc. A low temporary fence may be erected around such a site in order to contain the waste and assist the effective removal thereof from the site.	ECO & Contractor
Old cement mixing bags will be placed in wind and spill proof containers as soon as they are empty. The Contractor will not allow closed, open or empty bags to lie around the site.	ECO & Contractor
The Contractor will ensure that all operations that involve the use of cement and concrete are carefully controlled.	ECO & Contractor
Concrete mixing may only take place in the construction camp or in agreed specific areas on site.	ECO & Contractor
Concrete may not be mixed directly on the ground. No mixed concrete may be deposited directly onto the ground prior to placing. A board or other suitable platform / surface is to be provided onto which the mixed concrete can be deposited whilst it waits placing.	ECO & Contractor
All visible remains of excess concrete will be deposited in a designated area awaiting removal to an approved landfill site.	ECO & Contractor

2.2.14 SERVICING AND RE-FUELLING OF CONSTRUCTION EQUIPMENT

Mitigation / Management Action	Responsible Agent
All maintenance and repair work will be carried out at the main construction camp within an area designated for this purpose, equipped with necessary pollution containment measures.	ECO & Contractor
The ground under the servicing and refuelling areas must be protected against pollution caused by spills and / or tank overfills (bunded / lined).	ECO & Contractor
The Contractor may only change oil or lubricant at agreed and designated locations, except if there is a breakdown or emergency repair, and then any accidental spillages must be cleaned up / removed immediately.	ECO & Contractor
In such instances the Contractor will ensure that he has drip trays available to collect any oil or fluid.	ECO & Contractor
Construction vehicles are to be maintained in an acceptable state of repair. No vehicles or equipment with leaks or causing spills will be permitted to operate at any of the construction sites. These will be sent immediately back to the maintenance yard for repair.	ECO & Contractor
All equipment that leaks must be repaired immediately or must be removed from site.	ECO & Contractor
Fuels required during construction must be stored in a central depot at the construction camp. This storage area should be located on a slab and be contained within a bund capable of containing at least the volume of one of the containers.	ECO & Contractor

Mitigation / Management Action	Responsible Agent
Temporary fuel storage tanks and transfer areas also need to be located on an impervious surface adequately bunded to contain accidental spills. Appropriate run-off containment measures must be in place.	Contractor

2.2.15 SOLID WASTE MANAGEMENT

Mitigation / Management Action	Responsible Agent
An adequate number of 'scavenger proof' refuse bins must be provided at the construction sites and at the construction camps.	ECO & Contractor
These bins must be provided with lids and an external closing mechanism to prevent their contents blowing out and must be scavenger-proof to prevent baboons and other animals that may be attracted to the waste.	ECO & Contractor
The Contractor will ensure that all personnel immediately deposit waste in the waste bins provided.	ECO & Contractor
All refuse and solid waste generated at all work sites will be stored in appropriate scavenger proof containment vessels at the relevant site and removed to the main construction camp, where the waste will be sorted and stored within a fenced waste storage area.	ECO & Contractor
All waste must be transported in an appropriate manner (e.g. plastic rubbish bags).	ECO & Contractor
The Contactor may not dispose of any waste and / or construction debris by burning, or by burying.	ECO & Contractor
Discard all construction waste at a registered waste management facility / landfill site, particularly those wastes or products that could impact on surface or groundwater quality by leaching into or coming into contact with water.	ECO & Contractor
The contractor will maintain 'good housekeeping' practises as ensure that all work sites and construction camp are kept tidy and litter free.	ECO & Contractor

2.2.15 LIQUID WASTE MANAGEMENT

Mitigation / Management Action	Responsible Agent
The Contractor must take reasonable precautions to prevent the pollution of the ground and / or water resources on and adjacent to the site as a result of his activities.	Contractor
The Contractor may discharge 'clean' silt laden water overland and allow this water to filter into the ground. However, he must ensure that he does not cause erosion as a result of any overland discharge.	ECO & Contractor
No natural watercourse is to be used for the cleaning of tools or any other apparatus. This includes for purposes of bathing, or the washing of clothes etc.	ECO & Contractor
All washing operations will take place off-site at a location where wastewater can be disposed of in an acceptable manner.	ECO & Contractor
Trucks delivering concrete may not be washed on site or anywhere inside the park.	ECO & Contractor
No spills may be hosed down into a storm water drain or sewer, or into the surrounding natural environment.	ECO & Contractor
Adequate ablution facilities are to be provided at each construction site, conveniently located near to work areas to avoid localised water pollution from camp sewerage.	ECO & Contractor
All soil contaminated, for example by leaking machines, refuelling spills etc. is to be excavated to the depth of contaminant penetration, placed in 200 litre drums and removed to an appropriate landfill site.	ECO & Contractor

2.2.16 HAZARDOUS MATERIALS

Mitigation / Management Action	Responsible Agent
The Contractor must comply with all national, regional and local legislation with regard to the storage, transport, use and disposal of petroleum, chemical, harmful and hazardous substances and materials.	Contractor
The Contractor will furthermore be responsible for the training and education of all personnel on site who will be handling the material about its proper use, handling and disposal.	Contractor
The Contractor will be responsible for establishing an emergency procedure for dealing with spills or releases of petroleum.	Contractor
Storage of all hazardous material is to be safe, tamper proof and under strict control.	ECO & Contractor
Petroleum, chemical, harmful and hazardous waste throughout the site must be stored in appropriate, well maintained containers.	Contractor
Exercise extreme care with the handling of diesel and other toxic solvents so that spillage is minimised.	ECO & Contractor
Any accidental chemical / fuel spills to be corrected immediately.	ECO & Contractor
Timber products should be treated off-site prior to use in construction.	ECO & Contractor
Periodic on-site application of timber treatment products (for maintenance purposes) should take place with due care for the nature of the product (toxicity) and for potential spillages that may occur. Areas where timber is to be treated should have secondary containment measures instituted, such as the placement of a plastic layer (some from of covering) over soils, beneath the timber structures to prevent contamination of the soil surface.	ECO & Contractor

2.2.17 RUN-OFF FROM CONSTRUCTION CAMPS

Mitigation / Management Action	Responsible Agent
The Contractor must ensure that rainwater containing pollutants does not run-off into natural areas and thus result in a pollution threat.	ECO/Contractor
A drainage diversion system is to be installed to divert runoff from areas of potential pollution, e.g. batching area, vehicle maintenance area, workshops, chemical and fuel stores, etc.	ECO/Contractor

