



SOUTH AFRICAN NATIONAL PARKS

SHANGONI ROAD PHASE 1

CONTRACT NO: KNP-015-24

TENDER DOCUMENT

DATE: MARCH 2025

ISSUED BY: FHATUWANI MATSHILI
SUPPLY CHAIN MANAGEMENT
KRUGER NATIONAL PARK
SOUTH AFRICAN NATIONAL PARKS
PRIVATE BAG X402
SKUKUZA
1350

NAME OF TENDERER:

CONTENTS

Number	Heading	Colour
	INSTRUCTION TO TENDER	
	The Tender	
	<i>Part T1: Tendering procedure</i>	
T1.1	Tender Notice and Invitation to Tender	White
T1.2	Tender Data	White
	<i>Part T2: Returnable documents</i>	
T2.1	List of Returnable Documents	White
T2.2	Returnable Schedules	White
Annexure 1	BEE Rating Certificate	
Annexure 2	Certificate of Tax Compliance	
Annexure 3	CSD Registration	
Annexure 4	Letter of Good Standing – Compensation Commissioner	
Annexure 5	Certified Copy of Company Registration	
Annexure 6	CIDB Registration-CRS Number	
Annexure 7	Curriculum Vitae (CV) of Personnel	
Annexure 8	Proof of Ownership of Plant and Equipment	
Annexure 9	Appointment Letters, Completion Certificates and Referee Report Sheets	
Annexure 10	Letter Of Intent to Provide a Guarantee	
	The Contract	
	<i>Part C1: Agreement and contract data</i>	
C1.1	Form of Offer and Acceptance	White
C1.2	Contract Data	White
C1.3	Construction Guarantee	White
C1.4	Adjudicator's Contract	White
	<i>Part C2: Pricing data</i>	
C2.1	Pricing Instructions	White
C2.2	Bill of Quantities	White
	<i>Part C3: Scope of work</i>	
C3	Scope of Work	White
	<i>Part C4: Site information</i>	
C4	Site Information	White
	<i>Part C5: Schedule of subcontractors</i>	
C5	Schedule of subcontractors	White

The Tenderer is required to check for any doubt or obscurity as to the meaning of any description or particular of any item, or if the Tender Document contains any obvious errors, then the Tenderer must immediately inform the Supply Chain Management and have them rectified or explained in writing as the case may be. No liability whatsoever will be admitted by reason of the Tenderer having failure to comply with the foregoing instructions.

Contractor

Witness for Contractor

Employer

Witness for Employer

INSTRUCTION TO TENDERER

PLEASE READ CAREFULLY BEFORE COMPLETING DOCUMENT.

Notice to all tenderers.

Employers Objective:

It is the Employer's intention with this tender to appoint a competent Contractor to construct 36km of gravel road along with one major bridge and several culvert structures along the Shingwedzi river while allowing for mandatory community participation goals.

This is an original document and care must be taken by the tenderer in the following regard:

- 1) It may be printed on white paper only.
- 2) Document must be bound and sealed in a single envelop once completed and returned as per the instruction in the Tender Data.
- 3) It may not be re-typed or altered in any way.
- 4) It must be completed in black ink – in legible handwriting.
- 5) It will only be available in pdf format at the websites as stated in the Tender Invitation and Tender Data.
- 6) It is required to attach required documents to the relative page (where requested). Any other form of presentation (**loose pages or separate documents**) will not be accepted.
- 7) There will be a **compulsory onsite meeting**. Tenderers to complete and email Form A1.1 no later than the date indicated on the form to the contact person as indicated in T1.1 Tender Notice.
- 8) The Offer and Acceptance form must be completed in black ink and duly signed by the authorized signatory.
- 9) All returnable documents contained in **Part T2** must be completed in black ink together with proof where required.
- 10) Valid original SARS Certificate of Tax Compliance must be submitted.
- 11) Valid Construction Industry Development Board (CIDB) registration certificate for a grading of minimum **8CE** or higher must be submitted, no tenders with a CIDB grading lower than **8CE** will be evaluated, Joint Ventures must comply as well.
- 12) This document contains blank annexures viz:
 - Annexure 1: BEE Rating Certificate
 - Annexure 2: Certificate of Tax Compliance
 - Annexure 3: Valid CSD Registration
 - Annexure 4: Letter of Good Standing Compensation Commissioner
 - Annexure 5: Certified Copy of Company Registration
 - Annexure 6: CIDB Registration
 - Annexure 7: Curriculum Vitae (CV) of Personnel
 - Annexure 8: Proof of Ownership of Plant and Equipment
 - Annexure 9: Completion Certificates and Reference Enquiry Sheets.
 - Annexure 10: Letter of intent to provide Guarantee.
 - Annexure 11: Schedule of subcontractors.
 These annexures are to be populated/provided/submitted by the bidders.
- 13) Bidders must take cognizance of the criteria detailed in the functionality section and comply in detail with the criteria.
- 14) Bidders must provide contactable references for all projects and references provided, should these not be provided SANParks will not be able to verify references and bidders will not score points for the applicable references.
- 15) The tender documents must be submitted as a whole and no parts may be omitted.
- 16) Tenderers must allow for entrance permits for their staff, suppliers and sub-contractors in the preliminary and general items.
- 17) All non-biodegradable material to be removed to approved dumping sites outside of the Kruger National Park this includes any metal, plastic, paint tins etc.
- 18) EMPr issued as part of the documents to be adhered to, fines in accordance with the Protected Areas Act will be applied.
- 19) SANPARKS code of conduct will be enforced in its entirety, contractors to note that the maximum speed limit within the boundaries of the park is 50km/hr.
- 20) CV's of competent proposed site representatives must be submitted with the documents.

Contractor

Witness for Contractor

Employer

Witness for Employer

- 21) All materials to comply with the applicable SANS specification, no substandard material and workmanship will be accepted.
- 22) Contractors to note that payments will be made electronically within 30 days of certificates being agreed and issued in terms of the GCC.
- 23) Monthly labour returns of staff employed will be required, failing which no payments will be made.
- 24) The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Factor.
- 25) Tenderers are advised to acquaint themselves fully with the tender documentation and schedules.
- 26) The tenders will be evaluated on functionality. The functionality criteria are:
 - a) Road construction related works contracts (maximum 25 points) (N_{Fu1})
 - b) Plant and equipment for use on road construction works (maximum 10 points) (N_{Fu2})
 - c) Technical Expertise and Competency (maximum 15 points) (N_{Fu3})
- 27) Only those tenderers who satisfy all eligibility criteria as stated in Tender Data and who provide the required evidence in their tender submissions are eligible to submit tenders and have their tenders evaluated.
- 28) SPECIFICATIONS/TERMS OF REFERENCE
 - a) COTO Standard Specification for Road and Bridge Works for South African Road Authorities.
- 29) CONDITIONS
 - a) The General Conditions of Contract 2015 is applicable in this contract.
 - b) The contract price will be adjusted by way of the Contract Price Adjustment Formula as provided for in the contract documents.
 - c) Penalty Clause: Penalties are R10 000.00 per calendar day for practical completion.
 - d) All staff will be subject to integrity testing as and when required.
 - e) **Local beneficiation (Thulamela Municipality, Collins Shabane Municipality and Greater Giyani Municipality) is built into the Contract as follows:**
 - i) 30% of all building and construction materials to be sourced from suppliers within a 150km radius of the nearest entrance gate who have a BBBEE rating of 3 or higher.
 - ii) 100% of general and semi-skilled employees to be employed for local communities within a 150 km radius from the nearest entrance gate.
 - iii) 50% of skilled and supervisory employees to be employed for local communities within a 150 km radius from the nearest entrance gate.
 - iv) 30% of all specialist sub-contractors to be sourced from firms within a 150km radius of the nearest entrance gate who have a BBBEE rating of 3 or higher.
 - v) Should the Contractor fail to achieve the Community Participation Goals (CPG), the following penalties shall be applied:
(CPG (required) - CPG (achieved))/CPG (required) x 2.5% of Tender Value
 - vi) In the event that the Contractor can motivate that the above-noted CPG's are not achievable or are detrimental to the Construction Programme, it shall be communicated to the Client, who retains the discretion to alter the CPG.
 - vii) Local Content Declaration forms need to be completed and submitted.
- 30) The Instruction to Tenderers constitutes an integral part of the tender documents and must be signed by the bidder. It is accordingly bound into the tender document.
- 31) **HEALTH AND SAFETY**

All work is to be carried out in accordance with the Occupational Health and Safety Act and Regulations (Act 85 of 1993) (a copy of which must be kept on site), the Explosive Material Act of (Act 26 of 1956), the Minerals Act of 1991, and the Factories Machinery and Building Work Act (No 22 of 1941).

The Contractor's notice is drawn to the stipulations of the Construction Regulations 2003, a regulation of the Health and Safety Act 1993 (Gov Notice No R1010 of 18 July 2003). The construction regulation will be applied vigorously on the project.

The Contractor to be appointed must have made provision for the cost of health and safety measures during the construction process. The contractor must have the necessary skills, competencies and resources to carry out the work safely. A proper Safety file is to be submitted by the Contractor and a (sub-contractor as an when required) and a copy thereof is to be made available to all applicable appointed labourers and permanent workers on this project.

The Contractor is to ensure that the legal compliance for the Health and Safety issues are in place. Audits and inspections will be carried out to ensure that the Contractor is registered and in good standing with the Workmen's Compensation fund and SANParks that the Contractor has affected insurance indemnifying the Employer against penalties levied upon the Employer due to the acts of omissions of the Contractor in failing to comply with the provisions of the OHS regulations 2003.

Contractor

Witness for Contractor

Employer

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A compliance audit will also be carried out to ensure that the Contractor has appointed a full-time competent person in writing in accordance with Occupational Health and Safety Act 85 to deal with the issues of the OHS and that a risk assessment has been conducted and a copy of the Safety plan is on site before any work commences.

- Operational audits will be carried out on the following important issues:
- That the Safety Officer is on site at most times
- That Safety meetings/safety talks are conducted as per the Safety Plan
- That SHE reps, incident investigation and First Aid training are conducted as per the Occupational Health and Safety Act 85 and on site at all times.
- That employees are working under safe conditions.
- That the employees, community, and guests are not placed in danger.
- That there is no harm to the environment
- That the Contractor's Safety file is always on site

SIGNATURE:

DATE:

(of person authorised to sign on behalf of the Tenderer)

Contractor

Witness for Contractor

Employer

Witness for Employer



The Tender

Contractor

Witness for Contractor

Employer

Witness for Employer

Part T1: Tendering procedures

Contractor

Witness for Contractor

Employer

Witness for Employer

T1.1: TENDER NOTICE AND INVITATION TO TENDER

The South African National Parks invites tenders for Shangoni Road Phase 1.

Employers Objective:

It is the Employer's intention with this tender to appoint a competent Contractor to construct 36km of gravel road along with one major bridge and several culvert structures along the Shingwedzi river while allowing for mandatory community participation goals.

Preferences are offered to tenderers for Broad-Black Based Empowerment (B-BBEE) Status Level of Contribution in terms of the Preferential Procurement Regulations, 2022 and localised contractors. It is a contractual condition of this tender that 20% of the work must be subject to community participation goals (CPG) and local based tenderers (locality).

The qualification criteria for preferential procurement, Preferential Procurement Regulations, 2022 apply to this tender.

Tender documents will be available electronically on the SANParks website

<https://www.sanparks.org/groups/tenders/>

Queries relating to the issue of these documents may be addressed to:

All Queries

Supply Chain Manager

Tel No: 013 735 4311

e-mail Fhatuwani.Matshili@sanparks.org

A **three-stage** (3) tender evaluation system procedure shall be applicable.

FIRST EVALUATION CHECK:

1) Eligibility – Mandatory Requirements

Failure to comply with Eligibility/Mandatory requirements will lead to the bidder being disqualified, and not considered for further evaluation on Functional requirements and Price and Specific Goals.

SECOND EVALUATION CHECK:

2) Functionality Evaluations:

Tenderers are required to demonstrate their ability to undertake the work and provide proof of experience in **road construction work projects**. Tenderers are required to score a minimum of **80** points out of a possible **100** points in order to proceed to the next stage.

- a) Road construction related works (**maximum 50 points**)
- b) Plant and equipment (**maximum 20 points**)

Contractor

Witness for Contractor

Employer

Witness for Employer

c) Technical Expertise and Competency (maximum 30 points)

Tenderers who fail to meet the minimum threshold **80 points out of 100 points** will be declared non-responsive and subsequently rejected. The onus rests with the tenderer to supply sufficient information to allow for the proper scoring, evaluation and award of points

THIRD EVALUATION CHECK:**3) Evaluation of Price and Specific Goals**

The procedure for the evaluation of responsive tenders is as follows: **Price and Specific Goals**

The tenders will be evaluated using a two-stage system as per the Preferential Procurement Regulations 2022 pertaining to the Preferential Procurement Policy Framework Act, Act No 5 of 2000 as follows:

1) POINTS AWARDED FOR PRICE (80 or 90 Points)

80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and

90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

Preferences are offered to tenderers for Broad-Black Based Empowerment (B-BBEE) Status Level of Contribution in terms of the Preferential Procurement Regulations, 2022 and localised contractors. **It is a contractual condition of this tender that 20% of the work must be subject to community participation goals (CPG) and local based tenderers (locality).**

A compulsory onsite clarification meeting will be held.

Contact Person: Fhatuwani Matshili

Tell: 013 735 4311

Address/Venue: Shangoni Reception

Date: 26 March 2025

Time: 11h00

The compulsory clarification meeting will be held at the Shangoni Reception, directions as per the locality map below. From the main Giyani Altein Road turn into **Altein (23° 8'1.46"S 30°54'21.39"E)**, proceed through the village to the **Management Gate (23° 8'14.98"S 30°55'43.73"E)**. The gate will be opened at **10h00** and tenderers will be asked to sign in. At 11h00 the gates will be closed, and all the tenderers will proceed to the Shangoni Reception (**23° 8'35.14"S 30°56'12.96"E**).

NOTE: No late arrivals at the GATE will be permitted to enter SANParks KNP and thusly the opportunity to tender will be forfeited.

Contractor

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Employer

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The closing time for submission of tenders is 11 April 2025 @ 11am (CAT)

Tenders may only be submitted on the tender documentation that is issued.

Telegraphic, telephonic, facsimile, electronic and late tenders will not be accepted.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

Contractor

Witness for Contractor

Employer

Witness for Employer

INVITATION TO BID (SBD 1 Part A)

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE SANParks					
BID NUMBER:	KNP-015-24	CLOSING DATE:	11 April 2025	CLOSING TIME:	11am (CAT)
DESCRIPTION	CONSTRUCTION OF 36KM OF GRAVEL ROAD ALONG WITH ONE MAJOR BRIDGE AND SEVERAL CULVERT STRUCTURES ALONG THE SHINGWEDZI RIVER AT KRUGER NATIONAL PARK.				
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT					
Procurement office, Supply Chain Management Department, Skukuza Administration Block Kruger National Park					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:		
CONTACT PERSON	Fhatuwani Matshili		CONTACT PERSON	Bharat Gulab	
TELEPHONE NUMBER	013 735 4311		TELEPHONE NUMBER	013 735 4278	
FACSIMILE NUMBER	N/A		FACSIMILE NUMBER	N/A	
E-MAIL ADDRESS	Fhatuwani.Matshili@sanparks.org		E-MAIL ADDRESS	Bharat.Gulab@sanparks.org	
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		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 2.3 BELOW.					

Contractor

Witness for Contractor

Employer

Witness for Employer

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 PREFERENTIAL PROCUREMENT REGULATIONS, 2022, 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:

Contractor

Witness for Contractor

Employer

Witness for Employer

T1.2: TENDER DATA

Clause number	The conditions of tender are the Standard Conditions of Tender as contained in CIDB Standard for Uniformity in Engineering and Construction Works Contracts August 2019 which are reproduced without amendment or alteration for the convenience of tenderers as an Annex to the Tender Data.) The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender. Each item of the Tender Data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.
C.1.1	The employer is the South African National Parks.
C.1.2	The following documents form part of this tender: The General Conditions of Contract for Construction Works, Third Edition, 2015, prepared by the South African Institution of Civil Engineering (SAICE). This publication is available and tenderers must obtain copies at their own cost from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House 1685, Tel: (011) 805 5947, Fax: (011) 805 5971, e-mail: civilinfo@saice.org.za. The COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition), issued by the Committee of Transport Officials. This publication is available, and tenderers must obtain copies at their own cost. The tender documents issued by the Employer comprise: THE TENDER Part T1: Tendering procedures T1.1 - Tender notice and invitation to tender T1.2 - Tender data Part T2: Returnable documents T2.1 - List of returnable documents T2.2 - Returnable schedules THE CONTRACT Part C1: Agreements and Contract data C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Performance Bond Part C2: Pricing data C2.1 - Pricing assumptions C2.2 - Schedule or Rates Part C3: Scope of work C3 - Scope of work and Drawings Part C4: Site information C4 - Site information Part D5: Schedule of subcontractors D5 - Schedule of subcontractors.
C.1.4	The employer's agent is Name: Programme Manager Technical Services Address: Private bag X403, Skukuza 1350; (Technical Services) Tel: 013 735 4278 Fax: 013 735 4044
C.1.6.2	Competitive negotiation procedure may be conducted.
C.1.6.3	Proposal procedure using the two stage-system: C.1.6.3.1 Option 1 is applicable

Contractor

Witness for Contractor

Employer

Witness for Employer

C.2.1	<u>ELIGIBILITY - MANDATORY</u> Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders: 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 contractor 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 8CE or Higher class of construction work, are eligible to have their tenders evaluated. Joint ventures are eligible to submit tenders provided that: 1) every member of the joint venture is registered with the CIDB; 2) the lead partner has a contractor grading designation in the 8CE or Higher class of construction work; or not lower than one level below the required grading designation in the class of works construction works under considerations and possess the required recognition status. 3) the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to a contractor grading designation determined in accordance with the sum tendered for a 8CE or Higher class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations. Tender offers will only be accepted if: 1) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation. 2) the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector. 3) the tenderer has not: a) abused the employer's supply chain management system, or. b) failed to perform on any previous contract and has been given a written notice to this effect. 4) Has submitted the documentation listed in C2.23; 5) has completed the Compulsory Enterprise Questionnaire, SBD1, SBD4, and SBD6.1 and that there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process. 6) is registered on CSD. 7) is registered in terms of the Companies Act, 2008 (Act 71 of 2008) or Close Corporation Act, 1984, (Act No. 69 of 1984) or, if a partnership, has in place a partnership agreement that enables the partnership to continue to function in the event of a death or withdrawal of one of the partners. 8) is registered and in good standing with the Compensation Fund or with a licensed compensation insurer. During further evaluation the Employer shall evaluate the remaining responsive tenders using the tender evaluation method and associated evaluation criteria and weightings that are specified in the tender data
C.2.2	Cost of tendering Tender documents are available from SANParks website at no cost.
C.2.7	The compulsory clarification meeting will be held on 26 March 2025 at 11h00 at the Shangoni Reception. Direction from the main Giyani Altein Road turn into Altein (23° 8'1.46"S 30°54'21.39"E), proceed through the village to the Management Gate (23° 8'14.98"S 30°55'43.73"E). The gate will be opened at 10h00 and tenderers will be asked to sign in. At 11h00 the gates will be closed, and all the tenderers will proceed to the Shangoni Reception (23° 8'35.14"S 30°56'12.96"E). Tenderers must duly complete Form A1.1 and submit it to the contact person and email address as indicated in T1.1 Tender Notice by no later than the date indicated on the form. A tenderer's representative cannot represent more than one tenderer at the tender clarification briefing meeting. The onus rests with the tenderer to ensure that the representative attending the briefing session is appropriately qualified to understand all directives and clarifications given in the briefing session. The signature on the duly completed and signed Form A1.2 shall be considered proof that the tenderer attended the whole clarification briefing session and clearly understood all directives and clarifications given in the session.
C2.8	Should it be necessary for a bidder to obtain clarity on any matter arising from or referred to in this tender

Contractor

Witness for Contractor

Employer

Witness for Employer

	document, please refer queries, in writing, to the contact person listed below. Under no circumstances may any other employee within the SANParks be approached for any information. Any such action may result to disqualification of a response submitted in competition to the tender process. Enquiries should reference specific page and or paragraph numbers, where appropriate. All questions/enquiries must be forwarded in writing not later than 4 April 2025. Questions/enquiries received after 14:00 on 4 April 2025 will not be considered. Name: Fhatuwani Matshili Capacity: Manager SCM: Tenders. Tel: 013 735 4311 E-mail: Fhatuwani.Matshili@sanparks.org						
C.2.9	No insurance is provided by the Employer.						
C.2.12	No alternative tenders will be accepted.						
C.2.13.2	The tenderer is required to the completed tender printed and bound as hard copy and as scanned copies, in .pdf format (saved on a flash drive).						
C.2.13.3	Tenderer to submit one printed complete original tender offer plus a PDF electronic scanned copy on a USB Flash Drive. The memory stick (USB) must have a key tag  clearly marked with the Tender Reference Number KNP-015-24, as well as the Company Registered Name. The tenderer must ensure that the following documents are included in the submission: - Form of Offer (signed and scanned as .pdf and hard copy) - All returnable schedules and attachments and certificates (signed and scanned as .pdf and hard copy) - Completed Bill of Quantities (scanned copy in .pdf and hard copy) Submit the bound hard copy and flash drive in a sealed envelope marked with the tenderer's company name, the contract number and description.						
C.2.13.7	The employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: <table border="1"> <tr> <td>Location of tender box:</td><td>Procurement office, Supply Chain Management Department, Skukuza administration block, Kruger National Park, 1350</td></tr> <tr> <td>Physical address:</td><td>Procurement office, Supply Chain Management Department, Skukuza administration block Kruger National Park, 1350</td></tr> <tr> <td>Identification details:</td><td>Tender for Contract Number : KNP-015-24: CONSTRUCTION OF 36KM OF GRAVEL ROAD ALONG WITH ONE MAJOR BRIDGE AND SEVERAL CULVERT STRUCTURES ALONG THE SHINGWEDZI RIVER AT KRUGER NATIONAL PARK</td></tr> </table>	Location of tender box:	Procurement office, Supply Chain Management Department, Skukuza administration block, Kruger National Park, 1350	Physical address:	Procurement office, Supply Chain Management Department, Skukuza administration block Kruger National Park, 1350	Identification details:	Tender for Contract Number : KNP-015-24: CONSTRUCTION OF 36KM OF GRAVEL ROAD ALONG WITH ONE MAJOR BRIDGE AND SEVERAL CULVERT STRUCTURES ALONG THE SHINGWEDZI RIVER AT KRUGER NATIONAL PARK
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C.2.14	Information and data to be completed in all respects. Provided that the omission is not a material omission, the Employer reserves the right to condone the omission and may waive any nonconformities in the tender. Provided that the omission is not a material omission, the Employer reserves the right to condone the omission and may request the tenderer to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the tender related to documentation requirements.						
C.2.15.1	The closing time for submission of tender offers is as per Notice and Invitation to Tender T1.1.						
C.2.15.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.						
C.2.16	The tender offer validity period is 120 days .						
C.2.19	Access shall be provided for inspections, tests and analysis as may be required by the employer.						

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Witness for Employer

C.2.23	The tenderer is required to submit with his tender: 1) A valid Tax Clearance Certificate issued by the South African Revenue Services or PIN to obtain this information; 2) Proof of Contractor Registration issued by the Construction Industry Development Board. 3) An original and valid B-BBEE Status Level verification Certificate or certified copy thereof 4) Proof of registration of Closed Corporation or Company or other legal entities applicable to tender - Certified copy 5) Letter of good standing from the Compensation Commissioner 6) National Treasury Central Supplier Database (CSD) Registration Report 7) All other certificates as listed in the List of Returnable Documents. 8) Letter of Good Standing from Compensation Commissioner. 9) A copy of Joint Venture Agreement if applicable. 10) Form C1.1 – Form of Offer and Acceptance 11) Form T2.1 – Certificate of Authority for Signature. For JV's a JV Agreement shall be provided (if applicable) 12) Eligibility/Mandatory Requirements. 13) Functionality requirements.
C.3.4.1	Tenders will not be opened in public.
C.3.5	Two-envelope system is not applicable.
C.3.7	Grounds for rejection and disqualification Prior to disqualification, the Employer shall inform the tenderer and give the tenderer an opportunity to make representations within 14 days as to why the tender submitted should not be disqualified and as to why the tenderer should not be restricted by the National Treasury from conducting any business with any organ of state for a period not exceeding 10 years. In the event of disqualification, the Employer may, at its sole discretion, claim damages from the tenderer and impose a specified period during which tender offers will not be accepted from the offending tenderer and, the Employer shall inform the National Treasury and the CIDB in writing.
C.3.8	Test for responsiveness.
C.3.8.2	A Substantially responsive tender is a tender in which all of the material information and documentation submitted at close of tender contains non-material and non-conformities to the bid specifications but are not related to price. The correction of any such documentation or information, or the condonement for the non-inclusion of any such document or information may not be prejudicial towards the offer and claimed preference of any responsive tender or be construed to be giving an unfair advantage to any tender. A responsive tender is also one that conforms to all the terms, conditions, and scope of work of the tender documents, without material omissions. The test for a material omission is the same as the test for a material deviation or qualification.
C.3.9	Arithmetical errors, omissions, discrepancies and imbalanced unit rates
C.3.9.1	Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount appearing in the summary to the Bill of Quantities shall govern. Check responsive tender offers for: a) the gross misplacement of the decimal point in any unit rate; b) omissions made in completing the pricing schedule or bills of quantities; or c) arithmetic errors in: i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or ii) the summation of the prices. d) imbalanced unit rates.
C.3.9.3	Notify shortlisted tenderers of all errors, omissions or imbalanced rates that are identified in their tender offers

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Employer

Witness for Employer

C.3.9.4	and either confirm the tender offers as tendered or accept the corrected total prices. Where the tenderer elects to confirm the correction of the errors, omissions or imbalanced rates, the tender offer shall be corrected as follows: - If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the unit rate shall govern, and the line item total shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted and the unit rate shall be corrected. - Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall be corrected. - Where the unit rates are imbalanced the tenderer shall adjust such rates by increasing or decreasing them and selected others while retaining the total of the prices derived after any other corrections made under (a) and (b) above. Where there is an omission of a line item, no correction is possible, and the offer may be declared non-responsive. Declare as non-responsive and reject any offer from a tenderer who elects not to accept the proposed correction of the; errors, omissions or imbalanced rates, and subject the tenderer to the sanction under C.3.8. The tenderer is required to submit balanced unit rates for rate only items in the Bill of Quantities. The rates submitted for these items will be taken into account in the evaluation of tenders. If the Form of Offer is submitted but the Bill of Quantities is omitted, where rate only items are applicable ; or If a signed Form of Offer is submitted with an incomplete Bill of Quantities (no summary to tender) that does not balance back to the Form of Offer and the Bill of Quantities is incomplete; or If a signed Form of Offer is submitted with an incomplete Bill of Quantities that does not balance back to the Form of Offer and only summary of Bill of Quantities submitted; then the rates cannot be evaluated and the tender shall be declared non-responsive
C.3.11	The tenders will be evaluated using a three-stage system as per the Preferential Procurement Regulations 2022 pertaining to the Preferential Procurement Policy Framework Act, Act No 5 of 2000 as follows: Evaluation of tenders offers. The bid shall be evaluated in three (3) stages, the details of the evaluation phases are outlined below: Proposal procedure: Pre-screening The employer shall undertake pre-screening to: - Determine and test each tender offer for responsiveness in accordance with the conditions of tender and tender data. All tenders submitted will first be pre-screened for compliance with the document submission requirements as detailed in Part T2.1 - Check responsive tenders for arithmetical errors, omissions and discrepancies in accordance with the conditions of tender and tender data. - Obtain clarification from a tenderer in accordance with the conditions of tender and tender data. - Evaluate responsive tenders in accordance with the conditions of tender and tender data. Responsive tenders shall be subject to and evaluated in terms of a three-stage system tendering procedure namely: FIRST STAGE – PREQUALIFICATION/ MANDATORY REQUIREMENT Proof of Contractor Registration issued by the Construction Industry Development Board Grade 8CE or Higher. NB: Bidders must Complete Form A4. - Contractor to provide proof of Letter of intent for a 10% Construction or Performance Guarantee obtainable (not insurance cover) from accredited financial institution or accredited sponsor. Proof

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must be signed or stamped by the provider.

- Compensation of Occupational Injuries and Diseases Act, Act No. 130 of 1993 (**COIDA**) **Nature of Business.....Construction related**
 - Valid letter of good standing must be provided for reference purposes as proof of good standing.
 - Sub-Contractors/JV partner must also comply with the above requirements defined in the COIDA. Valid letter of good standing must be provided.

Failure to comply with Eligibility/Mandatory requirements will lead to the bidder being disqualified, and not considered for further evaluation on Functional requirements and Price and Specific Goals.

SECOND STAGE – FUNCTIONALITY (QUALITY):

Tenderers are required to demonstrate their ability to undertake the work and provide proof of experience, personnel, plant and equipment and financial ability to undertake work of this nature. Tenderers will be scored according to the criteria set below and ranked. The Tenderers who achieved the minimum score of **80 points** and above will proceed to the second evaluation check. The onus rests with the tenderer to supply sufficient information to allow for the proper scoring, evaluation and award of points. Functionality points shall be awarded in accordance with the following provisions:

a) Roads related works contracts (maximum 50 points) (N_{FU1})

Points will be awarded for past experience in Roads related work contracts.

Similar or equivalent projects (maximum of 5 projects undertaken in the past 10 years starting from 2014) which are road construction, rehabilitation, or maintenance of surfaced or unsurfaced roads with the installation or repair of stormwater infrastructure and road ancillary works are to be listed.

The tenderer shall indicate and declare their past track record by attaching supporting documents to substantiate his/her experience (**certified copies of an appointment letter, a completion certificate and a stamped referee report per project listed**)

List only completed projects in the past 10 years starting from 2014. Current projects will not be accepted.

A maximum of 10 points will be award per applicable project only if:

- Of value R60 000 000 and above.
- Attached an appointment letter.
- Attached a completion certificate.
- Attached a stamped project referee report.

Tenderer to provide certified copies of:

- **an appointment letter,**
- **a completion certificate and;**
- **a stamped referee report per project listed**

Particulars and details of each project shall be declared and listed in **Schedule A** and **Schedule A1 to A5** of the "Returnable Schedules." The tenderer to ensure the completed stamped referee report are attached. The employer may contact the relevant reference/professional listed for due diligence. Percentage score obtained on the referee report will be applied against the project to score a maximum of 10 points per listed project.

b) Plant and equipment (maximum 20 points) (N_{FU2})

Points will be awarded for **Plant and Equipment owned (100% of points earned)** or **hired (50% of**

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points earned by tenderer within the categories listed below and which must be available for the execution and completion of the work.

Where the tenderer owns:

- Minimum 4 Water Carts (6000 litre or larger) – 2 point. *(2 points if owned or 1 point if hired)*
- Minimum 2 Motor Graders (140 Class or larger) – 4 points. *(4 points if owned or 2 points if hired)*
- Minimum 5 Tipper Trucks (6 m³ truck capacity or larger) – 2 point. *(2 points if owned or 1 point if hired)*
- Minimum 4 Tractors Loader Backhoe (TLB) = 2 point. *(2 points if owned or 1 point if hired)*
- Minimum 3 Excavators 20 ton = 6 points. *(6 points if owned or 3 points if hired)*
- Minimum 2 Vibrator Rollers (7 ton or larger) = 2 point. *(2 points if owned or 1 point if hired)*
- Minimum 4 LDV's – 2 point. *(2 points if owned or 1 point if hired)*

The tenderer must complete **Schedule B** and supply **proof of ownership or an original letter of intent from a reputable plant hire company** committing the availability of the plant and equipment for the duration of the contract.

c) Technical Expertise and Competency (Maximum 30 points) (N_{FU3})

Points will be awarded for technical expertise to the key personnel and individual construction staff members within the categories listed below and who must be available for the execution and completion of the works. All staff noted must have experience in the size of projects. Staff without the required qualification and years of experience will not be awarded points.

Contracts Manager:

- Who has SACPCMP as PrCM or ECSA as PrEng or PrTechEng, PrTechni with a minimum of ten years road construction related work experience - 10 points

Site Agent:

- Who has a National Diploma or higher qualifications in Civil Engineering with a minimum of ten years road construction related work experience – 10 points

Occupational Health and Safety Officer

- Occupational Health and safety officer registered with the SACPCMP with a minimum of 5 years in construction, with a qualification of a National Diploma in Safety Management – 10 points.

Detailed information applicable to each of the key personnel listed above shall be declared and listed in **Schedule C** of the “Returnable Schedules” that will be incorporated into the contract. The various individuals **must be** in the permanent employment of the tenderer to be awarded points. In the event that the individuals are not in its permanent employment, the tenderer shall provide a signed undertaking from an organisation having the required personnel, stating that they will undertake the necessary work on behalf of the tenderer in terms of a sub-consultant agreement. The **curricula vitae and certified copies of qualifications must be attached** to the schedules as described above.

The summation of points awarded for the First Evaluation Check (Functionality) will be as follows:

$$N_{FU} = N_{FU1} + N_{FU2} + N_{FU3}$$

Tenderers obtaining 80 out of 100 maximum points will proceed to the second evaluation check. Points will be rounded off to two decimal points.

THIRD STAGE – FINANCIAL OFFER (PRICE) AND SPECIFIC GOALS:

The procedure for the evaluation of responsive tenders is as follows: Price and Specific Goals

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Witness for Employer

The tenders will be evaluated using a two-stage system as per the Preferential Procurement Regulations 2022 pertaining to the Preferential Procurement Policy Framework Act, Act No 5 of 2000 as follows:

1) POINTS AWARDED FOR PRICE (80 or 90 Points)

80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and

90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

Either the 90/10 or 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received, inclusive of all applicable taxes:

80/20

or

90/10

$$P_s = 80 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right) \quad \text{or} \quad P_s = 90 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$$

Where-

P_s = Points scored for price of tender under consideration.

P_t = Price of tender under consideration; and

P_{min} = Price of lowest acceptable tender.

2) POINTS AWARDED FOR SPECIFIC GOALS (20 or 10 Points)

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

PRICE AND SPECIFIC GOALS		
The price and specific goals allocated points in terms of this tender	Number of points allocated (80/20 system)	Number of points allocated (90/10 system)
Price Points	80	90
Specific Goals	20	10
1. Enterprises with B-BBEE Procurement Recognition	16 Points	8 Points
Promotion of enterprises owned by black people with at least 51% shareholding or more;	10	5
Preference to enterprises owned by Black Women with at least 30% shareholding;	6	3
2. Local suppliers adjacent to Kruger National Park	4 Points	2 Points
Local suppliers within a 150km radius to Kruger National Park Gate;	4	2
Total points	20	10

Note to tenderers:

- 1) The tenderer must indicate how they claim points for each Specific Goal in SBD6.1
- 2) Bidders with B-BBEE **Level 5-9** and who are not EMEs can still tender but will not claim points for specific goals

NB: During the Third Stage the Employer shall evaluate remaining responsive tenders using method 3:

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Employer

Employer

Witness for Employer

Witness for Employer

	Financial offer and preferences. Top ranked tenderer based on the final evaluation scores may be considered for appointment. The Employer may conduct due diligence on the qualifying tenderers to confirm the validity of information submitted.
C.3.13	Tender offers will only be accepted if: a) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation; b) the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; c) the tenderer has not: i) abused the employer's supply chain management system; - or ii) failed to perform on any previous contract and has been given a written notice to this effect; and e) has completed the Compulsory Enterprise Questionnaire, SBD4, SBD6.1, SBD7.2, SBD8, SBD9 and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.
C.3.17	Provide to the successful tenderer one copy of the signed contract document.

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Employer

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STANDARD CONDITIONS OF TENDER

Annex C of the Standard for Uniformity in Engineering and Construction Works Contacts

C.1 General

C.1.1 Actions

C.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

C.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note: 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.

2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

C.1.1.3 The employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

C.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

C.1.3 Interpretation

C.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

C.1.3.2 These conditions of tender, the tender data and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

C.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

a) **conflict of interest** means any situation in which:

- i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
- ii) an individual or tenderer is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
- iii) incompatibility or contradictory interests exist between an employee and the tenderer who employs that employee.

b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;

c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;

d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

C.1.4 Communication and employer's agent

Contractor

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Witness for Employer

Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

C.1.5 Cancellation and Re-Invitation of Tenders

C.1.5.1 An employer may, prior to the award of the tender, cancel a tender if-

- a) due to changed circumstances, there is no longer a need for the engineering and construction works specified in the invitation;
- b) funds are no longer available to cover the total envisaged expenditure; or
- c) no acceptable tenders are received.
- d) there is a material irregularity in the tender process.

C.1.5.2 The decision to cancel a tender invitation must be published in the same manner in which the original tender invitation was advertised

C.1.5.3 An employer may only with the prior approval of the relevant treasury cancel a tender invitation for the second time.

C.1.6 Procurement procedures

C.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

C.1.6.2.2 All responsive tenderers or at least a minimum of not less than three responsive tenderers that are highest ranked in terms of the evaluation criteria stated in the tender data shall be invited to enter into competitive negotiations based on the principle of equal treatment, keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of C.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to revise their tender offer based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

C.1.6.2.4 The contract shall be awarded in accordance with the provisions of C.3.11 and C.3.13 after tenderers have been requested to submit their best and final offer.

C.1.6.3 Proposal procedure using the two stage-system

C.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

C.1.6.3.2 Option 2

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C.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

C.1.6.3.2.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

C.2 Tenderer's obligations

C.2.1 Eligibility

C.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

C.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

C.2.2 Cost of tendering

C.2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

C.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 Check documents

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

C.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

C.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

C.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

C.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

C.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing time stated in the tender data.

C.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

C.2.10 Pricing the tender offer

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C.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable fourteen (14) days before the closing time stated in the tender data.

C.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

C.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.

C.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

C.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

C.2.12 Alternative tender offers

C.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

C.2.12.2 Accept that an alternative tender offer must be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.

C.2.13 Submitting a tender offer

C.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

C.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

C.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.

C.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

C.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

C.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

C.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.

C.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

C.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

Contractor

Witness for Contractor

Employer

Witness for Employer

C.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

C.2.15 Closing time

C.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

C.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

C.2.16 Tender offer validity

C.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

C.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

C.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in C.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).

C.2.16.4 Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

C.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: Sub-clause C.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

C.2.18 Provide other material

C.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

C.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

C.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

C.2.20 Submit securities, bonds and policies

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

C.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

Contractor

Witness for Contractor

Employer

Witness for Employer

C.2.22 Return of other tender documents

If so instructed by the employer, return all retained tender documents within twenty-eight (28) days after the expiry of the validity period stated in the tender data.

C.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

C.3 The employer's undertakings**C.3.1 Respond to requests from the tenderer**

C.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.

C.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
- b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
- c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

C.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three (3) working days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who collected tender documents.

C.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

C.3.4 Opening of tender submissions

C.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.

C.3.4.3 Make available the record outlined in C.3.4.2 to all interested persons upon request.

C.3.5 Two-envelope system

C.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

C.3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

Contractor

Witness for Contractor

Employer

Witness for Employer

C.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

C.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

C.3.8 Test for responsiveness

C.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

C.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

C.3.9 Arithmetical errors, omissions and discrepancies

C.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

C.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for:

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:

- (i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
- (ii) the summation of the prices.

C.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.

C.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows:

- a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

C.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

Contractor

Witness for Contractor

Employer

Witness for Employer

C.3.11 Evaluation of tender offers

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project.

Conditions of tender are by definition the document that establishes a tenderer's obligations in submitting a tender and the employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:	
Requirement	Qualitative interpretation of goal
Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.
Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.
Cost effective	The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.