2.2.18 FIRE

Mitigation / Management Action	Responsible Agent
The Contractor must take all the necessary precautions to ensure that fires are not started as a result of activities on site.	Contractor
No fuels or chemicals may be stored under trees.	ECO/Contractor
Gas and liquid fuel may not be stored in the same storage area.	ECO/Contractor
The Contractor must ensure that there is adequate fire-fighting equipment at the fuel stores.	ECO/Contractor
No open fires for heating or cooking will be permitted on site, unless otherwise agreed and then only n designated areas..	Contractor
The Contractor will supply all living quarters, site offices, kitchen areas, workshop areas, material stores and any other areas identified with suitable, tested and approved fire fighting equipment.	Contractor

The construction site must be protected against fire, and a sufficient fire break must be constructed, on advice by the Section Ranger, around each construction site and the construction camp where necessary..	ECO/Contractor

2.2.19 DUST

Mitigation / Management Action	Responsible Agent
The Contractor shall take precautions to the satisfaction of the ECO to limit the production of dust and damage caused by dust.	ECO/Contractor

2.2.20 NOISE

Mitigation / Management Action	Responsible Agent
Machinery and vehicle silencer units are to be maintained in good working order. Offending machinery and / or vehicles will be banned from use on site until they have been repaired.	Contractor
Noise levels must be kept within acceptable limits for a protected area, and must not be of such nature as to detract from the natural experience of other visitors to the protected area.	Contractor
The contractor shall take into consideration that the project areas are located within a natural environment and that noise could be a major disturbance/nuisance for the fauna and visitors to the park. Project management should endeavour to keep noise generating activities associated with construction activities to a minimum and within working hours.	Contractor

2.2.21 VISUAL

Mitigation / Management Action	Responsible Agent
Security lighting must be placed such that it is not a nuisance to residents and visitors to the area. Shields may be required to prevent lights from being visible from other parts of the protected area.	ECO/Contractor
Care will be taken when positioning the lights to ensure the least visual impact, while still providing a safe work environment for construction staff.	ECO/Contractor
Should any construction activities take place where Park tourists can see the construction activities, then clear signboards must be erected to inform the tourists of the activity taking place. SANParks to provide boards. Contractor to erect boards as required.	Contractor
The Contractor shall not establish any activities which, in the opinion of the ECO, are likely to adversely affect the scenic quality of the area. The ECO may direct the Contractor to refrain from such activities or to take ameliorative actions to reduce the adverse effects of such activities.	ECO/Contractor
No painting or marking of natural features shall take place. Marking for surveying and other purposes shall only be done with pegs and beacons.	ECO/Contractor
All packed rock and exposed rock cuttings shall be treated in order to blend their colour with the colours of the natural weathered rocks of the adjacent environment.	ECO/Contractor

2.2.22 SITE CLEAN-UP AND REHABILITATION

Mitigation / Management Action	Responsible Agent
The Contractor must ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project.	Contractor / ECO
Fully rehabilitate (e.g. clear and clean area, rake, pack branches etc.) all disturbed areas and protect them from erosion.	Contractor / ECO
Only indigenous plants which are able to establish easily and will need less maintenance because they have already adapted to the local conditions should be considered.	Contractor / ECO
Before final decisions about the choice of plant species are taken the Section Ranger should be approached for their advice.	Contractor / ECO

2.3 MONITORING OF EMP IMPLEMENTATION

The correct and successful implementation of impact mitigation measures in order to reduce adverse impacts on environmental conditions needs to be ensured by a proper monitoring programme.

Monitoring of the general implementation of/adherence to the EMP, shall be the responsibility of the ECO. Reporting on adherence/compliance to stipulations as communicated to contractors, shall take place during scheduled site meetings.

2.3.1 Monitoring Form:

A list of environmental issues addressed in the EMP is drawn up. A tick box monitoring form is compiled which makes provision for compliance or non-compliance to the EMP requirements for each environmental issue. This monitoring form makes room for a brief description of the non-compliance(s). The issues identified on the monitoring form must be discussed in detail with the contractor and the Park Manager. A reasonable date of completion of the remedial action must be jointly agreed upon, between the contractor, ECO and Park Manager. This monitoring form must be signed by all parties and a copy be provided to the Park Manager.

The following Monitoring Form may serve as an **example** or point of departure.

Name: Ref: Date:	
Project:	

ENVIRONMENTAL MONITORING CHECKLIST **(NC = NON-COMPLIANCE, C = COMPLIANCE, NA = NOT APPLICABLE)**					
Item		**Rating**	**Item**		**Rating**
1.	Vehicular access and movement of construction vehicles		**13.**	Stockpiling, handling and storage of building materials	
2.	Movement of construction personnel, labourers and equipment		**14.**	Servicing and re-fuelling of construction equipment	
3.	Vegetation clearing		**15.**	Liquid waste management	
4.	Protection of fauna		**16.**	Hazardous materials	
5.	Cultural and/or archaeological sites		**17.**	Run-off from construction camps	
6.	Soil management		**18.**	Fire	
7.	Erosion control		**19.**	Dust	
8.	Slope protection		**20.**	Noise	
9.	Access roads		**21.**	Visual	
10.	Excavation, backfilling and trenching		**22.**	Site clean-up and rehabilitation	
11.	Levelling				
12.	Sand extraction				
			A.	**Others**	
Remedial Action on Non-compliance: (Action and Time Plan)					
Close out: Environmental Control Officer _____ Name _____ Date			**Response required by:** Contractor _____ Name _____ Date		

Comments: Records: ☐ PARK MANAGER ☐ CONTRACTOR ☐ PROJECT MANAGER

ANNEXURE C:

CODE OF CONDUCT FOR WORKING IN A NATIONAL PARK

SOUTH AFRICAN NATIONAL PARKS

CODE OF CONDUCT FOR WORKING IN A NATIONAL PARK

OUTSIDE ORGANISATIONS WORKING TEMPORARILY IN A NATIONAL PARK

CODE OF CONDUCT FOR PERSONNEL FROM OTHER ORGANISATIONS TEMPORARILY WORKING IN NATIONAL PARKS

1. INTRODUCTION

You will presently begin an important task in a national park, which is an area controlled by South African National Parks (SANParks). For obvious reasons your task must be completed in the shortest possible time and to accomplish this, there has to be co-operation at all levels between yourselves and personnel from SANParks.