The activities associated with evaluating tender offers are as follows:

- a) Open and record tender offers received
- b) Determine whether or not tender offers are complete
- c) Determine whether or not tender offers are responsive
- d) Evaluate tender offers
- e) Determine if there are any grounds for disqualification
- f) Determine acceptability of preferred tenderer
- g) Prepare a tender evaluation report
- h) Confirm the recommendation contained in the tender evaluation report

C.3.11.1 General

The employer must appoint an evaluation panel of not less than three persons conversant with the proposed scope of works to evaluate each responsive tender offer using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

C.3.12 Insurance provided by the employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

C.3.13 Acceptance of tender offer

Accept the tender offer; if in the opinion of the employer, it does not present any risk and only if the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the

Contractor

Witness for Contractor

Employer

Witness for Employer

employer's procurement;

- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract;
- c) has the legal capacity to enter into the contract;
- d) is not; insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act No. 2008, bankrupt or being wound up, has his/her affairs administered by a court or a judicial officer, has suspended his/her business activities or is subject to legal proceedings in respect of any of the foregoing;
- e) complies with the legal requirements, if any, stated in the tender data; and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

C.3.14 Prepare contract documents

C.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents and
- c) other revisions agreed between the employer and the successful tenderer

C.3.15 Complete adjudicator's contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

C.3.16 Registration of the award

An employer must, within twenty-one (21) working days from the date on which a contractor's offer to perform a construction works contract is accepted in writing by the employer, register and publish the award on the CIDB Register of Projects.

C.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

C.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers

Contractor

Witness for Contractor

Employer

Witness for Employer



Part T2: Returnable Schedules

Contractor

Witness for Contractor

Employer

Witness for Employer

T2.1: LIST OF RETURNABLE DOCUMENTS

The complete tender document as received from the employer, together with all additional documentation as requested, must be submitted. No documentation must be removed from the tender document.

The tenderer must complete the following returnable documents:

1 Returnable Schedules required only for tender evaluation purposes

Form A1.1 Certificate of Intention to Submit a Tender

Form A1.2: Certificate Confirming that the Tenderer Read the Presentation Briefing

Schedule A Road works contracts (maximum 50 points)

Schedule A1 to Schedule A5 Project Referee Report

Schedule B of Plant and equipment for use on roadwork's (maximum 20 points)

Schedule C Technical Expertise and Competency (maximum 30 points)

Form A1 Resolution of board of directors / members / partners

Form A2 Resolution of Board of Directors / Members / Sole Proprietor/ Partners of Partnership (if applicable)

Form A3 Special Resolution of Joint Venture Partners

Form A4 Compulsory Enterprise Questionnaire

Form A5 Record of Addenda to Tender Documents

Form A6 Proposed Amendments and Qualifications

Instruction to Tenderers duly signed

Form A7 Health and Safety Specifications Acknowledgement

Proof of Contractor Registration issued by the Construction Industry Development Board - Compulsory

A valid Tax compliance status issued by the South African Revenue Services - Compulsory

An original and valid B-BBEE Status Level verification Certificate or certified copy thereof

Proof of registration of Closed Corporation or Company or other legal entities applicable to tender - Certified copy

Letter of good standing– Compulsory

Copy of Central Supplier Database registration (CSD) – Compulsory

Letter of intent for a 10% Construction or Performance Guarantee obtainable from accredited financial institution or accredited sponsor- Compulsory

Form A8 Schedule of Subcontractors

3 Returnable Schedules that will be incorporated into the contract

Form SBD 1: Invitation to Bid

Form SBD 4: Declaration of interest

Form SBD 6.1: Preference points claim form in terms of the Preferential Procurement Regulations 2022.

4 Other documents that will be incorporated into the contract

Annexure A: Health and Safety Specifications for General Construction Activities

Annexure B1: Environmental Management Plan for General Construction Activities

Annexure B2: Environmental Management Programme

Annexure C: Code of conduct for working in a National Parks

Annexure D: Local beneficiation goals

5 C1.1 Offer and Acceptance (the offer portion of C1.1)

6 C1.2 Contract Data

7 C2.2 Bill of Quantities (As per tender document, completed in black ink)

Contractor

Witness for Contractor

Employer

Witness for Employer

PLEASE COMPLETE THE FOLLOWING QUESTIONNAIRE, SCHEDULES AND FORMS AND ALSO PROVIDE SUPPORTING DOCUMENTATION FOR THE QUALITY EVALUATION

Contractor

Witness for Contractor

Employer

Witness for Employer

Form A1.1 Certificate of Intention to Submit a Tender

Notes to Tenderer:

1. The duly completed certificate of intention to submit a tender must be submitted by whoever intends to tender for this particular tender by 19 March 2025 @16:00PM to SCM Manager: Tenders. Email Address: Fhatuwani.Matshili@sanparks.org. Failure to submit the certificate of intention to tender within the required period may render the tenderer non-responsive and SANParks does not accept responsibility for any communication not received by the tenderer timeously.
2. Late notification of intention to tender by a prospective tenderer will not necessarily result in the tender closing date being extended.
3. Should you intend to submit a tender for this particular tender please sign the certificate, scan and email the completed document to the email address indicated in T1.1 of this tender document.
4. The Employer shall send all correspondence, including Addenda, only to the Tenderer's email address as provided herein.

This is to certify that I, ...

.....

.....

representative of (insert name of tenderer)

of (address)

.....

.....

.....

Telephone number

Cell phone number

e-mail:

intends to submit a tender in response to the tender notice and invitation for tender this contract.

TENDERER'S REPRESENTATIVE (Signature):

DATE:

Contractor

Witness for Contractor

Employer

Witness for Employer

Form A1.2 Certificate Confirming that the Tenderer attended compulsory briefing and Read the Presentation Briefing

This is to certify that I, ...

.....

representative of (tenderer)

of (address)

.....

.....

telephone number

e-mail

attended and read the clarification presentation presented by the Employer .

TENDERER'S REPRESENTATIVE (Signature)

Contractor

Witness for Contractor

Employer

Witness for Employer

Schedule A Road related works contracts (maximum 50 points) - List of similar type of projects completed during the past 10 (ten) years.

The tenderer is to provide the following information regarding the five (5) largest relevant projects of similar nature completed by the tenderer during the last ten years starting from 2014, in order of contract price. Only experience by the tendering entity, and not by staff members, shall be taken into account in awarding functionality points.

A maximum of 10 points will be award per applicable project only if:

- Of value R60 000 000 and above.
- Attached an appointment letter.
- Attached a completion certificate.
- Attached a project referee report.

The tenderer to ensure the completed referee report are attached. The employer will contact the relevant reference/professional listed for due diligence. Percentage score obtained on the referee report will be applied against the project to score a maximum of 10 points per listed project below.

Only projects listed in the table below will be considered for acquiring points.

Project No.	Employer:	Principal Agent / Project Manager: Name: Company: Cell: Email:	Nature of Work (Project Name and Description)	Value of Work (inclusive of VAT)	Date Completed
1					
2					
3					
4					
5					

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

Contractor

Witness for Contractor

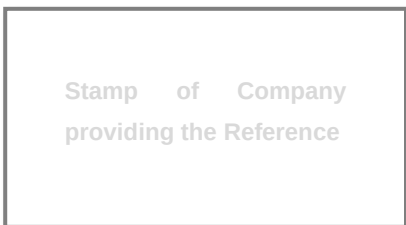
Employer

Witness for Employer

SCHEDULE A1 REFEREE REPORT FOR LISTED PROJECT NO 1Note to the Tenderer:

Tenderer to provide 5x letters of reference for the completed project as listed in **Schedule A**.

Projects as listed in Schedule A shall be referenced on letter of reference, by using this form below or a letter similar to the proforma below. **If the reference/referee is found to be unresponsive or unreachable, zero points will be awarded for the specific project.**

Project number as listed in <u>Schedule A</u>: No 1					
		NAME AND SURNAME OF PERSON PROVIDING THIS REFERENCE: COMPANY: CONTACT NR: EMAIL:			
Contractor:					
Contract Description:					
Contract Value:					
Contract Duration - Start date & end date:					
Key performance areas		Tick ☐ applicable box			
Quality of work		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Ability of key personnel.				
2	Quality of workmanship.				
3	Contractual knowledge (GCC).				
4	Financial competence.				
5	Site administration.				
Time performance of contract		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Practical implementable programme.				
2	Achieving target dates.				
3	Ability to catch up on time lost.				
4	Ability to co-ordinate adequate resources when needed.				
5	Was the project completed successfully				
I (name) state that all the above are correct, and I can be contacted by a representative of SANParks to conduct due diligence duties. Referee Signature: Date:					

Contractor

Witness for Contractor

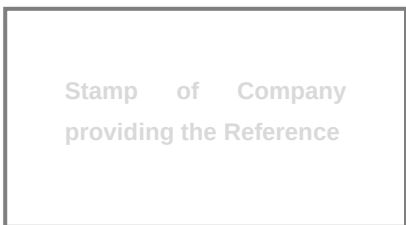
Employer

Witness for Employer

SCHEDULE A2 REFEREE REPORT FOR LISTED PROJECT NO 2Note to the Tenderer:

Tenderer to provide 5x letters of reference for the completed project as listed in **Schedule A**.

Projects as listed in Schedule A shall be referenced on letter of reference, by using this form below or a letter similar to the proforma below. **If the reference/referee is found to be unresponsive or unreachable, zero points will be awarded for the specific project.**

Project number as listed in <u>Schedule A</u>: No 2					
		NAME AND SURNAME OF PERSON PROVIDING THIS REFERENCE: COMPANY: CONTACT NR: EMAIL:			
Contractor:					
Contract Description:					
Contract Value:					
Contract Duration - Start date & end date:					
Key performance areas		Tick ☒ applicable box			
Quality of work		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Ability of key personnel.				
2	Quality of workmanship.				
3	Contractual knowledge (GCC).				
4	Financial competence.				
5	Site administration.				
Time performance of contract		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Practical implementable programme.				
2	Achieving target dates.				
3	Ability to catch up on time lost.				
4	Ability to co-ordinate adequate resources when needed.				
5	Was the project completed successfully				
I (name) state that all the above are correct, and I can be contacted by a representative of SANParks to conduct due diligence duties. Referee Signature: Date:					

Contractor

Witness for Contractor

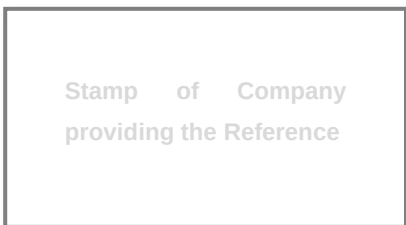
Employer

Witness for Employer

SCHEDULE A3 REFEREE REPORT FOR LISTED PROJECT NO 3Note to the Tenderer:

Tenderer to provide 5x letters of reference for the completed project as listed in **Schedule A**.

Projects as listed in Schedule A shall be referenced on letter of reference, by using this form below or a letter similar to the proforma below. **If the reference/referee is found to be unresponsive or unreachable, zero points will be awarded for the specific project.**

Project number as listed in <u>Schedule A</u>: No 3					
		NAME AND SURNAME OF PERSON PROVIDING THIS REFERENCE: COMPANY: CONTACT NR: EMAIL:			
Contractor:					
Contract Description:					
Contract Value:					
Contract Duration - Start date & end date:					
Key performance areas		Tick ☐ applicable box			
Quality of work		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Ability of key personnel.				
2	Quality of workmanship.				
3	Contractual knowledge (GCC).				
4	Financial competence.				
5	Site administration.				
Time performance of contract		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Practical implementable programme.				
2	Achieving target dates.				
3	Ability to catch up on time lost.				
4	Ability to co-ordinate adequate resources when needed.				
5	Was the project completed successfully				
I (name) state that all the above are correct, and I can be contacted by a representative of SANParks to conduct due diligence duties. Referee Signature: Date:					

Contractor

Witness for Contractor

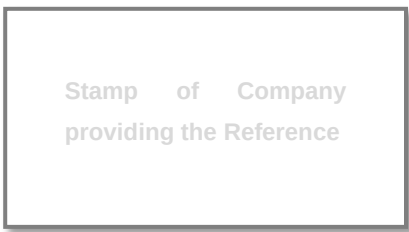
Employer

Witness for Employer

SCHEDULE A4 REFEREE REPORT FOR LISTED PROJECT NO 4Note to the Tenderer:

Tenderer to provide 5x letters of reference for the completed project as listed in **Schedule A**.

Projects as listed in Schedule A shall be referenced on letter of reference, by using this form below or a letter similar to the proforma below. **If the reference/referee is found to be unresponsive or unreachable, zero points will be awarded for the specific project.**

Project number as listed in <u>Schedule A</u>: No 4					
		NAME AND SURNAME OF PERSON PROVIDING THIS REFERENCE: COMPANY: CONTACT NR: EMAIL:			
Contractor:					
Contract Description:					
Contract Value:					
Contract Duration - Start date & end date:					
Key performance areas		Tick ☒ applicable box			
Quality of work		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Ability of key personnel.				
2	Quality of workmanship.				
3	Contractual knowledge (GCC).				
4	Financial competence.				
5	Site administration.				
Time performance of contract		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Practical implementable programme.				
2	Achieving target dates.				
3	Ability to catch up on time lost.				
4	Ability to co-ordinate adequate resources when needed.				
5	Was the project completed successfully				
I (name) state that all the above are correct, and I can be contacted by a representative of SANParks to conduct due diligence duties. Referee Signature: Date:					

Contractor

Witness for Contractor

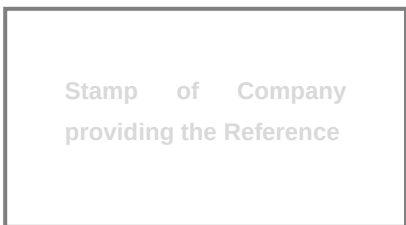
Employer

Witness for Employer

SCHEDULE A5 REFEREE REPORT FOR LISTED PROJECT NO 5Note to the Tenderer:

Tenderer to provide 5x letters of reference for the completed project as listed in **Schedule A**.

Projects as listed in Schedule A shall be referenced on letter of reference, by using this form below or a letter similar to the proforma below. **If the reference/referee is found to be unresponsive or unreachable, zero points will be awarded for the specific project.**

Project number as listed in <u>Schedule A</u>: No 5					
		NAME AND SURNAME OF PERSON PROVIDING THIS REFERENCE: COMPANY: CONTACT NR: EMAIL:			
Contractor:					
Contract Description:					
Contract Value:					
Contract Duration - Start date & end date:					
Key performance areas		Tick ☒ applicable box			
Quality of work		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Ability of key personnel.				
2	Quality of workmanship.				
3	Contractual knowledge (GCC).				
4	Financial competence.				
5	Site administration.				
Time performance of contract		Poor 40 points	Satisfactory 70 points	Good 90 points	Very Good 100 points
1	Practical implementable programme.				
2	Achieving target dates.				
3	Ability to catch up on time lost.				
4	Ability to co-ordinate adequate resources when needed.				
5	Was the project completed successfully				
I (name) state that all the above are correct, and I can be contacted by a representative of SANParks to conduct due diligence duties. Referee Signature: Date:					

Contractor

Witness for Contractor

Employer

Witness for Employer

Schedule B List of Plant and Equipment for use in the works (maximum 10 points)Note to Tenderer:

Points will be awarded for Plant and Equipment owned (100% of points earned) or hired (50% of points earned) by tenderer within the categories listed below and which must be available for the execution and completion of the work.

The following are lists of major items of relevant equipment that I/we presently own or lease and will have available for this contract or will acquire or hire for this contract if my/our tender is accepted.

Quantity	Description, size, capacity, etc.	Tick if owned	Tick if hired
	Water Cart (6000 litre or larger)		
	Motor Grader (140 Class or larger)		
	Tipper Trucks (6 m ³ struck capacity or larger)		
	Tractor Loader Backhoe (TLB)		
	Excavator (20 ton or larger)		
	Vibrator Roller (7 ton or larger)		
	LDV		

Attach additional pages if more space is required.

Signed Date

Name Position

Tenderer

Note: The employer's agent made an assessment of the required plant, against which functionality points will be scored based on the above information supplied. **Only information from the tables above will be considered for points.**

***Proof of ownership of equipment listed in (a) above
and/or***

***Original letter of intent from a reputable plant hire company of equipment listed in (a) above to be
attached to T2.2 Annexure 8.***

Contractor

Witness for Contractor

Employer

Witness for Employer

Schedule C Technical Expertise and Competency (Maximum 15 points)

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally. The various individuals must be in the permanent employment of the tenderer to be awarded points.

Category of Employee	Name of Employee	Permanently employed (tick if applicable)	To be contracted in (tick if applicable)
#Contract Manager			
#Site Agent			
# Occupational Health and Safety officer			
Other:			

Notes. The categories marked are Key Personnel.

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

Contractor

Witness for Contractor

Employer

Witness for Employer

Curriculum Vitae Format of Key Personnel

Note to Tenderer

To be separately completed and attached hereto for at least the following personnel:

1. Contract Manager
2. Site Agent / Project Manager
3. Occupational Health and Safety Officer

[illegible]**Certification:**

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Contractor

Witness for Contractor

Employer

Witness for Employer

Curriculum Vitae Format of Key Personnel

Note to Tenderer

To be separately completed and attached hereto for at least the following personnel:

1. Contract Manager
2. Site Agent / Project Manager
3. Occupational Health and Safety Officer

Name:		Date of birth:
Profession:		Nationality:
Qualifications:		
Professional Registration Number:		
Name of Employer (firm):		
Current position:		Years with firm:
<u>Employment Record:</u>		
<u>Experience Record Pertinent to Required service:</u>		

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Contractor

Witness for Contractor

Employer

Witness for Employer

This returnable schedule needs to be completed if the tenderer is a company or other legal person.

Form A1 Resolution of Board of Directors / Members / Partners

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

(Legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ (place)

On _____ (date)

RESOLVED that:

1. The Enterprise submits a Tender to the South African National Parks in respect of the following project:

(Project description as per Tender Document)

Tender Number: _____ (Tender Number as per Tender Document)

2. *Mr/Mrs/Ms:

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign the Tender, and any and all other documents and/or correspondence in connection with and relating to the Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Tender to the Enterprise mentioned above.

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			

Contractor

Witness for Contractor

Employer

Witness for Employer

Note:

1. * Delete which is not applicable
2. **NB.** This resolution must be signed by all the Directors / Members / Partners of the Tendering Enterprise
3. Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page

ENTERPRISE STAMP

Contractor

Witness for Contractor

Employer

Witness for Employer

This returnable schedule needs to be completed if the tenderer is a joint venture. This form must be completed by each partner of the joint venture. The name of the principal partner must be stated under Point 2.

Form A2 Resolution of Board of Directors / Members / Sole Proprietor/ Partners of Partnership (i.e. of each legal person to comprise the Joint Venture Partnership)

RESOLUTION of a meeting of the Board of *Directors / Members / Sole Proprietor/ Partners of:

(Legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ (place)

On _____ (date)

RESOLVED that:

3. The Enterprise submits a Tender, in Joint Venture with the following Enterprises:

(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the Joint Venture)

to the South African National Parks in respect of the following project:

(Project description as per Tender Document)

Tender Number: _____ (Tender Number as per Tender Document)

4. The Principal Partner of the Joint Venture will be

(Legally correct full name and registration number, if applicable, of the Principal Partner of Joint Venture)

5. *Mr/Mrs/MS:

Contractor

Witness for Contractor

Employer

Witness for Employer

in *his/her Capacity as: _____ (*Position in the Enterprise*)

and who will sign as follows:

be, and is hereby, authorized to sign a joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the joint venture, in respect of the project described under item 1 above.

6. The Enterprise accepts joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the South African National Parks in respect of the project described under item 1 above.
7. The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the South African National Parks in respect of the project under item 1 above:

Physical address: _____

_____ (code)

Postal Address: _____

_____ (code)

Telephone number: _____ (code)

Fax number: _____ (code)

Contractor

Witness for Contractor

Employer

Witness for Employer

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Note:

1. * Delete which is not applicable
2. **NB.** This resolution must be signed by all the Directors / Members / Partners of the Bidding Enterprise
3. Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page

ENTERPRISE STAMP

Contractor

Witness for Contractor

Employer

Witness for Employer

This returnable schedule needs to be completed if the tenderer is a joint venture.

Form A3 Special Resolution of Joint Venture Partners

RESOLUTION of a meeting of the duly authorised representatives of the following legal entities who have entered into a joint venture to jointly tender for the project mentioned below: *(legally correct full names and registration numbers, if applicable, of the Enterprises forming a Joint venture)*

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

Held at _____ (place)

On _____ (date)

RESOLVED that:

Contractor

Witness for Contractor

Employer

Witness for Employer

- A. The above-mentioned Enterprises submit a tender in joint venture partnership to the South African National Parks in respect of the following project:

(Project description as per Tender Document)

Tender Number: _____ (Tender Number as per Tender Document)

- B. Mr/Mrs/Ms:

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows:

be, and is hereby, authorised to sign the Tender, and any and all other documents and/or correspondence in connection with and relating to the Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Tender to the Enterprises in joint venture mentioned above.

- C. The Enterprises constituting the Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of: _____
- D. The Enterprises to the Joint Venture accept joint and several liability for the due fulfilment of the obligations of the Joint Venture deriving from, and in any way connected with, the contract entered into with the South African National Parks in respect of the project described under item A above.
- E. Any of the Enterprises to the Joint Venture intending to terminate the Joint Venture agreement, for whatever reason, shall give the South African National Parks 30 day's written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the South African National Parks for the due fulfilment of the obligations of the Joint Venture as mentioned under item D above.
- F. No Enterprise to the Joint Venture shall, without the prior written consent of the other Enterprises to the Joint Venture and of the South African National Parks, cede any of its rights or assign any of its obligations under the Joint Venture agreement in relation to the contract with the South African National Parks referred to herein.
- G. The Enterprises choose as the *domicilium citandi et executandi* of the Joint Venture for all purposes arising from the Joint Venture agreement and the contract with the South African National Parks in respect of the project under item A above:

Physical address: _____

_____ (code)

Contractor

Witness for Contractor

Employer

Witness for Employer

Postal Address: _____

_____ (code)

Telephone number: _____ (code)

Fax number: _____ (code)

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Contractor

Witness for Contractor

Employer

Witness for Employer

Note:

1. ** Delete which is not applicable*
2. **NB.** *This resolution must be signed by all the Duly Authorised Representatives of the Legal Entities to the Joint Venture submitting this Tender*
3. *Should the number of Duly Authorised Representatives of the Legal Entities joining forces in this Tender exceed the space available above, additional names and signatures must be supplied on a separate page*
4. *Resolutions, duly completed and signed, from the separate Enterprises who participate in this Joint venture must be attached to the Special Resolution*

Contractor

Witness for Contractor

Employer

Witness for Employer

Form A4 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 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: SBD4 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 8: SBD 6 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) Authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are 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.

Signed		Date	
Name		Position	
Enterprise name			

Contractor

Witness for Contractor

Employer

Witness for Employer

Form A5 Record of Addenda to tender documents

I / We confirm that the following communications received from the South African National Parks before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer: *(Attach additional pages if more space is required)*

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

Name	Position	Signed

Name of Tenderer	Date

Contractor

Witness for Contractor

Employer

Witness for Employer

Form A6 Proposed Amendments and Qualifications

Project Title SHANGONI ROAD PHASE 1

Contract No: KNP-015-24

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule.

Page	Clause or item	Proposal

Name	Position	Signed

Name of Tenderer	Date

Contractor

Witness for Contractor

Employer

Witness for Employer

Form A7 Occupational Health and Safety Specification Acknowledgement Receipt

Project Title SHANGONI ROAD PHASE 1

Contract No: KNP-015-24

Contractor's Acknowledgement:

I, _____ representing

_____ (Contractors),

have satisfied myself with the content of this Health and Safety Specification and have made the relevant monetary provision under my Preliminary & General items in the Bill of Quantities 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/or subcontractors on site comply with the requirements of these documents, our safety documentation and health and safety legislation.

Signature of Contractor

Date

Comments:

Contractor

Witness for Contractor

Employer

Witness for Employer

FORM A8: SCHEDULE OF SUBCONTRACTORS

Project Title SHANGONI ROAD PHASE 1

Contract No: KNP-015-24

With regard to sub-clause 4.4 of the GCC2015:

Notes to tenderer:

1. The tenderer shall list below the items of work he intends to subcontract.
2. Acceptance of this tender shall not be construed as approval of all or any of the listed subcontractors. Should any or all of the subcontractors not be approved subsequent to the acceptance of the tender, it shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a subcontractor not listed below being approved by the engineer.
3. Subcontractor Allocation
A minimum of 20% to be subcontracted to an EME or QSE which is at least 51% owned by Black People
4. Subcontractor Allocation Clause
The main bidder is required to clearly specify in their tender submission the portion of the work that will be allocated to a subcontractor, along with the corresponding values for each portion of the work.
This information should be detailed in the tender response, indicating the nature of the subcontracted tasks, the estimated cost allocation, and the subcontractor's role in fulfilling the project requirements. Failure to provide this information may result in disqualification or a reduced evaluation score.
The bidder shall remain fully responsible for the work performed by any subcontractor and shall ensure that the subcontractor meets all applicable requirements and standards outlined in this tender document.
5. Subcontractor List Provision
Kruger National Park reserves the right to provide a list of pre-approved companies that the successful bidder may consider for subcontracting purposes. The main bidder shall be required to engage with these companies as potential subcontractors, in accordance with the project requirements and scope of work. The bidder must confirm in their submission whether they intend to utilize any of the listed companies, and if so, provide details regarding the portion of work and associated values for each subcontractor chosen from the list.

ITEM OF WORK	NAME OF SUBCONTRACTOR (IF KNOWN) AND INDICATE INTENDED SPECIALIST SUBCONTRACTORS WITH "S"	% VALUE OF THE TENDER AMOUNT SUB- CONTRACTED	RAND VALUE OF THE TENDER AMOUNT SUB- CONTRACTED	B-BBEE STATUSLEVEL OF SUB- CONTRACTOR	STATE IF EME

Contractor

Witness for Contractor

Employer

Witness for Employer



Contractor

Witness for Contractor

Employer

Witness for Employer

SBD 4**DECLARATION OF INTEREST**

Any legal person, including persons employed by the state¹, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes an advertised competitive bid, a limited bid, a proposal or written price quotation). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-

the bidder is employed by the state; and/or

the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.

In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

- 2.1 Full Name of bidder or his or her representative:
- 2.2 Identity Number:
- 2.3 Position occupied in the Company (director, trustee, shareholder², member):
- 2.4 Registration Number of company, enterprise, close corporation, partnership agreement or trust:
- 2.5 Tax Reference Number:
- 2.6 VAT Registration Number:
- 2.6.1 The names of all directors / trustees / shareholders / members, and their individual identity numbers, tax reference numbers and, if applicable, employee / PERSAL numbers must be indicated in paragraph 3 below.
- 2.7 Are you or any person connected with the bidder presently employed by the state? YES / NO

Contractor

Witness for Contractor

Employer

Witness for Employer

2.7.1 If so, furnish the following particulars:

Name of person / director / trustee /
shareholder/ member:

Name of state institution at which you or
the person connected to the bidder is
employed:

Position occupied in the state institution:
.....

Any other particulars:
.....
.....
.....

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to YES / NO
undertake remunerative work outside employment in the public sector?

2.7.2.1 If yes, did you attach proof of such authority to the bid document? YES / NO

Note: Failure to submit proof of such authority, where applicable, may result in the
disqualification of the bid.

2.7.2.2 If no, furnish reasons for non-submission of such proof:
.....
.....
.....

2.8 Did you or your spouse, or any of the company's directors / trustees / shareholders / YES / NO
members or their spouses conduct business with the state in the previous twelve months?

2.8.1 If so, furnish particulars:
.....
.....
.....

2.9 Do you, or any person connected with the bidder, have any relationship (family, friend, YES / NO
other) with a person employed by the state and who may be involved with the evaluation
and or adjudication of this bid?

2.9.1 If so, furnish particulars:

Contractor

Witness for Contractor

Employer

Witness for Employer



.....
.....
.....

2.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, YES / NO
other) between the bidder and any person employed by the state who may be involved with
the evaluation and or adjudication of this bid?

2.10.1 If so, furnish particulars:

.....
.....
.....

2.11 Do you or any of the directors / trustees /shareholders/ members of the company have any YES / NO
interest in any other related companies whether or not they are bidding for this contract?

2.11.1 If so, furnish particulars:

.....
.....
.....

3 Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	Personal Income Tax Reference Number	State Employee Number / Persal Number

4 DECLARATION

I, THE UNDERSIGNED (NAME).....

Contractor

Witness for Contractor

Employer

Witness for Employer



CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2 AND 3 ABOVE IS CORRECT. I
ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME SHOULD THIS DECLARATION
PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

Contractor

Witness for Contractor

Employer

Witness for Employer

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

GENERAL CONDITIONS

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).

To be completed by the organ of state

Either the 90/10 or 80/20 preference point system will be applicable in this tender due to the duration of 5 (five) years and the value of works that may/may not exceed R 50 million. Completion of SBD 6.1 per quotation of works will apply referring to specific goals. For the purposes of the tender, the bidder is requested to claim points for the specific goals for the 90/10 and 80/20 system.

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

Price; and

Specific Goals.

To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS	POINTS
PRICE	80	90
SPECIFIC GOALS	20	10
Total points for Price and SPECIFIC GOALS	100	100

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.

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.

DEFINITIONS

Contractor

Witness for Contractor

Employer

Witness for Employer

“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;

“price” means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;

“rand value” means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

“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

“the Act” means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

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

$$Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right) \quad \text{or} \quad Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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

POINTS AWARDED FOR PRICE

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

80/20 or 90/10

$$Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right) \quad \text{or} \quad Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

Contractor

Witness for Contractor

Employer

Witness for Employer

POINTS AWARDED FOR SPECIFIC GOALS

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:

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—

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

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 tenderers: The tenderer must indicate for the Specific Goals they qualify for & claim points.

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points allocated (80/20 system)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Promotion of enterprises owned by black people with at least 51% shareholding or more;	5		10	
Local suppliers within a 150km radius to a KNP Gate;	2		4	
Preference to enterprises owned by Black Women with at least 30% shareholding;	3		6	
TOTAL	10		20	

Contractor

Witness for Contractor

Employer

Witness for Employer

Other goals that will be applied will include following and bidders are requested to indicate what goals they qualify for:

SANParks Specific Goals	Specific Goals Qualifying for Yes / No
Promotion of enterprises owned by black people with at least 51% shareholding or more;	
Preference to enterprises owned by women with at least 30% shareholding;	
Preference to enterprises owned by at least 51% Black Youth;	
Preference to enterprises owned by at least 51% black people with disabilities;	
Preference of businesses owned by black people who are Military Veterans;	
Local suppliers adjacent to SANParks operations;	
Enterprises owned by black people living in rural or underdeveloped areas or townships;	
Exempted Micro Enterprises;	
Qualifying Small Enterprises;	
Cooperatives that are at least 51% owned by Black people;	
Enterprises with B-BBEE Procurement Recognition - Level 1	
Enterprises with B-BBEE Procurement Recognition - Level 2	
Enterprises with B-BBEE Procurement Recognition - Level 3	
Enterprises with B-BBEE Procurement Recognition - Level 4	

DECLARATION WITH REGARD TO COMPANY/FIRM

Name of company/firm.....

Company registration number:

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]

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:

The information furnished is true and correct;

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

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

Contractor

Witness for Contractor

Employer

Witness for Employer

may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
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 –

disqualify the person from the tendering process;
recover costs, losses or damages it has incurred or suffered as a result of that person’s conduct;
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;
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
forward the matter for criminal prosecution, if deemed necessary.

.....

SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

Contractor

Witness for Contractor

Employer

Witness for Employer

Local content: Declaration by Tenderer

South African National Parks (SANParks) supports the inclusion of locally manufactured materials and goods in construction works applicable to the **SHANGONI ROAD PHASE 1 CONTRACT No. KNP-015-24**. All bidders are requested to complete this form and confirm the use of locally produced materials and goods as listed. Please complete the form where applicable and sign.

Description of item and Product Description	Percentage threshold for local content required	Bidders' declaration (%) on local content to be used during construction	Comment if lower content is specified or N/A
Cement Sector			
Pure Portland cement with a 95-100% clinker Cem I	100%		
Portland cement containing varying additions of secondary materials, i.e. fly ash, pozzolana, slag, silica fume, or limestone Cem II	100%		
Blast furnace cement, 50% OPC, 50% blast furnace slag Cem III	100%		
pozzolanic cement, OPC and fly ash Cem IV	100%		
composite cement: slag and ash cement. Blended cement with more than one blending material Cem V	100%		
Mixture of Portland cement and plasticizing materials such as limestone to improve setting time Masonry Cement	100%		
Reinforcing bars	100%		
Company name			
Name & surname of the signatory			
Signing Capacity			
Signature			
Date			

Contractor

Witness for Contractor

Employer

Witness for Employer



T2.2: ANNEXURE 1: BEE RATING CERTIFICATE

TO BE INSERTED BY BIDDER

Contractor

Witness for Contractor

Employer

Witness for Employer

T2.2: ANNEXURE 2: CERTIFICATE OF TAX COMPLIANCE (TAX PIN)

The tenderer shall complete the declaration below.

I, ... (name)
the undersigned in my capacity as (position)
on behalf of
(name of company)

herewith grant consent that SARS may disclose to the SANParks our tax compliance status.
For this purpose, our unique security personal identification number (PIN) is
....., our tax reference number is
..... and our tax clearance certificate number is

In the event of a joint venture, each member shall comply with the above requirement.

SIGNATURE:

DATE:

Contractor

Witness for Contractor

Employer

Witness for Employer

T2.2: ANNEXURE 3: CSD REGISTRATION

TO BE INSERTED BY BIDDER

Contractor

Witness for Contractor

Employer

Witness for Employer

**T2.2: ANNEXURE 4: LETTER OF GOOD
STANDING COMPENSATION COMMISSIONER
TO BE INSERTED BY BIDDER**

Contractor

Witness for Contractor

Employer

Witness for Employer

**T2.2: ANNEXURE 5: CERTIFIED COPY OF
COMPANY REGISTRATION
TO BE INSERTED BY BIDDER**

Contractor

Witness for Contractor

Employer

Witness for Employer

T2.2: ANNEXURE 6: CIDB REGISTRATION

TO BE INSERTED BY BIDDER / ATTACH

COMPLETED FORM A4.

Contractor

Witness for Contractor

Employer

Witness for Employer

**T2.2: ANNEXURE 7: CURRICULUM VITAE (CV)
OF PERSONNEL
TO BE INSERTED BY BIDDER**

Contractor

Witness for Contractor

Employer

Witness for Employer

T2.2: ANNEXURE 8: PROOF OF OWNERSHIP OF PLANT AND EQUIPMENT TO BE INSERTED BY BIDDER

Contractor

Witness for Contractor

Employer

Witness for Employer

**T2.2: ANNEXURE 9: APPOINTMENT LETTERS,
COMPLETION CERTIFICATES AND STAMPED
REFEREE REPORT SHEETS
TO BE INSERTED BY BIDDER**

Contractor

Witness for Contractor

Employer

Witness for Employer

**T2.2: ANNEXURE 10: LETTER OF INTENT TO
PROVIDE A GUARANTEE
TO BE INSERTED BY BIDDER**

Contractor

Witness for Contractor

Employer

Witness for Employer

**T2.2: ANNEXURE 11: SUBCONTRACTOR
AGREEMENT
TO BE INSERTED BY BIDDER**

Contractor

Witness for Contractor

Employer

Witness for Employer



C: The Contract

Contractor

Witness for Contractor

Employer

Witness for Employer



Part C1: Agreement and contract data

Contractor

Witness for Contractor

Employer

Witness for Employer

C1. AGREEMENTS AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE

Offer

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

SHANGONI ROAD PHASE 1

The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorized, signing this part of this form of offer and acceptance, the tenderer offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

.....
Rand (in words);
R.(in figures) (or other suitable wording)

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

Signature(s)(compulsory)

Name(s)(compulsory)

Capacity(compulsory)

For the tenderer(compulsory)
 (Name and address of tenderer)

Name and Signature(compulsory)
 of witness

Date(compulsory)

Contractor

Witness for Contractor

Employer

Witness for Employer

Acceptance

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the employer shall pay the contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1: Agreements and contract data, (which includes this agreement)

Part C2: Pricing data

Part C3: Scope of work.

Part C4: Site information and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed signed acceptance form, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five working days of the date of such receipt notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature(s)

Name(s)

Capacity

for the Employer

(Name and address of employer)

Name and signature of witness Date

Contractor

Witness for Contractor

Employer

Witness for Employer

Schedule of Deviations

Notes:

1. The extent of deviations from the tender documents issued by the employer before the tender closing date is limited to those permitted in terms of the conditions of tender.
2. A tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

1. Subject

Details

2. Subject

Details

3. Subject

Details

4. Subject

Details

By the duly authorised representatives signing this agreement, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

Contractor

Witness for Contractor

Employer

Witness for Employer

Confirmation of Receipt

The tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

the (day) of (month) 20.....(year)

at (place)

For the Contractor:

.....
Signature

.....
Name

.....
Capacity

Signature and name of witness:

.....
Signature

.....
Name

Contractor

Witness for Contractor

Employer

Witness for Employer

C1.2 CONTRACT DATA

The General Conditions of Contract for Construction Works 3rd Edition (2015) published by the South African Institution of Civil Engineering, is applicable to this contract. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805 5947).

The General Conditions of Contract for Construction Works make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the general conditions of contract.

Each item of data given below is cross-referenced to the clause in the General Conditions of Contract for Construction Works to which it mainly applies.

General Conditions of Contract

This Contract will be based on the "General Conditions of Contract for Construction Works – 3rd Edition 2015", published by the South African Institution of Civil Engineering. (Short title: "**General Conditions of Contract for Construction Works 2015 or GCC2015**") and can be obtained from:

SAICE

SAICE House, Block 19
Thornhill Office Park
Bekker Street
MIDRAND
1685

Gauteng Province

Tel: (011) 805-5947
Fax: (011) 805-5971.
Email: civilinfo@saice.org.za
Web: www.saice.org.za

It is agreed that the only variations from the General Conditions of Contract 2015 are those set out hereafter under "Special Conditions of Contract".

Contractor

Witness for Contractor

Employer

Witness for Employer

SPECIAL CONDITIONS OF CONTRACT

GENERAL

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions shall amplify, modify or supersede, as the case may be, the General Conditions of Contract 2015 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or sub clause in the General Conditions of Contract 2015, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the General Conditions, and an appropriate heading.

AMENDMENTS/ADDITIONS TO THE GENERAL CONDITIONS OF CONTRACT

The additional clauses to the General Conditions of Contract are:

SCC 5.12 EXTENSION OF TIME FOR PRACTICAL COMPLETION

Add the following to the sub-clause:

SCC 5.12.1 Approval for extension of time shall be done as defined above in this sub clause. Payment in respect of general obligations of the extended period shall only account for the period which actually extended the practical completion of the works beyond the due completion date in order to achieve practical completion.

**SCC 11.1 VARIATIONS TO THE TARGETED CONSTRUCTION PROCUREMENT SPECIFICATION
ISO 10845-5; ISO 10845-6; ISO 10845-7; ISO 10845-8**

Specification ISO 10845-Part 5-8 applies:

- 1) Where different, the definitions provided above shall apply.
- 2) Method 3 only must be used for claiming of preference.
- 3) Written contracts shall be entered into with chosen subcontractors.

SCC 12 DEVELOPING SKILLS THROUGH INFRASTRUCTURE CONTRACTS

It will be a condition of contract that:

The contractor shall, in the performance of the contract, achieve the Contract Skills Development Goal (CSDG) established in the Standard for Developing Skills through Infrastructure Contracts, published in Gazette Notice 48491 of 28 April 2023

**SCC 13 INDIRECT TARGETING FOR ENTERPRISE DEVELOPMENT THROUGH CONSTRUCTION
WORKS CONTRACTS**

It will be a condition of contract that:

The contractor shall, in the performance of the contract, achieve the Contract Participation Goals (CPG) relating to the engagement of targeted enterprises as established in the Standard or Indirect Targeting for Enterprise Development through Construction Works Contracts, published in Gazette Notice No.36190 of 25 February 2013

Contractor

Witness for Contractor

Employer

Witness for Employer

APPENDIX A: TRANSFER OF RIGHTS

TRANSFER OF RIGHTS AND INDEMNITY (To be completed during construction by successful Tenderer only).

Claim for materials on site, Payment Certificate No. Date:

Contract No: For (contract title)

.....