In the past, you and your sub-ordinates worked in uncontrolled areas, but you are presently in a controlled area and furthermore in a national park.

As the name implies, the main objective with a national park is the protection, conservation and utilization of our heritage, in such a way to allow future generations to enjoy, appreciate and admire nature in its unspoiled state. This great endeavour can only be achieved if every individual who works in a national park admits to and accepts nature conservation as part of their heritage (daily life). Certain procedures were followed in the past to accomplish your tasks, but now you must accept that adaptations will have to be made to complete your task in a national park without disturbing the natural environment.

You will also be subjected to certain necessary restrictions during your stay and operations in a national park. Certain expectations will be made in accordance with your work commitments. Restrictions will be kept to a minimum, those that are enforced must please be respected and seen in a positive light to promote co-operation and to prevent any unpleasantness.

Depending on where you are resident while working in a national park, you are requested to discuss any problems you may encounter, with the Park Manager, (*Section Ranger or the person in charge of Visitor Services*). You can be assured that these officials will do everything in their power to ensure that you have a pleasant and productive stay in the national park.

Please study and commit yourself to the attached Code of Conduct.

Any uncertainties must be cleared up with a SANParks' official.

We wish you a pleasant and productive stay in our national parks.

2. PRINCIPLES WITH RESPECT TO BEHAVIOUR AND DISCIPLINE

All persons resident or working in a national park, are subject to the National Environmental Management Protected Areas Act 57 of 2003.

The following principles should be complied with at all times in a national park:

2.1 No prospecting or mining is allowed on any land forming part of a national park or protected area.

2.2 No person, except an employee authorised by SANParks may:

2.2.1 Enter or reside in a national park without permission;

2.2.2 Be in possession of an unsealed weapon, explosives, traps or poison in the park or convey the same into a park;

2.2.3 Hunt or kill an animal, collect, damage or destroy a bird's nest or it's eggs;

2.2.4 Purposely or negligently cause a veld fire or damage any object of geological, archaeological, historical, ethnological or of any other scientific value to SANParks;

2.2.5 Bring any animal or pet into a national park or allow domestic animals to stray into a national park, if found it will be confiscated and destroyed by an official;

2.2.6 Remove any animal (dead or alive) or parts thereof from the park (unless lawfully brought into the park);

2.2.7 Cut down trees or remove plants from a park or in any way damage any tree, plant or seeds;

2.2.8 Feed animals in national parks;

2.2.9 Drive a vehicle without a licence or allow a minor to drive a vehicle under his control;

2.2.10 Spend the night anywhere in a national park, (other than in a designated area) except in a rest camp or private home, without the permission of SANParks;

2.2.11 Enter a national park in an:
- Unlicensed (or unregistered) vehicles;
- Enter or use any closed road (no entry);

2.2.12 Vehicles may not be driven recklessly or negligently in a national park.

2.2.13 All drivers must consider other drivers and all animals.

2.2.14 No person under the influence of alcohol or drugs, may drive a vehicle in a national park or be in the drivers seat of a vehicle with the engine running.

2.2.15 Without special permission, no person may organize or perform public entertainment or fund-raising campaigns.

2.2.16 Angling in rivers or dams is prohibited.

2.2.17 Angling, where permitted, is only allowed from sunrise to sunset.

2.2.18 Swimming is prohibited at designated angling areas.

2.2.19 No person may damage property or endanger property belonging to SANParks.

2.2.20 No person may use a radio or musical instruments in such a way as to cause a disturbance to others.

2.2.21 No person may dispose of any article or rubble other than in containers provided by SANParks.

2.2.22 No person may remove sand, stone or wood without the permission of SANParks.

2.2.23 Unless issued with an official late permit, no one may travel from a rest camp or entry gate after gate closing times. Permits are issued by the Park Manager or designated person after acceptance of a legitimate motivation.

2.2.24 The proclaimed speed limit in a national park must be strictly adhered to, except if and when concessionary speed limits have been approved.

3. RESPONSIBILITIES TOWARDS NATURE CONSERVATION

3.1 Antiquities or objects of historical value which you may discover during your operation in a national park, are and remain the property of SANParks. These items must be handed the Park Manager or designated person as soon as possible. Any person found possession of such articles, either to keep or sell, will be liable to prosecution.

3.1 No firewood may be collected or removed without the permission of a Nature Conservation official. Under no circumstances will permission be granted to remove firewood from the park unless proof of sale from one of the shops can be produced.

3.2 Stone, sand and/or soil may not be remove from any area, unless permission has been granted by the Park Manager or designated person. These products may only be removed from sites specified by the Park Manager.

3.3 On request, the Park Manager or local Section Ranger will point out to the foreman, the sites allowed for removal of stone, sand and/or water for building or other purposes. No water may be taken from existing boreholes unless the Park Manager or designated person gives permission.

3.4 The removal, cutting down or damage to any living plant in a national park is illegal and may only be done with permission. Where the construction of roads, buildings etc. necessitates the destroying of indigenous trees, shrubs or plants, it must be kept to an absolute minimum.

3.5 Gravel pits must, where at all possible, not be visible from any road. After construction, these gravel pits must be rehabilitated as per contract document and/or Environmental Management Plan.

3.6 No animals may be killed in the park.

3.7 Other than SANParks employees, personnel resident in a park, but not employed by SANParks, may only kill an animal in an emergency, to protect a life or property or when

specifically authorized to do so by SANParks. A report of all animals killed and the circumstance surrounding if, must be sent to the Park Manager or designated person as soon as possible.

NB Snakes may only be killed in residences, rest camps and living quarters if it cannot be captured and removed by a knowledgeable person. Under no circumstances may poisonous or non-poisonous snakes be killed in the bush or elsewhere. Residents in a park are encouraged to study the poisonous and non-poisonous snake species for their own protection.

4. FIREARMS

Only authorized persons are allowed to possess firearms in a park. Firearms will only be allowed in exceptional circumstances, where an employee may need it in the execution of his duties and will be subject to certain strict conditions.

5. LITTER

All residents and work teams are expected to have proper respect towards the scenic beauty of a national park and not litter tins, paper etc. as well as construction debris, where new roads, bridges, dams or buildings are being constructed. It is the duty of the contractor and/or his supervisors to ensure that after completion of the projects, all litter is carted away. Under no circumstances may this litter be dumped in the bush or anywhere else. It is your responsibility to find out from the Park Manager or designated person if and where litter may be dumped. Littering is a serious offence and perpetrators can be prosecuted.