I, the undersigned (name of signatory) in my capacity
 as..... of (name of Contractor)

.....

duly authorised hereto on behalf of the Contractor hereby transfer, cede and assign all the Contractor's rights, title and interest in and to the materials and goods, for which evidence of bona fide ownership is attached hereto, unto and in favour of (name of Employer)
 In so far as the Contractor retains actual control of the materials and goods, the right of ownership thereof passes to the Employer by *constitutum possessorium*.

I herewith indemnify the Employer against any claim to and in respect of said materials by reason of the Contractor's sequestration or liquidation or of any defect in the Contractor's title to the materials and agree that no payment for materials on site will be made by the Employer until such time as I have submitted documentary proof of bona fide ownership of the said materials and goods.

This transfer shall become effective upon conclusion of the Contractor receiving payment from the Employer or from any other person on behalf of the Employer for the materials and goods as Materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all materials and goods listed under this Transfer of Rights and that they have been insured adequately against all risks and will remain insured until they are built into or used in the permanent works and taken over by the Employer.

This certificate of Transfer of Rights applies only to the materials and goods as listed in the following table.

Description of Item	Unit	Quantity	Rate	Amount	Supplier
Total Value of Materials and goods					

Contractor

Witness for Contractor

Employer

Witness for Employer



Signed by:**Date:**

for and on behalf of the Contractor.

Witnessed by: **Date:**

NOTE: This form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor’s claim for payment for materials on site in terms of Clause 6.10.2 of the General Conditions of Contract 2015.

Contractor

Witness for Contractor

Employer

Witness for Employer

PART A: DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA BY THE EMPLOYER
Clause 1.1.1.13:	The Defects Liability Period is 12 months.
Clause 1.1.1.15:	Name of Employer: South African National Parks represented by the Chief executive officer or such other person or persons duly authorised thereto by the Employer in writing.
Clause 1.2.1.2:	Address of Employer: <u>Physical:</u> South African National Parks Contact Person: Chief Executive Officer Procurement Office, Skukuza, Telephone: 013 735 4044 Kruger National Park Fax: 013 735 4044 Mpumalanga Province
Clause 1.1.1.16:	The name of the Employer's Agent is Programme Manager Technical Services KNP /or such other person or persons duly authorised thereto by the Employer in writing.
Clause 1.2.1.2:	The address of the Engineer: <u>Physical:</u> Endecon Ubuntu Mpumalanga Contact Person: JL Venter (Pty) Ltd Telephone: 013 755 1190 9 Ehmke Street Mbombela Mpumalanga Province
Clause 1.1.1.26:	The Pricing Strategy is by Re-measurement Contract.
Clause 5.1.1 and 5.8.1:	Non-working days are Sundays. Special Non-working days are the all the statutory public holidays as declared by National or Regional Government including the construction industry year-end break. The year-end break commences on the first working day after 15 December and ends on the first working day after 1 January of the next year.
Clause 3.2.3	The Employer's Agent shall obtain the specific approval of the Employer before carrying out any of his functions or duties according to the following Clauses of the General Conditions of Contract: Clause 6.4 - The Engineer requires the Employers approval in order to authorise any expenditure in excess of the tender Sum excluding contingencies
Clause 5.3.1:	The following documentation is to be provided by the Contractor before commencement of each sub project: • Health and Safety Plan as per Clause 4.3 • Initial Programme as per Clause 5.6 • Security as per Clause 6.2 • Insurances as per Clause 8.6 • Quality Assurance Plan as per Clause A1.2.8 (Standard Specifications) • Compliance to Compensation for Occupational Injuries and Diseases (COIDA Act No. 130 of 1993)
Clause 5.3.2:	The time to submit the documentation required before commencement with Works execution is 28 days.
Clause 5.4.2:	The access and possession of Site shall not be exclusive to the Contractor

Contractor

Witness for Contractor

Employer

Witness for Employer

- Clause 5.13.1: The penalty for failing to complete the works on the Due Completion Date is **R10000 per calendar day**
- Clause 5.14.1: The requirements for achieving Practical Completion are:
Works have reached a state of readiness, fit for the intended purpose and occupation without danger or undue inconvenience to the Employer.
- Clause 5.16.3: The latent defect period is 10 years.
- Clause 6.5.1.2.3: The percentage allowance on the net cost of materials actually used in the completed work is 10%
The percentage allowance on the gross remuneration of the workmen and foremen actually engaged is 10%
- Clause 6.8.2: The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:
The value of "x" is 0.15
The values of the coefficients are:
a = 0.20 Labour
b = 0.40 Contractor's equipment
c = 0.25 Material
d = 0.15 Fuel
The indices for "L", "P", "M" and "F" are the following as published by Statistics South Africa:
1. "L" is the "Labour Index" and shall be the price index for "Consumer Price Index" for the Limpopo Province, as published in the Statistical Release P0141, Table A, of Statistics South Africa.
 2. "P" is the "Contractor's Equipment Index" and shall be the price index for "Plant and Equipment", as published in the Statistical Release P0151.1, Table 4, of Statistics South Africa.
 3. "M" is the "Materials Index" and shall be the price index for the "Civil Engineering Material" product Roads, General (excl. Bitumen) as published in the Statistical Release P0151.1, Table 6, of Statistics South Africa.
 4. "F" is the "Fuel Index" and shall be the price index for "Coal and Petroleum Products", for "Diesel", as published in the Statistical Release P0142.1, Table 1, of Statistics South Africa.
- The base month is **Month and year prior to the closing of the tender.**
- Clause 6.8.3: Price adjustments for variations in the costs of special materials are allowed.
- Clause 6.10.1.5: The percentage advance on materials not yet built into the Permanent Works is: 80% on material paid by the Contractor at the purchase cost but not more than 80% of the tender amount as per clause 6.10.2.
- Clause 8.2.2: The safekeeping of the material paid as material on site not yet built into the works remains the responsibility of the Contractor, although ownership rest with the Client as per clause 6.10.1.5.
- Clause 6.10.3: The limit of retention money shall not exceed 5% of the contract price.
- Clause 8.6.1.1.2: Not Required
- Clause 8.6.1.1.3: The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R1 000 000
- Clause 8.6.1.3: The limit of indemnity for liability insurance is R10 000 000 for any single liability claim. Liability insurance shall include spread of fire risk.
- Clause 10.5.3: Disputes to be referred to Ad-Hoc Adjudication

Contractor

Witness for Contractor

Employer

Witness for Employer

PART B: DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract.

REFERENCE CONTRACT SPECIFIC DATA BY THE CONTRACTOR

Clause 1.1.1.9: Name of Contractor:

.....

Clause 1.2.1.2: Address of the Contractor:

Physical:

Postal:

.....

.....

.....

.....

.....

.....

E-Mail:

Telephone No: Fax No:

Clause 1.1.1.14: The time for achieving Practical Completion is months

Clause 6.2.1: The Security to be provided by the Contractor shall be a Fixed Performance Guarantee of 10% of the Contract Sum plus retention of 5% of the value of the Works.

Clause 6.8.3: The variation in cost of all special materials is to be provided in the table SM 1 for special materials.

The rates and prices for the special materials shall be furnished by the Tenderer, which rates and prices shall not include VAT but shall include all other obligatory taxes and levies.

TABLE: SM1

Special Materials	Unit*	Rate or Price for the base month

* Indicate whether the material shall be delivered in bulk or in containers. When called upon to do so, the Contractor shall substantiate the above rates or prices with acceptable documentary evidence.

Signed on behalf of Tenderer:

.....

Contractor

Witness for Contractor

Employer

Witness for Employer

PRO FORMA

PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, 3rd Edition, 2015.

GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means:

Physical Address:

“Employer” means:

“Contractor” means:

“Employer’s Agent” means:

“Works” means:

“Site” means:

“Contract” means: The Agreement made in terms of the Form of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

“Contract Sum” means: The accepted amount inclusive of tax of R

Amount in words: R

“Guaranteed Sum” means: The maximum aggregate amount of R

Amount in words:

Type of Performance Guarantee: (*Insert Variable or Fixed*)

“Expiry Date” means:

(*Give date*) or any other later date set by the Contractor and/or Employer provided such instruction is received prior to the Expiry Date as indicated here.

Contractor

Witness for Contractor

Employer

Witness for Employer

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificates and the Certificate Completion of the Works as defined in the Contract.

1. VARIABLE PERFORMANCE GUARANTEE

- 1.1 Where a Variable Performance Guarantee has been selected, the Guarantor's liability shall be limited during the following periods to diminishing amounts of the Guaranteed Sum as follows:
- 1.1.1 From and including the date of signing the Performance Guarantee up to and including the date of the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum:
R.....
(Amount in words)
- 1.1.2 From the day following the date of the said interim payment certificate up to and including the Expiry Date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, whichever occurs first:
R.....
(Amount in words)
- 1.2 The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum, has been issued and the date on which the Certificate of Completion of the Works has been issued.

2. FIXED PERFORMANCE GUARANTEE

- 2.1 Where a Fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
- 2.2 The Guarantor's period of liability shall be from and including the date on which the Performance Guarantee is signed, up to and including the Expiry Date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, or the date of payment in full of the Guaranteed Sum, whichever occurs first.
- 2.3 The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

3. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

- 3.1 The Guarantor hereby acknowledges that:
- 3.1.1 Any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
- 3.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.
- 3.2 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 3.2.1 to 3.2.3:

Contractor

Witness for Contractor

Employer

Witness for Employer

- 3.2.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 3.2.2;
- 3.2.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 3.2.1 and the sum certified has still not been paid;
- 3.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 3.2.
- 3.3 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
- 3.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 3.3; or
- 3.3.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 3.3; and
- 3.3.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
- 3.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 3.2 and 3.3 shall not exceed the Guarantor's maximum liability in terms of 1.1 or 2.1.
- 3.5 Where the Guarantor has made payment in terms of 3.3, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
- 3.6 Payment by the Guarantor in terms of 3.2 or 3.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
- 3.7 Payment by the Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.
- 3.8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
- 3.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.

Contractor

Witness for Contractor

Employer

Witness for Employer

- 3.10 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 1.1.2 or 2.2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
- 3.11 This Performance Guarantee, with the required demand notices in terms of 3.2 or 3.3, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 3.12 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrates' Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date.....

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2).....

Capacity.....

Witness signatory (1)

Witness signatory (2).....

Contractor

Witness for Contractor

Employer

Witness for Employer

PRO FORMA**MONTHLY LABOUR REPORT FOR CERTIFICATE NO _____****JOBS CREATED****As per Business Plan (to be completed by SAN Parks)**

A	B	C	D	E	F	G	H	I	J
Category	Number of persons employed in category	Rate (R/d)	Local P-days	Non-local P-days	Total P-days (D +E)	Amount expended on labour (C x F)	P-days by women	P-days by youth	P-days by disabled
Clerical									
Managerial									
Supervisory									
Skilled									
Semi-skilled									
Unskilled									
All occupations									

Actual to date

A	B	C	D	E	F	G	H	I	J
Category	Number of persons employed in category	Rate (R/d)	Local P-days	Non-local P-days	Total P-days (D +E)	Amount expended on labour (C x F)	P-days by women	P-days by youth	P-days by disabled
Clerical									
Managerial									
Supervisory									
Skilled									
Semi-skilled									
Unskilled									
All occupations									

Summary

Planned person-days target (see cell F8 of Business Plan):

Tendered construction period (months):

Overall person-days target per month:

Months represented by this report:

Person-day target for this month:

Achieved person-days to date (see cell F8 of Actual):

Person-days ahead/behind target:

Contractor

Witness for Contractor

Employer

Witness for Employer

AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO 85 OF 1993

THIS AGREEMENT is made between

(hereinafter called the EMPLOYER of the one part, herein represented by:

.....
.....

in his capacity as:

AND:

.....

(hereinafter called the CONTRACTOR) of the other part, herein represented by

.....
.....

in his capacity as:

duly authorised to sign on behalf of the Contractor.

WHEREAS the CONTRACTOR is the Mandatory of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of

CONTRACT No:

.....
.....

AND WHEREAS the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHSA Amendment Act No 181/1993 (hereinafter referred to as the ACT);

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the Employer's CONSULTING ENGINEERS from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

.....

Contractor

.....

Witness for Contractor

.....

Employer

.....

Witness for Employer

5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus signed at for and on behalf of the **CONTRACTOR**

on this the day of 20.....

SIGNATURE:.....

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Thus signed at for and on behalf of the **EMPLOYER** on this
the day of 20.....

SIGNATURE:.....

NAME AND SURNAME:

CAPACITY:

WITNESSES:

1.

2.

Contractor

Witness for Contractor

Employer

Witness for Employer



Part C2: Pricing data

Contractor

Witness for Contractor

Employer

Witness for Employer

C2.1 PRICING INSTRUCTIONS

1. Measurement and payment shall be in accordance with the relevant provisions of Chapter 1, Section C1.1 of the COTO Standard Specification for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition) or as amended in the Scope of Works.
2. The units of measurement described in these Bills of Quantities are metric units. Abbreviations used in the Bills of Quantities are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kPa	=	kilopascal
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
m ²	=	square metre
m ² -pass	=	square metre-pass
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC Sum	=	Prime Cost sum
R/only	=	Rate only
sum	=	lump sum
t	=	ton (1000kg)
W/day	=	Work day

3. For the purpose of these Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit:	The unit of measurement for each item of work as defined in the COTO Standard Specification for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition).
Quantity:	The number of units of work for each item.
Rate:	The agreed payment per unit of measurement.
Amount:	The product of the quantity and the agreed rate for an item.

Contractor

Witness for Contractor

Employer

Witness for Employer

Lump sum: An agreed amount for an item, the extent of which is described in the Bill of Quantities but the quantity of work of which is not measured in any units.

4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
5. It will be assumed that prices included in the Bill of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards).
6. The prices and rates in these Bill of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
7. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sums tendered for such items.
8. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bill of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
9. The quantities set out in these Bill of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in these Bill of Quantities.
10. Reasonable compensation will be received where no pay item appears in the Bill of Quantities in respect of work required in terms of the Contract and which is not covered in any other pay item.
11. The short descriptions of the items of payment given in these Bill of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
12. The item numbers appearing in the Bill of Quantities refer to the corresponding item refer to the corresponding item numbers in the COTO Standard Specification for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition). Where a standard COTO pay item is amended or a new pay item added, the item number is preceded by the letter "P" in the Bill of Quantities.
15. Reference to any particular trademark, name, patent, design, type, specific origin or producer is purely to establish a standard for requirements. Products or articles of an equivalent standard may be substituted.
16. The rates contained in the Bill of Quantities will apply irrespective of the final quantities of the different classes and kinds of work actually executed.
17. Rates for work of similar description occurring in different sections of the Bill of Quantity shall be identical.
18. Where any item is not relevant to this specific contract, such item is marked N/A (signifying "not applicable")

Contractor

Witness for Contractor

Employer

Witness for Employer

19. The Bill of Quantities is not intended for the ordering of materials. Any ordering of materials, based on the Bill of Quantities, is at the Contractor's risk.
20. The contractor shall determine the CSDG, expressed in Rand, which shall not be less than the sub-total multiplied by a percentage (%) factor given in Table 2 of the Standard for Developing Skills through Infrastructure Contracts, published in Gazette Notice 48491 of 28 April 2023 for the applicable class of construction works. The Employer shall state the percentage (%) factor in the Final Tender Summary section dependant on the Class of Construction Works. The contractor to determine the skills Methods to be implemented as per the Standard, provided the CSDG is achieved. The pricing for the skills Methods to be implemented is provided in Table 3 of the Standard for the applicable class of construction works.
21. The Employer shall determine the amount to be paid for the Contract Participation Goal (CPG) on the contract and this amount shall be stated under the section Enterprise Development as a Provisional Sum in the Preliminaries and Generals (P&Gs).
22. Bill of Quantities to be completed in **Black Ink** only. No printed Bill of Quantities will be allowed.

Contractor

Witness for Contractor

Employer

Witness for Employer



C2.2 Bill of Quantities

Contractor

Witness for Contractor

Employer

Witness for Employer

C1.2 GENERAL REQUIREMENTS AND PROVISIONS							
ITEM			DESCRIPTION	UNIT	QTY	RATE	AMT
C1.2.8			Dayworks				
	C1.2.8.1		Personnel				
		(a)	Unskilled labourer	hour (h)	120		
		(b)	Semi-skilled labourer	hour (h)	70		
		(c)	Skilled labourer	hour (h)	70		
		(e)	Foreman	hour (h)	130		
	C1.2.8.2		Construction equipment				
		(a)	Motor grader (CAT 140G)	hour (h)	5		
		(b)	Vibratory roller (12 ton)	hour (h)	5		
		(d)	Front end loader (0.5m³ bucket)	hour (h)	6		
		(e)	Tractor loader backhoe (CAT 416D)	hour (h)	12		
		(f)	Excavator (CAT 350)	hour (h)	6		
		(h)	(i) Grid roller	hour (h)	55		
			(ii) Pedestrian roller (Bomag BW90)	hour (h)	12		
			(iii) Rammers (wackers)	hour (h)	12		
			(iii) Water truck (min 10 000 litre)	hour (h)	12		
			(iv) Dozer (D7)	hour (h)	6		
	C1.2.8.3		Vehicles (<i>specify size</i>)				
		(a)	Light delivery vehicle (1800cc min)	kilometre (km)	450		
		(b)	Flatbed truck	kilometre (km)	500		
		(c)	(i) Dump truck (3-5 ton)	kilometre (km)	100		
			(i) Dump truck (5.1-10 ton)	kilometre (km)	100		
	C1.2.8.4		Materials				
		(a)	Procurement of materials	provisional sum	Prov	Sum	R 130 000.00
		(b)	Contractor's handling costs, profit and all other charges in respect of item C1.2.8.4(a)	percentage (%)	R 130 000.00		
PC1.2.10			Dispute Adjudication Board (DAB)				
	C1.2.10.1		Employer's contribution to DAB (50%)	prime cost (PC) sum	Prime	Cost	R 40 000.00
PC1.2.11			Environmental Liaison Officer (ELO)				
	C1.2.11.1		Remuneration for Enviromental Liaison Officer	provisional sum	Prov	Sum	R 360 000.00
	C1.2.11.2		Handling cost, profit and all other charges in respect of item C1.2.11.1	percentage (%)	R 360 000.00		
PC1.2.12			Community Liaison Officer (CLO):				
	C1.2.12.1		Remuneration for Community Liaison Officer	provisional sum	Prov	Sum	R 216 000.00
	C1.2.12.2		Handling cost, profit and all other charges in respect of item C1.2.12.1	percentage (%)	R 216 000.00		
PC 1.2.13			Enterprise Development				
	C1.2.13.1		Enterprise Development of Targeted Enterprise or JV Partners	provisional sum	Prov	Sum	R 2 550 000.00
	C1.2.13.2		Handling cost, profit and all other charges in respect of item C1.2.13.1	percentage (%)	R 2 550 000.00		
	C1.2.13.3		Enterprise Development of Targeted Enterprise or JV Partners as directed by SANParks	provisional sum	Prov	Sum	R 2 000 000.00
	C1.2.13.4		Handling cost, profit and all other charges in respect of item C1.2.13.3	percentage (%)	R 2 000 000.00		
PC 1.2.14			Overtime				
	C1.2.14.1		Overtime for Game Guards	provisional sum	Prov	Sum	R 50 000.00
	C1.2.14.2		Handling cost, profit and all other charges in respect of item C1.2.14.1	percentage (%)	R 50 000.00		
TOTAL CARRIED FORWARD TO SUMMARY							

[illegible]

C1.4 FACILITIES FOR THE ENGINEER

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMT
C1.4.1	Site accommodation				
C1.4.1.1	Offices and conference room	square metre (m ²)	80		
C1.4.1.2	Laboratories	square metre (m ²)	60		
C1.4.1.3	Open concrete working floors and verandas	square metre (m ²)	40		
C1.4.1.4	Roofs over open concrete working floors and verandas	square metre (m ²)	60		
C1.4.1.6	Car ports	number (No.)	6		
C1.4.1.7	Ablution unit <i>(equipped as specified)</i>	number (No.)	3		
C1.4.1.8	Change room with a shower	number (No.)	1		
C1.4.1.9	Kitchen unit <i>(equipped as specified)</i>	number (No.)	1		
C1.4.2	Items measured by area				
C1.4.2.4	Constant-temperature baths of concrete and/or plastered brick	square metre (m ²)	4		
C1.4.2.5	Concrete footings and pedestals for laboratory equipment	square metre (m ²)	2		
PC1.4.3	Items measured by number				
C1.4.3.1	Office swivel chair	number (No.)	6		
C1.4.3.2	Office chair	number (No.)	16		
C1.4.3.3	Draughtsman's stool	number (No.)	1		
C1.4.3.4	Laboratory high chair	number (No.)	3		
C1.4.3.5	Office desk with 3 drawers <i>(at least one lockable drawer)</i>	number (No.)	3		
C1.4.3.7	Drawing table	number (No.)	1		
C1.4.3.8	Conference table	number (No.)	1		
C1.4.3.13	220/250 volt power outlet plug point	number (No.)	15		
C1.4.3.15	Single 1500m, 58 watt fluorescent tube ceiling light	number (No.)	25		
C1.4.3.19	Wash-hand basin	number (No.)	4		
C1.4.3.20	Laboratory basin	number (No.)	2		
C1.4.3.21	Extractor fan	number (No.)	6		
C1.4.3.23	Fire extinguisher 9,0 kg, dry powder type	number (No.)	6		
C1.4.3.24	Air-conditioning unit	number (No.)	5		
C1.4.3.28	UPS / Voltage stabiliser	number (No.)	8		
C1.4.3.11	General purpose steel cabinet with shelves	number (No.)	3		
C1.4.3.26	Concrete specimen curing bath	number (No.)	1		
C1.4.3.10	Filing cabinet	number (No.)	5		
C1.4.3.9	Bookcase	number (No.)	3		
C1.4.3.12	Wall mounted pivot plan filing system	number (No.)	1		
C1.4.3.39	Refrigerator	number (No.)	2		
C1.4.3.40	Floodlights with poles and 20 W LED globes	number (No.)	10		
PC1.4.4	Prime cost items				
C1.4.4.1	Cell phones costs, including pro-rata rentals, for calls made in connection with contract administration	prime cost (PC) sum	prime	cost	R 48 000.00
C1.4.4.2	Handling costs and profit in respect of item C1.4.4.1	percentage (%)	R 48 000.00		
C1.4.4.5	The provision of internet connectivity and WIFI data for Engineer's site staff	prime cost (PC) sum	prime	cost	R 500 000.00
C1.4.4.6	Handling costs and profit in respect of item C1.4.4.5	percentage (%)	R 500 000.00		
C1.4.4.7	The provision of paper and ink for a combination colour printer/copier/scanner	prime cost (PC) sum	prime	cost	R 25 000.00
C1.4.4.8	Handling costs and profit in respect of item C1.4.4.7	percentage (%)	R 25 000.00		
C1.4.4.9	The provision of a complete 220/250 volt single phase electrical power installation, including all poles, insulators, wiring, switchboards, mains connections, meters etc.	prime cost (PC) sum	prime	cost	R 150 000.00
C1.4.4.10	Handling costs and profit in respect of item C1.4.4.9	percentage (%)	R 150 000.00		
C1.4.4.15	The provision of all gas installations required at the site offices, laboratories and at the Engineer's staff accommodation (if required), including gas storage cylinders, tubing, regulators, gas burners and shut-off cocks	prime cost (PC) sum	prime	cost	R 30 000.00
C1.4.4.16	Handling costs and profit in respect of item C1.4.4.15	percentage (%)	R 30 000.00		
C1.4.4.17	Provision for house renovations	prime cost (PC) sum	prime	cost	R 50 000.00
C1.4.4.18	Handling costs and profit in respect of item C1.4.4.17	percentage (%)	R 50 000.00		
C1.4.4.19	Satellite phones costs	prime cost (PC) sum	prime	cost	R 120 000.00
C1.4.4.20	Handling costs and profit in respect of item C1.4.4.19	percentage (%)	R 120 000.00		
C1.4.5	Services at site offices, laboratories and site accommodation				
C1.4.5.1	Fixed costs	lump sum	lump	sum	
C1.4.5.2	Running costs	month	24		
TOTAL CARRIED FORWARD TO SUMMARY					

Contractor

Witness for Contractor

Employer

Witness for Employer

[illegible]

Contractor

Witness for Contractor

114 Employer

Witness for Employer

[illegible]

[illegible]

Witness for Contractor

116 Employer

Witness for Employer

C3.2 CULVERTS

ITEM		DESCRIPTION	UNIT	QTY	RATE	AMT
C3.2.1		Excavation for culvert structures:				
	C3.2.1.1	Excavating in all material situated within the following depth ranges below the surface level:				
		(a) 0m to 1,5m	cubic metre (m ³)	3 508		
		(b) Exceeding 1,5m and up to 3,0m	cubic metre (m ³)			Rate Only
		(c) Exceeding 3,0m and up to 4,5m	cubic metre (m ³)			Rate Only
	C3.2.1.4	Extra over sub-item C3.2.1.1 for excavation in hard or boulder material, irrespective of depth	cubic metre (m ³)	350		
C3.2.2		Backfilling				
	C3.2.2.1	Using the excavated material	cubic metre (m ³)	2 000		
	C3.2.2.2	Using imported selected material:				
		(b) From sources on site (G7)	cubic metre (m ³)	150		
C3.2.3		Concrete pipe culverts:				
	C3.2.3.2	(a) On Class B bedding (Class 100D; ϕ =600mm)	metre (m)	333		
		(b) On Class B bedding (Class 100D; ϕ =750mm)	metre (m)	12		
C3.2.5		Rectangular culverts with prefabricated elements:				
	C3.2.5.1	Prefabricated portal culverts; wall and roof combination (<i>Without prefabricated floor slabs</i>)				
		(i) 900mm x 450mm, Class 175 S	metre (m)	106		
		(ii) 900mm x 600mm, Class 175 S	metre (m)	20		
		(iii) 1200mm x 450mm, Class 150 S	metre (m)	29		
		(iv) 1200mm x 600mm, Class 150 S	metre (m)	76		
		(v) 1200mm x 900mm, Class 150 S	metre (m)	44		
		(vi) 1500mm x 600mm, Class 100 S	metre (m)	148		
		(vii) 1500mm x 900mm, Class 100 S	metre (m)	55		
		(viii) 1500mm x 1200mm, Class 100 S	metre (m)	427		
		(ix) 1500mm x 1500mm, Class 100 S	metre (m)	50		
		(x) 1800mm x 1500mm, Class 75 S	metre (m)	111		
		(xi) 1800mm x 1800mm, Class 75 S	metre (m)	138		
C3.2.7		Cast in situ concrete and formwork:				
	C3.2.7.1	In Class A bedding, screeds, concrete backfill and the encasing for pipes, including formwork (Class C12/15-14 concrete in blinding layer)	cubic metre (m ³)	259		
	C3.2.7.2	In complete in situ floor slabs for rectangular culverts, manholes and catchpits including formwork, joints and Class U2 surface finish (Class C20/25-20 concrete) (installed at a standard depth of 1,0m)	cubic metre (m ³)	457		
	C3.2.7.5	In inlet and outlet structures including kerbs, chutes and downpipes, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including Class U2 surfacing finish (Class C20/25-20 concrete)	cubic metre (m ³)	944		
	C3.2.7.6	Formwork of concrete under items C3.2.7.3 to 5 above (<i>Class of finish indicated</i>)				
		(i) Vertical formwork for F3 surface finish	square metre (m ²)	1 500		
C3.2.8		Concrete backfill or encasement for culverts (Class C12/15-20 concrete)	cubic metre (m ³)	50		
C3.2.10		Reinforcement:				
	C3.2.10.2	High-tensile steel bars	ton (t)	95		
	C3.2.10.3	Welded steel fabric				
		(i) Mesh Ref. 395	kilogram (kg)	55 000		
C3.2/ C1.7.1		Loading				
	C1.7.1.2	Loading from heaps or windrows using machines and/some hand labour where necessary	cubic metre (m ³)	1500		
C3.2/ C1.7.2		Hauling				
	C1.7.2.2	Hauling material to spoil and off-loading it at a designated spoil or stockpile area:				
		(b) Soil and gravel material	cubic metre - kilometre (m ³ - km)	22 500		
TOTAL CARRIED FORWARD TO SUMMARY						

Contractor

Witness for Contractor

Employer

Witness for Employer

CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS

[illegible]

TOTAL CARRIED FORWARD TO SUMMARY

Contractor

Witness for Contractor

118 Employer

Witness for Employer

[illegible]

[illegible]

Witness for Employer

C4.4 COMMERCIAL MATERIALS

[illegible]

Witness for Employer

[illegible]

Contractor

Witness for Contractor

122 Employer

Witness for Employer

[illegible]

Witness for Contractor

Witness for Employer

[illegible]

[illegible]

[illegible]

C9.1 ASPHALT LAYERS

[illegible]

TOTAL CARRIED FORWARD TO SUMMARY

Contractor

Witness for Contractor

127 Employer

Witness for Employer

[illegible]

[illegible]

Witness for Contractor

129 Employer

Witness for Employer

C11.2		NON-STRUCTURAL GABIONS					
ITEM			DESCRIPTION	UNIT	QTY	RATE	AMT
C11.2.1			Foundation trench excavation:				
	C11.2.1.1		Excavating all material situated within the following depth ranges below the surface level				
		(a)	0m to 1,5m	cubic metre (m ³)	120		
		(b)	Exceeding 1,5m and up to 3,0m	cubic metre (m ³)	110		
	C11.2.1.2		Extra over sub-item C11.2.1.1 for excavation in hard material, irrespective of depth	cubic metre (m ³)	10		
C11.2.2			Surface preparation for bedding the gabion boxes and mattresses	square metre (m ²)	580		
C11.2.3			Gabion boxes and mattresses:				
	C11.2.3.1		(i) Galvanized gabion boxes (1.0m long by 1.0m wide by 1.0m high, 2.7mm nominal internal dia by 80mm x 100mm mesh size)	cubic metre (m ³)	220		
	C11.2.3.3		(i) Galvanized gabion mattresses (2.0m long by 1.0m wide by 0.3m thick, 2.7mm nominal internal dia by 80mm x 100mm mesh size)	cubic metre (m ³)	75		
C11.2.4			Geotextile				
		(a)	Kaymat U24 or similar approved	square metre (m ²)	700		
		(b)	Terramesh or similar approved	square metre (m ²)			Rate Only
		(c)	Bidim A4 or similar approved	square metre (m ²)			Rate Only
						</	

Contractor

Witness for Contractor

130 Employer

Witness for Employer

C11.4 ROAD RESTRAINT SYSTEMS

[illegible]

Contractor

Witness for Contractor

131 Employer

Witness for Employer

C11.6 ROAD SIGNS

[illegible]

Contractor

Witness for Contractor

132 Employer

Witness for Employer

C11.8 LANDSCAPING AND PLANTING PLANTS

[illegible]

Contractor

Witness for Contractor

133 Employer

Witness for Employer

C11.9 FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

[illegible]

C13.1 FOUNDATIONS

ITEM		DESCRIPTION	UNIT	QTY	RATE	AMT
C13.1.2		Additional foundation investigations:				
	C13.1.2.1	Provisional sum allowed for additional foundation investigations	provisional sum	Prov	Sum	R 69 000.00
	C13.1.2.2	Handling costs and profit in respect of item C13.1.2.1	percentage (%)	R 69 000.00		
C13.1.3		Excavation:				
	C13.1.3.1	Excavating soft material situated within the following successive depth ranges:				
		(a) 0m up to 1,5m	cubic metre (m ³)	515		
		(c) > 3,0m and < 4,5m	cubic metre (m ³)	1420		
		(d) > 4,5m and < 6,0m	cubic metre (m ³)	670		
		(e) > 6,0m and < 7,5m	cubic metre (m ³)	320		
		(f) > 7,5m and < 9,0m	cubic metre (m ³)	100		
	C13.1.3.2	Extra over subitem C13.1.3.1 for excavation in hard material irrespective of depth	cubic metre (m ³)	302		
	C13.1.3.3	Extra over subitem C13.1.3.1 for additional excavation required by the Engineer after excavation is complete	cubic metre (m ³)	20		
	C13.1.3.4	Extra over subitem C13.1.3.1 for excavation by hand	cubic metre (m ³)	10		
C13.1.6		Access and drainage:				
	C13.1.6.1	Access	lump sum	lump	sum	
C13.1.7		Backfill to excavations utilising:				
	C13.1.7.1	Material from excavation	cubic metre (m ³)	1450		
	C13.1.7.2	Imported material	cubic metre (m ³)	650		
	C13.1.7.3	Soil cement	cubic metre (m ³)	4		
C13.1.9		Fill within a restricted area (extra over item C5.2.2)	cubic metre (m ³)	650		
C13.1.10		Haul in excess of 1,0 km on excavated material and on material imported for backfill, foundation fill and fill for caissons	cubic metre kilometre (m ³ .km)	6500		
C13.1.12		Overbreak in excavation in hard material	square metre (m ²)	90		
C13.1.14		Foundation fill consisting of:				
	C13.1.14.4	Mass concrete (Class C12/15-20)	cubic metre (m ³)	100		
C13.1.20		Dowel bars:				
	C13.1.20.2	Supply and installation of dowel bars (Y32, 2,0m long galvanised dowels anchored with a cementitious grout)	kilogram (kg)	1050		
C13.1.24		Establishing on site for constructing caissons	lump sum	sum		Rate Only
C13.1.25		Formwork for caissons				
		(a) F2 finish, circular formwork	square metre (m ²)	105		Rate Only
C13.1.26		Steel reinforcement for caissons				
	C13.1.26.2	High-yield-stress-steel bars	ton (t)	2		Rate Only
C13.1.27		Cast in situ concrete in caissons and concrete seals				
	C13.1.27.1	Concrete class C24/40-20	cubic metre (m ³)	23		Rate Only
C13.1.28		Cutting edge for 3m dia caisson	Number (No)	1		Rate Only
C13.1.29		Sinking caissons through material situated within the following depth ranges				
	C13.1.29.1	0 m up to 5 m	metre (m)	5		Rate Only
C13.1.30		Excavation for caissons				
	C13.1.30.1	Excavating soft material within the following successive depth ranges				
		(a) 0 m up to 2,0 m	cubic metre (m ³)	5		Rate Only
		(b) Exceeding 2,0 m and up to 4,0 m	cubic metre (m ³)	5		Rate Only
C13.1.31		Filling the caissons	cubic metre (m ³)	16		Rate Only
C13.1.32		Stripping 3m dia caisson heads	Number (No)	1		Rate Only
TOTAL CARRIED FORWARD TO SUMMARY						

Contractor

Witness for Contractor

135 Employer

Witness for Employer

[illegible]

[illegible]

[illegible]

[illegible]

Witness for Contractor

139 Employer

Witness for Employer

C13.7 JOINTS

[illegible]

Contractor

Witness for Contractor

140 Employer

Witness for Employer

[illegible]

C13.10 PAINTING OF MINOR STRUCTURES

[illegible]

Contractor

Witness for Contractor

142 Employer

Witness for Employer

[illegible]

SUMMARY OF PRICING SCHEDULE CONTRACT NO: KNP-015-24 SHANGONI ROAD PHASE 1		
		AMOUNT
GENERAL		
C1.2	GENERAL REQUIREMENTS AND PROVISIONS	
C1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS	
C1.4	FACILITIES FOR THE ENGINEER	
C1.5	ACCOMMODATION OF TRAFFIC	
C1.6	CLEARING AND GRUBBING	
DRAINAGE		
C3.1	DRAINS	
C3.2	CULVERTS	
C3.3	CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS	
EARTHWORKS AND PAVEMENT LAYERS MATERIALS		
C4.1	BORROW MATERIALS	
C4.2	CUT MATERIALS	
C4.4	COMMERCIAL MATERIALS	
EARTHWORKS AND PAVEMENT LAYERS CONSTRUCTION		
C5.1	ROADBED	
C5.2	FILL	
C5.3	ROAD PAVEMENT LAYERS	
C5.4	STABILISATION	
PRETREATMENT AND REPAIR EXISTING LAYERS		
C8.1	PRIME COAT	
ASPHALT LAYERS		
C9.1	ASPHALT LAYERS	
SURFACE TREATMENTS		
C10.1	GENERAL REQUIREMENTS FOR SURFACE TREATMENTS	
ANCILLIARY ROAD WORKS		
C11.1	PITCHING, STONework, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION	
C11.2	NON-STRUCTURAL GABIONS	
C11.4	ROAD RESTRAINT SYSTEMS	
C11.6	ROAD SIGNS	
C11.8	LANDSCAPING AND PLANTING PLANTS	
C11.9	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	
STRUCTURES		
C13.1	FOUNDATIONS	
C13.2	FALSEWORK, FORMWORK AND CONCRETE FINISH	
C13.3	STEEL REINFORCEMENT	
C13.4	CONCRETE	
C13.6	BEARINGS	
C13.7	JOINTS	
C13.8	ANCILLARY STRUCTURAL ELEMENTS	
C13.10	PAINTING OF MINOR STRUCTURES	
QUALITY ASSURANCE		
C20.1	TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP	
	SUBTOTAL A (Sum of Schedules)	
	ADD: CONTRACT SKILLS DEVELOPMENT GOAL (0.25% of SUBTOTAL A):	
	ADD: ESCALATION (7.5% of SUBTOTAL A):	
	SUBTOTAL B (Subtotal A + Contract Skills Development Goal + Escalation)	
	ADD: VALUE ADDED TAX (15% on SUBTOTAL B)	
	TOTAL CARRIED TO C1.1 FORM OF OFFER AND ACCEPTANCE	

Contractor

Witness for Contractor

144 Employer

Witness for Employer



Part C3: Scope of Work

Contractor

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C3.1 STANDARD SPECIFICATIONS

The standard specifications on which this contract is based are:

Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition) prepared by the Committee of Transport Officials, (COTO)

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 1921 (2004):	-1	Construction and Management Requirements for Works Contracts Part 1: General Engineering and Construction Works and where accommodation of traffic is involved:
SANS 1921-2 (2004):		Construction and Management Requirements for Works Contracts; and Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.
SANS 294 (2004)		Construction procurement processes, methods and procedures.
National Treasury		Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations ,2022

C3.2 PROJECT SPECIFICATIONS

STATUS

The Project Specifications, consisting of two parts, forms an integral part of the contract and supplements the Standard Specifications.

Part A contains a general description of the works, the site and the requirements to be met.

Part B contains variations, amendments and additions to the Standard Specifications and, if applicable, the Particular Specifications.

In the event of any discrepancy between a part or parts of the Standard or Particular Specifications and the Project Specification, the Project Specification shall take precedence. In the event of a discrepancy between the Specifications, (including the Project Specifications) and the drawings and / or the Schedule or Rates, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item.

The standard specifications which form part of this contract have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

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PART A: GENERAL

Item	Description
1	DESCRIPTION OF THE WORKS
1.1	Employer's objectives
	It is the Employer's intention with this tender to appoint a competent Contractor to construct 36km of gravel road along with one major bridge and several culvert structures along the Shingwedzi river while allowing for mandatory community participation goals as set out in Part A item 3.1.1. a. The objective of the project is to provide for a minimum contract participation goal (CPG) of 20% of the total project value and to develop targeted enterprises by the main or lead partner contractors. b. The successful contractor shall: 1. Subcontract a minimum of 20% of the total project value to targeted enterprises; 2. develop the targeted enterprise/s in two development areas as specified in the Standard, and agreed by both the main contractor and the targeted enterprise/s; 3. perform needs analysis on the targeted enterprise to identify developmental goals; 4. provide internal mentorship support to improve the targeted enterprise/s performance; 5. develop a project specific enterprise development plan to improve the targeted enterprise/s performance in the identified developmental areas; 6. monitor and report the progress of the agreed development areas with the targeted enterprise/s; and 7. submit a project completion report to the Employer's representative for each targeted enterprise. c. The development of the Targeted Enterprise shall be guided by the CIDB Competence Standard for Contractors Gazette No. 41237, 10 November 2017.
1.2	Overview of the works
	The works will entail the construction of 36km of gravel road along with one major bridge and several culvert structures.
1.3	Extent of the works
	The works entail: • Construction site offices establishment and removal. • Soils and Concrete Testing Laboratory establishment and removal. • Concrete batch plant establishment and removal. • Construction/supply of engineer's facilities and removal. • Borrow pit operations including opening and rehabilitation works. • Clearing and grubbing operations. • Topsoil strip, stockpile, and reuse. • Roadbed preparations. • Mass earthwork operations. • Pavement layerwork construction. • Road finishing. • Excavation and construction of gravel side drains and mitre drains. • Excavation of culverts. • Construction of culvert floors. • Installation of box and pipe culverts. • Construction of inlet and outlet structures together with shaping and erosion protection measures.

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	• Excavation of bridge pier and abutments. • Construction of bridge piers and abutments. • Construction of bridge deck sections. • Construction of parapet walls. • Installation of guardrails. • Finishing of embankments and topsoiling.
1.4	Location of the works
	The works is in the Kruger National Park with the approximate locations at: • Start 23° 8'41.85"S 30°55'54.44"E. • Bridge 1 23° 8'37.22"S 30°56'7.29"E. • End 23°12'32.34"S 31°13'52.26"E. Drawing EN/357/G/1/001 depicts the locality of the project.
1.5	Access to site
	Access to the site will be through the official Kruger Park Gates
1.6	Temporary works
	The construction site offices (contractor's, engineer's, and laboratory offices) must be constructed at the Shangoni Reception at 23° 8'34.47"S 30°56'15.07"E. The concrete batch plant must be erected at the Shangoni range post at 23°10'6.97"S 30°56'35.58"E. All temporary works to be removed upon completion of the works and the areas rehabilitated as per the requirements as set out in the EMP or as stated by the Employer's Representative.
2	DRAWINGS
2.1	The list of drawing applicable to this project is shown on drawing EN/3587/G/1/004 (Read with SANS 1921 – 1: 2004 clauses 4.1.7; 4.1.11 and 4.1.12) The contractor shall be supplied with three complete paper copies of the construction drawings free of charge. The Contractor shall at his own expense produce there from all further paper prints required for the construction of the work. At the completion of the Contract, the Contractor shall return to the Engineer all drawings, provided or made, during the contract period. Any information which the Contractor has control over and which is required by the Representative of Engineer to complete the as built drawings shall be made available to the of Engineer before the completion certificate is issued. Only written dimensions may be used. Dimensions are not to be scaled from drawings unless ordered by the Engineer. The Engineer will supply all figures / dimensions which are not shown on the drawings. The levels or dimensions given on the drawings are subject to confirmation on site. The Contractor shall submit all levels and dimensions to the Engineer for confirmation before he commences with any construction work. The Contractor shall also check all clearances which are given on the drawings and inform the Engineer of any conflicting dimensions. Any destination names on road signs which may be indicated on the drawings are subject to confirmation by the Engineer before these signs are manufactured.

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3	PROCUREMENT
3.1	Subcontracting
3.1.1	Scope of mandatory subcontract work
	1. The Contract Participation Goals (CPG) target is 20%. 2. The criteria as listed below will be part of the tender and contractual conditions: a. During construction – Local beneficiation (Thulamela Municipality, Collins Shabane Municipality and Greater Giyani Municipality) built into the contract to include; i. 30% of all building and construction materials to be sourced from suppliers within a 150km radius of the nearest entrance gate who have a BBBEE rating of 3 or higher ii. 100% of general and semi-skilled employees to be employed from local communities within a 150 km radius from the nearest entrance gate iii. 50% of skilled and supervisory employees to be employed from local communities within a 150 km radius from the nearest entrance gate iv. 30% of all specialist sub-contractors to be sourced from firms within a 150km radius of the nearest entrance gate who have a BBBEE rating of 3 or higher. 3. Should the Contractor fail to achieve the Community Participation Goals (CPG), the following penalties shall be applied: a. $(CPG \text{ (required)} - CPG \text{ (achieved)}) / CPG \text{ (required)} \times 2.5\% \text{ of Tender Value}$ b. In the event that the Contractor can motivate that the above-noted CPG's are not achievable or are detrimental to the Construction Programme, it shall be communicated to the Client, who retains the discretion to alter the CPG. 4. Subcontractor Allocation A minimum of 20% to be subcontracted to an EME or QSE which is at least 51% owned by Black People 5. Subcontractor Allocation Clause The main bidder is required to clearly specify in their tender submission the portion of the work that will be allocated to a subcontractor, along with the corresponding values for each portion of the work. This information should be detailed in the tender response, indicating the nature of the subcontracted tasks, the estimated cost allocation, and the subcontractor's role in fulfilling the project requirements. Failure to provide this information may result in disqualification or a reduced evaluation score. The bidder shall remain fully responsible for the work performed by any subcontractor and shall ensure that the subcontractor meets all applicable requirements and standards outlined in this tender document. 6. Subcontractor List Provision Kruger National Park reserves the right to provide a list of pre-approved companies that the successful bidder may consider for subcontracting purposes. The main bidder shall be required to engage with these companies as potential subcontractors, in accordance with the project requirements and scope of work. The bidder must confirm in their submission whether they intend to utilize any of the listed companies, and if so,

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	provide details regarding the portion of work and associated values for each subcontractor chosen from the list.
3.1.2	Preferred subcontracting / suppliers n/a
3.1.3	Subcontracting procedures It is a requirement of the contract that the contractor enter into formal, legally binding agreements (contracts) with their chosen subcontractors.
3.2	Contract Skills Development Goal Based on the agreed skills methods the contractor may employ part/full Occupational Qualification Learners and /or Trade Qualification Learners and/or Work Integrated Learners and/or Candidates directly or through a Skills Development Agency (SDA), training provider or skills development facilitator (Form A1 - List of CIDB accredited SDAs). The contractor shall ensure that no more than one Method shall be applied to any individual concurrently in the calculation of the CSDG for the contract. The contractor may only place 33% employees employed by him or that of his subcontractors contributing to the CSDG. The contractor shall employ at least 60% of the learners from a Public FET / TVET college should the contractor select to have trade qualification learners (Method 2) contributing to the CSDG
3.3	Indirect Targeting for Enterprise Development The contractor shall provide a minimum Contract Participation Goal (CPG) of 20% of the total project value and develop targeted enterprises in the two agreed developmental areas. The contractor shall appoint an Enterprise Development Co-ordinator who shall: a. develop a project specific Enterprise Development plan to improve the targeted enterprise's performance in the identified developmental areas and shall allocate resources to monitor progress in relation to improved performance; and b. shall, submit to the employer's representative a monthly enterprise development report (Performa – ED105P) which documents all mentoring activities that have taken place during that month and the progress made in improving the targeted enterprise's performance in the agreed developmental areas, countersigned by the targeted enterprise.
	Competence Criteria for an Enterprise Development Co-ordinator The enterprise development co-ordinator shall have the following competencies: • Minimum experience of 5 years in the construction industry at Managerial level as a Site Agent, Contracts Manager, Site Manager, Construction Manager, Business Development Manager or Enterprise Development Manager. • Minimum experience of 2 years in training and development in Building or Construction; and • National Diploma or B Degree in the Built Environment or Business Management
4	CONSTRUCTION

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4.1	Applicable standards: - SANS 10142-1 The wiring of premises Part 1: Low-voltage installations. - SANS 10400 South African National Building Regulations. - COTO - Standard Specifications for Road and Bridge Works for South African Road Authorities. - All standards referenced in the contract documentation above.
4.2	Applicable national and international standards SANS – South African National Standards COTO - Standard Specifications for Road and Bridge Works for South African Road Authorities.
4.3	Certification by recognized bodies All certification must be submitted to Technical Services of SANParks for approval.
4.4	Agrément certificates Alternative materials with Agrément Certificates must be submitted to Technical Services SANParks for approval prior to work commencing.
4.5	Plant materials and equipment supplied by the employer Nil
4.6	Services and facilities provided by the employer - Water: Contractor to supply is own abstraction/borehole equipment. Employer to indicated boreholes to be fitted. - Electricity: Contractor to supply his own electricity by means of generator, no electricity supply is available. - Accommodation: No accommodation allowed on site for projects. - Telecommunication services: All communication must be provided by contractor. - Ablution facilities: No Ablution facilities available. Chemical toilets to be provided by contractor. - Medical / first aid facilities: to be provided by contractor. - Fire protection services: to be provided by contractor.
4.7	Other facilities and services All temporary facilities to be provided by contractor.
4.8	Community Liaison All community liaison will be directed through SANParks People and Conservation Department, specifically the respective sections of the Department located within the Kruger National Park. The delegated representative from the People and Conservation Department in the Kruger National Park will ensure that all relevant structures and communication protocols are in place in terms of SANParks social responsibility initiatives.
4.9	Construction in confined areas It may be necessary for the Contractor to work within confined areas. No additional payment shall be made for work done in restricted areas. In certain places the width of the fill material and pavement layers may decrease to

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	zero and the working space may be confined. The method of construction in these confined areas largely depends on the Contractor's constructional plant. However, the Contractor shall note that, unless provided for in terms of the scheduled payment items in the Coto Standard Specifications or these project specifications, measurement and payment shall be in accordance with the specified cross sections and dimensions only, irrespective of the method used for achieving these cross sections and dimensions, and that the tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment shall be made nor shall any claim for additional payment be considered in such cases.
4.10	Water for Construction
	The employer has two boreholes available that the contractor can use provided that they fit the necessary equipment (power generators, borehole pumps, piping etc.). The borehole reports are made available under Section C4 Site information. The boreholes are at: - Shangoni Reception Chainage 0 + 600 S23° 08' 34.66" E30° 56' 12.19" - Picnic Site Chainage 11 + 980 S23° 10' 31.63" E31° 01' 25.36"
4.11	Environmental Liaison Officer (ELO)
	The contractor must appoint an Environmental Liaison Officer (ELO). This person will be required to monitor the situation with a direct hands-on approach and ensure compliance and co-operation of all personnel. He/She should be fluent in the languages of the employees. This EMPr must be made binding to the main contractor as well as individual contractors and should be included in tender documentation for the construction contract. The contractor must appoint an Environmental Liaison Officer (ELO) to assist with day-to-day monitoring of the construction activities. Any issues raised by the ECO will be routed to the ELO for the contractors' attention. The ELO shall be permanently on site during the construction phase to oversee the Contractor's internal compliance with the EMPr requirements and ensuring that the environmental specifications are adhered to. The ELO should ideally also be a senior and respected member of the construction crew. The ELO will be responsible for keeping detailed records of all site activities that may pertain to the environment and include all these aspects in an environmental register. This register must be presented at each EMC meeting and be made available to the ECO during his/her monthly audits. In addition to the environmental register the ELO must keep a register of complaints from any community members on environmental issues. Finally, the ELO will be required to keep a record of all on-site environmentally related incidents and how these incidents were dealt with. Past experience has revealed that, ELO's that can relate to the work force are the most effective for information transfer and ensuring compliance with the EMPr.
5	MANAGEMENT OF THE WORKS

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5.1**Applicable SANS 1921 standards**

The following parts of SANS 1921 Construction works standards and associated specification data are applicable to the works:

- 1) SANS 1921 – 1: General engineering and construction works
- 2) SANS 1921 – 5: Earthworks activities which are to be performed by hand

The abovementioned South African National Standards make several references to the Specification Data for data, provisions and variations that make these standards applicable to this contract. The Specification Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and these standards.

Each item of Specification Data given below is cross-referenced to the clause in the standard to which it mainly applies.

The associated Specification Data is as follows:

SANS 1921-1, General engineering and construction works	
Clause	Specification data
Essential data	
4.1.7	There are no requirements for drawings, information and calculations for which the contractor is responsible
4.2.1	The responsibility strategy assigned to the contractor for the works is A .
4.2.2	The structural engineer is Endecon Ubuntu Mpumalanga (Pty) Ltd.
4.3.1	The planning, programme and method statements are to comply with the following: 1. Preliminary programme. The Contractor shall supply a programme on an as-and-when needed basis for this works. The programme shall be in the form of a simplified Gantt chart with sufficient details to show clearly how the works will be performed within the time for completion and Client priorities as stated in the Contract Data. The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme for all possible delays due to normal adverse weather conditions and special non-working days as specified in the Special Conditions of Contract, in the Project Specifications and in the Contract Data. The following constraints shall be considered in preparing the preliminary construction programme which must be submitted with the Tender. These same constraints shall apply to the final construction programme: 1.1 The Contract period is to be negotiated when required. 1.2 Plant and personnel requirements to complete the project must be incorporated in the Tender. 1.3 Sourcing of on-site (borrow-pits provided) gravel materials for pavement layers. 1.4 Sufficient time for obtaining a mandatory Construction Works Permit Programme in terms of Clause 5.6 of the General Conditions of Contract

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		It is essential that the construction programme, which shall conform in all respects to Clause 5.6 of the General Conditions of Contract, be furnished within the time stated in the Contract Data. The preliminary programme to be submitted with the tender shall be used as basis for this programme. The Contractor's attention is also drawn to Clause 5.7.3 of the General Conditions of Contract 2015. 2. Immediately on award of the Contract and prior to commencement on site, the Contractor, in conjunction with the Employer's Agent, shall agree the working Programme covering the first month of the Construction Period. During the first month of the Construction Period the Contractor shall prepare and draw up in conjunction with the Employer's Agent the Programme for the balance of the Works in accordance with the conditions stated below. 3. The Employer's Agent shall have the right to modify such Programme to accommodate changes necessary in his opinion for coordinating the project as a whole. Any cost implications relating to such modification shall be dealt with in accordance with the provisions of the Agreement. 4. This Programme shall be drawn up in accordance with the dates given herein for possession, sectional completion and Practical Completion and shall be in sufficient and approved detail to ensure control over the work. 5. Notwithstanding the fact that the Programme has been prepared in conjunction with the Employer's Agent, the Contractor shall be responsible at all times for maintaining the accuracy, validity and reasonableness of the Programme, and the implementation thereof. 6. The Programme shall be compiled based on the Critical Path Method of programming and the critical activities are to be clearly highlighted. It shall be compiled in such a way that logic is not constrained by resource limitations unless specifically agreed otherwise by the Employer's Agent. The Programme will be processed on the Employer's Agents system and the Contractor shall provide all the co-operation necessary to achieve this. 7. Documentation will not be available in complete detail at the commencement stage. However the Contractor, in conjunction with the Employer's Agent, shall plan the Works on provisional information, to an agreed level of detail relating to the level of detailed information available and with sufficient scope to include future detail without disrupting the basic logic as initially agreed. The quantities contained in this document are provisional and shall be utilized as a guide only for the drawing up of the Programme. Where assumptions are made in regard to programming aspects, such assumptions shall be agreed by the Contractor and the Employer's Agent, and suitably recorded in the Programme. 8. Should circumstances change to the extent where the Contractor is of the opinion that changes to the Programme are required, then the Contractor shall make written request to the Employer's Agent for such changes, clearly identifying the reasons for requiring such change. The Contractor and Employer's Agent shall thereafter agree such changes, if any. Should the Employer's Agent be of the opinion that the Programme requires revisions, and notwithstanding the fact that a request for such revision has not been received from the Contractor, the Employer's Agent shall be entitled to instruct the Contractor to revise the Programme accordingly, unless the Contractor can submit reasonable justification for not doing so. Any acceleration and/or special measures sanctioned by the Employer's Agent together with associated effects shall be incorporated in a revision to the Programme.

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		9. The Contractor and the Employer's Agent shall, at regular intervals not exceeding one month, agree the state of progress of the Works relative to the latest agreed revision of the Programme. Such agreement shall include the recording of actual commencement and completion dates for each activity and shall constitute the official record of the progress at such point in time. 10. In addition to and based on the Programme systems and format dictated above, the Contractor shall devise Detailed Working Programmes. These shall be drawn up on a regular basis (at least monthly), to the satisfaction of the Employer's Agent. Such Working Programmes shall at all times relate to the constraints of the current Programme. 11. Notwithstanding anything to the contrary contained herein the Employer's Agent at all times reserves the right to direct the order in which the various parts of the Contract are to be executed. The Contractor shall give priority to any individual section or portion of the Works that, in the opinion of the Employer's Agent, requires to be expedited. 12. Should the Contractor and/or Employer's Agent be of the opinion that such instruction warrants a revision to the Programme, then the provisions of 8 above shall apply. 13. Should it appear, in the Employer's Agent's opinion, that work in any area is not being executed in accordance with the requirements of the Programme, the Contractor shall provide additional manpower and resources and shall work additional overtime and do everything else required to bring the work back to Programme to the satisfaction of the Employer's Agent.
	4.3.2	1. The Contractor is required to identify and provide the employer with material procurement and construction lead in periods for the following aspects: 1.1 Building Information 1.1.1 Foundation Layouts (Setting Out) 1.1.2 Reinforcing Schedules 1.1.3 Concrete Layouts (including pile caps, ground beams, columns, beams, stairs, etc.) 1.1.4 Concrete Details 1.1.5 Paint Specifications 1.1.6 Metal Work etc. 2. The Contractor is further required to identify and provide the employer with lead in periods required for the appointment of anticipated sub-contractors for: 2.1 Concrete Batching Plant 2.2 Sundry Builder's Work
	4.3.3	The notice period for inspection is 24 hours.
	4.4	Quality Assurance (QA): The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end, it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. The Engineer will audit the Contractor's quality assurance (QA) system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

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Employer

Witness for Employer

		The Contractor shall ensure that efficient supervisory staff, the required transport, instruments, equipment, and tools are available to control the quality of his own workmanship in accordance with his QA-system. His attention is drawn to the fact that it is not the duty of the Engineer or the Representative of the Engineer to act as foreman or surveyor. The Contractor will submit a detailed work method statement to be approved by the Employer's Agent prior to commencing with the execution. Method statements should consist of at least (but not restricted to) the following: • Site specific details • Personnel responsible (organogram) • Risk assessment • Prestart checks and information transmittals • Description activities • Sequence activities • Plant details • Staff details • Materials details • Health and Safety considerations • Hold points Failure to submit an approved work method statement will result in no work commencing for that activity.
	4.6	Read with SANS 1921 - 1: 2004 clause 4.6 The Contractor shall pay special attention to the management and disposal of water and stormwater on the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water, will not be considered.
	4.9.3	Specific requirements of the employer are described in the scope of work.
	4.10	(Read with SANS 1921 - 1: 2004 clause 4.10) Borrow pits and spoil areas. Provisional borrow pits identified in the Geotechnical Report (annexure to this document) and drawings. No spoil sites available inside the Kruger Park. The Contractor shall procure sites outside of the park in negotiation with SANParks management and the Engineer. Should the Contractor wish to use any other spoil area for the disposal of soil, rubble, vegetation, etc, its use shall be subject to the approval of the Engineer and the Kruger Park Management.
	4.11	Testing to be read with SANS 1921 - 1: 2004 clause 4.11. <u>Process control.</u>

Contractor

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Employer

Witness for Employer

		The Contractor shall arrange for all tests required for process control to be done to ensure compliance with the requirements of the specifications. The cost of process control is deemed to be included in the rates, and no special pay item is provided for such. <u>Acceptance control</u> The process control test results submitted by the Contractor for approval of materials and workmanship will be considered by the Engineer in his appraisal for acceptance. However, the Engineer shall commission further acceptance control testing by the Engineer's laboratory. The cost of such acceptance control testing is carried by the Employer.
	4.12.2	The contractor will provide representative samples of materials, workmanship and finishes as the Employer's Agent may require. Upon request of Employer's Agent
	4.14.1	Contractor will not be allowed to set up accommodation on site. Contractor to provide own accommodation and transport of workers outside of the park
	4.14.3	The office accommodation, equipment, accommodation for site meetings and other facilities for use by the employer and his agents are: The chosen site shall be subject to the approval of the Engineer and the Employer. The Contractor shall conform to all SANParks, environmental and industrial regulations. The Employer requirements are out in the relevant sections in COTO and Bill of Quantities. The Contractor shall make his own arrangements concerning the supply of electrical power and all other services. No direct payment shall be made for the provision of electrical and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required. No extension of time or other claims will be considered due to power failures. The rates tendered for the relevant items in the Preliminary and General Section of the schedule shall include all costs for the establishment and maintenance of a power supply to the works.
	4.14.5	The Contractor is required to provide latrine and ablution facilities. The Contractor shall service and maintain the facilities in a clean and hygienic state for the duration of the contract period and on completion of the works it from the site.
	4.14.6	A Construction sign board and necessary H&S sign/notice boards are required. All signboards need to be approved / accepted by the Employer prior to erection.
	4.15	Read with SANS 1921 - 1: 2004 clause 4.15 The Contractor shall take special precautions to protect all permanent survey beacons or pegs such as bench-marks, stand boundary pegs and trigonometrical beacons, regardless whether such beacons or pegs were placed before or during the execution of the Contract. If any such beacons or pegs have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.
	4.17.1	The requirements for the termination, diversion or maintenance of existing services are:

Contractor

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Employer

Witness for Employer

	Nil
4.17.3	Services which are known will be pointed / are to be pointed out on site by the Employer.
4.17.4	The requirements for detection apparatus are: No as-built drawings exist
4.18	The following standards and specifications shall be in addition to the provisions of 4.18: The Occupational Health and Safety Act 85 of 1993 and its Construction Regulations 2019. Said act and regulations are not attached. <u>Health and Safety Specifications for SANParks (all construction activities).</u> Said Specification is attached as Annexure A of the Scope of Work.]
4.19	The following standards and specifications shall be in addition to the provisions of 4.19: 1. The <u>Environmental Management Plan (EMP) for Development Activities in South African National Parks</u> . Said specification is attached as Annexure B1 of the Scope of Works. 2. The <u>Environmental Management Programme</u> . Said specification is attached as Annexure B2 of the Scope of Works.
4.22	The works to be undertaken by nominated and selected subcontractors comprise: Nil
Variations	
1	Replace 4.1.9 with the following: All rights of publication of articles in the media, together with any advertising relating to, or in any way connected with this project shall vest in the Employer. The Contractor together with his Subcontractors shall not, without the written consent of the Employer, cause any statement or advertisement to be printed, screened or aired by the media.
2	Replace 4.9.3 with the following: Trees and shrubs shall not be removed, cut back or disturbed in any way without the consent of the Employer's Agent. Specific requirements of the employer are described in the Scope Of Works.
3	Replace the heading of 4.12 with the following: "4.12 Materials, samples, fabrication drawings and overloading."
4	Include the following after 4.1.2.5 "4.12.6 Overloading The Contractor shall take all necessary steps to ensure that no damage occurs due to overloading of any portion of the Works or temporary works. Any damage caused to the Works by overloading shall be made good by the Contractor at his sole expense."

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Additional Clauses			
1	<u>Cash flow predictions</u> The contractor shall provide all reasonable assistance to the Employer's Agent in the preparation of cash flow projections of claims for payment certificates. Cash flow predictions will be updated by the Contractor on monthly basis and will be submitted to Employer together with its progress claims. The projections shall be based on the programme. The cooperation of the contractor in terms of this item shall not prejudice his right to receive payment in terms of the agreement.		
2	<u>Protection/isolation of existing /sectional occupied works</u> The contractor shall provide all reasonable temporary measures to protect/isolate the existing and/or sections of the occupied works and remove such measures on completion.		
3	<u>Security of the works</u> The works are in a protected area. The contractor shall take all appropriate measures for general security of his equipment and works (stowing and locking-up of equipment and materials) but no security guards are to employed by the Contractor.		
4	<u>Minimum requirements for construction equipment</u> Construction equipment must comply with all relevant legal and environmental requirements (EMPr) and must be adequate to execute the works.		
5	<u>Deposits and fees</u> The contractor shall pay all deposits and fees and charges according to law, regulations or bylaws of any local or other authorities that relate to hoardings, the use of pavements, street encroachment or crossings, permission for the suspension of parking facilities and the like.		
6	<u>Water and electricity</u> The Employer does not warrant that any water supply or electricity supply that may exist is adequate for the proper execution of the works. The responsibility strategies in terms of the tabulation below that will apply to the contract are: a) water : C b) electricity : C		
	Service	Option	
		A Contractor responsibility	B Employer responsibility
		C	
	Water	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections and	The Contractor shall make, and upon completion remove, all the necessary connections to the Employer's water supply at designated points and make
			The Contractor shall make, and upon completion remove, all the necessary connections and water meters to the Employer's water supply at designated

Contractor

Witness for Contractor

Employer

Witness for Employer

			purchase water from the local authority for the works at his own cost.	use of water free of charge for construction purposes only.	points and be responsible for costs associated with all water consumed.
		Electricity	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary electrical connections and installations and purchase electricity from the local authority / ESKOM for the works at his own cost.	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary electrical connections and installations and purchase electricity from the local authority / ESKOM for the works at his own cost.	The Contractor shall make, and upon completion remove, all the necessary connections and meters to the Employer's electrical supply and be responsible for costs associated with all electricity consumed.
5.2.2	Code of Conduct for working in the SANParks The document <u>Code of Conduct for working in the SANParks</u> is applicable to this contract, and is attached as Annexure D. SANParks requires that all personnel employed (full-time and/or Temporarily) by the Contractor and/or Subcontractor have valid police clearance status and the onus rests with the Contractor and/or Subcontractor to provide evidence as such.				
5.2.3	Requirements for Training The contractor shall achieve the measurable CSDG by providing opportunities to learners requiring structured workplace learning using one or a combination of any of the Skills Methods as agreed: Part/Full Occupational Qualification Learners (Method 1) and/or Trade Qualification Learners (Method 2) and/or Work Integrated Learners (Method 3) and/or Candidates (Method 4) as per the Standard for Developing Skills through Infrastructure Contracts in relation to work directly related to the contract or order as indicated under clause 4.2 and 4.3 in the Standard for Developing Skills through Infrastructure Contracts published in Gazette Notice 48491 of 28 April 2023. The contractor must ensure all beneficiaries of the Standard for Developing Skills through Infrastructure Contracts are registered with CIDB Skills Development Agency (SDA)				
5.2.4	Requirements For Development The contractor shall provide a competent person/s to provide internal mentorship to the Targeted Enterprise/s in the two agreed developmental areas				
5.3	Unauthorized Persons on Site The Contractor shall at all times strictly exclude all unauthorized persons from the Works. No workmen or labourers are to be allowed under any circumstances to sleep or deposit any kit on the premises. Unless a designated enclosed and secure camp site for accommodating the Contractor's employees has been allocated and approved by the Park Officials.				
5.4	Quality plans and control				

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	Quality inspections will be held at regular intervals. The contractor must notify the Employer's Agent of any closure of works which must be inspected to confirm quality.
5.5	Accommodation of traffic on public roads occupied by the contractor Applicable – contractor to allow in applicable rates of roadworks section.
5.6	Other contractors on site n/a
5.7	Testing, completion, commissioning and correction of defects All testing and certification of the works will be done in accordance with the applicable governing regulations and the procedures for the following will be clarified at the site meeting: • Use of the works before completion has been certified; • Handover / beneficial occupation; • Pre-commissioning and commissioning of the works or part thereof, before and after completion; • Certifying completion; • Start-up; operation of the works; special arrangements associated with operating plant and machinery, etc.; • Training and technology transfer; • Take over; • Operational maintenance (if any), after completion; • Work which contractors may carry out after completion has been certified (in addition to correcting defects); and • Arranging access for correction of defects
5.7.1	Product warranties, guarantees and maintenance instructions/manuals The Contractor shall obtain and hand over to the Employer's Agent on Practical Completion all relevant product warranties and guarantees, any operating and maintenance instruction manuals, data or instructions required by the Employer's Agent or provided by manufacturers, suppliers or Subcontractors. The Contractor shall ensure that all warranties and guarantees received are fully ceded to the Employer on Works Completion, failing which the release of Construction Guarantee/Retention will be withheld until this is satisfactorily completed.
5.8	Recording of weather A record of rain and all other inclement weather should be kept on site.
5.9	Format of communications All site instructions should be in writing on the prescribed format and will not be an approved site instruction until the Employer's Agent has signed it. All notifications of inspections and all requests for information should be in writing. The contractor shall, within 30 days of award of the contract and in the specific format (Form A2 Baseline Training Plan), submit to the Employer's representative a baseline training plan. The contractor shall submit to the Employers Representative:

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Employer

Witness for Employer

	- an interim contract compliance training report in the specific format (Form A3 Project Interim Report) at intervals which do not exceed 3 months; and - a final contract compliance training report, in the specific format (Form A5 Project Completion Report). This report shall, respectively, be submitted within 15 days of; reaching completion, end of the service, the delivery date for all work required or practical completion (in the case of professional service), service, design and construct contracts, and engineering and construction works contracts. The contractor shall submit to the Employer's representative: - Project interim reports in the specified format (ED105P) detailing interim value of the CPG that was achieved. Such a report shall also contain a monthly progress report, compiled by the employer's representative and the contractor, detailing an assessment of the enterprise development support provided. - Project completion report, in the specified format (ED101P), to the Employer's Representative for acceptance within 15 days of achieving practical completion. The report shall include the value of the CPG that was certified in accordance with the contract, cidb registration numbers of each and every targeted enterprise and the value of the subcontracted works or the participation parameter of the joint venture entered into; and - Enterprise development declaration (ED104P)
5.9.1	Site Instructions Contract Instructions issued on Site are to be recorded by the Employer's Agent in a Site Instruction Book which will be issued by the Employer's Agent and which shall be maintained on Site. Only Site Instructions issued in such book will be effected by the contractor.
5.9.2	The Key Personal: For Structured Workplace Learning Opportunities for Learners (Method 1 and Method 2) The Contractor shall: - appoint a responsible supervisor to allocate learning tasks, to learners in line with their training plans. - appoint an artisan in the applicable trade with a minimum of 3 years to mentor learners associated with structured workplace learning. For Structured Workplace Learning for Candidates (Method 3 and Method 4) The contractor shall: - appoint a supervisor who is actively engaged in work directly associated with the contract to issue tasks, - appoint a suitable mentor as required by the professional body or statutory council The contractor shall appoint an Enterprise Development Co-ordinator and a competent person/s to provide internal mentorship
5.10	Management meetings The schedule for the site meetings will be agreed upon at the site hand-over meeting. The contractor shall report to the Employer's Representative on the implementation and progress of the CSDG. The contractor shall report to the Employer's Representative on the implementation and progress of the targeted enterprise development and CPG
5.10.1	Progress Meetings

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	The Employer's Agent and contractor shall hold meetings related to the progress of the works at regular intervals and at such time as may be necessary. Subcontractors shall not be present at progress meetings unless specifically requested by the contractor or Employer's Agent. The Employer's Agent shall record and distribute the minutes of the meetings.
5.10.2	Technical meetings At the instance of the Employer's Agent or the contractor meetings shall be held to deal with technical and subcontractor's coordination matters.
5.11	Forms for contract administration All contract administration procedures will be agreed upon at the site hand-over meeting. The contractor shall submit to the Employer's Representative the following proformas: • Form A2 Baseline Training Plan • Form A3 Project Interim Report • Form A5 Project Completion Report The contractor shall submit to the Employer's Representative the following proformas: • Form ED 105P Project Interim Report • Form ED 104P Enterprise Development Declaration • Form ED 101P Project Completion Report
5.12	Electronic payments The contractor shall complete the SANParks Supplier Registration Forms in order to enable SANParks to pay him or her electronically.
5.13	Daily records Daily records must be kept of all workers employed on the site. A attendance register must be submitted to the project manager together with the monthly certificates. The number of workers and person days should be calculated on these registers on a progressive monthly basis. The contractor shall: • keep records for learners and candidates of the hours worked and registration with the cidb SDA, Sector Education Training Authorities SETA's (where required) and professional statutory councils (where required) particulars towards compliance with this Standard. • ensure all the documentation required in terms of clause 4 in the Standard is provided in a timely manner and according to a prescribed format where applicable. • upon termination of the opportunities provided to satisfy the CSDG, certify the quantum and nature of the opportunity and submit the certificate and counter-certified by the relevant individual, to the Employer's representative for record-keeping purposes. The contractor shall: • keep records of the targeted enterprise development, • keep records of the payments made to the targeted enterprises in relation to the CPG,

Contractor

Witness for Contractor

Employer

Witness for Employer

	ensure all the documentation required in terms of the Standard is provided in a timely manner and according to a prescribed format where applicable.
5.14	Bonds and guarantees All guarantees must be delivered to the SANParks Employer's Agent.
5.15	Payment certificates The Employer's Agent shall inspect all work and certify work done on a monthly basis. No payment shall be made for material on site. Material on site must be ceded to the employer and proof of payment to the supplier given to the employer before any payment of such material on site will be made. The contractor shall: - achieve the measurable CSDG as agreed by providing opportunities to learners requiring structured workplace learning using one or a combination of any of the Skills Methods as per the Standard in relation to work directly related to the contract or order as indicated under clause 4.2 and 4.3 in the Standard. - submit payment certificates to the Employer's Representative at intervals determined in the Contract The contractor shall: - achieve the measurable CPG and providing enterprise development support to the targeted enterprise/s as per the Standard, - submit payment certificates to the Employer Representative at intervals determined in the Contract.
5.16	Permits Contractor to allow for cost of permits in his rates and preliminary and general items.
5.17	Proof of compliance with the law SANParks could request the contractor for proof that all aspects of South African Law are complied with.
5.18	Insurance provided by the employer n/a
PART B AMENDMENTS TO THE STANDARD AND PARTICULAR SPECIFICATIONS Additions to the Section below the Annexures list are included in the specifications	
A	Health and Safety Specifications for SANParks (all construction activities)
B1	Environmental Management Plan (EMP) for Development Activities in South African National Parks.
B2	Environmental Management Programme (EMPr)
C	Code of Conduct for working in the SANParks
D	Local Beneficiation Goals

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Employer

Witness for Employer



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Employer

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PART B: AMENDMENTS TO THE STANDARD AND PARTICULAR SPECIFICATIONS**B1: PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS**

In certain clauses in the standard, standardised and particular specifications, allowance is made for a choice to be specified in the project specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract. Details of such alternative or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains the necessary additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications follows the numbering format of the COTO standard specifications. Where, however, a clause has been amended under Section B1, the clause number is prefixed with a "P" in Section B2.

The following Standard and Particular Specifications, as bound in this document, shall also apply:

Title**ANNEXURE A: OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION****ANNEXURE B1: ENVIRONMENTAL MANAGEMENT PLAN (EMP)****ANNEXURE B2: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)****ANNEXURE C: CODE OF CONDUCT FOR WORKING IN THE NATIONAL PARKS****ANNEXURE D: LOCAL BENEFICIATION GOALS****ANNEXURE E: GEOTECHNICAL REPORT**

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AMENDMENTS TO THE COTO STANDARD SPECIFICATIONS

This section contains amendments to the Standard Specification, including additional clauses, amendment to clauses or deletion of clauses and specifications, required for this particular contract. Where the Standard Specifications allow a choice to be specified in the Contract Documentation or Project Specifications, between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract, these selections are not made in this section. Details of such alternatives or additional requirements applicable to this contract are contained in Section B2: Specification Data.

The number of each clause and each payment item in this part of the project specifications follows the numbering format of the standard specifications.

In all cases where reference is made in COTO to the “General Conditions of Contract” this will refer to the “General Conditions of Contract for Construction Works” 3rd Edition 2015. Reference made to a specific Clause in COTO must be cross-referenced from the GCC 2015 to the specific Clause number in GCC 2015.

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COTO CHAPTER 1: GENERAL**SECTION 1.1: GENERAL PREAMBLE****PART A: SPECIFICATIONS****A1.1.2 DEFINITIONS**

Replace the Definition for "Site / Site of the Works" with the following:

"Site / Site of the Works - shall mean the entire road reserve (both new and existing), inclusive of road junctions and property accesses, required for construction of the Works as defined by the limits of construction given in the Contract Documentation. It shall also include areas within statutory building lines where work has to be carried out and any additional lengths of road required for the placement of advanced warning road signs and/or traffic accommodation measures beyond the limits of construction as shown on the drawings. The Site shall also include areas outside of the road reserve required for Construction camps, Engineer's site facilities, Borrow pit areas or quarry areas, haulage and access roads, temporary deviations, storage areas, spoil areas and stockpile areas. The exact extent of the limits of the construction will be verified once the Site is handed over to the Contractor."

SECTION 1.2: GENERAL REQUIREMENTS AND PROVISIONS**PART A: SPECIFICATIONS****A1.2.3 GENERAL****A1.2.3.15 Routine maintenance**

Add the following new paragraphs:

"The Contractor's responsibility for routine maintenance on this contract is indicated in the Contract Documentation."

The backfilling for patching shall be done as indicated in the Contract Documentation.

The riding quality of gravel deviations shall comply with the requirements indicated in the Contract Documentation."

Add the following new subclause after A1.2.3.23:

"A1.2.3.24 Reference Manuals, other specifications and test methods

In various chapters of this Standard Specification, reference is made to Manuals, other specifications and test methods. If not otherwise indicated in the Contract Documentation, the latest published Manual, other specification and test methods at time of close of tender will apply. Any changes to be implemented on a project as a result of revisions to manuals, other specifications and test methods, will be handled in terms of the Conditions of Contract.

Certain TRH and TMH documents are published as Sabita Manuals/TRH or Sabita Manuals/TMH publications. Where reference is made to the TRH or TMH document, it shall be read as referring to the latest version of the Sabita Manual/TRH publication or Sabita Manual/TMH publication, respectively."

A1.2.7 EXECUTION OF THE WORKS**A1.2.7.1 Programme of work****a) General**

Contractor

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Employer

Witness for Employer

Add the following new paragraphs:

“The contractor shall note that the examination of a road with a view to rehabilitation is normally undertaken a considerable period of time before the commencement of the contract, and that conditions may subsequently change. The engineer will make further examinations during the period of contract, and, depending on the results of such examinations, the quantities of any items of work may be drastically increased or decreased.

The contractor shall base his initial programme for road rehabilitation on the scope of the work as described in the project specifications on the quantities contained in the Bill of Quantities (Part C2).”

PART C: MEASUREMENT AND PAYMENT

Add the following new pay items:

Item	Unit

C1.2.10 Dispute Adjudication Board (DAB)

C1.2.10.1 Employer’s contribution to DAB (50%)	prime cost (PC) sum

The unit of measurement for item C1.2.10.1 shall be the actual price payable by the contractor.

C1.2.11 Environmental Liaison Officer (ELO)

Add the following pay items:

Item	Unit

C1.2.11.1 Remuneration for Environmental Liaison officer	provisional sum

C1.2.11.2 Handling cost, profit and all other charges in respect of item C1.2.11.1	(percentage) %

The unit of measurement for item C1.2.11.1 shall be the actual price payable by the contractor. The ELO will be responsible for the keeping detailed records of all site activities that may pertain to the environment and include all these aspects and incidents in an environmental register.

The percentage for item C1.2.11.2 is a percentage of the amount spent under the relevant provisional sum item. It shall include full compensation for the handling costs of the Contractor and the profit for providing the specified service.

C1.2.12 Community Liaison Officer (CLO)

Add the following pay items:

Item	Unit

C1.2.12.1 Remuneration for Community Liaison Officer	provisional sum

C1.2.12.2 Handling cost, profit and all other charges in respect of item C1.2.12.1	(percentage) %

The unit of measurement for item C1.2.12.1 shall be the actual price payable by the contractor. The CLO will be responsible for the keeping detailed records of all site activities that may relate

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Employer

Witness for Employer

to the liaison with the local communities.

The percentage for item C1.2.12.2 is a percentage of the amount spent under the relevant provisional sum item. It shall include full compensation for the handling costs of the Contractor and the profit for providing the specified service.

C1.2.13 Enterprise Development

Add the following pay items:

Item	Unit
C1.2.13.1 Enterprise Development of Targeted Enterprise or JV Partners	provisional sum
C1.2.13.2 Handling cost, profit and all other charges in respect of item C1.2.13.1	(percentage) %

The unit of measurement for item C1.2.13.1 shall be the actual price payable by the contractor. The following will be included:

- Needs Analysis and Enterprise Development Plan for a maximum of 15 Targeted Enterprises; (R 5 000 per Targeted Enterprise)
- Monitoring and Interim reporting for a maximum of 15 Targeted Enterprises; (R 160 000 per Targeted Enterprise)
- Project Completion Report for a maximum of 15 Targeted Enterprises; (R 5 000 per Targeted Enterprise)

The percentage for item C1.2.13.2 is a percentage of the amount spent under the relevant provisional sum item. It shall include full compensation for the handling costs of the Contractor and the profit for providing the specified service.

Add the following pay items:

Item	Unit
C1.2.13.3 Enterprise Development of Targeted Enterprise or JV Partners as directed by SANParks	provisional sum
C1.2.13.4 Handling cost, profit and all other charges in respect of item C1.2.13.3	(percentage) %

The unit of measurement for item C1.2.13.3 shall be the actual price payable by the contractor.