NB: After completion of any project, a contractor is required to obtain a report from the Park Manager declaring his satisfaction with the condition of the terrain and immediate surroundings.

6. PETS

No dogs or other pets are allowed in a national park without written permission of the Executive Director: Parks.

7. PERSONNEL RELATIONS

7.1 Park Managers or any designated person are officials of the SANParks and are responsible for the enforcement of the Protected Areas Act 57, 2003 in their respective parks. To uphold the organisation's authority, they have to be aware of all activities and especially extraordinary activities in their park. It is therefore not only a matter of courtesy but of necessity to report all activities to the Park Manager. It is very important that all new building activities, the construction of new roads, etc., be reported by the supervisor to the Park Manager. It is just as important to report the use of firebreak roads as well as unscheduled night trips to the Park Manager.

7.2 No person residing or working in a rest camp may leave the rest camp gate after gate closing times, without the Park Manager's or designated person's permission.

8. TRAVELLING TIMES AND TRANSPORT MATTERS

8.1 All private and official trips within a national park, must be undertaken during daylight hours and permission to travel after-hours will only be given in emergencies, by the Park Manager or designated person.

8.2 No person (employee or visitor) may transport passengers on the back of an open vehicle within a national park, unless in the execution of official duties.

9. ROAD RULES AND SPEED LIMITS

9.1 Road Rules

All personnel, whether in an official or private capacity, must ensure that their driving sets an example to other drivers. Although all people working in a park with the necessary approval, may drive at a faster speed than the tourists, they must do this as unobtrusively as possible by approaching another vehicle at a decreased speed, passing it and then accelerating slowly to the required speed. As soon as an oncoming vehicle is in sight, speed must once again be decreased until the vehicle is out of sight.

9.2 Speed limit for personnel

All employees of SANParks, as well as employees from outside organisations with written consent working in a national park, may travel at a maximum speed of 65km/h during the day and 50km/h at night regardless of the speed limit. These speed limits are applicable to all official trips and may only be exceeded in emergencies. Personnel and/or their spouses may also drive at 65km/h during the day, whilst in their private vehicles en route to the entrance gate closest to their residence. During private trips in the rest of the park, the designated speed limit has to be adhered to as well as in all the rest camps and personnel villages.

Please take note that all transgressors of this privilege will be prosecuted in the same way as tourists who disregard the speed limit.

10. CONTROL AT ENTRANCE AND RESTCAMP GATES

When entering or leaving an entrance gate of a national park, you must identify yourself to the tourist officer in charge. No one may leave a rest camp after hours unless the Park Manager or designated person has granted permission and any one arriving after hours at a rest camp must report to the Park Manager or designated person.

11. ENTRANCE TO NO-ENTRY ROADS

Fire-break and patrol roads

Please take note that no one may drive along a fire-break or patrol road with a no-entry sign in their private capacity or along any road which has been closed in any way. Only the Park Manager or designated person may give permission to do so. When a fire-break or patrol road has to be used officially the Park Manager or designated person must preferable be given prior notice of the date and the route. If it is not possible to notify him, it must be done immediately on completion of the trip.

12. GUEST PRIVILEGES

Arrangements regarding guests must be made by the site supervisor with the Park Manager or designated person.

Only immediate family members (parents and children) will be allowed free access to a national park with the permission of the Park Manager or designated person.

13. GENERAL DISCIPLINE

It is the responsibility of every supervisor in a park to ensure that the following rules and regulations are brought to the attention of every employee under their supervision and to see that it is adhered to.

13.1 Every employee residing in living quarters in a rest camp or on a designated site must:

13.1.1 Obey all reasonable and lawful rules given by the Park Manager or designated person;
13.1.2 Reside only in specific quarters/designated site reserved for them;
13.1.3 Maintain cleanliness and sanitation in his place of residence.

13.2 No person residing, working or officially present in a park, is allowed to:

13.2.1 Accommodate any unauthorized person, assist him or give him permission to enter or live in any designated living areas;
13.2.2 Behave in such a way as to be detrimental to maintaining discipline, order for health in such living areas;

13.3 Without written permission from the Park Manager or designated person;

13.3.1 Keep live animals or poultry;
13.3.2 Excavate or have excavations made
13.3.3 Build or make any alterations to existing building;

13.4 In any way, either directly or indirectly, hinder any employee, Security Officer, Ranger or anyone authorised by the Park Manager, in the execution of their duties; inspections or any investigations deemed necessary or purposely hinder, obstruct, mislead or refuse to divulge information when requested to, or refuse to assist in any way or heed legitimate request or command.

13.5 Purposely disturb the peace by making a noise, shouting, screaming, arguing, causing violence or acting violently or improperly.

13.6 Enter or leave a Park or living quarters other than through the official gates.

13.7 Gamble in any way.

13.8 Defecate in a place or manner as to offend any other person.
13.9 Dispose of rubble or leftovers in any place other than in bins provided.
13.10 Aimlessly loiter or hang around near or in a rest camp or personnel accommodation at any time.
13.11 Introduce, brew or be in possession of alcohol.
13.12 Be in possession of habit forming drugs.
13.13 Be in possession of any fresh meat, especially raw venison or other animal products and, if required legally, it may not be transported out of the park without the necessary veterinary permits.
13.14 Hitch-hike in a national park.
13.15 Possess a firearm or any dangerous weapon without the necessary permission or permit.

13.16 Where work teams reside and work in the field, wander away from the work site or living quarters.

13.17 Temporary work teams (supervisors excluded) are not allowed to receive visitors in a national park.

13.18 It is the contractor's responsibility to ascertain the rules and regulations laid down by SANParks.

14. MALARIA AND MALARIA CONTROL

Some of the national parks, e.g. Kruger National Park and Mapungubwe National Park are in an endemic malaria area and the residents are constantly exposed to the disease and must be aware of the fact.

Malaria is a potentially dangerous disease and if not treated timeously and correctly, can be fatal. It is therefore extremely important that all residents, their children and their employees take adequate preventative measure to protect themselves from disease. Malaria is a disease caused by small parasites, which destroy red blood corpuscles of an affected person. Parasites are transmitted from person to person by the *Anopheles* mosquitoes. Various types of malaria occur of which *plasmodium falciparum* is the most common and also the most dangerous.