The percentage for item C1.2.13.2 is a percentage of the amount spent under the relevant provisional sum item. It shall include full compensation for the handling costs of the Contractor and the profit for providing the specified service.

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Employer

Witness for Employer

C1.2.14 Overtime

Add the following pay items:

Item	Unit
"C1.2.14.1 Overtime for Game Guards	provisional sum
C1.2.14.2 Handling costs, profit and all other charges in respect of item C1.2.14.1	(percentage) %

The unit of measurement for item C1.2.14.1 shall be the actual price payable by the contractor. Overtime remuneration will be calculated by SANParks.

The percentage for item C1.2.14.2 is a percentage of the amount spent under the relevant provisional sum item. It shall include full compensation for the handling costs of the Contractor and the profit for providing the specified service."

SECTION 1.4 FACILITIES FOR THE ENGINEER

Item	Unit

C1.4.3 Items measured by number

Add the following pay subitems:

C1.4.3.39 Refrigerator with 170 L capacity	number (No.)
C1.4.3.40 Floodlights with poles and 20 W LED globes	number (No.)

The unit of measurement for items C1.4.3.39 and 1.4.3.40 shall be the number of each item supplied and installed as specified.

Item	Unit

C1.4.4 Prime cost items

Add the following pay items:

C1.4.4.17 Provision for house renovations	prime cost (PC) sum
C1.4.4.18 Handling costs and profit in respect of item C1.4.4.17	(percentage) %
C1.4.4.19 Satellite phones costs	prime cost (PC) sum
C1.4.4.20 Handling costs and profit in respect of item C1.4.4.19	(percentage) %

The unit of measurement for item C1.4.4.17 and item C1.4.4.19 shall be the actual price payable by the contractor. The percentage for item C1.4.4.18 and C1.4.4.20 is a percentage of the amount spent under the relevant prime cost item. It shall include full compensation for the handling costs of the Contractor and the profit for providing the specified service.

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Employer

Witness for Employer

SECTION 1.5: ACCOMMODATION OF TRAFFIC

PART A: SPECIFICATIONS

A1.5.7 EXECUTION OF THE WORKS

A1.5.7.10 Construction of temporary deviations

a) General

Delete the last paragraph and replace with the following: "The proposed location, layout, temporary drainage, earthworks, pavement layers, surfacing and ancillary works details of all temporary deviations, including the signage and road marking required, shall be agreed with the Engineer before construction of any temporary deviation commences."

b) Drainage works for temporary deviations

In the 2nd paragraph in the 1st sentence delete "specified" and replace with: "approved".

SECTION 1.6: CLEARING AND GRUBBING

PART C: MEASUREMENT AND PAYMENT

(iii) Items to be measured and paid for using items specified elsewhere in the specifications

In Table C1.6-1 for the Preparation of topsoil stockpile sites activity, delete reference to "Chapter 11" and replace with "Chapter 4".

Contractor

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COTO CHAPTER 3: DRAINAGE

SECTION 3.2: CULVERTS

PART C: MEASUREMENT AND PAYMENT

C3.2.2 Backfilling

C3.2.2.3 Extra over sub-items C3.2.2.1 and C3.2.2.2 for soil cement backfilling

In sub-item (a), delete “of 3% cement”.

In sub-item (b), delete “of 3% cement”.

C3.2.13 Removing and relaying existing culverts

In the 2nd paragraph of the item description, delete the wording:

“transporting for a haul distance within 5,0 km without additional payment,”

and replace with the following:

“transporting over a distance of less than and up to 1,0 km,”

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COTO CHAPTER 4: EARTHWORKS AND PAVEMENT LAYERS: MATERIALS

SECTION 4.1: BORROW MATERIALS

PART A: SPECIFICATIONS

A4.1.7 EXECUTION OF THE WORKS

A4.1.7.2 Borrow pit and quarry operations

b) Classes of excavation

(iv) *Hard excavation*

In the 2nd bullet after: "Ripping with a bulldozer" add the following:

"Ripping shall be carried out on typically moderately weathered soft rock (soft rock as defined in Section 12.1 Table A12.1.7-1) that can be efficiently ripped by a bulldozer with a weight of at least 35 tons and minimum nett power of 220 kW."

SECTION 4.2: CUT MATERIALS

PART A: SPECIFICATIONS

A4.2.3 GENERAL

A4.2.3.2 Contractor prepared plans for cuttings

In 1st paragraph at the end of the last sentence, add the following as part of the last sentence:

" , unless otherwise indicated in the Contract Documentation."

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COTO CHAPTER 9: ASPHALT LAYERS**SECTION 9.1: ASPHALT LAYERS****PART A: SPECIFICATION****A9.1.5 MATERIALS****A9.1.5.4 Aggregates****a) Aggregate properties**

In the 1st paragraph, delete the 2nd sentence: “Coarse and fine aggregate shall be clean and free from decomposed materials, vegetable matter or any other deleterious substances, and shall meet the requirements listed in Table A9.1.5-1 below unless otherwise specifically stated in the Contract Documentation.”, and replace with the following:

“Coarse and fine aggregate shall be clean from excess dust and free from decomposed materials, vegetable matter and any other deleterious substances such as clay lumps and organic matter and shall meet the requirements listed in Table A9.1.5-1 below unless otherwise specifically stated in the Contract Documentation.”.

A9.1.8 WORKMANSHIP**A9.1.8.4 Surface regularity****a) Measured using inertial laser profilometers**

In the 6th paragraph add the following prior to “The applicable Full Payment Bracket ...”:

“For the Asphalt Base the values in Payment Bracket 6 in Table A9.1.8-3 shall be applied as the payment adjustment factors for the Asphalt Base on the contract or section, and for the Asphalt Surfacing”.

In the 6th paragraph add the following after “...assessment of the base as per Clause A5.3.8.5c) of Chapter 5 for granular bases”:

“, and this clause A9.1.8.4a) for Asphalt bases.”

In the 7th paragraph, delete: “under 1”.

Add the following after the 8th paragraph:

“Where the asphalt surfacing is placed on a surface, other than a granular or asphalt base, constructed by the Contractor through mill and replace or patching, the surface regularity of the replaced or patched surface shall be measured before the surfacing is placed. Should the IRI values per 100m section so determined be better than the IRI values of the original surfacing for the particular 100m section, the measured values shall be used for the IRI_{b Ave} in the above calculation. Should the IRI values per 100m section so determined be worse than the IRI values of the original surfacing for the particular 100m section, the IRI values of the original surfacing shall be used for the IRI_{b Ave} in the above calculation.”

In the 9th paragraph, delete : “surfacing”.

For Table A9.1.8-3, delete “surfacing” in the heading and add the following additional Payment Bracket to Table A9.1.8-3

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"Target IRI_{100m Ave} (m/km)"	Payment Bracket 9
< 0.80	1.050
0.81 to 0.90	1.050
0.91 to 1.00	1.050
1.01 to 1.10	1.050
1.11 to 1.20	1.050
1.21 to 1.30	1.050
1.31 to 1.40	1.050
1.41 to 1.50	1.050
1.51 to 1.60	1.050
1.61 to 1.70	1.025
1.71 to 1.80	1.010
1.81 to 1.90	1.000
1.91 to 2.00	0,990
2.01 to 2.10	0,975
2.11 to 2.20	0,955
2.21 to 2.30	0,930
2.31 to 2.40	0,900
2.41 to 2.50	0.865
>2.51	Reject"

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COTO CHAPTER 10: SURFACE TREATMENTS**SECTION 10.1: GENERAL REQUIREMENTS FOR SURFACE TREATMENTS****PART A: SPECIFICATION****A.10.1.5.12 Aggregate for Sand and Grit seals**

Delete the entire paragraph including Table A10.1.5-8 and replace it with the detail in the Specification Data under Chapter 10:

Grading of the sand (Primary & Secondary Seals)

Sieve size (mm) Cumulative % passing

10	100
7.1	97.2
5	95.9
2	87.9
1	59.5
0.600	19.1
0.300	4
0.150	0.5
0.075	0.4

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COTO CHAPTER 11: ANCILLARY ROAD WORKS**SECTION 11.6: ROAD SIGNS****PART A: SPECIFICATION****A11.6.7 EXECUTION OF THE WORKS****A11.6.7.5 Erecting road signs****b) Excavation and backfilling**

In the 1st sentence of the 2nd paragraph, before “Section A13.4 of Chapter 13”, add the following:

“Section A13.2, Section A13.3 and”.

PART C: MEASUREMENT AND PAYMENT

Item

Unit

C11.6.12 Direction Signs

Add the following pay items:

C11.6.12.1	Stone masonry direction signs	provisional sum

C11.6.12.2	Handling cost, profit and all other charges in respect of item C11.6.12.1	(percentage) %

The unit of measurement for item C11.6.12.1 the actual price payable by the contractor. The stone masonry direction signs must be similar to the existing masonry direction signs in the Kruger National Park.

The percentage for item C11.6.12.2 is a percentage of the amount spent under the relevant provisional sum item. It shall include full compensation for the handling costs of the Contractor and the profit for providing the specified service.”

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COTO CHAPTER 13: STRUCTURES**SECTION 13.1: FOUNDATIONS****PART B: LABOUR ENHANCEMENT****B13.1.7 EXECUTION OF THE WORKS****B13.1.7.4 Utilization of excavated material**

Delete reference to: “100 m” and replace with “50 m”.

SECTION 13.3: STEEL REINFORCEMENT**PART A: SPECIFICATION****A13.3.8 WORKMANSHIP****A13.3.8.4 Tolerances****b) Concrete cover**

Delete reference to “Clause A13.4.8.1a)(iv)” and replace with: “Clause A13.4.8.1a)(v)”.

SECTION 13.4: CONCRETE**PART A: SPECIFICATION****A13.4.2 DEFINITIONS****Fresh phase of concrete**

Add the following at the end of the definition of “Fresh phase of concrete”:

“This is also known as the plastic phase.”.

Add the following definition between “Fresh phase of concrete” and “Hardened phase of concrete”:

“Hydration or curing phase – this is concrete that is no longer a semi-liquid but has not yet reached a solid state.”

A13.4.7 EXECUTION OF THE WORKS**A13.4.7.12 Placing and Compaction****b) Placing**

Delete the 3rd sentence of the 1st paragraph and replace with the following:

“The Contractor shall not be permitted to pour unless the specific method statement for that pour has been accepted by the Engineer.”

SECTION 13.8: ANCILLARY STRUCTURAL ELEMENTS**PART A: SPECIFICATION****A13.8.7 EXECUTION OF THE WORKS****A13.8.7.2 Drainage for structures****d) Crushed stone in drainage strips behind walls**

Delete “19 mm nominal size” and replace with “20 mm nominal size”.

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COTO CHAPTER 20: QUALITY ASSURANCE**SECTION 20.1: TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP****PART A: SPECIFICATION****A20.1.4 PUBLISHED TEST METHODS****A20.1.4.8 Testing of asphalt**

Add the following new paragraph:

“Sabita Manual 39: Laboratory Testing Protocols for Binders and Asphalt, shall be implemented together with the asphalt tests listed.”

Delete reference to: “Sabita Manual 35 for Design and Use of Asphalt in Road Pavements: Determining the Richness Modulus of EME asphalt mixes.”

and replace with “Sabita Manual 33 for Design Procedure for High Modulus Asphalt (EME): Determining the Richness Modulus of EME asphalt mixes.”

A20.1.7 ACCEPTANCE CONTROL BY STATISTICAL JUDGEMENT PRINCIPLES**A20.1.7.2 Taking samples****a) Stratified random sampling**

Add the following new paragraph:

“Where the SARDS Laboratory module is used, the sampling locations must be as per the software. The Engineer may specify additional sampling locations.”

b) Minimum samples per lot

Add the following new paragraph:

“Where the SARDS Laboratory module is used, the number of samples per lot must be as per the software, as a minimum. The Engineer may specify additional numbers of samples. The Number of samples must be sufficient to meet the requirements of TMH5.”

PART C: MEASUREMENT AND PAYMENT**C20.1.6 Payment of independent site laboratory**

**(Laboratory quality and acceptance
testing for the Engineer only)**

Add the following new pay items:

Item	Unit
C20.1.6.1 Direct payment by contractor	provisional sum
C20.1.6.2 Handling cost and profit in respect of item C20.1.6.1	percentage (%)

The contractor shall acquire three quotations for the appointment of a site laboratory conforming to the “Request for Quotation for Site Laboratories” as provided by the Engineer. This acquiring of quotations for a site laboratory shall be accomplished within the first two weeks after the contract has been awarded.

The contractor shall pay the appointed site laboratory monthly for the amount as certified by the Engineer.

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The unit of measurement for item C20.1.6.1 shall be the actual price payable by the contractor for the site laboratory invoiced amount as certified by the Engineer in substitution for the provisional sum.

The percentage for item C20.1.6.2 is a percentage of the amount spent under the relevant provisional sum item. It shall include full compensation for the acquiring of quotations, handling costs of the Contractor and the profit for providing the specified service. The Contractor shall forfeit his mark-up when the service provider is not paid on time.

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B2: SPECIFICATION DATA**COTO CHAPTER 1: GENERAL**

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
1			GENERAL	
	A1.1		GENERAL PREAMBLE	
		PA1.1.2	DEFINITIONS	
			Conditions of Contract	General Conditions of Contract (GCC) 2015
			Site / Site of the Works	The limits of construction are provided on the key plan with drawing numbers EN/3587/G/1/002 & EN/3587/G/1/003.
	C1.1		GENERAL PREAMBLE	A number of pay items in the COTO Chapters contains wording in brackets, requiring additional information to be provided in the item or additional item lists to be added. These additional information or additional item lists are not to be provided in this section B but is to be provided in the Bill of Quantities.
	A1.2		GENERAL REQUIREMENTS AND PROVISIONS	
		A1.2.3	GENERAL	
			A1.2.3.3 Environmental management	The requirements of the Environmental Officer is indicated in ANNEXURE B.
			A1.2.3.4 Extension of time for delays caused by rainfall	
			c) Method 3 (Critical path method without consequential delays)	Method 3 (Critical path method without consequential delays) is specified. The value of "N" is 10 In calculations of payment for approved extensions of time granted for delays caused by rainfall, payment will be made utilising the applicable payment items for which the unit of measurement is "month" but excluding payment items with negative rates and non-applicable payment items such as pay item C1.3.1.4.
			A1.2.3.5 Handing-over of the Site of the Works	The conditions for handing-over of the Site of the Works are as follows: a) Sequence: No specific sequence is required.

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA															
				b) Temporary deviations: No maximum length is specified. The road must however be traversable especially at culvert crossings. c) Half or partial width sections: Half or partial width sections is not applicable. d) Unrestricted sections: N/a															
			A1.2.3.9 Monthly reports	Other information to be included in monthly progress reports are as follows: a) Information as required in terms of Conditions of Contract Clause 4.21 b) Aerial progress footage (images and video) Progress footage is not required.															
			A1.2.3.10 Notices, signs and advertisements	Details of the contract sign board is provided in Drawing EN/3587/G/10/001															
			A1.2.3.12 Ownership of assets and disposal of non-usable assets	The Non-usable assets to be disposed by the Contractor is listed in the following disposal plan: Disposal plan <table><tr><th>Asset description</th><th>Estimated quantity</th><th>Disposal requirement</th></tr><tr><td>None</td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>	Asset description	Estimated quantity	Disposal requirement	None											
Asset description	Estimated quantity	Disposal requirement																	
None																			
			A1.2.3.13 Prevention of damage to nearby properties and services	Structures that could be affected by excessive ground vibrations is listed in the following table: <table><tr><th>Structure</th><th>Type</th><th>Location</th></tr><tr><td>None</td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>	Structure	Type	Location	None											
Structure	Type	Location																	
None																			
			A1.2.3.18 Stakeholder liaison	Additional requirements related to structured engagement with project Stakeholders and affected															

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				Communities, as well as guidance on the selection and the enhanced utilisation and development of Targeted Labour and Targeted Enterprises is provided in PART A, C3.2 Clause 6.
			A1.2.3.20 Road safety audits	No work zone traffic management audit nor a Pre-opening stage road safety audit, is required.
			A1.2.3.21 Water	The position of boreholes are indicated on drawing EN/3587/G/4/001.
		A1.2.7	EXECUTION OF THE WORKS	
			PA1.2.7.1 Programme of work	
			a) General	A scheme 2 programme shall apply.
			b) Scheme 2	The programme shall be drawn up or be compatible with MS Projects. Additional schedules, other than required in terms of Conditions of Contract Clause 8.3, to be provided are non-applicable.
	A1.3		CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS	
		A1.3.3	GENERAL	
			A1.3.3.1 Construction camps	Areas for construction camps are indicated on drawing EN/3587/G1/005. Security guards are not allowed.
	A1.4		FACILITIES FOR THE ENGINEER	
		A1.4.3	GENERAL	Details of site facilities are provided on drawings.
		A1.4.7	EXECUTION OF THE WORKS	
			A1.4.7.1 Offices and laboratories	
			a) General	The site laboratory shall provide their own electricity.
			b) Offices	Satellite communication services are to be provided.
			c) Laboratories	The plan area of the building to accommodate the site

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				laboratory is indicated on drawing EN/3587/G/2/002.
			f) Ablution unit	A separate shower and change room are to be provided for the laboratory.
			A1.4.7.2 Housing	Accommodation for the Engineer shall be at the Shingwedzi Rest Camp. Accommodation for the contractors and site laboratory personnel shall be outside the Park.
			A1.4.7.3 Services	
			b) Water, electricity and gas	Provision for electricity shall be by means of a solar system and a back-up generator.
			A1.4.7.5 Office staff	An office secretary/receptionist and/or technical assistants is not required.
	A1.5		ACCOMMODATION OF TRAFFIC	
		A1.5.3	GENERAL	
			A1.5.3.2 General requirements	All Temporary deviations must be traversable.
		A1.5.7	EXECUTION OF THE WORKS	
			A1.5.7.6 Maintenance of existing roads used as detours	Existing roads used as detours is to be maintained by the Contractor to be traversable for a 2x4 LDV.
			A1.5.7.10 Construction of temporary deviations	
			c) Earthworks and pavement layers for temporary deviations	A minimum of a G7 material is required for Fill and pavement layers.
	A1.6		CLEARING AND GRUBBING	
		A1.6.7	EXECUTION OF THE WORKS	
			A1.6.7.2 Clearing	Where construction is carried out through forests or plantations, or where the number of trees with a girth exceeding 1,0 m renders individual measurement impracticable, the removal and grubbing of trees in

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				such areas shall be measured under item C1.6.3.4. The areas where it applies must be identified by the ECO and conform to the EMPr.
	A1.7		LOADING AND HAULING	
		A1.7.7	EXECUTION OF THE WORKS	The Contractor must provide the Engineer with the certified carrying capacity of each vehicle before any construction materials can be transported.

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COTO CHAPTER 3: DRAINAGE

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
3			DRAINAGE	
	A3.1		DRAINS	
		A3.1.5	MATERIALS	
			A3.1.5.2 Subsoil Drainage Materials a) Pipes	Perforated 110mm Ø pipe.
		A3.1.7	EXECUTION OF THE WORKS	
			A3.1.7.4 Subsoil drainage a) Construction of subsoil drainage systems	
			(ii) With polymer film lining to trenches for subsoil drainage systems	As indicated on drawing EN/3587/G/12/001.
			(v) With alternative drainage systems	As indicated on drawing EN/3587/G/12/001.
			A3.1.7.5 Manholes, outlet structures and cleaning eyes	As indicated on drawing EN/3587/G/12/001.
	A3.2		CULVERTS	
		A3.2.7	EXECUTION OF THE WORKS	
	D3.2		CULVERTS	
	A3.3		CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS	
		A3.3.7	EXECUTION OF THE WORKS	
			A3.3.7.1 Drainage structures	
			i) Stone pitched open drains	Refer to drawing EN/3587/R/6/005.

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COTO CHAPTER 4: EARTHWORKS AND PAVEMENT LAYERS: MATERIALS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
4			EARTHWORKS AND PAVEMENT LAYERS: MATERIALS	
	A4.1		BORROW MATERIALS	
		A4.1.3	GENERAL	
			A4.1.3.1 Employer identified borrow pits and quarries	A list of potential borrow pits are indicated on drawing N/3586/G/4/001 up to drawing N/3586/G/4/004.
			A4.1.3.4 Contractor prepared plans for borrow materials	The Contractor to prepare and submit M&U plans for the borrow pits. Refer to Annexure B. EMPr for the relevant Environmental Conditions.
		A4.1.5	MATERIALS	
		A4.1.7	EXECUTION OF WORKS	
			A4.1.7.2 Borrow pit and Quarry operations	
			h) Selection and excavation of material in quarries	A materials quality assurances Manager is required.
			l) Use of the borrow material	Test pit results and soil profiles are indicated on drawing EN/3587/G/4/005.
	C4.1		BORROW MATERIALS PART C: MEASUREMENT AND PAYMENT	
		C4.1.19	Excavating hard material	The unit of measurement for excavating, producing and the stockpiling of crushed material shall be the volume of loose material for items C4.1.19, C4.1.20 and C4.1.21
	A4.2		CUT MATERIALS	
		PA4.2.3	GENERAL	
			A4.2.3.2 Contractor prepared plans for cuttings	Where there will be substantial quantities and/or variability in material of box cuts or designated excavations, to then add that a M&U plan will be required for box cuts and designated excavations.
		A4.2.7	EXECUTION OF WORKS	
			A4.2.7.1 Excavation operations	
			h) Excavation of material	Refer to Cross-section drawings EN/3587/G/8/001

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			in cuttings	for dimensions of cuts, slope protection measures for cuts and details of benching for deep/rock cuttings.
			i) Excavation of material in box cuts	Drawings EN/3587/R/6/001 indicate dimensions of box cuts and the stepping for the sides of box cuts
			k) Selection and the use of the cut material	Laboratory tests and test pit results are indicated in Annexure E: Geotechnical Report
			n) Finishing of the side slopes of cuttings and designated excavations (para 1)	Side slopes to be 1:1,5 Measures to protect and stabilize unstable slopes during finishing to be hydroseeding with "Common Bristle Grass" or similar approved.

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COTO CHAPTER 5: EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
5			EARTHWORKS AND PAVEMENT LAYERS: CONSTRUCTION	
	A5.1		ROADBED	
		A5.1.2	DEFINITIONS	
			Batter	Slope gradients for batters shall be 1:1,5
		A5.1.3	GENERAL	
			A5.1.3.1 Roadbed material Investigation	Geotechnical information for the roadbed reports, the results of site investigations including the excavation of test pits and/or drilling, and laboratory tests results are indicated on drawing EN/3587/G/4/001 up to drawing EN/3587/G/4/005. Roadbed treatment or ground improvement required in hard material will be by ripping and drilling & blasting.
		A5.1.7	EXECUTION OF WORKS	
			A5.1.7.1 Clearing and grubbing	The ECO shall indicate the temporary stockpile site.
			A5.1.7.3 Normal roadbed treatment	
			a) Construction overview	Roadbed treatment shall be benched on a slope that is steeper than 1 (one) vertical to 10 (ten) horizontal.
			b) Removal of unsuitable roadbed material	Unsuitable quality roadbed material shall be removed to spoil to such widths and depths as instructed by the Engineer
			c) Percentage of Max Dry density (MDD)	A depth of 150mm and 93% of MDD for roadbed material that is classified as being suitable for use in-place.
			e) Compaction of collapsible soil	
			<i>(i) General</i>	Impact roller compaction shall be used for treatment for any portion of the roadbed that has a collapsible soil structure.
			<i>(ii) Soil collapse construction</i>	Measurable criteria of CBR (by DCP) to confirm collapse settlement

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			f) Hard material	
			<i>(i) In situ treatment by ripping</i>	Shales and mudstone shall be treated in-situ.
			g) Inactive clay and normal clay	Material modification method to be used.
			<i>(i) Material modification</i>	Approved material layer thickness to be 150mm.
			<i>(ii) Lime modification</i>	Percentage lime 2% Depth 150mm
			<i>(iii) Removal of material</i>	Undercut depth to be 500mm.
			h) Active Clay	The method to be used shall be instructed by the Engineer.
			i) Construction of a pioneer layer	Details for a pioneer layer shall be as instructed by the Engineer.
			A5.1.7.4 Special drainage measures, dewatering	Drainage details as instructed by the Engineer or as indicated on the drainage drawings.
		A5.1.8	WORKMANSHIP	
	C5.1		ROADBED PART C: MEASUREMENT AND PAYMENT	
		C5.1.13	Construction of a levelling layer	The method of average end areas will be used.
	A5.2		FILL	
		A5.2.3	GENERAL	
			A5.2.3.3 Fill layer thickness	Fill layer thicknesses shall be 150mm.
			A5.2.3.4 Fill compaction classification	
			a) MDD compaction	
			<i>(ii) Normal fill and Coarse Fill</i>	Percentage compaction shall be 93% of MDD.
		A5.2.7	EXECUTION OF THE WORKS	
			A5.2.7.3 Benching for fill construction	Refer to Drawing EN/3587/R/6/001
			A5.2.7.5 Rockfill embankment toe	Refer to Drawing EN/3587/R/6/001
			A5.2.7.10 Drainage blankets in fills	Refer to Drawing EN/3587/R/6/001

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			A5.2.7.11 Drainage blanket layer in cuttings	Refer to Drawing EN/3587/R/6/001
		A5.2.8	WORKMANSHIP	
			Table A5.2.8-1	Normal fill and for coarse fill to be compacted to 93% of MDD.
	A5.3		ROAD PAVEMENT LAYERS	
		A5.3.3	GENERAL	
			A5.3.3.3 Requirements prior to the construction of any pavement layer	The Engineer to specify the in-situ material properties compliance.
			A5.3.3.4 Compaction of pavement layer material	Compacted layer requirements are shown on the drawings.
			A5.3.3.8 Pavement Layer Drainage	Subsoil drainage details are indicated on the drawings.
		A5.3.5	MATERIALS	
			A5.3.5.1 Material information	The required material properties for each individual pavement layer for a specific pavement design are specified on the drawings.
			A5.3.5.2 Pavement Layer thickness and compaction requirements	
			a) Pavement layer thickness requirements	The compacted pavement layer thickness is specified on the drawings.

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COTO CHAPTER 9: ASPHALT LAYERS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
9			ASPHALT LAYERS	
	A9.1		ASPHALT LAYERS	
		A9.1.2	DEFINITIONS	
			Asphalt mix types	Continuously graded (Design Level II), 40mm thick, paver constructed.
			Aggregate	Grade 2 aggregate.
		A9.1.3	GENERAL	
			A9.1.3.1 Nominal mix proportions and application rates	
			Table A9.1.3-2: Nominal Mix Proportions of Sand Skeletal Mixes for Tender Purposes Bitumen (type and grade according to Project Documentation) (%)	Bitumen 50/70 pen.
		A9.1.4	DESIGN BY THE CONTRACTOR	
			A9.1.4.1 Mix Designs	Sand skeletal mix, continuously graded (Design Level II). Nominal maximum particle size (mm): 10mm
		A9.1.6	CONSTRUCTION EQUIPMENT	
		A9.1.8	WORKMANSHIP	
			A9.1.8.8 Sampling	
			b) Coring of completed layers	The Contractor shall provide suitable coring machines capable of cutting 100mm diameter cores from the completed asphalt layers.

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COTO CHAPTER 10: SURFACE TREATMENTS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA																					
10			SURFACE TREATMENTS																						
	A10.1		GENERAL REQUIREMENTS FOR SURFACE TREATMENTS																						
		A10.1.3	GENERAL																						
			PA10.1.3.2 Weather limitations	The Seal Embargo Period is the period during the months of May, June, July and August.																					
			Table A10.1.3-1	<table><tr><th>Bituminous binder type</th><th>Minimum rising road surface temperature</th></tr><tr><td>150/200 pen bitumen</td><td>25° C</td></tr></table>	Bituminous binder type	Minimum rising road surface temperature	150/200 pen bitumen	25° C																	
Bituminous binder type	Minimum rising road surface temperature																								
150/200 pen bitumen	25° C																								
			PA10.1.3.14 Nominal rates of application for tender purposes	The following Seal types are to be utilised: As specified in the Bill of Quantities: Sand Seal (Primary Seal): 150/200 pen bitumen applied @ 1.35 L/m³ (hot) Sand applied @ 0.011 to 0.014 m³/m² Rolling with 22 ton PTR Remaining sand removed after one month Sand Seal (Secondary Seal – applied after 6 months): 150/200 pen bitumen applied @ 1.35 L/m³ (hot) Sand applied @ 0.011 to 0.014 m³/m² Rolling with 22 ton PTR Remaining sand removed after one month Grading of the sand (Primary & Secondary Seals) <table><tr><td>Sieve size (mm)</td><td>Cumulative % passing</td></tr><tr><td>10</td><td>100</td></tr><tr><td>7.1</td><td>97.2</td></tr><tr><td>5</td><td>95.9</td></tr><tr><td>2</td><td>87.9</td></tr><tr><td>1</td><td>59.5</td></tr><tr><td>0.600</td><td>19.1</td></tr><tr><td>0.300</td><td>4</td></tr><tr><td>0.150</td><td>0.5</td></tr><tr><td>0.075</td><td>0.4</td></tr></table>		Sieve size (mm)	Cumulative % passing	10	100	7.1	97.2	5	95.9	2	87.9	1	59.5	0.600	19.1	0.300	4	0.150	0.5	0.075	0.4
Sieve size (mm)	Cumulative % passing																								
10	100																								
7.1	97.2																								
5	95.9																								
2	87.9																								
1	59.5																								
0.600	19.1																								
0.300	4																								
0.150	0.5																								
0.075	0.4																								

Contractor

Witness for Contractor

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COTO CHAPTER 11: ANCILLARY ROAD WORKS

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
11			ANCILLARY ROAD WORKS	
	A11.1		PITCHING, STONework, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION	
	A11.2		NON-STRUCTURAL GABIONS	
		A11.2.7	EXECUTION OF WORKS	
			A11.2.7.2 Constructing gabion boxes and mattresses	
			g) Assembly	Tolerances for gabion and mattress materials and dimensions shall conform to the requirements of EN 10223-3
	A11.4		ROAD RESTRAINT SYSTEMS	
		PA11.4.1	SCOPE	Method specifications for timber post systems shall conform to SANS 1350
		A11.4.5	MATERIALS	
			A11.4.5.2 Materials	
			c) Guardrail posts	Timber posts and spacer blocks shall be treated with creosote.
		A11.4.7	EXECUTION OF THE WORKS	
			A11.4.7.2 Construction of guardrails on timber posts	Refer to drawing EN/3587/R/6/004
	A11.6		ROAD SIGNS	
		A11.6.1	SCOPE	Traffic sign erection details to conform to the SARTSM & SADC manuals.
		A11.6.7	EXECUTION OF THE WORKS	
			A11.6.7.1 Classification of Materials	Overbreak in width or depth will be filled by the Contractor and shall not be measured for payment.

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			A11.6.7.2 Manufacturing of road signboards and supports	
			d) Galvanizing	Galvanized steel will not require painting.
			PA11.6.7.5 Erecting road signs	
			a) Position	Position of road signs are indicated on the drawings.
			A11.6.7.7 Dismantling, storing and re-erecting existing road signs	Road signs are to be dismantled and will be reused and placed elsewhere. Dismantling of signs will include sign panels and ground mounted sign supports.
	C11.6		ROAD SIGNS PART C: MEASUREMENT AND PAYMENT	
			ii) Notes on measurement and pay items	Measurements for excavations will be taken from the ground surface.
	A11.8		LANDSCAPING AND PLANTING PLANTS	
		A11.8.7	EXECUTION OF THE WORKS	
			A11.8.7.3 Grassing	
			c) Hydroseeding	The thickness of the topsoil layer shall be 70mm. "Common Bristle grass" or similar approved seeds to be used. Application rate of the hydroseeding in terms of seed mixture to be 40kg per hectare.

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COTO CHAPTER 13: STRUCTURES

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
13			STRUCTURES	
	A13.1		FOUNDATIONS	
		A13.1.3	GENERAL	
			A13.1.3.2 Channel preservation	
			a) Work on, over, in or adjacent to watercourses	
			<i>(i) General</i>	Work in watercourses must be done in such a way that the flow in streams/rivers is not blocked off completely, i.e. the contractor must accommodate the natural flow during the construction period. Water flow may be temporarily diverted around substructure foundation construction areas.
			<i>(iv) Water quality requirements</i>	Water quality measurements are not required.
			A13.1.3.4 Method Statements	No part of the permanent works can commence without the Engineer's approval
			A13.1.3.5 Hold points	• Approved method statement • Setting out of foundations • Approved perimeter safety measures • Approval of foundation floor prior to commencing with foundation fill. • Any other hold points agreed to between the Engineer and the Contractor. • Approved Foundation Check List
		A13.1.7	EXECUTION OF THE WORKS	
			A13.1.7.1 Work access and drainage	
			a) General	The required method statement above must include the provision of access and keeping the excavations dry.
			A13.1.7.2 Excavation	
			g) The safety and protection of excavations	Method Statements for excavations will include a risk assessment of the potential instability of excavations and a plan for the safeguarding of excavations.
			A13.1.7.5 Backfill and fill	

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			near structures	
			a) General	Backfill around abutment walls to be executed simultaneously on all sides of the walls, with a maximum difference in level of 500 mm.
			A13.1.7.6 Foundation fill	Founding to be on rock, with only mass concrete foundation fill permissible.
			A13.1.7.7 Grouting of rock fissures	Not envisaged.
	B13.1		FOUNDATIONS	
		B13.1.7	EXECUTION OF THE WORKS	
	D13.1		FOUNDATIONS	
	A13.2		FALSEWORK, FORMWORK AND CONCRETE FINISH	
		A13.2.3	GENERAL	
			A13.2.3.1 Method Statements	Falsework and formwork to abutments, piers and decks may not commence in the absence of an approved Method Statement, containing shop drawings. Method Statements to be submitted two weeks prior to work commencing on any specific structural member. No part of the permanent works can commence without the Engineer's approval.
			A13.2.3.2 Hold points and approvals	• Approved method statement • Temporary works design for the falsework. It must include load capacity and technical specifications of all elements making up the falsework. Must also include preparation of founding material and bearing pressure under supports. • Condition approval of forms • Setting out of formwork • Any other hold points agreed to between the Engineer and the Contractor. • Approved Falsework, Formwork and concrete finish checklist.
		A13.2.5	MATERIALS	
			A13.2.5.3 Formwork	
			a) Tongue-and-groove boarding	Not Applicable.

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			c) Void formers	Not Applicable.
		A13.2.7	EXECUTION OF THE WORKS	
			A13.2.7.2 Formwork	
			a) General	All visible corners must be chamfered 25mm x 25mm unless shown otherwise on the drawings.
			b) Formed surfaces: Classes of finish	
			A13.2.7.3 Removing the Falsework and Formwork	
			b) Technical criteria for falsework and formwork removal	- Vertical shutters may only be removed if approved alternative concrete curing measures are implemented. - The minimum period for the removal of falsework and formwork for slabs/beams is as specified in Table A13.2.7-1, but on condition that concrete attained 80% of its specified strength by that time.
	D13.2		FALSEWORK, FORMWORK AND CONCRETE FINISH	
		D13.2.3	PERFORMANCE GUARANTEE REQUIREMENTS	
			D13.2.3.2 Performance specifications	No additional requirements.
	A13.3		STEEL REINFORCEMENT	
		A13.3.3	GENERAL	
			A13.3.3.1 Method Statements	Not required.
			A13.3.3.2 Hold points and approvals	- Approval of cover blocks - Approval of reinforcement supplier - Approval of material certificates - Approved steel reinforcement checklist - Any other hold points agreed to between the Engineer and the Contractor.
		A13.3.5	MATERIALS	
		A13.3.7	EXECUTION OF THE WORKS	
		A13.3.8	WORKMANSHIP	

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			A13.3.8.2 Welding	Welding of reinforcement will not be permitted.
			PA13.3.8.4 Tolerances	
			c) Spacing between bars	Minimum spacing of closely spaced parallel bars is the maximum size of the aggregate used in the concrete plus 5mm.
	D13.3		STEEL REINFORCEMENT	
		D13.3.3	PERFORMANCE GUARANTEE REQUIREMENTS	
			D13.3.3.2 Performance specifications	No additional requirements.
	A13.4		CONCRETE	
		A13.4.3	GENERAL	
			A13.4.3.1 Method Statements	Method Statements for the casting of the different structure elements are required, and must include items such as placing, compaction and curing of the concrete. No part of the permanent works can be cast without the Engineer's approval. Method Statements to be submitted two weeks prior to work commencing on any specific element.
			A13.4.3.2 Hold points and approvals	• Approval of concrete mix designs. • Approval of curing compound and curing method. • Approval of method statements • Approved pre-concreting check list. • Approval of erected falsework and formwork. Any other hold points agreed to between the Engineer and the Contractor.
		A13.4.5	MATERIALS	
			A13.4.5.2 Aggregates	
		A13.4.7	EXECUTION OF THE WORKS	
			A13.4.7.8 Prescribed-Composition (Class P) concrete	Not required.
			A13.4.7.10 Properties of hardened concrete	
			d) Energy absorption capacity of fibre reinforced concrete	Not required.

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			A13.4.7.11 Protection of Concrete from Adverse Environmental Conditions	
			f) Concrete exposed to aggressive water or soil	Not required.
			PA13.4.7.12 Placing and Compaction	
			a) Placing	
			g) Construction joints	
			(iv) Waterstops	Not applicable.
			h) Curing and surface protection	The minimum curing efficiency shall be measured in accordance with the water sorptivity test.
			i) Pipes, ferrules and conduits	Minimum cover to pipes and ferrules to be 40mm. Ferrule ends and pipe openings to be closed with a cementitious grout with a colour identical to the surrounding concrete after removal of formwork.
	D13.4		CONCRETE	
		D13.4.3	PERFORMANCE GUARANTEE REQUIREMENTS	
			D13.4.3.1 Performance specifications	No additional requirements.
	A13.6		BEARINGS	
		A13.6.4	DESIGN BY CONTRACTOR / PERFORMANCE BASED SYSTEMS	
			A13.6.4.1 Design of elastomeric bearings	
			a) Technical data	Technical data for the elastomeric bearings are indicated on the drawings.
			A13.6.4.2 Design of proprietary bearings	
			b) Technical data	Technical data for the elastomeric bearings are indicated on the drawings.
			f) Design	No additional requirements.