The possibility of contracting the disease can be reduced by avoiding mosquito bites and taking prophylactics which prevent the development of parasites in the body. Please contact the local physician for precautionary measures or if you think you have malaria.

South African
NATIONAL PARKS

ANNEXURE D

Equipment name	Model name	Existing equipment capacity	Minimum capacity required
Buffer/Feed pump	Wilo Jayline JDS-05 cutter pump	6 kl/h @ 6m head	10.5 kl/h
R-recycle pump	Wilo Jayline JDS-05 cutter pump	15 kl/h at 3m head	3.5 kl/h recycle + recirculation
A-recycle pump	Wilo Jayline JDS-05 pump	15 kl/h at 3m head	6.5 kl/h
S-recycle pump	Wilo Jayline JDS-05 pump	15 kl/h at 3m head	1.5 kl/h
Aeration blower	CFW ZXB520 4 kW with VSD	100 Am3/h at 350 mbar running 2 hours, resting 30 min	260 Nm3/h (290 Am3/h) average over 24 hours
Diffusers	Unknown brand and quantity	Unknown	49 diffusers
MBR membrane	SINAP 80/140 flat sheet MBR	112 m2 x 2	280 m2
Air scour blower	CFW – no name tag	Unknown	Dependent on MBR brand
Permeate pumps	Speck BADU Porpoise 16	13 kl/h @ 1 bar	5 kl/h

5.1.1 Wastewater from the Restaurant

Annexure 10.1.10 shows the process flow diagram and photos of the restaurant wastewater system up to the Restaurant Pump Station Sump, which is operated by the restaurant operator and not by the SANParks staff.

Table 2. Plant and equipment used in the Restaurant Wastewater Stream

Description	Abbreviation	Annexure	Photo
Grease Trap	GT	**10.1.10**	Refer to Annexure
Restaurant Pump Station Pumps	RPSP		
3-way valve	3WV		
Inlet Screen 2	IS2		No photos available
Restaurant Feed Tank	RFT		
Restaurant Feed Tank Pump	RFTP		
Backup Tank	BT		
Backup Tank Pumps	BTP		
Restaurant Wastewater Inlet (prior to Anaerobic Zone)			

Table 3. Plant and equipment used in the inlet sewer to the WWTP

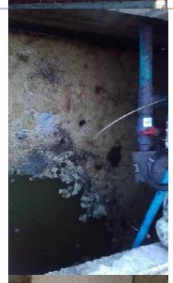
Equipment Description	Abbreviation	Annexure	Photo
Inlet Screen 1	IS1		

5.2 Anaerobic Zone

The Anaerobic Zone is approximately 7 m x 2 m x 3 m (L x W x H) and holds up to 45 m³ wastewater. An overflow is located in the back of the zone which allows supernatant from the Anaerobic Zone to overflow to the Anoxic Zone.

A SEKO TAEKNOVA Dosing Pump 1 (D1) in the Pump Room is pre-set to continuously dose Ecoworx MICROBELIFT IND HC into the Anaerobic Zone. This inoculation with premanufactured microbes is supposed to "kick-start" the treatment process only and should actually be switched off once the plant generates its own biomass. However, due to the FOG currently present in the restaurant wastewater, it is not pumped to the plant, but rather to the Old Restaurant Septic Tank and soak-away. This, plus the fact that the sewage

Table 4. Plant and equipment used in the Anaerobic Zone

Equipment Description	Abbreviation	Annexure	Photo
Infeed Flowmeter box, Anoxic and Anaerobic Zones Manhole Covers			
Dosing Pump 1	D1	10.7.1	 
Ecoworx MICROBELIFT IND HC		10.12.1	

MyCity Logger in watertight Gewiss enclosure			
Dissolved Oxygen Sensor 1	DO1	10.4.1	
My-Citi Logger			

5.3 Anoxic Zone

The Anoxic Zone is approximately 7m x 2m x 3m (L x W x H) and holds up to 45m³ wastewater. It is fitted with two submersible WILO Jayline JDS-05 cutter pumps, Feed Pump 1 (FP1) and Feed Pump 2 (FP2), which pump wastewater to the Aerobic Zone. Both pumps are fitted with wire mesh to prevent any large inert materials to block the pumps.

The submersible pumps are each controlled by a dedicated float control switch; FP1 is controlled by Control Switch 1 (C1) and FP2 by Control Switch 2 (C2). Both C1 and C2 are tied to the uPVC discharge pipe of FP2. C1 is positioned to switch on FP1 when the level in the Anoxic Zone reaches approximately 1 m from the tank floor. C2 is positioned higher than C1 and will only switch FP2 on when the water level reaches approximately 1 .5 m in the tank. FP2 functions as an assistant pump and switches on when the incoming flow exceeds the nominal flowrate of FP1 (±6 m³/h). When both pumps run simultaneously, the flowrate doubles to ±12 m³/h. Both pumps will continuously pump wastewater to the Aerobic Zone until their respective float control switches drop down to just below the "on" positions. FP1 and FP2 are always completely submerged (including at the point where FP1 switches off) to protect the pumps from completely draining the Anoxic Zone and running dry.

A third float control switch (C3) in the Primary Membrane Zone, will override both C1 and C2 to switch off FP1 and FP2 when the water level in the Primary Membrane Zone reaches the maximum volume. This prevents flooding in the Aeration and Primary Membrane Zones.

The Anoxic Zone has an emergency gravity overflow (110 mm) to the Restaurant Feed Tank/Old Septic Tank. A high-level float switch (HL1) is triggered approximately 1 m below the invert of the overflow to warn the operator of a high level in the Anoxic Zone. HL1 will automatically switch off when the level in the zone is restored.

The Infeed Flowmeter (FM1) monitors the flowrate pumped into the Aeration Zone. The FLOWMETRIX SA SAFMAG Beta Flowmeter, fitted to the converged discharge line of FP1 and FP2, is equipped with a FLOWMETRIX SA Signal Convertor/Transmitter inside the Pump Room, which transfers the data to the MyCity Logger (in the Control Panel) to be viewed on the website.

A Dissolved Oxygen Sensor (DO2) is mounted on the side of the Anoxic Zone manhole to monitor the DO levels in the zone. DO2's reading can be viewed on the MyCity logger inside the Gewiss watertight enclosure inside the Pump Room, as well as on the MyCity website.

A third WILO Jayline JDS-05 cutter pump is installed in the Anoxic Zone and functions as the R-Recycle Pump (R-R). R-R runs on a pre-set timer (T2) in the Control Panel and pumps MLSS from the Anoxic Zone back to the Anaerobic Zone. R-R's discharge pipe to the Anaerobic Zone first tees-off as an open-ended pipe back to the Anoxic Zone. A ball valve on this open-ended pipe controls the volume of MLSS recycled back to the Anaerobic Zone, while the balance keeps recycling into the Anoxic Zone, thereby assisting with mixing of the Anoxic Zone. This mixing action assists to keep a constant DO value throughout the whole Anoxic Zone.

Additional components installed in the Anoxic Zone for future repairs and/or upgrades include:

- 1x 1.5mm 3-core SURFIX cable, and
- 1x float switch (tied at the same level as C1).

Table 5. Plant and equipment used in the Anoxic Zone

Equipment Description	Abbreviation	Annexure	Photo
Feed Pumps 1 and 2	FP1 FP2	10.6.1	

R-Recycle Pump Dissolved Oxygen Sensor 2	R-R DO2	10.6.1 10.4.1	
Timer 2	T2	10.3.1	
Flowmeter 1	FM1	10.4.4	
FLOWMETRIX Signal Convertor/Transmitter		10.4.5	
Control Float Switch High-Level Float Switch Spare SURFIX cable Spare float switch	C1 C2 C3 HL1	10.4.7	

5.4 Aerobic Zone

The Aerobic Zone is approximately 4m x 4m x 3m (L x W x H) and holds ±45 m³ Mixed Liquor Suspended Solids (MLSS). It is fitted with micro-bubble diffusers on the floor of the chamber which are supplied with air from the CFW ZXB520 Aeration Blower (B1) in the Pump Room. The Aerobic Zone is filled with HDPE biological filter media which is suspended in the MLSS, creating a Moving Bed Bioreactor.

B1 runs on a pre-set timer (T1) and is powered by a CFW500 Variable Speed Drive (VSD). T1 and the VSD are inside the Control Panel in the Pump Room. The blower is set to run for 2 hours and rest 30 minutes before starting up again.

A submersible Jayline JDS-05 pump is also installed to function as an A-Recycle Pump (A-R). A-R is controlled by a pre-set timer (T3) and recycles MLSS to the Anoxic Zone. A-R is covered in a HDPE mesh to prevent A-R from pumping biological filter media to the Anoxic Zone. A-R and S-Recycle Pump (S-R) in the Primary Membrane Zone (refer to Section 5.5) use the same discharge line to recycle MLSS to the Anoxic Zone. Each pump is fitted with a non-return valve to ensure one-directional pumping.

A Dissolved Oxygen Sensor (DO3) is mounted to the Aerobic Zone manhole. DO3 can be viewed on the MyCity Logger inside the Pump Room as well as on the MyCity website.

MLSS gravitates from the Aerobic Zone through eight 110 mm diameter overflow holes, each covered with a fine stainless-steel mesh, to the Primary Membrane Zone. The mesh prevents any HDPE biological filter media to pass through to the Primary Membrane Zone.

Table 6. Plant and equipment used in the Aerobic Zone

Equipment Description	Abbreviation	Annexure	Photo
Micro Bubble Diffusers		10.10.4	
Aeration Blower	B1	10.5.3	
HDPE Biological Filter Media		10.10.3	
Variable Speed Drive	VSD	10.5.2	
Timers 1 & 3	T1 T3	10.3.1	

A-Recycle Pump	A-R	10.6.1	
Dissolved Oxygen Sensor 3	DO3	10.4.1	

5.5 Primary Membrane Zone

The Primary Membrane Zone is approximately 3m x 3m x 3m (L x W x H) and holds up to 29 m³ MLSS. It is fitted with two parallel SINAP 80/140 Flat Sheet Membrane Modules. Each module has 140 flat sheets and scouring diffusers at the base of the module.

The scouring diffusers are supplied with air from the CFW 400V Primary Membrane Blower (B2) installed in the Pump Room and runs 24/7. The air supply from B2 is split into two supply pipes to the respective membrane modules. Each supply pipe is fitted with an airflow meter which is pre-marked to indicate the nominal air flow rate with which B2 scours the membranes.

Two self-priming Speck BADU Porpoise 16 Permeate Pumps (PP1 and PP2) are installed in parallel to draw permeate from the membrane modules and pump it to the Pipe Flocculator. PP1 and PP2 alternate through a flip-flop system.

A 3-prong Liquid Level Control (C4) mounted on the wall of the Primary Membrane Zone monitors the water levels in the zone. When the water level in the zone reaches the top prong (700 mm from the roof of the chamber), either PP1 or PP2 will start and draw permeate through the membranes at a flowrate of ±3 m^3/h. When the water level in the zone drops to the middle prong, the pump will switch off. The middle prong is positioned 300 mm above the surface of the membrane modules to ensure that the membranes are always submerged. This prevents drying and damage to the sheets as well as air locks in the rest of the system.

Control Float Switch C3 is tied to C4's housing in the Primary Membrane Zone and will prohibit FP1 and FP2 in the Anoxic Zone from switching on if the level of the MLLS in the Primary Membrane Zone is at the top, in other words, when the Primary Membrane Zone is full (refer to Section 5.3). C3 therefore controls the incoming flow to the Primary Membrane Zone from the Aerobic Zone. The Primary Membrane Zone is therefore the "bottle neck" of the WWTP and determines the incoming flowrate through the plant. There is no emergency overflow in the Primary Membrane Zone, thus it is very important to manage the control between FP1 and FP2 and PP1/PP2. A high-level float switch (HL2) is triggered approximately 400mm from the zone's roof and will warn the operator of a high level in the Primary Membrane Zone. HL2 will automatically switch off when the level in the zone is restored.

A submersible Jayline JDS-05 pump is also installed that functions as a S-Recycle Pump (S-R). S-R is controlled by a pre-set timer (T4) and recycles MLSS to the Anoxic Zone. S-R and A-Recycle Pump (A-R) in the Aerobic Zone (refer to Section 5.4), uses the same discharge line to recycle MLSS to the Anoxic Zone. Each pump is fitted with a non-return valve to ensure one-directional pumping.