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
		A13.6.5	MATERIALS	
			A13.6.5.1 Bearings in structures	
			a) General	Materials to be compliant to EN 1337: Structural Bearings.
			c) Elastomer	
			(i) General	Natural Rubber with a 60° nominal hardness.
			g) Proprietary mortars	
			(iii) Mortar Thickness under bearings	Mortar thickness is specified as 20 mm average. Maximum mortar thickness in accordance with supplier specifications.
		A13.6.7	EXECUTION OF THE WORKS	
			A13.6.7.1 Concrete hinges	Not applicable.
			A13.6.7.3 Proprietary bearings	
			a) General	Not applicable.
			b) Manufacture	Not applicable.
			e) Installation	Not applicable.
	D13.6		BEARINGS	
		D13.6.3	PERFORMANCE GUARANTEE REQUIREMENTS	
			D13.6.3.2 Performance specifications	No additional requirements.
	A13.7		JOINTS	
		A13.7.3	GENERAL	
			A13.7.3.1 Method Statements	Method statement for the installation of expansion joints is required. Method statement to be submitted two weeks prior to work commencing on the specific element. Joints may not be installed without the Engineer's approval.
			A13.7.3.2 Hold points and	- Approval of supplier - Approval of all materials and systems

Contractor

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			approvals	- Approval of method statements - Approval of expansion joint recesses - Approval of the cleaned-out joint prior to installation. - Approved expansion joint check list Any other hold points agreed to between the Engineer and the Contractor.
		A13.7.4	DESIGN BY CONTRACTOR / PERFORMANCE BASED SYSTEMS	
			A13.7.4.1 Design and manufacture of proprietary joints	Movements to be accommodated by the expansion joints are specified on the drawings. Where cover plates are required the material for the manufacture of the cover plates is specified on the drawings.
		A13.7.5	MATERIALS	
			A13.7.5.1 Joints in structures	
			d) Waterstops	Not applicable.
		A13.7.7	EXECUTION OF THE WORKS	
			A13.7.7.1 Filled and unfilled joints	
			b) Filled joints	The dimensions and filler material to be used for filled joints are indicated on the drawings.
			c) Unfilled joints	The dimensions and type of bond-breaker for unfilled joints are indicated on the drawings.
			d) Concrete nosings forming the edges of expansion joints shall be constructed as follows	The drawings indicate the expansion joint recess dimensions. Steel reinforcement is unaffected by the recesses.
			A13.7.7.2 Asphaltic plug proprietary type expansion joint systems	Technical details are indicated on the drawings.
			A13.7.7.3 Sealing the joints	
			a) General	Sealed joints must be watertight over the full length of the expansion joints, including at barrier

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Witness for Employer

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
				interfaces and over the full height of kerbs.
			b) Preparing the joints	The primer must be applied inside of the temperature range specified.
			A13.7.7.4 Proprietary expansion joints	
			b) Dimensions	Technical details are fully specified on the drawings.
			c) Installing the expansion joints	Expansion joints to be installed after the construction of the final surfacing.
	D13.7		JOINTS	
		D13.7.3	PERFORMANCE GUARANTEE REQUIREMENTS	
			D13.7.3.2 Performance specifications	No additional requirements.
	D13.8		ANCILLARY STRUCTURAL ELEMENTS	
		D13.8.3	PERFORMANCE GUARANTEE REQUIREMENTS	
			D13.8.3.2 Performance specifications	No additional requirements.
	A13.9		STRUCTURAL STEELWORK FOR MINOR STRUCTURES	
		A13.9.7	EXECUTION OF THE WORKS	
			A13.9.7.1 Fabrication and assembly	
			a) General	All steel sections are flat and straight. No curved members specified.
			f) Hollow sections	Corrosion protection measures are specified on the drawings, all in accordance with the relevant clauses in Section 13.9.
			(m) Corrosion Prevention	

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			(i) <i>Painting</i>	Galvanised steel members are painted with an approved duplex paint coating.
			(ii) <i>Sprayed metal coatings</i>	In accordance with the clauses in Section 13.9.
			A13.9.7.2 Erection	
			a) General	Method Statement required detailing the method of erection.
	D13.9		STRUCTURAL STEEL WORK FOR MINOR STRUCTURES	
		D13.9.3	PERFORMANCE GUARANTEE REQUIREMENTS	
			D13.9.3.2 Performance specifications	No additional requirements.
	A13.10		PAINTING OF MINOR STRUCTURES	
		A13.10.5	MATERIALS	
			A13.10.5.3 Finishing coats	Chloro-rubber paint will not be used on this project.
		A13.10.7	EXECUTION OF THE WORKS	
			A13.10.7.1 General	Paint shall not be allowed to be applied within 75 mm of a weld position, prior to welding.
			A13.10.7.2 Applying the paint	Method of applying the paint shall be in accordance with supplier specifications.
			A13.10.7.5 Painting structural steel	
			a) General	All steel work protection shall be in accordance with the Section A13.10 clauses.
			A13.10.7.6 Painting guard rails	
			a) General	Guardrails shall be painted an approved green colour.
	D13.10		PAINTING OF MINOR STRUCTURES	
		D13.10.3	PERFORMANCE GUARANTEE REQUIREMENTS	

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CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
			D13.10.3.2 Performance specifications	No additional requirements.

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COTO CHAPTER 20: QUALITY ASSURANCE

CH	SEC	CL	SUB-CLAUSE	SPECIFICATION DATA
20			QUALITY ASSURANCE	
	A20.1		TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP	
		A20.1.3	TESTING METHODS	
			A20.1.3.3 The Costs of Testing	
			a) Material and workmanship for quality control	Process control testing is carried out by the Contractor, and acceptance control testing by the Engineer. The cost of the process control testing is borne by the Contractor and the cost of acceptance control testing is borne by the Employer.

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Employer

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Part C4: Site Information

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C4.1: DESCRIPTION OF THE WORKS

C4.1.1 ROADWORKS

The roadworks will entail:

- Clear and grub the footprint area.
- Topsoil strip to a nominal depth of 200mm over the footprint area.
- Conduct mass earthworks operation to the correct levels as indicated on the drawings.
- Construct layerworks as indicated on the drawings.
- Construct a gravel wearing course to the correct levels.
- Construct side drains and mitre drains.
- Finish the embankments.

C4.1.2 PAVEMENT DESIGN FOR ALL PARTS OF THE VARIOUS ROADS

The existing gravel trail is to be removed and the following (Table A) pavement design constructed.

TABLE (A) CONTRACT N3587 SHANGONI ROAD PHASE 1									
150 mm GRAVEL WEARING COURSE									
LAYER No.	LAYER THICKNESS	LAYER DESCRIPTION	CLASSIFICATION ACCORDING TO THE COTO STANDARDS	COMPACTION OF PAVEMENT LAYER TESTED ON ROAD	GEOMECHANICAL PARAMETERS OF ROAD CONSTRUCTION MATERIALS MUST CONFORM TO THE COTO STANDARDS				
				COMPACTION EXPRESSED IN % OF MAXIMUM DRY DENSITY					
					PI	GM	MINIMUM CBR @ % OF MDD	MINIMUM UCS @ 100% OF MDD	MINIMUM ITS @ 100% OF MDD
1 (A)	150 mm	Gravel Wearing Course * (Obtained from cut or borrow)	G7	95%	$PI \leq (3xGM) + 10$	$2.7 \geq GM \geq 0.75$	15 @ 93%	$S_p (150 - 240)$ $G_c (16 - 34)$	
2 (A)	150 mm	Lower Subbase * (Obtained from cut or borrow)	G6	95%	$PI \leq (2xGM) + 10$	$2.5 \geq GM \geq 1.5$	25 @ 95%	-	
3 (A)	100 mm	Lower Selected * (Obtained from cut or borrow)	G7	93%	$PI \leq (3xGM) + 10$	$2.7 \geq GM \geq 0.75$	15 @ 93%	-	
4 (A)	150 mm	Roadbed (The in-situ material on which the fill, or in the absence of fill, any pavement layers, are to be constructed)	-	Rip and re-compact to 90% of MDD (If required)	-	-	Where subgrade has CBR < 3, special measures need to be instructed by the Engineer. (Typical a 300mm rockfill pioneer layer, if required)		
5 (A)	In layers of 200 mm or less	Fill * (Obtained from cut or borrow)	G9 (min)	93%	$PI \leq (3xGM) + 10$	$2.7 \geq GM \geq 0.75$	7 @ 93%	-	
May 2024	Pavement Design conform to the CSIR Human Settlement Planning and Design Manual.				* The use of material obtained from in-situ, cut or borrow will be allowed if the laboratory tested quality is within specification.				

C4.1.3 STRUCTURAL WORKS

(a) Culverts

A list of the culverts together with kilometre distance, number of openings, width, height, length and angle of skew are shown in drawings EN/3587/SW/3/004 to EN/3587/SW/3/007

(b) Bridges

The bridge number, kilometre distance, type of bridge, number of spans, span length, bridge width, horizontal alignment, angle of skew, type of structure, foundation piles, and other characteristics are shown in drawings KNP-B1-01 to KNP-B1-10.

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C4.1.4 MAINTENANCE WORKS

Maintenance of the works during construction will be necessitated on routes utilised by the contractor to conduct his works.

C4.2 DRAWINGS

The drawings that form part of the tender document are issued for tender purposes only. Drawings will be made available in electronic format (pdf)

The contractor will be supplied with three sets of paper prints.

Only figured dimensions may be used and drawings may not be scaled unless so instructed by the engineer. The engineer will supply all figured dimensions omitted from the drawings.

The levels given on bridge drawings are subject to confirmation on site, and the contractor shall submit all levels to the engineer for confirmation before he commences any structural construction work. It is the contractor's responsibility to check all clearances given on the drawings and to inform the engineer of any discrepancies.

List of drawing included for tender purposes is shown below:

SHANGONI ROAD PHASE 1,	
DRAWING No.	DRAWING DESCRIPTION
<u>GENERAL</u>	
EN/3587/G/1/001	LOCALITY PLAN
EN/3587/G/1/002	KEY PLAN
EN/3587/G/1/004	LIST OF DRAWINGS
EN/3587/G/2/001	STRUCTURAL: ELECTRICAL LAYOUT OF ENGINEERING OFFICE, LABORATORY BUILDING & ABLUTION BLOCK
EN/3587/G/2/002	STRUCTURAL: OFFICE & LABORATORY FURNITURE
EN/3587/G/4/001	GEOLOGICAL - BORROW PIT LAYOUT 1
EN/3587/G/4/002	GEOLOGICAL - BORROW PIT LAYOUT 2
EN/3587/G/4/003	GEOLOGICAL - BORROW PIT LAYOUT 3
EN/3587/G/4/004	GEOLOGICAL - BORROW PIT LAYOUT 4
EN/3587/G/10/001	CONTRACTOR BOARD
<u>ROADS</u>	
EN/3587/R/3/001	ROADS - LONGSECTION: CH-0.000 TO CH-0.550
EN/3587/R/3/002	ROADS - LONGSECTION: CH-0.600 TO CH-1.000
EN/3587/R/3/003	ROADS - LONGSECTION: CH-1.000 TO CH-2.000
EN/3587/R/3/004	ROADS - LONGSECTION: CH-2.000 TO CH-3.000
EN/3587/R/3/005	ROADS - LONGSECTION: CH-3.000 TO CH-4.000
EN/3587/R/3/006	ROADS - LONGSECTION: CH-4.000 TO CH-5.000
EN/3587/R/3/007	ROADS - LONGSECTION: CH-5.000 TO CH-6.000
EN/3587/R/3/008	ROADS - LONGSECTION: CH-6.000 TO CH-7.000
EN/3587/R/3/009	ROADS - LONGSECTION: CH-7.000 TO CH-8.000
EN/3587/R/3/010	ROADS - LONGSECTION: CH-8.000 TO CH-9.000
EN/3587/R/3/011	ROADS - LONGSECTION: CH-9.000 TO CH-10.000
EN/3587/R/3/012	ROADS - LONGSECTION: CH-10.000 TO CH-11.000
EN/3587/R/3/013	ROADS - LONGSECTION: CH-11.000 TO CH-12.000

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SHANGONI ROAD PHASE 1	
DRAWING No.	DRAWING DESCRIPTION
EN/3587/R/3/014	ROADS - LONGSECTION: CH-12.000 TO CH-13.000
EN/3587/R/3/015	ROADS - LONGSECTION: CH-13.000 TO CH-14.000
EN/3587/R/3/016	ROADS - LONGSECTION: CH-14.000 TO CH-15.000
EN/3587/R/3/017	ROADS - LONGSECTION: CH-15.000 TO CH-16.000
EN/3587/R/3/018	ROADS - LONGSECTION: CH-16.000 TO CH-17.000
EN/3587/R/3/019	ROADS - LONGSECTION: CH-17.000 TO CH-18.000
EN/3587/R/3/020	ROADS - LONGSECTION: CH-18.000 TO CH-19.000
EN/3587/R/3/021	ROADS - LONGSECTION: CH-19.000 TO CH-20.000
EN/3587/R/3/022	ROADS - LONGSECTION: CH-20.000 TO CH-21.000
EN/3587/R/3/023	ROADS - LONGSECTION: CH-21.000 TO CH-22.000
EN/3587/R/3/024	ROADS - LONGSECTION: CH-22.000 TO CH-23.000
EN/3587/R/3/025	ROADS - LONGSECTION: CH-23.000 TO CH-24.000
EN/3587/R/3/026	ROADS - LONGSECTION: CH-24.000 TO CH-25.000
EN/3587/R/3/027	ROADS - LONGSECTION: CH-25.000 TO CH-26.000
EN/3587/R/3/028	ROADS - LONGSECTION: CH-26.000 TO CH-27.000
EN/3587/R/3/029	ROADS - LONGSECTION: CH-27.000 TO CH-28.000
EN/3587/R/3/030	ROADS - LONGSECTION: CH-28.000 TO CH-29.000
EN/3587/R/3/031	ROADS - LONGSECTION: CH-29.000 TO CH-30.000
EN/3587/R/3/032	ROADS - LONGSECTION: CH-30.000 TO CH-31.000
EN/3587/R/3/033	ROADS - LONGSECTION: CH-31.000 TO CH-32.000
EN/3587/R/3/034	ROADS - LONGSECTION: CH-32.000 TO CH-33.000
EN/3587/R/3/035	ROADS - LONGSECTION: CH-33.000 TO CH-34.000
EN/3587/R/3/036	ROADS - LONGSECTION: CH-34.000 TO CH-35.000
EN/3587/R/3/037	ROADS - LONGSECTION: CH-35.000 TO CH-36.000
EN/3587/R/3/038	ROADS - LONGSECTION: CH-36.000 TO CH-36.234
EN/3587/R/5/001	ROADS - CROSS-SECTIONS SHEET 1 OF 13 - PEG DISTANCE 0.000 - 3.040
EN/3587/R/5/002	ROADS - CROSS-SECTIONS SHEET 2 OF 13 - PEG DISTANCE 3.060 - 5.720
EN/3587/R/5/003	ROADS - CROSS-SECTIONS SHEET 3 OF 13 - PEG DISTANCE 5.740 - 8.660
EN/3587/R/5/004	ROADS - CROSS-SECTIONS SHEET 4 OF 13 - PEG DISTANCE 8.680 - 11.480
EN/3587/R/5/005	ROADS - CROSS-SECTIONS SHEET 5 OF 13 - PEG DISTANCE 11.500 - 14.480
EN/3587/R/5/006	ROADS - CROSS-SECTIONS SHEET 6 OF 13 - PEG DISTANCE 14.500 - 17.560
EN/3587/R/5/007	ROADS - CROSS-SECTIONS SHEET 7 OF 13 - PEG DISTANCE 17.580 - 20.680
EN/3587/R/5/008	ROADS - CROSS-SECTIONS SHEET 8 OF 13 - PEG DISTANCE 20.700 - 23.440
EN/3587/R/5/009	ROADS - CROSS-SECTIONS SHEET 9 OF 13 - PEG DISTANCE 23.447 - 26.140
EN/3587/R/5/010	ROADS - CROSS-SECTIONS SHEET 10 OF 13 - PEG DISTANCE 26.156 - 28.840
EN/3587/R/5/011	ROADS - CROSS-SECTIONS SHEET 11 OF 13 - PEG DISTANCE 28.856 - 31.160
EN/3587/R/5/012	ROADS - CROSS-SECTIONS SHEET 12 OF 13 - PEG DISTANCE 31.179 - 33.680
EN/3587/R/5/013	ROADS - CROSS-SECTIONS SHEET 13 OF 13 - PEG DISTANCE 33.700 - 36.234
EN/3587/R/6/001	ROADS - TYPICAL DETAILS: CROSS-SECTION & LAYERWORKS - GRAVEL ROADS
EN/3587/R/6/002	ROADS - TYPICAL DETAILS: CROSS-SECTION & LAYERWORKS - SURFACED ROADS
EN/3587/R/6/003	ROADS - TYPICAL DETAILS: GUARDRAILS LAYOUT & ROAD PAINTMARKINGS
EN/3587/R/6/004	ROADS - TYPICAL DETAILS: GUARDRAILS
EN/3587/R/7/001	ROADS - SIGNBOARDS
STORMWATER	
EN/3587/SW/3/001	STORMWATER - CULVERTS: HEADWALLS - DIMENSIONING AND CONFIGURATIONS
EN/3587/SW/3/002	STORMWATER - CULVERTS: DETAILS - HEADWALLS & EROSION PROTECTION

Contractor

Witness for Contractor

Employer

Witness for Employer

SHANGONI ROAD PHASE 1	
DRAWING No.	DRAWING DESCRIPTION
EN/3587/SW/3/003	STORMWATER - CULVERTS: DETAILS - HEADWALLS - TYPICAL REINFORCING DETAILS
EN/3587/SW/3/004	STORMWATER - DETAILS: STORMWATER PIPE TRENCH, V-DRAINS & SUBSOIL DRAINAGE
EN/3587/SW/3/005	STORMWATER - CULVERTS: CULVERT CONSTRUCTION INFORMATION TABLES SHEET 1 OF 3
EN/3587/SW/3/006	STORMWATER - CULVERTS: CULVERT CONSTRUCTION INFORMATION TABLES SHEET 2 OF 3
EN/3587/SW/3/007	STORMWATER - CULVERTS: CULVERT CONSTRUCTION INFORMATION TABLES SHEET 3 OF 3
BRIDGE	
KNP-B1-DESIGN-01	GENERAL LOCALITY PLAN: B25:B45
KNP-B1-01	BRIDGE B1 - GENERAL LAYOUT PLAN
KNP-B1-02	BRIDGE B1 - FOUNDATION PLAN AND PIER DETAILS
KNP-B1-03	BRIDGE B1 - ABUTMENT CONCRETE DETAILS
KNP-B1-04	BRIDGE B1 - DECK CONCRETE DETAILS
KNP-B1-05	BRIDGE B1 - ABUTMENT A REINFORCEMENT DETAILS
KNP-B1-06	BRIDGE B1 - ABUTMENT D REINFORCEMENT DETAILS
KNP-B1-07	BRIDGE B1 - PIER REINFORCEMENT DETAILS
KNP-B1-08	BRIDGE B1 - DECK REINFORCEMENT DETAILS
KNP-B1-09	BRIDGE B1 - BEAM REINFORCEMENT DETAILS
KNP-B1-10	BRIDGE B1 - BENDING SCHEDULE

C4.3 CAMP ESTABLISHMENT, POWER SUPPLY AND OTHER SERVICES

The contractor is to make his own arrangements concerning the supply of electrical power and all other services. No direct payment will be made for the provision of electrical and other services. The cost thereof is deemed to be included in the rates and amounts tendered for the various items of work for which these services are required. Water abstraction reports are available if requested. Reception site borehole abstraction is reported to be 4804 litres per hour or 115.3 m³ per day. Picnic site borehole abstraction is reported to be 5712 litres per hour or 137.1m³ per day.

C4.4 CONSTRUCTION IN CONFINED AREAS

It will be necessary for the contractor to work within confined areas. In certain places the width of the fill material and pavement layers may decrease to zero and the working space may be confined. The method of construction in these confined areas largely depends on the contractor's constructional plant.

Regardless, measurement and payment will be in accordance with the specified cross-sections and dimensions only, irrespective of the method used for achieving these cross-sections and dimensions. It is deemed that the rates tendered in the Bill of Quantities include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions. No extra payment will be made nor will any claim for additional payment be considered in such cases. (Refer to standard specification sub-clause C1.1.3.2(b)).

Contractor

Witness for Contractor

Employer

Witness for Employer

C4.5 MANAGEMENT OF THE ENVIRONMENT

The contractor will be responsible for construction according to an environmental management plan and programme in terms of Annexure B1 and B2 (Scope of Works Part B).

The contractor must take the utmost care to minimise the impact of his establishment and other construction activities on the environment and must adhere to the requirements as set out in Annexure B1 and B2 (Scope of Works Part B).

C4.6 TRAFFIC

The contractor to take note that during the construction operations the employer must be able to traverse the route between Shangoni Ranger camp and Shingwedzi Rest camp. The contractor to ensure that the route is traversable by a LDV.

C4.7 SMALL CONTRACTOR DEVELOPMENT, TRAINING AND COMMUNITY LIAISON

The South African National Parks is committed to the implementation of Government's policies and in turn expects the same from its contractors. Accordingly, it is a requirement of this project that tenderers are familiar with the specifications that relate to the transformation of the construction industry through the following:

- (i) adherence to the policies of the Reconstruction and Development Programme and other similar Government initiatives,
- (ii) employment and/or creation of Targeted Enterprises and local sub contractors,
- (iii) construction using labour maximisation principles and,
- (iv) active participation with community-based structures.

Tenderers should note that liaison with Community Stakeholders via active participation with the Project Liaison Committee, as well as employment of people from within the community, are essential parts of the project.

C4.8 CLIMATE

The historical rainfall as received from the South African Weather Service is shown below.

1990	2023 (Extracted 2024/04/25 09:11)											
0724790 5	KRUGERWILDTUIN SHANGONI ARS				Lat:-23.1680		Lon:30.9430		Height:444 m			
MON	AVE	ST DEV	N DAY RAIN	NUM MON	1	5.1	10.1	20.1	50.1	100.1	MAX R DAY	MAX RAIN DATE
					5	10	20	50	100	900		
JAN	109.6	86.7	7.8	28	2.1	1	1	1.3	0.5	0	104.2	1997/01/10
FEB	92	103.2	6.3	27	1.8	0.9	0.7	1.1	0.5	0	122	1995/02/19
MAR	46.2	46.5	5.6	28	1.9	0.7	1	0.6	0.1	0	82	2007/03/28
APR	21.2	19.6	3.4	27	1.3	0.6	0.4	0.2	0	0	52.3	2002/04/14
MAY	10.2	14.8	1.3	26	0.4	0.4	0	0.1	0	0	56	2011/05/19
JUN	5.1	12.2	1.3	29	0.8	0.2	0	0	0	0	57	1992/06/12
JUL	7.9	12.1	2	30	0.8	0.2	0.2	0.1	0	0	34.5	1996/07/17
AUG	1.4	2.7	1	29	0.3	0	0	0	0	0	10.8	2017/08/27
SEP	9.1	14.7	1.7	27	0.7	0.1	0.2	0.1	0	0	39	2007/09/29
OCT	23.8	27.4	3.2	27	1.1	0.6	0.4	0.1	0.1	0	73	1990/10/07
NOV	63.3	46.1	6.3	28	2	1.1	1.1	0.9	0.1	0	80.4	2000/11/19
DEC	83.8	58.4	7.3	24	2.5	0.9	1.3	1	0.3	0	93.5	1992/12/12
YR	473.6		47.1		15.9	6.6	6.3	5.6	1.7	0.1		

Contractor

Witness for Contractor

Employer

Witness for Employer

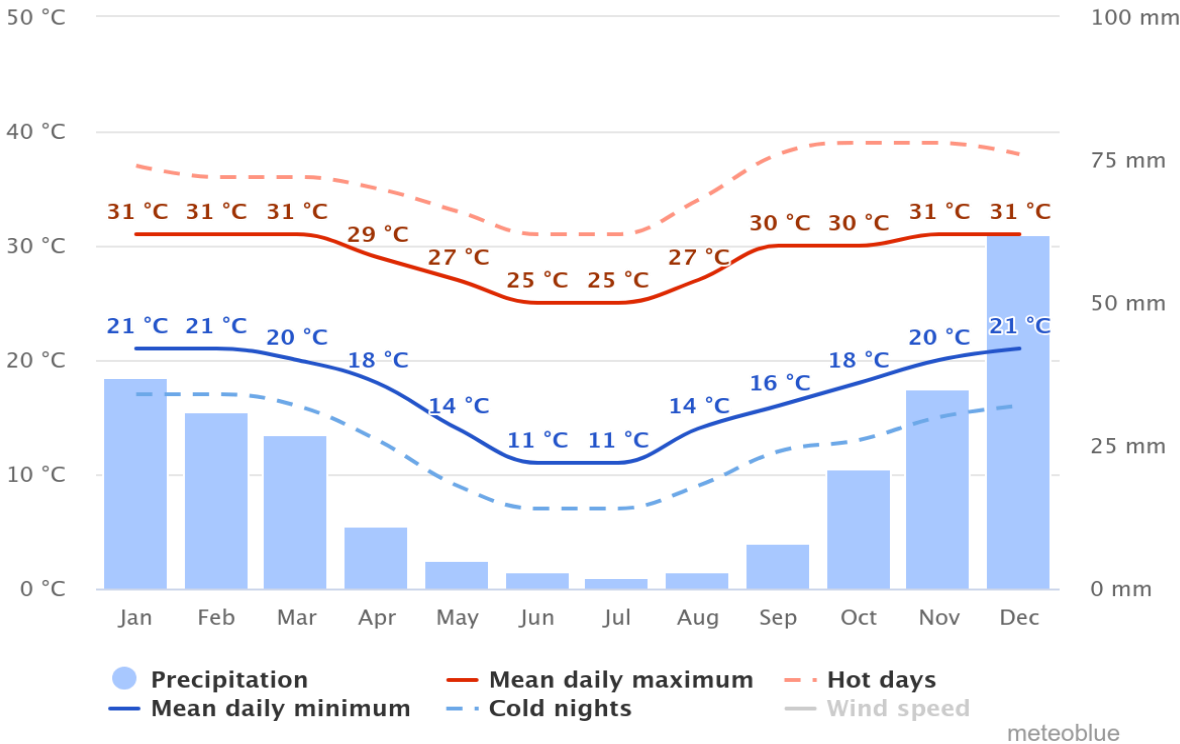


1990	2023 (Extracted 2024/04/25 09:11)											
0725373 X LETABA WOODLANDS					Lat:-23.2210		Lon:31.2120		Height:340 m			
MON	AVE	ST DEV	N DAY RAIN	NUM MON	1	5.1	10.1	20.1	50.1	100.1	MAX R DAY	MAX RAIN DATE
					5	10	20	50	100	900		
JAN	100.5	107.1	5.3	34	1.6	0.8	1.2	0.8	0.4	0.1	155	2011/01/19
FEB	88.5	107	5.4	34	1.7	1.1	0.9	0.9	0.3	0.1	308.6	2000/02/28
MAR	43.6	39.2	3.8	34	1.3	0.8	0.6	0.6	0.1	0	85	2004/03/23
APR	25	32.3	2.3	34	0.9	0.4	0.3	0.4	0.1	0	75	2010/04/20
MAY	9.4	21.5	1.1	34	0.5	0.2	0.2	0.1	0	0	70	2022/05/21
JUN	6.1	17.4	0.9	34	0.5	0.1	0.1	0	0	0	56	1992/06/13
JUL	5.6	12.2	1.1	34	0.7	0.1	0.1	0.1	0	0	32	1996/07/17
AUG	1.4	3.9	0.4	33	0.2	0	0	0	0	0	18.5	2015/08/31
SEP	8.7	15.3	1	34	0.4	0.1	0.2	0	0	0	62	1998/09/28
OCT	17.4	15.2	2.5	32	0.9	0.4	0.4	0.2	0	0	37.5	1995/10/19
NOV	66.2	64.1	5.3	32	2	0.9	1	0.7	0.3	0	90.6	1999/11/19
DEC	83.5	54.5	5.8	33	1.4	1.3	1.2	1.1	0.3	0	77	2010/12/15
YR	455.8		34.8		12.1	6.3	6.1	4.8	1.5	0.2		

LEGEND

'AVE' represents the average rainfall for the month
'ST DEV' represents the standard deviation from the normal
" s = SQRT (SUM(X*X)/n - (AVE(x) * AVE(x)))"
'N DAY RAIN' represents the average number of rain days per month
'NUM MON' represents the number of months used in the calculation
'r1 r2' represents the average number of raindays in range r1 to r2 inclusive
'MAX R DAY' represents the maximum rainfall that occurred over a 24-hour period. (08:00-08:00)
'MAX RAIN DATE' represents the date on which the maximum 24 hour rainfall occurred

Historic weather data is summarised in the graph below:



Contractor

Witness for Contractor

Employer

Witness for Employer

C4.9 REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS 2014

Refer to Annexure A of the Scope of Works (Part B) for general requirements in terms of the OH&S requirements.

Contractor

Witness for Contractor

Employer

Witness for Employer



C4.10 SAFETY PROCEDURES

Refer to the Code of Conduct for working in the South African National Parks (Annexure C of Scope of Works Part B) for conduct during the construction of the works.

Contractor

Witness for Contractor

Employer

Witness for Employer



Part C5: Schedule of subcontractors

Contractor

Witness for Contractor

Employer

Witness for Employer

C5.1 SCHEDULE OF SUBCONTRACTORS

Project Title SHANGONI ROAD PHASE 1

Contract No: KNP-015-24

With regard to sub-clause 4.4 of the GCC Conditions of Contract as amended:

Notes to tenderer:

1. The tenderer shall list below the items of work he intends to subcontract.
2. Acceptance of this tender shall not be construed as approval of all or any of the listed subcontractors. Should any or all of the subcontractors not be approved subsequent to the acceptance of the tender, it shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a subcontractor not listed below being approved by the engineer.

ITEM OF WORK	NAME OF SUBCONTRACTOR (IF KNOWN) AND INDICATE INTENDED SPECIALIST SUBCONTRACTORS WITH "S"	% VALUE OF THE TENDER AMOUNT SUB- CONTRACTED	RAND VALUE OF THE TENDER AMOUNT SUB- CONTRACTED	B-BBEE STATUS LEVEL OF SUB- CONTRACTOR	STATE IF EME

Contractor

Witness for Contractor

Employer

Witness for Employer

ANNEXURE A



HEALTH & SAFETY SPECIFICATIONS FOR

**SHANGONI ROAD PHASE 1
CONTRACT NO: KNP-015-24**

DATE: JANUARY 2025

CONTACT PERSON: DIPONTSO MULAUDZI

Address: PO Box 787

Pretoria, 0001

Tel No: (013) 753-4022

Email Fax: 086 695 9139

Email: Dipontsho.Mulaudzi@sanparks.org

CONTENTS

1. PURPOSE OF THE HEALTH AND SAFETY SPECIFICATION
2. IMPLEMENTATION OF THE HEALTH AND SAFETY SPECIFICATION
3. APPLICATION AND INTERPRETATION
4. DEFINITIONS
5. GENERAL REQUIREMENTS
 - 5.1 Construction Work Permit
 - 5.2 Notification of Intention to Commence Construction Work
 - 5.3 Duties of Principal Contractor / Contractor
 - 5.4 Management and Supervision of Construction Work
 - 5.5 Assignment of Contractor's Responsible Persons to Manage Health and Safety on Site
 - 5.6 Competency for Contractor's Responsible Persons
 - 5.7 Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)-Letter of Good Standing
 - 5.8 Occupational Health and Safety Policy
 - 5.9 Occupational Health and Safety Organogram
 - 5.10 Risk Assessments
 - 5.11 Safe Work Procedures
 - 5.12 Health and Safety Representative(s)
 - 5.13 Health and Safety Committee
 - 5.14 Medical Certificate of Fitness
 - 5.15 Health and Safety Training
 - 5.15.1 Induction
 - 5.15.2 Awareness
 - 5.16 Competency
 - 5.17 General Record Keeping
 - 5.18 General Inspection, Monitoring and Reporting
 - 5.19 Emergency Procedures
 - 5.20 First Aid Box and First Aid Equipment
 - 5.21 Accident / Incident Reporting and Investigation
 - 5.22 Hazards and Potential Situations
 - 5.23 Occupational Health and Safety Signage
 - 5.24 Management of Contractors by Principal Contractor

- 5.25 Fall protection
- 5.26 Structures
- 5.27 Temporary works
- 5.28 Excavation
- 5.2 Demolition Work
- 5.30 Tunneling
- 5.31 Scaffolding
- 5.32 Suspended Platforms
- 5.33 Rope Access Work
- 5.34 Material Hoists
- 5.35 Bulk mixing plant
- 5.36 Explosive Actuated Fastening Device
- 5.37 Cranes
- 5.38 Construction Vehicles and Mobile Plant
- 5.39 Electrical Installations and Machinery on Construction Sites
- 5.40 Use and Temporary Storage of Flammable Liquids on Construction Sites
- 5.41 Water environments
- 5.42 Housekeeping and General Safeguarding on Construction Sites
- 5.43 Stacking of Materials
- 5.44 Fire precautions on Construction Sites
- 5.45 Construction Employees' Facilities
- 5.46 Hazardous Chemical Substances (HCS)
- 5.47 Hazardous Biological Substances (HBS)
- 5.48 Noise Induced Hearing Loss
- 5.49 Personal Protective Equipment (PPE)
- 5.50 Asbestos
- 5.51 Lead
- 5.52 Fire Extinguishers and Fire Fighting Equipment
- 5.53 Ladders and Ladder work
- 5.54 General Machinery
- 5.55 Pressure Equipment
- 5.56 Portable Electrical Tools
- 5.57 High Voltage Electrical Equipment
- 5.58 Welding, Flame-Cutting, Soldering and Similar Operations
- 5.59 Public Health and Safety
- 5.60 Work in confined space
- 5.61 Work in Elevated Heights
- 5.62 Lighting

- 5.63 Environmental Conditions and Flora and Fauna
- 5.64 Occupational Health
- 5.65 Blasting and Explosives

6. TRAINING, INSPECTIONS & RECORDS

- Additional Requirements
- Annexure A: Task Completion Form
- Annexure B: Contractors Responsible Persons

7. PROJECT DETAILS

- Project Directory
- Project Details
- Existing Environment
- Project Health and Safety Requirements
- Activities requiring approved Method Statements
- Activities requiring Permits
- General Arrangements
- Protection of sit against Unauthorized access by public
- Personal Protective Equipment
- Hazardous Substance

8. BASELINE RISK ASSESSMENT

1. PURPOSE OF THE HEALTH AND SAFETY SPECIFICATION

This Health and Safety Specification has been prepared to comply with the requirements of the Construction Regulations 2014.

The purpose of this site specific Health and Safety Specification is to comply with legal requirements and to provide health and safety information about specific project risks known by the Client, Designer and Client Agent to be applicable to this project. This document also provides minimum health and safety requirements, standards and expectations that the principal contractor and contractors must adhere to.

The Contractor must take into account all information in this specification and ensure that their tenders include adequate resource and competence to deal with the matters detailed herein so that all relevant contents are dealt with in a way which is in compliance with legislation and the ethical concerns for the safeguarding of employees, contractors and other persons affected by the construction activities.

The Health and Safety Specification will be implemented during construction of the works and any construction activity that the Client has control over.

This will also assist in ensuring that all the costs related to the compliance with Occupational Health Act 85 of 1993 and the Construction Regulations 2014, as well as this Health and Safety Specification, are taken into consideration at Tender stage.

No advice, approval of any document required by the Health and Safety Specification such as hazard identification and risk assessment action plans or any other form shall be construed as an acceptance by the Client of any obligation that absolves the Contractor from achieving the required level of performance and compliance with legal requirements.

Further, there is no acceptance of liability by the Client which may result from the Contractor failing to comply with the Health and Safety Specification unless the Client has issued an instruction to any requirement, i.e. the Contractor remains responsible for achieving the required performance levels.

2. IMPLEMENTATION OF THE HEALTH AND SAFETY SPECIFICATION

This Health and Safety Specification forms an integral part of the Contract, and Contractors shall make it an integral part of their Contracts with Sub Contractors and Suppliers. Contractors employed by the Client are to ensure that the provisions of the Health and Safety Specification are applied both on the site and in respect of all off site

activities relating to the project, in particular in transport activities and project dedicated off site fabrication works.

The Contractor shall enforce the provisions of the Health and Safety Specification amongst all sub-contractors and suppliers for the project.

The Contractor shall sign the acknowledgment on the last page of this safety specification that he/she has familiarized him/herself with the content of the Health and Safety Specification and shall comply with all obligations in respect thereof.

The successful Contractor will be required to compile a Health and Safety Plan based on the requirements of the Occupational Health Act 85 of 1993 and these Specifications, which will need to be approved by Client prior to commencement with construction work.

3. APPLICATION AND INTERPRETATION

This 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 Administrative Regulations (GNR. 929, 25 June 2003)
 - General Safety Regulations (GNR928, 25 June 2003)
 - General Machinery Regulations (GNR1521, 5 August 1988)
 - Electrical Machinery Regulations (GNR250, 25 March 2011)
 - Electrical Installation Regulations (GNR242, 6 March 2009)
 - Pressure Equipment Regulations (GNR.734, 15 July 2009)
 - Driven Machinery Regulations (GN R1010, 18 July 2003)
 - Construction Regulations (GNR. 84, 7 February 2014)
 - Ergonomics Regulations (GNR. 1589, 6 December 2019)
 - Environmental Regulations for Workplace (GNR.2281, 16 October 1987)
 - Regulations for Hazardous Chemical Agents (GNR 280, 29 March 2003)
 - Regulations for Hazardous Biological Agents (GNR. 1887, 16 March 2022)
- Basic Conditions of Employment Act (Act 75 of 1997)
- SANParks Environmental Management Plan
- SANParks Code of Conduct of working in a National Park

4. DEFINITIONS

ALL REFERENCES TO CLIENT IN THIS OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION ALSO REFER TO CLIENT AGENT, WHERE SO APPOINTED.

Definitions (as per the Construction Regulations 2014) applicable to this Health and Safety Specification:

"agent" means a competent person who acts as a representative for a client;

"angle of repose" means the steepest angle of a surface at which a mass of loose or fragmented material will remain stationary in a pile on the surface, rather than sliding or crumbling away;

"bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work;

"client" means any person for whom construction work is being performed;

"competent person" means a person who has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the Act and with the applicable regulations made under the Act;

"construction manager" means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site;

"construction site" means a work place where construction work is being performed;

"construction supervisor" means a competent person responsible for supervising construction activities on a construction site;

"construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work;

"construction work" means any work in connection with-

- the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work ;

"construction work permit" means a document issued in terms of regulation 3;

"contractor" means an employer who performs construction work;

"demolition work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives;

"design" in relation to any structure, includes drawings, calculations, design details and specifications ;

"designer" means a competent person who-

- prepares a design;
- checks and approves a design;
- arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
- designs temporary work, including its components;
- an architect or engineer contributing to, or having overall responsibility for a design;
- a building services engineer designing details for fixed plant;
- a surveyor specifying articles or drawing up specifications;
- a contractor carrying out design work as part of a design and building project; or
- an interior designer, shop-fitter or landscape architect;

"excavation work" means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping;

"explosive actuated fastening device" means a tool that is activated by an explosive charge and that is used for driving bolts, nails and similar objects for the purpose of providing fixing;

"fall arrest equipment" means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration devices, lifelines or similar equipment;

"fall prevention equipment" means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines or physical equipment such as guard-rails, screens, barricades, anchorages or similar equipment;

"fall protection plan" means a documented plan, which includes and provides for -

- all risks relating to working from a fall risk position, considering the nature of work undertaken;
- the procedures and methods to be applied in order to eliminate the risk of falling; and
- a rescue plan and procedures;

"fall risk" means any potential exposure to falling either from, off or into;

"health and safety file " means a file, or other record containing the information in writing required by these Regulations;

"health and safety plan" means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

"health and safety specification" means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

"material hoist" means a hoist used to lower or raise material and equipment, excluding passengers;

"medical certificate of fitness" means a certificate contemplated in regulation 7(8);

"mobile plant" means any machinery, appliance or other similar device that is able to move independently, and is used for the purpose of performing construction work on a construction site;

"National Building Regulations" means the National Building Regulations made under the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), and promulgated by Government Notice No. R. 2378 of 30 July 1990, as amended by Government Notices No's R. 432 of 8 March 1991, R. 919 of 30 July 1999 and R. 547 of 30 May 2008;

"person day" means one normal working shift of carrying out construction work by a person on a construction site;

"principal contractor" means an employer appointed by the client to perform construction work;

"Professional Engineer or Professional Certificated Engineer" means a person holding registration as either a Professional Engineer or Professional Certificated Engineer in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"Professional Technologist" means a person holding registration as a Professional Engineering Technologist in terms of the Engineering Profession Act, 2000;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003;

"scaffold" means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both;

"shoring" means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation;

"structure" means-

- any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- any false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
- any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling;

"suspended platform" means a working platform suspended from supports by means of one or more separate ropes from each support ;

"temporary works" means any false work, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work;

"the Act" means the Occupational Health and Safety Act , 1993 (Act No. 85 of 1993);

"tunneling" means the construction of any tunnel beneath the natural surface of the earth for a purpose other than the searching for or winning of a mineral.

5. GENERAL REQUIREMENTS in terms of Construction Regulations 2014 and OHS Act and Regulations

5.1 Construction Work Permit

It must be noted that from August 2015 all projects that meet the following criteria will require a construction work permit to be applied for at least 30 days prior to the work being carried out:

- Exceeds 180 days
- Will involve more than 1800 person days of construction work
- Works contract is of a value equal to or exceeding thirteen million rand, or Construction Industry Grading Board (CIDB) grading level 6

It is the client's responsibility to apply for this permit from the Provincial Director and construction work may not commence until the permit has been issued by the Provincial Director.