A CIP Valve is mounted to the chamber wall for easy access when performing maintenance.

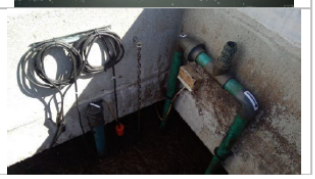
Additional components installed in the Primary Membrane Zone for future repairs and/or upgrades include:

- 1x 1.5mm 3-core SURFIX cable, and
- 1x float switch (rolled up and tied to LLC1 housing).

Table 7. Plant and equipment used in the Primary Membrane Zone

Equipment Description	Abbreviation	Annexure	Photo
Primary Membrane Modules	1° Mbr	10.10.1	

Primary Membrane Blower	B2	10.5.4	
Airflow meters			
Permeate Pumps 1 and 2	PP1 PP2	10.6.2	
S-Recycle Pump	S-R	10.6.1	
CIP Valve			

Timer 4	T4	10.3.1	
High-Level Float Switch 2 Liquid Level Control 1 Control Float Switch 3 Spare SURFIX cable Spare float switch	HL2 LLC1 C3	10.4.7	

5.6 Glass Media Filters

Permeate Pumps 1 and 2 (PP1/PP2) draws permeate from the Primary Membrane and pumps it through the Pipe Flocculator and Glass Media Filters (GF1 and GF2) into the Secondary Membrane Zone.

A Grundfos DDE15-4 Dosing Pump (D2) doses coagulant/flocculant, just after an inline ball valve, into the 50 mm uPVC discharge pipe to the Pipe Flocculator. By closing the valve slightly, rapid mix conditions for effective coagulation, is created. The dosing rate is pre-set as determined by jar tests and the dosing pump switches on with PP1 and PP2.

After dosing point D2 the 50mm uPVC discharge pipe joins the 125 mm uPVC Pipe Flocculator, where the water flow slows down significantly, due to the ±8 min retention time in the flocculator, thereby allowing the destabilized colour (tannin) particles to aggregate into small flocs, called pin-floc. An air-release valve is fitted to the Pipe Flocculator to prevent any airlocks in the convoluting pipes. The air-release valve's waste tube drains into the Pump Room's floor drainage furrow.

After the Pipe Flocculator, the pin-floc containing water is pumped through two parallel Glass Media Filters (GF1 and GF2). The filters contain both course and fine grit glass media to remove the colour-containing pin-floc.

Each 16 x 65 filter vessel is fitted with a RUNXIN F75A1 automatic head, which is pre-set to backwash the filters twice daily; at 04h00 for 5 minutes and 16h00 for 5 minutes. A CRI MHS-8/03M Backwash Pump (BWP) automatically starts when the backwash cycle starts and continues to run until the backwash cycle stops.

Filtrate from GF1 and GF2 is discharged to the Secondary Membrane Zone via a 50mm uPVC pipe which runs through the Ablution Reservoir and enters the Secondary Membrane Zone through the 110 mm emergency overflow opening.

Table 8. Plant and equipment used in the Glass Media Filters

Equipment Description	Abbreviation	Annexure	Photo
Coagulant/Flocculant Dosing Pump 2	D2	10.7.2	
Pipe Flocculator			
Air-release Valve			
Glass Media Filters 1 and 2 (GAC Filter in the background)	GF1 GF2	10.9.2	 
Glass Media		10.9.1	

Backwash Pump	BWP	10.6.3	

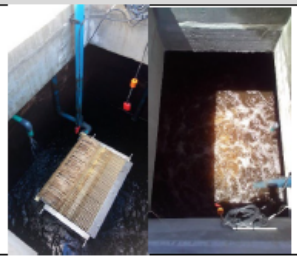
5.7 Secondary Membrane Zone

The Secondary Membrane Zone is approximately 2m x 1.5m x 3m (L x W x H) and holds ±10 m³ water. It is fitted with a Cremona SINAP 80/80 Flat Sheet Membrane Module. The module has 80 flat sheets and scouring diffusers at the base. The scouring diffusers are supplied with air from the CFW ZXB510 Secondary Membrane Blower (B3) installed in the Pump Room and runs 24/7. The air supply pipe from B3 to the Secondary Membrane Module is fitted with an airflow meter which is pre-marked to indicate the nominal air flowrate with which B3 scours the membranes.

A self-priming Speck BADU Porpoise 10 Permeate Pump (PP3) draws permeate from the membrane module and pumps it to the Ablution Reservoir. Control Float Switch 5 (C5) controls PP3. When the water level in the zone reaches ±800 mm from the roof of the chamber, PP3 will start and draw permeate through the membranes at a flowrate of ±3 m³/h. When the water level in the zone drops down to just below the "on" position, PP3 will switch off again. PP3 switches off about 300 mm above the surface of the membrane module to ensure that the membranes are always submerged. This prevents drying and damage to the sheets.

Permeate from PP3 is discharged to the Ablution Reservoir. Sodium hypochlorite (NaOCl) is dosed inline by the SEKO AMS200+ Kompact Disinfection Dosing Pump 3 (D3) before the treated wastewater enters the Ablution Reservoir. D3 is pre-set to dose disinfectant at a minimum rate of 1% and will only dose when PP3 is running. The Secondary Membrane Zone has an emergency gravity overflow (110 mm) to the Ablution Reservoir. A high-level float switch (HL3) is triggered approximately 200 mm below the invert of the overflow, to warn the operator of a high water level in the Secondary Membrane Zone. HL3 will automatically switch off when the wastewater level in the zone is restored.

Table 9: Plant and equipment used in the Secondary Membrane Zone

Equipment Description	Abbreviation	Annexure	Photo
Secondary Membrane Module	2° Mbr	10.10.1	

Sodium Hypochlorite Dosing Pump 3	D3	10.7.3		

5.8 Ablution Reservoir and Supply Tank

The Ablution Reservoir (AR) is approximately 5m x 2m x 3m (L x W x H) and holds ±24 m^3 disinfected treated wastewater.

Electrical Conductivity (EC) and pH probes are mounted to the wall of the manhole and monitor the EC (mS/m) and pH respectively, which can be viewed on the MyCity LCD as well as the MyCity website.