A copy of this permit will be required to be kept in the principal contractors safety file, and the site specific number issued by the Provincial Director must be displayed at the site entrance.

5.2 Notification of Intention to Commence Construction Work

The Contractor shall notify the Provincial Director of the Department of Labour of the intention to commence construction work at least 7 days prior to the works commencing if the intended construction work will:

- include excavation work
- Include work at height where there is a risk of falling
- Include the demolition of a structure, or
- Include the use of explosives to perform construction work.

If the construction work involves construction of a single storey dwelling for a client, and such client will be residing in such dwelling upon completion, the contractor must also notify the Provincial Director of the Department of Labour at least 7 days before the works commence.

This must be done on a form similar to an Annexure 2 (template of which can be found in the Construction Regulations, 2014). A copy of the notification letter to the Provincial Director shall be forwarded to the Client for record purposes.

5.3 Duties of Principal Contractor / Contractor

A Principal Contractor must:

- provide and demonstrate to the client a suitable, sufficiently documented and coherent site specific health and safety plan, based on the client's documented health and safety specifications, which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the principal contractor as work progresses;
- open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the client, the client's agent or a contractor; and
- on appointing any other contractor, in order to ensure compliance with the provisions of the Act –
 - provide contractors who are tendering to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications pertaining to the construction work which has to be performed;
 - ensure that potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;
 - ensure that no contractor is appointed to perform construction work unless the principal contractor is reasonably satisfied that the contractor that he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely;
 - ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;
 - appoint each contractor in writing for the part of the project on the construction site
 - take reasonable steps to ensure that each contractor's health and safety plan is implemented and maintained on the construction site;
 - ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
 - stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;
- where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the contractor to execute the work safely;

- discuss and negotiate with the contractor the contents of their health and safety plan and finally approve that plan for implementation;
- ensure that a copy of both the principal contractor and contractor's health and safety plan is available on request to an employee, an inspector, a contractor, the client or the client's agent;
- hand over a consolidated health and safety file to the client upon completion of the construction work, to include a record of all drawings, designs, materials used and other similar information concerning the completed structure;
- in addition to the documentation required in the health and safety file include and make available a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done;
- ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

A contractor must prior to performing any construction work-

- provide and demonstrate to the principal contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the client's health and safety specification and provided by the principal contractor, which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the contractor as work progresses;
- open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, and which must be made available on request to an inspector, the client, the client's agent or the principal contractor;
- before appointing another contractor to perform construction work be reasonably satisfied that the contractor that he or she intends to appoint has the necessary competencies and resources to perform the construction work safely;
- co-operate with the principal contractor as far as is necessary to enable each of them to comply with the provisions of the Act;
- as far as is reasonably practicable, promptly provide the principal contractor with any information which might affect the health and safety of any person at work carrying out construction work on the site, any person who might be affected by the work of such a person at work, or which might justify a review of the health and safety plan.

Where a contractor appoints another contractor to perform construction work, the duties that apply to the principal contractor will apply to the contractor as if he or she were the principal contractor.

A principal contractor must take reasonable steps to ensure co-operation between all contractors appointed by the principal contractor to enable each of those contractors to comply with these Regulations.

No contractor may allow or permit any employee or person to enter any site, unless that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

A contractor must ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site and must ensure that such visitors have the necessary personal protective equipment.

A contractor must at all times keep on his or her construction site records of the health and safety induction training and such records must be made available on request to an inspector, the client, the client's agent or the principal contractor.

A contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3 (a template of which can be found in the Construction Regulations, 2014).

5.4 Management and Supervision of Construction Work

A principal contractor must, in writing, appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed by the principal contractor.

A principal contractor must upon having considered the size of the project, in writing appoint one or more assistant construction managers for different sections thereof: Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties in terms of this regulation.

Where the construction manager has not appointed assistant construction managers, or, in the opinion of an inspector, a sufficient number of such assistant construction managers have not been appointed, that inspector must direct the construction manager in writing to appoint the number of assistant construction managers indicated by the inspector, and those assistant construction managers must be regarded as having been appointed.

No construction manager appointed in terms of the Regulations may manage any construction work on or in any construction site other than the site in respect of which he or she has been appointed.

A contractor must, after consultation with the client and having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction health and safety officer in writing to assist in the control of all health and safety related aspects on the site: Provided that, where the question arises as to whether a construction health and safety officer is necessary, the decision of an inspector is decisive.

No contractor may appoint a construction health and safety officer to assist in the control of health and safety related aspects on the site unless he or she is reasonably satisfied that the construction health and safety officer that he or she intends to appoint is registered with a statutory body approved by the Chief Inspector and has necessary competencies and resources to assist the contractor

A construction manager must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

A contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor, and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor: Provided that the designation of such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties.

Where the contractor has not appointed such an employee, or, in the opinion of an inspector, a sufficient number of such employees have not been appointed, that inspector must instruct the employer to appoint the number of employees indicated by the inspector.

No construction supervisor appointed may supervise any construction work on or in any construction site other than the site in respect of which he or she has been appointed: Provided that if a sufficient number of competent employees have been appropriately designated on all the relevant construction sites, the appointed construction supervisor may supervise more than one site.

5.5 Assignment of Contractor's Responsible Persons to Manage Health and Safety on Site

The Contractor shall submit management and supervisory appointments as well as any relevant appointments in writing (as stipulated by the Construction Regulations 2014 and the Occupational Safety and Health Act 1993), prior to commencement of work (refer to **Annexure B** at the end of this Health and Safety Specification).

5.6 Competency for Contractor's Responsible Persons

The Contractor's responsible persons shall be competent in health and safety and be familiar with the Occupational Health and Safety Act 1993, and applicable regulations. Valid proof of pertinent health and safety courses attended by such persons will be required to be presented to the Client.

5.7 Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The successful Contractor shall submit to the Client a valid letter of good standing with the Compensation Insurer prior to appointment.

5.8 Occupational Health and Safety Policy

The Contractor shall submit their Health and Safety Policy, prior to construction commencement, signed by the Chief Executive Officer. The Policy must outline objectives and how they will be achieved and implemented within the operations.

5.9 Occupational Health and Safety Organogram

The Contractor shall submit an organogram, prior to construction commencement, outlining the Health and Safety Site Team that will be assigned to the project, if successful with the tender. In cases where appointments have not been made, the organogram shall reflect the position. The organogram shall be updated, when there is a change in the site team.

5.10 Risk Assessments

Baseline Risk Assessment

The Client shall cause a baseline risk assessment to be conducted by a competent person before the design process and tender process commence, and the assessed risks shall form part of the health and safety specifications.

The Contractor must, before commencement of any construction work, and during construction work, have risk assessments performed by a competent person appointed in writing, which risk assessments form part of the health and safety plan to be applied on the site and must include:

- The identification of the risks and hazards to which persons may be exposed to;
- An analysis and evaluation of the risks and hazards identified; based on a documented method
- A documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;
- A monitoring plan; and
- A review plan

The Contractor must ensure that, as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in a risk assessment.

The Contractor must ensure that all employees under his control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures and/or control measures **before any work commences** and thereafter **at the times determined in the risk assessment monitoring and review plan of the relevant site.**

The Principal Contractor must ensure that all contractors are informed regarding any hazard that is stipulated in the risk assessment **before any work commences** and thereafter **at the times determined in the risk assessment monitoring and review plan of the relevant site.**

The Contractor must consult with the health and safety committee or with a representative trade union or representative group of employees if no health and safety committee exists, on the monitoring and review of the risk assessments for the site.

The Contractor must ensure that copies of risk assessment for this site are available on site for inspection purposes by interested parties (inspector, the client, client's agent, any contractor, any employee, a representative trade union, a health and safety representative or safety committee member.

A Contractor must review the relevant risk assessment where changes are effected to the design and/or construction that result in a change to the risk profile, or when an incident has occurred.

Preventative measures must first address the elimination of the hazard or risk. Should PPE be required to reduce risk, the equipment or clothing to be used must be SABS approved

In general the Contractor must ensure that the Risk Assessment involves identifying the hazards present in a work activity on site. This is followed by an evaluation of the extent of the risk involved taking into account those precautions already being taken.

The following general principle should be followed when conducting a risk assessment:

- All relevant risks and/or hazards should be systematically addressed;
- The risk assessment should address what actually happens in the workplace during the work activity;
- All employees and those who may be affected must be considered, including maintenance staff, security guards, visitors and subcontractors;
- The risk assessment should highlight those groups and individuals who may be required to work alone or who have disabilities;
- The risk assessment process should take into account the existing safety measures and controls.
- The level of detail on a risk assessment should be appropriate to the level of risk.

5.11 Safe Work Procedures

Safe Work Procedures are to form part of the H&S Plan and **must be compiled for all the identified activities.**

The safe work procedures must address the following elements:

- The work method to be followed to conduct work safely
- Mitigation of identified risks
- Reducing and controlling risks and hazards that have been identified
- Responsibilities of competent persons
- Required personal protective equipment
- Correct equipment/tools/machinery to be used
- Reference to relevant registers to be completed
- Reference to applicable risk assessment

5.12 Occupational Health and Safety Representative(s)

The Contractor shall ensure that Health and Safety Representative(s) is/are elected and trained to carry out his / her functions. The appointment must be in writing. The Health and Safety Representative shall carry out regular inspections, keep records and report to the supervisor to take appropriate action. He / she shall attend Health and Safety Committee Meetings. The Health and Safety Representative shall be part of the team that will investigate incidents, accidents and non-conformances.

5.13 Occupational Health and Safety Committee

Where two or more health and safety representatives have been appointed on site, the Contractor shall ensure that monthly health and safety meetings are held with such representatives and minutes are kept on record. Meetings must be organized and chaired by the Contractor's Health and Safety Committee Chairperson. Minutes of these meetings must be available for the employees of the contractor to refer to.

5.14 Medical Certificate of Fitness

The contractor must ensure that their employees on site have a valid medical certificate of fitness, specific to the construction work being performed, issued by an occupational health practitioner in the form of an Annexure 3 template (refer to the Construction Regulations 2014 on the Department of Labour website for a sample of this form).

5.15 Occupational Health and Safety Training

The Contractor shall yearly conduct a training needs analysis to ascertain what health and safety training is required. A plan of action should be devised and forwarded to the Client for records. Once the identified people have attended the training, the Contractor must provide the Client with copies of certificates obtained.

5.15.1 Induction

SANParks will be responsible for the induction and no Contractor may allow or permit any employee or person to enter site unless they have undergone health and safety induction training pertaining to the hazards prevalent on site at the time of entry. This includes visitors to site. The Contractor must ensure that visitors to site have the necessary protective equipment (PPE). A copy of attendance registers of all employees who attend inductions shall be kept.

5.15.2 Awareness

The Contractor shall conduct periodic toolbox talks on site, preferably weekly or before any hazardous work takes place. The talks shall cover the relevant activity and an attendance register must be signed by all attendees. This record of who attended and the content of the topic will be kept on the site health and safety file as evidence of training.

5.16 Competency

After the Contractor has identified the training to be conducted as part of the competency requirement, and based on Risk Assessment, he shall send the relevant persons on appropriate courses and keep certificates of training for reference. Familiarity with the Health and Safety Act and Regulations is an integral part of the definition of competence.

5.17 General Record Keeping

The Contractor shall keep and maintain Health and Safety records to demonstrate compliance with the Health and Safety Specification and the Occupational Health and Safety Act. The contractor shall ensure that all records of incidents, spot fines, training etc. are kept on site. All documents shall be available for inspection by the Client, or the Department of Labour's Inspectors.

5.18 General Inspection, Monitoring and Reporting

The Contractor shall carry out inspections as required by **Annexure C** in this Health and Safety Specification, as well as by health and safety legislation.

5.19 Emergency Procedures

The Contractor shall submit a detailed Emergency Procedure for approval by the Client prior to commencement on site. The procedure shall detail the response plan including the following:

- List of key personnel;
- Details of emergency services;
- Actions or steps to be taken in the event of the emergency; and
- Information on hazardous materials / situations, including each material's hazardous potential impact or risk on the environment or human and measures to be taken in the event of an accident.

Emergency procedure(s) shall include, but shall not be limited to, fire, spills, accidents to employees, use of hazardous substances, dangers as a result of riot / service deliver protests / intimidation, etc. The Contractor shall advise the Client in writing of any on-site emergencies, together with a record of action taken, within 24 hours of the emergency occurring. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and available to site personnel.

5.20 First Aid Box and First Aid Equipment

The Contractor shall provide first aid boxes and appoint, in writing, First Aider(s) for this project in line with the results of the Contractor's risk assessment for the project, this

health and safety specification as well as the provisions of the General Safety Regulations. The appointed First Aider(s) are to be sent for accredited first aid training before starting on site. Valid certificates are to be kept on site.

First Aid box/es must be adequately stocked at all time, accessible and be controlled by a qualified First Aider. If required by the Client, the Contractor shall have a stretcher on site to be used in case of a serious incident.

5.21 Accident / Incident Reporting and Investigation

The Contractor shall, in addition to the prescribed requirements of the Occupational Health and Safety Act and General Safety Regulations, investigate, record and report all Section 24 reportable incidents to the Client within 24 hours of the incident occurring. Incident investigations shall be conducted by the Contractor's appointed Accident Investigator – this Investigator must be a competent person or persons who have sufficient knowledge to carry out an investigation.

In the event of a fatality or a permanent disabling injury the Contractor must submit proof of reporting of incident to Department of Labour as well as proof of preventative measures to the Client. The Client reserves the right to conduct investigations into any incidents that they deem fit and the Contractor is required to provide full co-operation in this regard.

5.22 Hazards and Potential Situations

The Contractor shall immediately notify other Contractors of any hazardous or potentially hazardous situations, which may arise during performance of the activities.

5.23 Occupational Health and Safety Signage

The Contractor shall ascertain and provide adequate on site health and safety signage. This signage shall include, but shall not be limited to, Hard Hat / Helmet Area; Safety Shoes to be worn on site; Dust Masks to be worn in areas where there might be exposure to excessive dust; Ear Plugs / Muffs to be worn where there might be noise exposure over 85 db; Gloves; Safety Goggles; Safety Harness, Workers in Excavation, traffic management, etc. The Contractor shall be responsible to maintain the quality and replacement of signage.

5.24 Management of Contractors by Principal Contractor

The Principal Contractor shall ensure that all contractors under his control are complying with the respective Health and Safety Plans, as well as Health and Safety Legislation.

5.25 Fall protection

The Contractor must:

- designate a competent person to be responsible for the preparation of a fall protection plan
- ensure that the fall protection plan contemplated above is implemented, amended where and when necessary and maintained as required; and
- take steps to ensure continued adherence to the fall protection plan.

A fall protection plan contemplated above must include-

- a risk assessment of all work carried out from a fall risk position and the procedures and methods used to address all the risks identified per location;
- the processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof;
- a programme for the training of employees working from a fall risk position and the records thereof;
- the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
- a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

A contractor must ensure that a construction manager appointed under regulation 8(1) is in possession of the most recently updated version of the fall protection plan.

A contractor must ensure that all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;

Also that no person is required to work in a fall risk position, unless such work is performed safely as contemplated in above and fall prevention and fall arrest equipment are approved as suitable and of sufficient strength for the purpose for which they are being used, having regard to the work being carried out and the load, including any person, they are intended to bear; and securely attached to a structure or plant, and the structure of plant and the means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and person who could fall, and fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.

5.26 Structures

A contractor must ensure that-

- all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
- no structure or part of a structure is loaded in a manner which would render it unsafe; and
- all drawings pertaining to the design of the relevant structure are kept on site and are available on request to an inspector, other contractors, the client and the client's agent or employee.

An owner of a structure must ensure that-

- inspections of that structure are carried out periodically by competent persons in order to render the structure safe for continued use;
- that the inspections contemplated in paragraph (a) are carried out at least once every six months for the first two years and thereafter yearly;
- the structure is maintained in such a manner that it remains safe for continued use;
- the records of inspections and maintenance are kept and made available on request to an inspector.

5.27 Temporary works

A contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use.

A contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose.

A contractor must ensure that-

- all temporary works structures are adequately erected, supported, braced and maintained by a competent person so that they are capable of supporting all anticipated vertical and lateral loads that may be applied to them, and that no loads are imposed onto the structure that the structure is not designed to withstand;
- all temporary works structures are done with close reference to the structural design drawings, and where any uncertainty exists the structural designer should be consulted;

- detailed activity specific drawings pertaining to the design of temporary works structures are kept on the site and are available on request to an inspector, other contractors, the client, the client's agent or any employee;
- all persons required to erect, move or dismantle temporary works structures are provided with adequate training and instruction to perform those operations safely;
- all equipment used in temporary works structure are carefully examined and checked for suitability by a competent person, before being used;
- all temporary works structures are inspected by a competent person immediately before, during and after the placement of concrete, after inclement weather or any other imposed load and at least on a daily basis until the temporary works structure has been removed and the results have been recorded in a register and made available on site;
- no person may cast concrete, until authorization in writing has been given by the competent person contemplated above;
- if, after erection, any temporary works structure is found to be damaged or weakened to such a degree that its integrity is affected, it is safely removed or reinforced immediately;
- adequate precautionary measures are taken in order to-
 - secure any deck panels against displacement; and
 - prevent any person from slipping on temporary works due to the application of release agents;
- as far as is reasonably practicable, the health of any person is not affected through the use of solvents or oils or any other similar substances;
- upon casting concrete, the temporary works structure is left in place until the concrete has acquired sufficient strength to safely support its own weight and any imposed load, and is not removed until authorization in writing has been given by the competent person
- the foundation conditions are suitable to withstand the loads caused by the temporary works structure and any imposed load in accordance with the temporary works design.
- provision is made for safe access by means of secured ladders or staircases for all work to be carried out above the foundation bearing level;
- a temporary works drawing or any other relevant document includes construction sequences and methods statement;
- the temporary works designer has been issued with the latest revision of any relevant structural design drawing;
- a temporary works design and drawing is used only for its intended purpose and for a specific portion of a construction site; and
- the temporary works drawings are approved by the temporary works designer before the erection of any temporary works.

No contractor may use a temporary works design and drawing for any works other than its intended purpose.

5.28 Excavation

A contractor must-

- ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing for that purpose; and
- Evaluate, as far as is reasonably practicable, the stability of the ground before excavation work begins.

A contractor who performs excavation work-

- must take reasonable and sufficient steps in order to prevent, as far as is reasonably practicable, any person from being buried or trapped by a fall or dislodgement of material in an excavation;
- may not require or permit any person to work in an excavation which has not been adequately shored or braced: Provided that shoring and bracing may not be necessary where-
- the sides of the excavation are sloped to at least the maximum angle of repose measured relative to the horizontal plane; or
- such an excavation is in stable material: Provided that-
- permission has been given in writing by the appointed competent person contemplated above upon evaluation by him or her of the site conditions; and
- where any uncertainty pertaining to the stability of the soil still exists, the decision from a professional engineer or a professional technologist competent in excavations is decisive and such a decision must be noted in writing and signed by both the competent person and the professional engineer or technologist, as the case may be;
- must take steps to ensure that the shoring or bracing contemplated above is designed and constructed in a manner that renders it strong enough to support the sides of the excavation in question;
- must ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it may cause its collapse and consequently endangers the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing;
- must ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken to ensure the stability of such building, structure or road and the safety of persons;

- must cause convenient and safe means of access to be provided to every excavation in which persons are required to work, and such access may not be further than six meters from the point where any worker within the excavation is working;
- must ascertain, as far as is reasonably practicable, the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and must before the commencement of excavation work that may affect any such service, take the steps that are necessary to render the circumstances safe for all persons involved;
 - must ensure that every excavation, including all bracing and shoring, is inspected-
 - daily, prior to the commencement of each shift;
 - after every blasting operation;
 - after an unexpected fall of ground;
 - after damage to supports; and
 - after rain,

by the competent person, in order to ensure the safety of the excavation and of persons, and those results must be recorded in a register kept on site and made available on request to an inspector, the client, the client's agent, any other contractor or any employee;

- must cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, to be –
 - adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
 - provided with warning illuminates or any other clearly visible boundary indicators at night or when visibility is poor, or have resort to any other suitable and sufficient precautionary measure where this is not practicable;
- must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with by any person entering any excavation;
- must, where the excavation work involves the use of explosives, appoint a competent person in the use of explosives for excavation, and must ensure that a method statement is developed by that person in accordance with the applicable explosives legislation; and
- must cause warning signs to be positioned next to an excavation within which or where persons are working or carrying out inspections or tests.

5.29 Demolition Work

A contractor must-

- Appoint a competent person in writing to supervise and control all demolition work on site.
- ensure that before any demolition work is carried out, and in order to ascertain the method of demolition to be used, a detailed structural engineering survey of the structure to be demolished is carried out by a competent person and that a method statement on the procedure to be followed in demolishing the structure is developed by that person.
- During a demolition, the competent person contemplated in sub regulation (1) must check the structural integrity of the structure at intervals determined in the method statement contemplated in sub regulation (2), in order to avoid any premature collapses.

A contractor who performs demolition work must-

- with regard to a structure being demolished, take steps to ensure that-
 - no floor, roof or other part of the structure is overloaded with debris or material in a manner which would render it unsafe;
 - all reasonably practicable precautions are taken to avoid the danger of the structure collapsing when any part of the framing of a framed or partly framed building is removed, or when reinforced concrete is cut; and
 - precautions are taken in the form of adequate shoring or other means that may be necessary to prevent the accidental collapse of any part of the structure or adjoining structure;
- ensure that no person works under overhanging material or a structure which has not been adequately supported, shored or braced;
- ensure that any support, shoring or bracing contemplated in paragraph (b), is designed and constructed so that it is strong enough to support the overhanging material;
- where the stability of an adjoining building, structure or road is likely to be affected by demolition work on a structure, take steps to ensure the stability of such structure or road and the safety of persons;
- ascertain as far as is reasonably practicable the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and must before the commencement of demolition work that may affect any such service, take the steps that are necessary to render circumstances safe for all persons involved;
- cause every stairwell used and every floor where work is being performed in a building being demolished, to be adequately illuminated by either natural or artificial means;
- cause convenient and safe means of access to be provided to every part of the demolition site in which persons are required to work; and

- erect a catch platform or net above an entrance or passageway or above a place where persons work or pass under, or fence off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe where there is a danger or possibility of persons being struck by falling objects.
- ensure that no material is dropped to any point, which falls outside the exterior walls of the structure, unless the area is effectively protected. (
- No person may dispose of waste and debris from a high place by a chute unless the chute-
 - is adequately constructed and rigidly fastened;
 - if inclined at an angle of more than 45 degrees to the horizontal, is enclosed on its four sides;
 - if of the open type, is inclined at an angle of less than 45 degrees to the horizontal;
 - where necessary, is fitted with a gate at the bottom end to control the flow of material; and
 - discharges into a container or an enclosed area surrounded by barriers.
- A contractor must ensure that every chute used to dispose of rubble is designed in such a manner that rubble does not free-fall and that the chute is strong enough to withstand the force of the debris travelling along the chute.
- A contractor must ensure that no equipment is used on floors or working surfaces, unless such floors or surfaces are of sufficient strength to support the imposed loads.
- Where a risk assessment indicates the presence of asbestos, a contractor must ensure that all asbestos related work is conducted in accordance with the Asbestos Regulations, 2001, promulgated by Government Notice No. R. 155 of 10 February 2002.
- Where a risk assessment indicates the presence of lead, a contractor must ensure that all lead related work is conducted in accordance with the Lead Regulations, 2001, promulgated by Government Notice No. R.236 of 28 February 2002. (11) Where the demolition work involves the use of explosives, a method statement must be developed in accordance with the applicable explosives legislation, by an appointed person who is competent in the use of explosives for demolition work and all persons involved in the demolition works must adhere to demolition procedures issued by the appointed person.
- A contractor must ensure that all waste and debris are as soon as reasonably practicable removed and disposed of from the site in accordance with the applicable legislation.

5.30 Tunnelling

No person may enter a tunnel, which has a height dimension of less than 800 millimetres.

5.31 Scaffolding

A contractor must appoint a competent person in writing who must ensure that all scaffolding work operations are carried out under his or her supervision and that all scaffold erectors, team leaders and inspectors are competent to carry out their work.

A contractor using access scaffolding must ensure that such scaffolding, when in use, complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act.

5.32 Suspended Platforms

A contractor must appoint a competent person in writing who must ensure that all suspended platforms work operations are carried out under his or her supervision and that all suspended platform erectors, operators and inspectors are competent to carry out their work.

No contractor may use or permit the use of a suspended platform, unless-

- the design, stability and construction thereof comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act;
- he or she is in possession of a certificate of system design issued by a professional engineer, certificated engineer or a professional technologist for the use of the suspended platform system; and
- he or she is, before the commencement of the work, in possession of an operational compliance plan developed by a competent person based on the certificate of system design contemplated in subparagraph (b) and applicable to the environment in which the system is being used, which operational compliance plan must include proof of the- (i) appointment of the competent person contemplated in sub regulation (1); (ii) competency of erectors, operators and inspectors; (iii) operational design calculations, which must comply with the requirements of the system design certificate; (iv) performance test results; (v) sketches indicating the completed system with the operational loading capacity of the platform; (vi) procedures for and records of inspections having been carried out; and (vii) procedures for and records of maintenance work having been carried out.

A contractor making use of a suspended platform system must submit a copy of the certificate of system design contemplated in sub regulation (2)(b), including a copy of the operational design calculations contemplated in sub regulation 2(c)(iii), sketches and test

results, to the provincial director before commencement of the use of the system and must further indicate the intended type of work that the system will be used for.

A contractor must submit a copy of the certificate of system design in the manner contemplated in sub regulation (3) for every new project. (5) A contractor must ensure that the outriggers of each suspended platform – (a) are constructed of material of adequate strength and have a safety factor of at least four in relation to the load it is to carry; and (b) have suspension points provided with stop devices or other effective devices at the outer ends to prevent the displacement of ropes.

A contractor must ensure that-

- the parts of the building or structure on which the outriggers of a suspended platform are supported, are checked by means of calculations to ensure that the required safety factor is adhered to without risk of damage to the building or structure;
- the suspension wire rope and the safety wire rope are separately connected to the outrigger;
- each person on a suspended platform is provided with and wears a body harness as a fall prevention device, which must at all times be attached to the suspended platform;
- the hand or power driven machinery to be used for the lifting or lowering of the working platform of a suspended platform is constructed and maintained in such a manner that an uncontrolled movement of the working platform cannot occur;
- the machinery referred to in paragraph (d) is so situated that it is easily accessible for inspection;
- the rope connections to the outriggers are vertically above the connections to the working platform; and
- when the working platform is suspended by two ropes only, the connections of the ropes to the working platform are of a height above the level of the working platform to ensure the stability of the working platform.

A contractor must ensure that a suspended platform-

- is suspended as near as possible to the structure to which work is being done to prevent as far as is reasonably practicable horizontal movement away from the face of the structure;
- is fitted with anchorage points to which workers must attach the lanyard of the safety harness worn and used by the worker, and such anchorage connections must have sufficient strength to withstand any potential load applied to it; and
- is fitted with a conspicuous notice easily understandable by all workers working with the suspended platform, showing- (i) the maximum mass load; (ii) the maximum number of persons; and (iii) the maximum total mass load, including load and persons, which the suspended platform can carry.

A contractor must cause-

- the whole installation and all working parts of a suspended platform to be thoroughly examined by a competent person in accordance with the manufacturer's specification;
- the whole installation to be subjected to a performance test as determined by the standard to which the suspended platform was manufactured;
- the performance test contemplated in paragraph (b) to be done by a competent person appointed in writing, with the knowledge and experience of erection and maintenance of suspended platforms or similar machinery, and who must determine the serviceability of the structures, ropes, machinery and safety devices before they are used, every time suspended platforms are erected; and
- the performance test contemplated in paragraph (b) of the whole installation of the suspended platform to be subjected to a load equal to that prescribed by the manufacturer or, in the absence of such load, to a load of 110 per cent of the rated mass load, at intervals not exceeding 12 months and in such a manner that every part of the installation is stressed accordingly.

A contractor must, in addition to sub regulation (8), cause every hoisting rope, hook or other load-attaching device which forms part of the suspended platform to be thoroughly examined in accordance with the manufacturer's specification by the competent person contemplated in sub regulation (8) before they are used every time they are assembled, and, in cases of continuous use, at intervals not exceeding three months.

A contractor must ensure that the suspended platform supervisor contemplated in sub regulation (1), or the suspended platform inspector contemplated in sub regulation (8)(c), carries out a daily inspection of all the equipment prior to use, including establishing whether-

- all connection bolts are secure;
- all safety devices are functioning;
- all safety devices are not tampered with or vandalized;
- the total maximum mass load of the platform is not exceeded;
- the occupants in the suspended platform are using body harnesses which have been properly attached; there are no visible signs of damage to the equipment; and
- all reported operating problems have been attended to.

A contractor must further ensure that –

- all inspection and performance test records are kept on the construction site at all times and made available to an inspector, the client, the client's agent or any employee upon request.
- all employees required to work or to be supported on a suspended platform are- (a) medically fit to work safely in a fall risk position or such similar environment by being in possession of a medical certificate of fitness; (b) competent in conducting work related to suspended platforms safely; (c) trained or received

training, which includes at least- (i) how to access and egress the suspended platform safely; (ii) how to correctly operate the controls and safety devices of the equipment; (iii) information on the dangers related to the misuse of safety devices; and (iv) information on the procedures to be followed in the case of- (aa) an emergency; (bb) the malfunctioning of equipment; and (cc) the discovery of a suspected defect in the equipment; and (v) instructions on the proper use of body harnesses.

- where the outriggers of a suspended platform are to be moved, only persons trained and under the supervision of the competent person effect such move, within the limitation stipulated in the operational compliance plan contemplated in sub regulation (2)(c), and that the supervisor must carry out an inspection and record the result thereof prior to re-use of the suspended platform.
- the suspended platform is properly isolated after use at the end of each working day in such a manner that no part of the suspended platform presents a danger to any person thereafter.

5.33 Rope Access Work

A contractor must-

- appoint a competent person in writing as a rope access supervisor with the duty of supervising all rope access work on the site, including the duty of ensuring occupational health and safety compliance in relation to rope access work: Provided that the appointment of any such person does not relieve the construction manager of any personal accountability for failing in his management duties in terms of this regulation;
- ensure that all rope access work on the construction site is carried out under the supervision of a competent person; and
- ensure that all rope access operators are competent and licensed to carry out their work.

No contractor may use or allow the use of rope access work unless-

- the design, selection and use of the equipment and anchors comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act; and
- he or she is in possession of a site specific fall protection plan developed by a competent person applicable to the specific work and environment prior to the commencement of the work, including records of maintenance and inspections of all the equipment used for the work operations.

A contractor must ensure that adequate measures are in place to allow rescue procedures to commence immediately in the event of a fall incident taking place.

5.34 Material Hoists

A contractor must ensure that-

- every material hoist and its tower have been constructed in accordance with the generally accepted technical standards and are strong enough and free from defects.
- the tower of every material hoist is- (a) erected on firm foundations and secured to the structure or braced by steel wire guy ropes, and extends to a distance above the highest landing to allow a clear and unobstructed space of at least 900 millimeters for over travel; (b) enclosed on all sides at the bottom, and at all floors where persons are at risk of being struck by moving parts of the hoist, except on the side or sides giving access to the material hoist, with walls or other effective means to a height of at least 2100 millimeters from the ground or floor level; and (c) provided with a door or gate at least 2100 millimeters in height at each landing, and that door or gate must be kept closed except when the platform is at rest at such a landing.
- every material hoist- (a) is inspected on daily basis by a competent person appointed in writing by the contractor and such competent person must have the experience pertaining to the erection and maintenance of material hoists or similar machinery; (b) inspection contemplated in paragraph (a) , includes the determination of the serviceability of the entire material hoist, including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices; (c) inspection results are entered and signed in a record book by a competent person, which book must be kept on the premises for that purpose; (d) is properly maintained and the maintenance records in this regard are kept on site.

A contractor must cause-

- the platform of every material hoist to be designed in a manner that it safely contains the loads being conveyed and that the combined mass of the platform and the load does not exceed the designed lifting capacity of the hoist;
- the hoisting rope of every material hoist which has a remote winch to be effectively protected from damage by any external cause to the portion of the hoisting rope between the winch and the tower of the hoist; and
- every material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when power is not being supplied to the hoisting machinery.
- a notice, indicating the maximum mass load which may be carried at any one time and the prohibition of persons from riding on the platform of the material hoist, to be affixed around the base of the tower and at each landing.

No contractor may require or permit trucks, barrows or material to be conveyed on the platform of a material hoist and no person may so convey trucks, barrows or material

unless those articles are secured or contained in a manner that displacement thereof cannot take place during movement. A contractor of a material hoist may not require or permit any person to operate a hoist, unless the person is competent in the operation of that hoist. No contractor may require or permit any person to ride on a material hoist.

5.35 Bulk mixing plant

A contractor must ensure that the operation of a bulk mixing plant is supervised by a competent person who has been appointed in writing and is –

- aware of all the dangers involved in the operation thereof; and
- conversant with the precautionary measures to be taken in the interest of health and safety.

No person supervising or operating a bulk mixing plant may authorize any other person to operate the plant, unless that person is competent to operate a bulk mixing plant.

A contractor must ensure that the placement and erection of a bulk mixing plant complies with the requirements set out by the manufacturer and that such plant is erected as designed.

A contractor must ensure that all devices to start and stop a bulk mixing plant are provided and that those devices are placed in an easily accessible position and constructed in a manner to prevent accidental starting.

A contractor must ensure that the machinery and plant selected is suitable for the mixing task and that all dangerous moving parts of a mixer are placed beyond the reach of persons by means of doors, covers or other similar means.

No person may remove or modify any guard or safety equipment relating to a bulk mixing plant, unless authorized to do so by the appointed person.

A contractor must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with when entering any silo.

A contractor must ensure that a record is kept of all repairs or maintenance to a bulk mixing plant and that the record is available on site to an inspector, the client, the client's agent or any employee.

5.36 Explosive Actuated Fastening Device

No contractor may use or permit any person to use an explosive actuated fastening device, unless-

- the user is provided with and uses suitable protective equipment;
- the user is trained in the operation, maintenance and use of such a device;
- the explosive actuated fastening device is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles; and
- the firing mechanism is so designed that the explosive actuated fastening device, will not function unless it is held against the surface with a force of at least twice its weight; and the angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle. (

A contractor must ensure that-

- only cartridges suited for the relevant explosive actuated fastening device, and the work to be performed, are used;
- an explosive actuated fastening device is cleaned and examined daily before use and as often as may be necessary for its safe operation by a competent person who has been appointed for that purpose;
- the safety devices of an explosive actuated fastening device are in good working order prior to use;
- when not in use, an explosive actuated fastening device and its cartridges are locked up in a safe place, which is inaccessible to unauthorized persons;
- an explosive actuated fastening device is not stored in a loaded condition; a warning notice is displayed in a conspicuous manner in the immediate vicinity wherever an explosive actuated fastening device is used; and
- the issuing and collection of cartridges and nails or studs of an explosive actuated fastening device are- (i) controlled and done in writing by a person having been appointed in writing for that purpose; and (ii) recorded in a register by a competent person and that the recipient has accordingly signed for the receipt thereof as well as the returning of any spent and unspent cartridges.

5.37 Cranes

A contractor must, in addition to compliance with the Driven Machinery Regulations, 1988 ensure that where tower cranes are used-

- they are designed and erected under the supervision of a competent person;
- a relevant risk assessment and method statement are developed and applied;
- the effects of wind forces on the crane are taken into consideration and that a wind speed device is fitted that provides the operator with an audible warning when the wind speed exceeds the design engineer's specification;
- the bases for the tower cranes and tracks for rail-mounted tower cranes are firm, level and secured;

- the tower crane operators are competent to carry out the work safely; and the tower crane operators have a medical certificate of fitness to work in such an environment, issued by an occupational health practitioner.

5.38 Construction Vehicles and Mobile Plant

A contractor must ensure that all construction vehicles and mobile plant-

- are of an acceptable design and construction;
- are maintained in a good working order;
- are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
- are operated by a person who-
- has received appropriate training, is certified competent and in possession of proof of competency and is authorised in writing to operate those construction vehicles and mobile plant;
- has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practitioner in the form of Annexure 3.
- have safe and suitable means of access and egress;
- are properly organized and controlled in any work situation by providing adequate signalling or other control arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;
- are prevented from falling into excavations, water or any other area lower than the working surface by installing adequate edge protection, which may include guard-rails and crash barriers;
- are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
- are equipped with an acoustic warning device which can be activated by the operator;
- are equipped with an automatic acoustic reversing alarm; and
- are inspected by the authorised operator or driver on a daily basis using a relevant checklist prior to use and that the findings of such inspection are recorded in a register kept in the construction vehicle or mobile plant.

A contractor must ensure that-

- no person rides or is required or permitted to ride on a construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
- every construction site is organized in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;

- the traffic routes are suitable for the persons, construction vehicles or mobile plant using them, are sufficient in number, in suitable positions and of sufficient size;
- every traffic route is, where necessary, indicated by suitable signs;
- all construction vehicles and mobile plant left unattended at night, adjacent to a public road in normal use or adjacent to construction areas where work is in progress, have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant;
- all construction vehicles or mobile plant when not in use, have buckets, booms or similar appendages, fully lowered or blocked, controls in a neutral position, motors stopped, wheels chocked, brakes set and ignition secured;
- whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
- tools, material and equipment are secured and separated by means of a physical barrier in order to prevent movement when transported in the same compartment with employees;
- vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and
- all construction vehicles or mobile plant travelling, working or operating on public roads comply with the requirements of the National Road Traffic Act, 1996.

5.39 Electrical Installations and Machinery on Construction Sites

A contractor must, in addition to compliance with the Electrical Installation Regulations and the Electrical Machinery Regulations, ensure that –

- before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or on the site;
- all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;
- the control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing for that purpose;
- all temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site; and
- all electrical machinery is inspected by the authorized operator or user on a daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

5.40 Use and Temporary Storage of Flammable Liquids on Construction Sites

A contractor must, in addition to compliance with the provisions for the use and storage of flammable liquids in the General Safety Regulations, 2003, ensure that –

- where flammable liquids are being used, applied or stored at the workplace concerned, it is done in a manner that does not cause a fire or explosion hazard, and that the workplace is effectively ventilated;
- no person smokes in any place in which flammable liquid is used or stored, and the contractor must affix a suitable and conspicuous notice at all entrances to any such areas prohibiting such smoking;
- an adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs;
- only the quantity of flammable liquid needed for work on one day is taken out of the store for use;
- all containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, are removed from the construction site and safely disposed of;
- where flammable liquids are decanted, the metal containers are bonded and earthed; and
- no flammable material, including cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids

5.41 Water environments

A contractor must ensure that where construction work is done over or in close proximity to water, provision is made for-

- preventing persons from falling into water; and
- the rescuing of persons in danger of drowning.

A contractor must ensure that where a person is exposed to the risk of drowning by falling into the water, the person is provided with and wears a lifejacket.

5.42 Housekeeping and General Safeguarding on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, promulgated by Government Notice No. R. 2281 of 16 October 1987, ensure that suitable housekeeping is continuously implemented on each construction site, including-

- the proper storage of materials and equipment;
- the removal of scrap, waste and debris at appropriate intervals;

- ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways;
- ensuring that materials which are no longer required for use, do not accumulate on and are removed from the site at appropriate intervals;
- ensuring that waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements set out in the regulations;
- ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons; and
- ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under, or fencing off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe in the case of danger of possibility of persons being struck by falling objects.

5.43 Stacking of Materials

In addition to the provisions for the stacking of articles in the General Safety Regulations, 2003, the contractor must ensure that –

- a competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site;
- adequate storage areas are provided;
- there are demarcated storage areas; and
- storage areas are kept neat and under control.

5.44 Fire precautions on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, ensure that –

- all appropriate measures are taken to avoid the risk of fire;
- sufficient and suitable storage is provided for flammable liquids, solids and gases;
- smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;
- in confined spaces and other places in which flammable gases, vapours or dust can cause danger-
 - only suitably protected electrical installations and equipment, including portable lights, are used;
 - there are no flames or similar means of ignition;
 - there are conspicuous notices prohibiting smoking;

- oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and
- adequate ventilation is provided;

- combustible materials do not accumulate on the construction site;
- welding, flame cutting and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire;
- suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order;
- the fire equipment contemplated above is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof;
- a sufficient number of workers are trained in the use of fire- extinguishing equipment;
- where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;
- the means of escape is kept clear at all times;
- there is an effective evacuation plan providing for all -
 - persons to be evacuated speedily without panic;
 - persons to be accounted for; and
 - plant and processes to be shut down; and
 - a siren is installed and sounded in the event of a fire.