Two submersible alternating Grundfos SEG 40.31.2.50B Ablution Supply Pumps (ASP1 and ASP2) are controlled by a 3-prong Liquid Level Control (C6). ASP1 or ASP2 switches on when the water level reaches the top prong at ±1.5 m from the floor of the chamber. The pump then pumps the disinfected treated wastewater to the Ablution Supply Tank (AST) at the back of the Funicular Kiosk. Flowmeter 2 (FM2) (Sensus Meistream Bulk Meter) measures the volume of water pumped to the Ablution Supply Tank.

There is an inline filter in the Ablution Supply Pumps' discharge pipe, as it runs into the AST. This filter must be cleaned from time to time.

The Ablution Supply Tank also has 3 float switches. The 1st float switch (C7) will override C6 when the tank is full by switching ASP1 and ASP 2 off. The 2nd float switch (HL5) gives a high-level alarm when the tank overflows and the 3rd float switch is a spare.

From the AST the treated wastewater gravitates to the Parking Bay Ablutions, which has a separate area at the back that houses the cisterns and pipes. A Treated Wastewater Valve (TWV) must be opened to allow the treated wastewater to flow through to all the cisterns. Each cistern has its own treated wastewater connection. Each cistern also has a separate connection which is connected to a municipal Drinking Water Valve (DWV) that, when open, allows drinking water to flow to all the cisterns. During normal operating conditions DWV must be closed so that treated wastewater can be reused for flushing of the toilets and urinals, however, when the treated wastewater is not aesthetically acceptable, TWV must be closed and DWV opened to allow flushing of the toilets and urinals with municipal water. The level in the cisterns are regulated with a typical toilet float valve system, so it is not possible for reused wastewater to enter the drinking water system.

Table 10: Plant and equipment used in the Ablution Reservoir

Equipment Description	Abbreviation	Annexure	Photo
Ablution Supply Pumps 1 and 2 High Level Float Switch	ASP1 ASP2 HL4	10.6.4 10.4.7	
Inside Ablution Reservoir (Left to Right): • Reverse Osmosis Feed Pump (ROFP) Suction • Backwash Pump (BWP) Suction • Permeate Pump 3 (PP3) Discharge • Glass Media Filters Discharge to the Secondary Membrane Zone via the 110mm Emergency Overflow			
Inside Pump Room (Left to Right): • Glass Media Filters discharge to Secondary Membrane Zone • Permeate Pump 3 (PP3) discharge to Ablution Reservoir • Backwash Pump (BWP) Suction from Ablution Reservoir • Reverse Osmosis Feed Pump (ROFP) Suction from Ablution Reservoir Inside Pump Room (Below Left): • Ablution Reservoir Emergency Overflow			

pH probe	pH Probe	10.4.2	
EC probe	EC Probe	10.4.3	
Flow Meter 2 (Ablution Reuse Treated Wastewater)	FM2	10.4.6	
Ablution Supply Tank with incoming pipes and inline filter	AST		  

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Secondary Membrane Blower	B3	10.5.4	
Air flowmeter			
Permeate Pump 3	PP1	10.6.2	
Control and High-Level Float Switch	C5 HL3	10.4.7	

Table 11: Plant and equipment used in the Granular Activated Carbon Filter

Equipment Description	Abbreviation	Annexure	Photo
Reverse Osmosis Feed Pump	ROFP	10.6.3	
Reverse Osmosis Unit	RO	10.10.2	

Granular Activated Carbon Filter vessel	GACF	10.9.2	
Granular Activated Carbon Media	Carbon Media	10.9.3	
3-Way Automatic Actuator Valve	3-Way AAV		
Backwash Pump	BWP	10.6.3	
Borehole Flowmeter	FM 3	10.4.6	

5.10 FILTER BACKWASH

5.11 Reverse Osmosis Unit

The Reverse Osmosis Unit (RO) is a premanufactured unit and comes complete with:

- Big Blue Micro-Filter
- RO High Pressure Pump (ROP)
- Four RO Membranes
- Pressure gauges
- Flow meters
- Electrical Conductivity (EC) Probe and Meter
- Electrical Control Panel with LED screen

The RO equipment is mounted to a 500 mm x 1000 mm stainless steel skid for a reduced footprint.

Treated wastewater from the Ablution Reservoir is pumped by the RO Feed Pump (ROFP) via the GACF to the Big-Blue Micro-Filter. Any residual suspended solids are removed prior to the ROP, which pumps the chlorine-free treated wastewater through the RO Membranes to Boreholes 1 and 2 at a nominal flowrate of 1 m^3/h at a minimum pressure of 10 bar.

The first two RO Membranes are connected in parallel and followed by a second and third RO Membrane in series. The brine stream generated by the RO is discharged into the combined filter backwash waste line.

Table 12: Plant and equipment used in the Reverse Osmosis Unit

Equipment Description	Abbreviation	Annexure	Photo
Reverse Osmosis Unit	RO	10.10.2	

Table 13: Plant and equipment used to Discharge Clean Water to the Boreholes

Equipment/Regulation Description	Abbreviation	Annexure	Photo
Borehole Solenoid Valves 1 and 2	BH Solenoid Valves	10.8.3	
Orbit Computer	Orbit	10.3.2	
Borehole Flow Meter	FM 3	10.4.6	

5.13 Electrical Supply and Control Panels

The electrical supply for the WWTP Control Panel in the pump room comes from the Main Distribution Box (Main DB) located in the pump station area at the back of the ablutions, underneath the parking area.

The Original Certificate of Compliance for the Control Panel is in User Manual 1 and a copy is also on site in the Control Panel.

Due to limited availability of electrical supply at Cape Point the electrical supply is configured that in the event that the fire pump starts, the trip switch on the Main DB will trip out and cut off the power supply to the WWTP. This trip switch must be reset manually once the fire pump has switched off to restore the power supply to the WWTP Control Panel.

The plant is also equipped with a 30 kVA Volvo backup generator which is designed to automatically switch on in the event of an interruption of the power supply to the WWTP Control Panel. The operator/s must ensure that there is always at least 40 liters of diesel available in the Generator Room.

The RO Unit has its own Electrical Panel that controls the RO functioning.

Table 14: Plant and equipment used to Power and Control Cape Point WWTP

Equipment Description	Abbreviation	Annexure	Photos
Main Distribution Box	Main DB	10.2.1	
WWTP Control Panel	Control Panel	10.2.2	
Backup Generator	Generator	10.10.5	

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RO Unit Control Panel	RO Control Panel	10.10.2