5.45 Construction Employees' Facilities

A contractor must, in terms of the Construction Regulations 2014, provide:

- Shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every 15 persons;
- at least one sanitary facility for each sex and for every 30 workers;
- changing facilities for each sex;
- and sheltered eating area.

A contractor must provide reasonable and suitable living accommodation for the workers at construction sites who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

5.46 Hazardous Chemical Substances (HCS)

In addition to the requirements in the HCS Regulations, the principal contractor must provide proof in the Health and Safety Plan that:

- Material Safety Data Sheets (MSDS's) of the relevant materials / hazardous chemical substances are available prior to use by the contractor. All MSDS's shall be available for inspection by the agent at all times.
- Risk assessments are done at least once every 6 months.
- Exposure monitoring is done according to OESSM and by an Approved Inspection Authority (AIA) and that the medical surveillance programme is based on the outcomes of the exposure monitoring.
- How the relevant HCS's are being/going to be controlled by referring to:
 - Limiting the amount of HCS
 - Limiting the number of employees
 - Limiting the period of exposure
 - Substituting the HCS
 - Using engineering controls
 - Using appropriate written work procedures
- The correct PPE is being used.
- HCS are stored and transported according to SABS 072 and 0228.
- Training with regards to these regulations was given.

The Health and Safety plan should make reference to the disposal of hazardous waste on classified sites and the location thereof (where applicable).

The First Aider must be made aware of the MSDS and trained in how to treat HCS incidents appropriately.

5.47 Hazardous Biological Agent (HBA)

Because of the possible exposure of workers to raw sewage the H&S Plan shall include details of the following:

- The conducting of Risk Assessment specifically aimed at exposure to HBA which shall include the following
 - Nature and dose of HBA
 - Where HBA may be present and in what physical form
 - The nature of work or process
 - Steps in the event of failure of control measures
 - The effect of the HBA
 - The period of exposure
 - Control measures to be implemented

- Monitoring of exposure of workers shall be conducted to establish whether any worker is infected with an HBA associated with working or being exposed to raw sewage, in terms of the following:
 - By an occupational medical practitioner
 - Before entering the site to establish the workers baseline
 - During the period of the contract the risk assessment indicate possible exposure
 - After completion of the contract
- Medical surveillance should such be required after the above-mentioned by an occupational health practitioner.
- Indication on how all records of assessment, monitoring, etc. will be kept, taking into account that records have to be kept for a period of 40 years.
- How exposure to HBA is to be controlled
- The provision of personal protective equipment
- What information and training is to be provided to employees regarding the following:
 - The contents of these regulations
 - Potential risks to health
 - Control measures to be implemented
 - The correct use and maintenance of personal protective equipment
 - The results of the risk assessment.

5.48 Noise Induced Hearing Loss

Where noise is identified as a hazard the requirements of the NIHL regulations must be complied with and the following must be included / referred to in the Health and Safety Plan:

- Proof of training with regards to these regulations.
- Risk assessment done within 1 month of commencement of work.
- That monitoring carried out by an AIA and done according to SABS 083.
- Medical surveillance programme established and maintained for the necessary employees.
- Control of noise by referring to:
 - Engineering methods considered
 - Admin control (number of employees exposed) considered
 - Personal protective equipment considered/decided on
 - Describe how records are going to be kept for 40 years.

5.49 Personal Protective Equipment (PPE)

The Contractor shall carry out PPE or clothing needs analysis in accordance with his risk assessment, to determine the necessary PPE or clothing to be used during construction.

The Contractor shall make provision and keep adequate quantities of SABS approved PPE or clothing on site at all times.

The Contractor must ensure that personnel are trained in the correct use of PPE to be used.

The Contractor must ensure that lost, stolen, worn out or damaged PPE is replaced as required and receipt signed for by employees on site.

5.50 Asbestos

Should asbestos be identified as a hazard whilst work is carried out, the following must be included in the health and safety plan:

- Notification to the Provincial Director in writing, prior to commencement of asbestos work.
- Proof of a structured medical surveillance programme, drawn up by an occupational medicine practitioner.
- Proof that an occupational health practitioner carried out an initial health evaluation within 14 days after commencement of work.
- Copies of the results of all assessments, exposure monitoring and the written inventory of the location of the asbestos at the workplace.
- Only proof that medical surveillance has been conducted and not the actual records itself since these areas of a confidential nature.
- How records are going to be kept safe for the stipulated period of 40 years.
- Proof that asbestos demolition (if applicable) is going to be done by a registered asbestos contractor and provide proof that a plan of work for such demolition is submitted to an Approved Asbestos Inspection Authority 30 days prior to commencement of the demolition.
- Provide proof that the plan of work was approved by the asbestos AIA and submitted to the provincial director 14 days prior to commencement of demolition work together with the approved standardised procedures for demolition work

5.51 Lead

Should lead be identified as a hazard whilst work is carried out, the following must be included in the health and safety plan:

- Proof that an occupational health practitioner carried out an initial health evaluation within 14 days after commencement of work.

- Copies of the results of all assessments, exposure monitoring and the written inventory of the location of the lead at the workplace.
- Only proof that medical surveillance has been conducted and not the actual records since these are of a confidential nature.
- How records are going to be kept safe for the stipulated period of 40 years.

5.52 Fire Extinguishers and Fire Fighting Equipment

The Contractor shall provide adequate, regularly serviced fire extinguishers located at strategic points on site. The Contractor shall keep spare serviced portable fire extinguishers. The Contractor shall have adequate persons trained or competent to use the Fire Fighting Equipment.

Safety signage shall be posted up in all areas where fire extinguishers are located.

5.53 Ladders and Ladder work

The Contractor shall ensure that all ladders are numbered and inspected regularly keeping record of inspections. It should be noted that Aluminium ladders are preferred to wooden ladders.

5.54 General Machinery

The Contractor shall comply with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing and training those that use machinery and enforce compliance.

5.55 Pressure Equipment

The Contractor shall comply with the Pressure Equipment Regulations, which include inspecting equipment regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing and training those that use equipment and enforce compliance.

5.56 Portable Electrical Tools

The Contractor shall comply with the Electrical Machinery Regulations and shall ensure that use and storage of all portable electrical tools are in compliance with relevant legislation.

The Contractor shall consider that:

- A competent person undertakes routine inspections;

- Only authorised persons use the tools;
- There are safe working procedures applied;
- Awareness training is carried out and compliance is enforced at all times; and
- PPE and clothing is provided and maintained.

5.57 High Voltage Electrical Equipment

The Contractor shall ensure that, where the work is under, on or near high-voltage electrical equipment the Electrical Installation Regulations, together with safety instructions (Regulations of the Owner of the Equipment) are complied with. Such equipment includes:

- Eskom and the Local Authority equipment
- The Contractor's own power supply; and
- Electrical equipment being installed but not yet taken over from a Contractor by The Client.

5.58 Welding, Flame-Cutting, Soldering and Similar Operations

No employer or user of machinery shall require or permit welding or flame cutting operations to be undertaken, unless –

- the person operating the equipment has been fully instructed in the safe operation and use of such equipment and in the hazards which may arise from its use;
- effective protection is provided and used for the eyes and respiratory system and, where necessary, for the face, hands, feet, legs, body and clothing of persons performing such operations, as well as against heat, incandescent or flying particles or dangerous radiation;
- leads and electrode holders are effectively insulated; and
- the workplace is effectively partitioned off where practicable and where not practicable all other persons exposed to the hazards contemplated in paragraph (b) are warned and provided with suitable protective equipment.

No employer or user of machinery shall require or permit welding or flame cutting operations to be undertaken in a confined space, unless –

- effective ventilation is provided and maintained; or
- masks or hoods maintaining a supply of safe air for breathing are provided and used by the persons performing such operations.

No employer or user of machinery shall require or permit electric welding to be undertaken in wet or damp places, inside metal vessels or in contact with large masses of metal, unless

- the insulation of the electrical leads is in a sound condition;

- the electrode holder is completely insulated to prevent accidental contact with current-carrying parts;
- the welder is completely insulated by means of boots, gloves or rubber mats; and
- at least one other person who has been properly instructed to assist the welder in case of an emergency is and remains in attendance during operations: Provided that the provisions of this sub-regulation shall not apply to a welding process where the maximum voltage to earth does not exceed 50 volts.

No employer or user of machinery shall require or permit welding, flame cutting, grinding, soldering or similar work to be undertaken in respect of any tube, tank, drum, vessel or similar object or container where such object or container –

- is completely closed, unless a rise in internal pressure cannot render it dangerous; or
- contains any substance which, under the action of heat, may --
 - (i) ignite or explode; or
 - (ii) react to form dangerous or poisonous substances, unless a person who is competent to pronounce on the safety thereof has, after examination, certified in writing that any such danger has been removed by opening, ventilating or purging with water or steam, or by any other effective means.

Where hot work involving welding, cutting, brazing or soldering operations is carried out at places, other than workplaces which have been specifically designated and equipped for such work, the employer shall take steps to ensure that proper and adequate fire precautions are taken.

5.59 Public Health and Safety

The Contractor shall ensure that each person working on or visiting a site, and the surrounding community, shall be made aware of the dangers likely to arise from onsite activities and the precautions to be observed to avoid or minimize those dangers. Appropriate health and safety signage shall be posted at all times.

5.60 Work in confined space

An employer or a user of machinery shall take steps to ensure that a confined space is entered by an employee or other person only after the air therein has been tested and evaluated by a person who is competent to pronounce on the safety thereof, and who has certified in writing that the confined space is safe and will remain safe while any person is in the confined space, taking into account the nature and duration of the work to be performed therein.

Where the provisions of sub regulation (1) cannot be complied with the employer or user of machinery, as the case may be, shall take steps to ensure that any confined space in

which there exists or is likely to exist a hazardous gas, vapor, dust or fumes, or which has or is likely to have, an oxygen content of less than 20 per cent by volume, is entered by an employee or other person only when—

- subject to the provisions of sub regulation (3), the confined space is purged and ventilated to provide a safe atmosphere therein and measures necessary to maintain a safe atmosphere therein have been taken; and
- the confined space has been isolated from all pipes, ducts and other communicating openings by means of effective blanking other than the shutting or locking of a valve or a cock, or, if this is not practicable, only when all valves and cocks which are a potential source of danger have been locked and securely fastened by means of chains and padlocks.

Where the provisions of sub regulation (2)(a) cannot be complied with, the employer or user of machinery shall take steps to ensure that the confined space in question is entered only when the employee or person entering is using breathing apparatus of a type approved by the chief inspector and, further, that—

- the provisions of sub regulation (2) (b) are complied with;
- any employee or person entering the confined space is using a safety harness or other similar equipment, to which a rope is securely attached which reaches beyond the access to the confined space, and the free end of which is attended to by a person referred to in paragraph (c);
- at least one other person trained in resuscitation is and remains in attendance immediately outside the entrance of the confined space in order to assist or remove any or persons from the confined space, if necessary; and
- effective apparatus for breathing and resuscitation of a type approved by the chief inspector is available immediately outside the confined space.

An employer or user of machinery shall take steps to ensure that all persons vacate a confined space on completion of any work therein.

Where the hazardous gas, vapor, dust or fumes contemplated in sub regulation (2) are of an explosive or flammable nature, an employer or user of machinery shall further take steps to ensure that such a confined space is entered only if –

- the concentration of the gas, vapor, dust or fumes does not exceed 25 per cent of the lower explosive limit of the gas, vapor, dust or fumes concerned where the work to be performed is of such a nature that it does not create a source of ignition; or
- such concentration does not exceed 10 per cent of the lower explosive limit of the gas, vapor, dust or fumes where other work is performed.

The provisions of this regulation shall mutatis mutandis also apply, in so far as they can be so applied, to any work which is performed in any place or space on the outside of and bordering on or in the immediate vicinity of, any confined space, and in which place

or space, owing to its proximity to the confined space, any hazardous article, oxygen-deficient atmosphere or dangerous concentration of gas, vapor, dust or fumes may occur or be present.

5.61 Work in Elevated Heights

No employer shall require or permit any person to work in an elevated position, and no person shall work in an elevated position, unless such work is performed safely from a ladder or scaffolding, or from a position where such person has been made as safe as if he were working from scaffolding

5.62 Lighting

Where poor or lack of illumination is identified as a hazard the lighting regulations must be complied with and the following must be included in the H&S Plan:

- How lighting will be ensured/ provided where daylight is not sufficient and /or after hours are worked.
- Planned maintenance programme for replacing luminaries.
- Proof of illumination levels of artificial illumination equipment.

5.63 Environmental Conditions and Flora and Fauna

The Contractor must be mindful of adverse weather conditions upon the Occupational health and safety of the workforce. This includes inclement weather, strong wind, heat stress, extreme cold, etc. The Contractor's risk assessment process must take into account the risks associated with such weather conditions. The same is true when working in an environment where there is a risk to employees' health and safety from presence of poisonous flora, or wildlife (including bees, snakes, etc.). The Contractor's risk assessment process must take these risks into account.

5.64 Occupational Health and Safety

Exposure of workers to occupational health hazards and risks are very common in any work environment, especially in construction. Occupational health hazards and risks exposure is a major problem and all Contractors are to ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards and risks.

The occupational hazards and risks may enter the body in three ways:

- Inhalation through breathing e.g. cement dust;
- Ingestion through swallowing maybe through food intake;
- Absorption through the skin (pores) e.g. painting or use of thinners.

The contractor is required to ensure that all his personnel are medically fit prior to being allowed onto the work site.

All Contractors should ensure that Occupational Hygiene surveys are conducted as per the Occupational Health and Safety Act to ensure employees are not exposed to hazards. Risk Assessments should identify areas where surveys are to be conducted.

5.65 Blasting and Explosives

The Contractor shall comply with the Explosives Regulations with regards to the Danger Area, Safeguarding workplace, Supervision, Safe Handling, and permissions.

1. TRAINING, INSPECTIONS AND RECORDS

The Contractor must be aware of the following additional requirements:

What	When	Output
Awareness training (Toolbox Talks)	At least fortnightly and before hazardous work is carried out	Attendance Register
Occupational Health and Safety Committee Meetings	Monthly	Minutes signed by employer
Health and Safety Reports	Monthly	Report covering: a) Incidents / Accidents and investigation b) Non conformance c) Health and Safety Training d) HIRA Updates e) Internal & External Audits
General Inspections	As per Health and Safety Specifications & OHSA	Report of Health and Safety Specifications and OHSA compliance: a) Scaffolding b) Lifting Machinery c) Excavations d) Construction vehicle
General Inspections	Monthly	Covering: a) Fire Fighting Equipment b) Portable Electrical Equipment c) Hand Tools d) Ladders
Record Keeping	On-going	Covering: a) General Complaints b) Fines c) General Incidents d) MSDS e) Surveillance Medicals f) Inspection Registers g) Department of Labour Notices

ANNEXURE A

The contractor shall submit the info below in an Annexure 2 prior to construction commencement.

Item No.	Occupational Health and Safety Specification Requirement	OHSA Requirement	Submission date
1	Notification of Intention to Commence Construction	Construction Regulation 2014	At least 7 days before commencement on site
2	Construction Work Permit	Construction Regulation 2014	At least 30 days prior to project commencement
3	Assignment of Responsible Person to Manage Building Work Via Health and Safety Organogram	Construction Regulation 2014	Before commencement on site
4	Competency for Health and Safety Positions	Client / Client Agent requirement	Before commencement on site
5	Letter of Good Standing	Compensation of Occupational Injuries & Disease Act (COIDA) 130 of 1993	Before commencement on site
6	Occupational Health and Safety Policy	Client / Client Agent requirement	Before commencement on site
7	Risk Assessment, Safety Plan, Fall Protection Plan, Demolition Method Statement	Client / Client Agent requirement	Before commencement on site

ANNEXURE B: APPOINTMENTS

The Contractor shall make the following appointments:

No	Description	No	Description
1	Chief Executive Officer (OSHACT 16(1))	17	Material Hoist Inspector (CR19(8)(a))
2	Contract Director/Manager (OSHACT 16(2))	18	Material Hoist Operator (CR19(6))
3	Construction Manager (CR 8(1))	19	Bulk Mixing Plant Supervisor (CR20(1))
4	Construction Supervisor (CR 8(7))	20	Bulk Mixing Plant Operator (CR20(2))
5	Assistant Construction Supervisor (CR 8(8))	21	Controller of Explosive Actuated Fastening Devices (CR21(2)(g)(1))
6	Construction Safety Officer (CR 8(5))	22	Construction Vehicle and Mobile Plant Operator (CR23(1)(d)(i))

7	Construction risk assessor (CR 9(1))	23	Controller of Temporary Electrical Installations (CR24('c))
8	Fall Protection Competent Person (CR 10(1))	24	Stacking Supervisor (CR28(a))
9	Traffic Safety Officer	25	Fire Extinguishing Equipment Inspector (CR29(h))
10	Safety Representative (where > 20 employees on site)	26	Fire Fighters (CR29(i))
11	Temporary work Designer (CR 12(1))	27	First Aider (GSR 3)
12	Temporary work Supervisor (CR12(2))	28	Fall Protection Plan Developer (CR 10(1)(a))
13	Excavation Supervisor (CR13(1)(a))	29	Incident Investigator (OSHACT 9(2))
14	Demolition Supervisor (CR14(1))	30	Competent Person – Confined Spaces (GAR 5(1))
15	Scaffold Supervisor (CR16(1))	31	Health and Safety technical Committee (CR 31)
16	Suspended Platform Supervisor (CR17(1))	32	General Machinery Competent Person (GMR 2)

7. PROJECT DETAILS

PROJECT DIRECTORY:		
Client Agent	Technical Services - KNP Private bag X403, Skukuza 1350 Contact: Mr Bharat Gulab	Tel: 013 735 4278 Fax: 013 735 4044 email: brarat.gulab@sanparks.org

PROJECT DETAILS:
Description of Works The construction of 36km of road with a gravel wearing course and the construction of one major bridge and several culvert structures.
Anticipated Construction Duration 24 Months
Provisional Start Date To be advised
Completion Date To be agreed

EXISTING ENVIRONMENT:		
Hazards particular to this project by virtue of location:		
Members of public and children: All necessary steps to be taken to protect them from any dangers associated with the construction works being undertaken.		
Public Roads: Use of roads network to be carefully planned to accommodate public, tenants and traffic		
Surrounding premises occupied: All necessary steps to be taken to take into consideration that surrounding premises will be occupied during construction period.		
Overhead, Above Ground and Underground Services crossing the site:		
Overhead:		Not Applicable
Underground:		Not Applicable
Ground Level:		Not Applicable
Services available	Drawings	Not Applicable
Way leaves required:		Not Applicable
Permits required:		Not Applicable
Isolation required:		Not Applicable
Existing structures and surrounding land use (with a significant impact on Health and Safety):		
The chalets are in existing rest camp and some surrounding buildings will be occupied during construction phase.		
Existing ground conditions and ground survey report:		
There is no Geo Tech report available.		
Site conditions will vary from location to location and to be assessed at each site		
Existing Traffic Systems:		
Conditions:		Tar roads to most sites. Gravel roads to some sites.
Restrictions to access:		Applicable
Speed restrictions:		Normal road restrictions: 40km/h
PROJECT HEALTH AND SAFETY REQUIREMENTS:		
Significant health and safety hazards identified by Designer and Client Agent:		
Working at Heights: With the upgrade of at various sites, the Principal Contractor must ensure that all registers and scaffolding being used is according to SANS 10085.		
Accommodation of Traffic (Management Plan): The Principal Contractor must supply a proper and comprehensive Traffic Management Plan for the deliveries of supplies and materials to the various sites and for accommodation of traffic in construction areas.		

Members of the Public: The works is in a very busy area. The Principal Contractor is responsible for the safety of the workers as well as the public. The Principal Contractor will have to have sufficient warning & information signage to assist with the information to the public. The Principal Contractor will be responsible to have sufficient directional signage and to have proper road traffic management in place.		
Normal construction hazards expected are as follow:		
Bricklaying		
Bruch Cutting		
Compacting and filling / Compactors Operations		
Concrete / Concrete pumping		
Electric Tools & Electrical Installations		
Excavations		
Fire		
Hand Tools		
Hazardous Substances		
Kerb Laying		
Manual Handling of plant/material/equipment		
Members of public		
Metal work		
Noise and Dust		
Painting		
Plant / Vehicle and Equipment Operations		
Plastering		
Plumbing		
Road Construction		
Road Markings		
Scaffolding		
Site Establishment		
Steel fixing		
Temporary Works		
Traffic Management		
Transportation of workers		
Working at heights		
NOTE: Please refer to the end of this Occupational Health and Safety Specification for the baseline risk assessment of these risks.		

ACTIVITIES REQUIRING APPROVED METHOD STATEMENTS
Road Traffic Management
Protection of Public

ACTIVITIES REQUIRING PERMITS
Permit to Dig / Permit to Enter Excavations: Not applicable on this project
Permit to Work with Electricity: Not applicable on this project
Confined Space Permit: Not applicable on this project
Hot Works Permit: Not applicable on this project
Permit to work under Power Lines: Not applicable on this project
Blasting: Not applicable on this project
Temporary Works: Yes - Authorization in writing by competent person

GENERAL ARRANGEMENTS
Restrictions on times: Monday - Friday 07:00 to 16:00 Saturday 07:00-13:00
Access to site by Construction Vehicles: Yes, principal contractor to manage
Access to site by Construction workers & Visitors: Visitors and personnel to report to site office
Site camp location and set up: Restrictions/requirements, storage areas and security to be advised in consultation with Employer's Agent
Ablution and Welfare: Contractor to provide as per regulations
Environmental Conditions: Contractor must take into account adverse weather conditions on site activities and implement control measures to mitigate risk
Induction Training: All workers to receive induction training prior to commencement on site. Special reference to SANParks EMP and Code of Conduct

PROTECTION OF SITE AGAINST UNAUTHORIZED ACCESS BY PUBLIC
Excavation Fencing: Note that some excavations will be accessible to the public, or adjacent to public roads / through fares, and suitable precautionary measures must be taken. Construction sites are to be fenced off with ready fencing. There needs to be access control as well as security personnel on site at all times.
General Fencing of Site: Note that construction site must be fenced off and have controlled access point.
Warning Notices: Construction site, Visitors to report to the site office. Pedestrian arrow signage towards the other side of the road, Fire Extinguisher, First Aid, Emergency Assembly area and Emergency telephone numbers. Reflective vests, safety boots and dust masks signage to be displayed. Assembling points, drinking water, ablution facilities and waste demarcation area..
PERSONAL PROTECTIVE EQUIPMENT (PPE)

The Client requires the Contractor to ensure that employees (and other under his/her control) wear the following minimum PPE:	
Overalls:	Yes, required
Safety Harnesses:	May be required
Hard Hats:	Yes, required
Safety Footwear:	Yes, required
Reflective Vests:	Yes, required
Goggles / Gloves / ear and respiratory protection	As per job function
Specialist equipment:	As per job function

HAZARDOUS SUBSTANCES

The following materials and substances have, or may have, to be used in the works and are identified as potentially posing special health and / or safety hazards during the project. Appropriate measures will need to be specified for their control:	
Petrol	Cement
Diesel	Silicone
Bitumen	Other
Paint	

BASELINE RISK ASSESSMENT

Baseline Risk Assessment Roads

PROJECT: KNP-015-24 SHANGONI ROAD PHASE 1

Risk Rating is measured by determining the Likelihood (L) and Consequence (C) and using the Matrix to determine the Risk Rating (R).

Risk Ranking below 10 is deemed Tolerable, between 11 and 19 is deemed Medium Risk and above 20 is deemed High Risk

Steps in operation	Ref No.	Hazard	Risk	Risk Rating			Controls Measures	Other Controls
				L	C	R		
General Onsite Activities	A1	Access to Site	Pedestrian & people equipment interaction causing injury	4	2	12	Occupational Health and Safety Act 24(1)	Area to be secured and barricaded / fenced
			Dust Inhalation	3	1	4	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
			Unauthorised entry	3	2	8	Occupational Health and Safety Act 12(2)	Site Visit Register, signage, Permit for vehicle access
			Slip,trip,and fall	3	2	8	Occupational Health and Safety Act 12(1)(b)(c)	Induction Training & PPE
	A2	Placing of office/ containers if lifting is involved	Heavy objects swinging out of control causing injury/damage	2	4	14	Driven Machinery 18(11)	Safe work area, Induction Training, Trained operator, Lifting Plan
			Crane/lifting tackle failure causing object to fall	2	4	14	General Machinery Regulations 7(a)9b	Inspection Register, Trained operator
			Accidental collision with overhead power lines	2	4	14	General Machinery Regulations 7(a)(b)	Assign a flag man, determine safe work area
			Lifting machine/crane falling over	2	4	14	General Machinery Regulations 5(1)(2)	Assign a flag man, determine safe work area
	A3	Hand Loading and offloading of heavy machinery & equipment	Items rolling/slipping falling causing injury	4	2	12	General Machinery Regulations 2(1)	Induction training, PPE
			Incorrect Lifting procedure resulting in injury	3	2	8	General Machinery Regulations 3(2)	Induction training, Proper lifting procedure, PPE
	A4	Machine loading and offloading of heavy machinery & equipment	Failure of machinery causing injury	3	3	13	Driven Machinery 18(1)(a)(b)	Supervision
			Equipment falling	3	3	13	General Machinery Regulations 2(2)	PPE

			Collision of vehicles	3	3	13	General Machinery Regulations7(a)(b)	Flag men
	A5	Traffic	Equipment interaction	3	4	18	Construction Regulation 23(1)(d)(i)(ii)	Traffic management plan
			Pedestrian collision	3	4	18	Construction Regulation 23(2)(c)	Pedestrians Walkways
	A6	Lack of employees facilities	Lack of drinking water, dehydration of workers	3	5	22	Construction Regulation 30(1)(a)	Provision of drinking water & Induction training
			Lack of sanitary facilities, unhygienic conditions	3	5	22	Construction Regulation 30(1)(b) and 30(2)	Provision of chemical toilets & proper housekeeping
	A7	Stacking & Storage	Fall, slip resulting in potential injury/damage	4	3	17	Construction Regulation 28(d)	Storage plan, induction training and restricted access
			Obstructing critical equipment and walkways	4	3	17	Construction Regulation 27 (a)(c)(g)	Storage plan, induction training and restricted access
			Flammable liquids catching fire	3	3	13	Construction Regulation 25(a)(b)(c)	Storage plan, induction training and fire fighting equipment
			Hazardous storage of materials	3	3	13	Hazardous Chemical Regulation(25)9A(2)	Storage plan, regular inspections
	A8	Handling of chemicals and fuels	Exposure	3	3	13	Hazardous Chemical Regulation 9A(1)(a-p)	PPE
			Inhalation	3	3	13	Hazardous Chemical Substances Regulation (36)(37)(38)	
			Burns to Skin	3	3	13	Hazardous Chemical Substances Regulations 9A(2); Material Data Sheet	
	A9	Temporary Low voltage Electrical installation	Exposure to live wires-electrocution	2	5	19	Construction Regulation 24(a)(b)	Lockable DB box, Inspection register
			Faulty earth leakage	2	5	19	SANS 10142	Competent person to do installation & inspection
			Short circuit causing fire	2	4	14	Construction Regulation 24(b)	Weekly inspection, Induction Training & Fire fighting equipment
	A10	Issue of PPE	Incorrect PPE	4	2	12	General Safety Regulation 2(1)	PPE Register
	A11	Usage of PPE	Incorrect use of PPE	4	2	12	General Safety Regulation 3(2)	PPE Register, Induction Training, supervision

			Negligence to use PPE	4	2	12	General Safety Regulation 5	PPE Register, Induction Training, supervision
	A12	Adverse storms	Struck by lightning	2	5	19	Induction Training Safe Operation Procedure	Proper warning system
	A13	Adverse heat	Dehydration, Sunburn, heat stroke	3	4	18	Induction Training Safe Operation Procedure	Proper drinking water, PPE
	A14	Working in excessive winds	Exposure to dust	3	4	18	Hazardous Chemical Substances Regulation (36)(37)(38)	PPE
	A15	House keeping	Objects lying around can result in slip/fall	4	2	12	Construction Regulation 27(a)(b)	Regular cleaning of site
			Unhygienic conditions	3	3	13	Construction Regulation 27(d)	Induction Training
			Pollution of area	3	2	8	Construction Regulation 27(e)	Proper waste bins and waste removal
	A16	Fire prevention	Open Fires	3	3	13	Construction Regulation 29(a)	SANParks EMP & Code of conduct
			Inadequate firefighting equipment	4	3	17	Construction Regulation 29(g)(h)	Inspection register, supervision
			Runaway fires	4	4	21	Emergency evacuation plan	SANParks EMP & Code of conduct
			Accidental Fires	3	4	18	Construction Regulation 29(a)(d)(iii)	Designated smoking areas
	A17	Environmental pollution	Pollution of ground,air,workspace	3	2	8	Environmental Regulation 6(d)	SANParks EMP & Code of conduct
			Littering	4	2	12	SANParks Environmental Management Plan	Induction Training, Provide proper trash bins
	A18	Working near hazardous animals incl snakes, spiders & scorpions	Poisons bites/ attack by large animals	3	3	13	SANParks Environmental Management Plan	Induction Training, SANParks ranger where required, Proper treatment in first aid kit
Plant or vehicle & equipment	B1	Construction vehicles	Equipment Failure	4	4	21	Construction Regulation 23(1)(k)	Vehicle check list and regular maintenance
			Unroadworthy vehicles	3	4	18	Construction Regulation 23(2)(i)(j)(k)	Vehicle check list and regular maintenance
			Speeding/ Operation	3	4	18	Construction Regulation 23(2)(l)	Safe traffic route, imply penalties, traffic calming measures

			Potential accident/collision	4	4	21	General Machinery Regulations 7(a)	Induction Training, Reflective vests, safe work area
			Material/equipment fall from vehicle	4	4	21	Construction Regulations 23(1)(b)(g)(h)	Properly secure all goods
			Vehicle/plant not used for correct purpose	3	3	13	Construction Regulations 23(1)(b)(c)	Supervision, controlled access to vehicle/plant
	B2	Licencing of operators	Unauthorized operation of equipment	3	3	13	Construction Regulation 23(1)(d)(i)(ii)	Valid operator, restricted access to machinery, supervision
			Expired licenses	3	1	6	Construction Regulation 23(1)(d)(i)(ii)	Keep OHS file up to date
	B3	Parking of vehicles	Runaway vehicle	3	4	17	Safe Operation Procedures (SOP)	Vehicle check list, use stop block behind tyres
			Parking in unsafe areas	3	1	4	Construction Regulation 23(2)(i)(j)	Demarcate proper parking areas
Transportation	C1	Transportation of employees	Interaction with other vehicle-collision	4	4	21	Construction Regulation 23(1)(b)(j)	Supervisor
			Equipment not roadworthy	3	1	4		Vehicle checklist, vehicle must meet required standards
			Equipment not licensed	3	1	4	Construction Regulations 23(a)(b)	Supervision and monitor wearing seatbelts
			Vehicle to have seatbelts (adherence to National Road Traffic Act 93 of 1996)	3	1	4		
			Operator of vehicle transporting employees not licensed and authorized	3	1	4	Construction Regulation 23(2)(i)(j)	Supervision and monitor if Driver has Valid PDP
			Vehicle not equipped to transport employees	3	1	4	Construction Regulation 23(d)(i)(j)	Vehicle checklist, vehicle must meet required standards
			Not Adhering traffic legislation	3	1	4	Construction Regulation 23(2)(j)	Supervision, implement fines
	C2	Transportation of material or equipment with people	Material/equipment fall from vehicle	4	4	21	Construction Regulation 23(g)(h)	Properly secure all goods
			Potential accident/collision	4	4	21	Construction Regulation 23(2)(g)(h)(j)	Induction Training, Reflective vests, safe work area
	C3	Towing a Trailer	Vehicle accident	4	4	21	Construction Regulations 23(e); Occupational Health and Safety Act 24(1)(c)(iii)(iv)	Awareness, trained operator

			Towing coupler failure	3	3	13	Construction Regulation 22(e)	Inspection Register
Hand Tools	D1	Injury Due to	Incorrect tools used	4	3	17	Hand tool register, Induction Training,	Supervision
			Defective tools	4	3	17	Safe Operation Procedure	Supervision
			Struck by flying debris	3	3	13	Safe Operation Procedure	PPE
	D2	Hand Drills	Clothing being grabbed by rotating drill	3	3	13	Safe Operation procedure, Toolbox Talks Electrical Machinery Regulations 10(3)(4)	PPE, Supervision
			Unsecured work piece rotating with drill	3	3	13		PPE, Supervision
			Shaving flying into eyes	3	3	13		PPE, Supervision
			Accidental injury	4	3	17	Electrical Machinery Regulations 10(4)	PPE, Supervision
			Electrocution	3	5	22	Electrical Machinery Regulations 10(1)(a)(b)	Tool inspection register
	D3	Angle Grinder	Cutting disc cracked and breaks	3	3	13	Safe Operation procedure, Toolbox Talks	PPE, Supervision
			Shaving flying into eyes	3	3	13	Electrical Machinery Regulations 10(3)	PPE, Supervision
			Exposure to noise	3	3	13	Noise Induced Hearing Loss Regulations (7)(1)(a)(b)(c)(d)	PPE
			Vibration	2	2	5	Safe Operation procedure, Toolbox Talks	Medical surveillance
			Accidental injury	4	3	17	Safe Operation procedure, Toolbox Talks	PPE, Supervision
			Electrocution	3	5	22	Electrical Machinery Regulations 10(1)(a)(b)	Tool inspection register
	D4	Other electrical portable hand tools	Electrocution	3	5	22	Electrical Machinery Regulations 10(1)(a)(b)	Tool inspection register, inspect extension cord
			Exposure to noise	3	3	13	Noise Induced Hearing Loss Regulations (7)(1)(a)(b)(c)(d)	PPE

			Vibration	2	2	5	Safe Operation procedure, Toolbox Talks	Medical surveillance
			Accidental injury	4	3	17	Safe Operation procedure, Toolbox Talks	PPE, Supervision
			Shaving flying into eyes	3	3	13	Safe Operation procedure	PPE, Supervision
	D5	Explosive actuated fastening device	Malfunction of equipment causing injury/damage	3	3	13	Explosive Regulations 15(a)(b)	Tool inspection register, inspect extension cord
			Accidental injury	3	3	13	Explosive Regulations 15(b)	PPE, Supervision
			Accidental discharge	3	3	13	Explosive Regulations 15(a)(b)	Safety mechanism working, Store in unloaded condition
Site Clearance	E1	Site/Bush Clearing	Moving machinery accident	4	3	17	Construction Regulation 23(2)(b)	Reflective vests, restricted access, induction training
			Injury due to hand tools	4	3	17	Safe Operation Procedures (SOP)	Induction Training, PPE, First Aider
			Snakes/ Spider bites	3	3	13	SANParks Environmental Management Plan	Induction Training, Proper First Aid treatment available
			Dangerous animals in vicinity	3	3	13	SANParks Environmental Management Plan	Induction training, armed rangers escort
			Electrical cables and other services in way of work area	3	4	17	Construction Regulation 24(c)	Properly mark & demarcate existing services
	E2	Tree felling	Injury from chainsaw	3	3	13	Safe Operation Procedures (SOP)	Trained operator, PPE
			Injury from falling tree	3	3	13		Safe work area, PPE
			Felling from height	3	3	13		Safety Harness, Fall Protection Plan, PPE
			Exposure to electrical cables	3	3	13	Electrical Installation Regulations(5)(1)(2)	Safe work area, PPE
	E3	Removal of waste	Moving machinery accident	4	4	22	Construction Regulation 23(1)(b)(c)	Reflective vests, restricted access, induction training
			Waste material falling of vehicle	3	3	13	Construction Regulations 23(h)	Secure load, stay within maximum vehicle load capacity

			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
	E4	Demolition/ milling	Structure/rubble falling on person	3	3	13	Construction Regulation 14(1); 4(ii)	Induction Training, PPE, demarcate area
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
			Presence of lead	2	4	14	Lead Regulations (3)	PPE, Induction Training
			Presence of Asbestos	2	4	14	Asbestos Regulations (4)	PPE, Induction Training
			Hitting electrical cable - electrocution	3	5	22	Construction Regulation 24(a)	Induction training, Site map indicating existing services
			Hitting of gas line - explosion	3	5	22	Construction Regulation 14(1)(2)	Induction training, Site map indicating existing services
Excavation & backfilling	F1	Hand Digging of holes/trenches	Injury due to defective tools	4	3	18	Construction Regulation 13(a)	Hand tool register, Induction Training
			Injury due to improper work method	4	3	18		Induction training, supervision
			Trip/fall into holes	3	3	13		Demarcate area, induction training, PPE
	F2	Machine Digging of holes/trenches	Collapse of trench	3	3	13	Construction Regulation 14(4)(iii)	Excavation inspection register by component person daily
			Collapse of adjacent structure	3	3	13	Construction Regulation 11(1)(a)	Safeguard adjacent structures
			Malfunction of machinery	3	3	13	General Machinery Regulations 2(2)	Machinery Inspection Register
			Unauthorized driver	2	2	5	General Machinery Regulations 2(1)	Trained operator, supervision, restricted access to machinery
			Unnecessary Damage to environment	3	2	9	SANParks Environmental Management Plan	Induction Training, designated work area
	F3	Tipping of material	Material falling on to person	3	3	13	Construction Regulation 23(g)	PPE, Safe Work area, Flag men
			Malfunction of equipment causing injury/damage	3	3	13		
	F4	Use of Jackhammer	Exposure to excessive noise	3	3	13	Noise Induced Hearing Loss Regulations 7(1)(a)(b)(c)(d)	PPE

			Injury due to malfunction of equipment	3	3	13		Inspection Register
			Exposure to prolonged vibration	3	3	13		
	F5	Opening trenches	Risk of collapse	3	3	13	Construction Regulation 13(h)(l)	Stabilize trench, work permit, induction training
			Fall, slip into trench	4	3	17	General Safety Regulations 2(5)(6)	Barricade trench, PPE
	F6	Compaction	Personal Injury	3	3	13	General Safety Regulations 2(5)	PPE, Trained operator
			Collision of machinery	3	3	13	General Machinery Regulations 4(1)	Induction Training, Reflective vests, safe work area
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
Installation of pipes/cables	G1	Installation of subsoil drain pipes in trenches	Fall, slip into trench	4	3	17	Electrical Installation Regulations(5)(1)(2)	Barricade trench, PPE
			Exposure to hazardous biological agents	3	3	13	Hazardous Biological Agent Regulations 5(2)	Induction training, PPE
			Pipe handling/lifting resulting in injury	3	3	13		Induction training, PPE
Temporary Works	H1	Shoring/formwork/ Shuttering	Collapse of equipment	3	3	13	Construction Regulation 12(1)(2)	Built by competent person, PPE
			Injury during assembly/dismantling	3	3	13	Construction Regulations 12(3)(a)	Induction Training, PPE, Supervision
			Failure of equipment	3	3	13		Inspection register
			Collapse/bursting of structure	2	3	9	Construction Regulation 12(3)(c)(f)	Design of structure to be loaded to be approved by competent designer
			Inaccessibility to work area	2	3	9		Adequate safe access provided
			Fall, slip from shoring/formwork	3	3	13	Construction Regulation 10(1)(b);(2)(a)(b)	Fall Protection Plan, PPE, safety nets
			Falling material from height	4	3	17		PPE, safety nets

			Cuts and abrasions from splinters and nails	4	2	12	Construction Regulations 12(2)	PPE
	H2	Over speeding inside the park	injuries to employees and animals involved in an accidents whiles setting up and taking down Stop/Go procedure	4	4	21	Construction Regulation 12(3)(d)	Visibility jackets, radio communication Adhering to 50 km/h on a tarre and 40 km/h on a gravel road.
			Injuries to employees and animals involved in an accidents - in the midst of Stop/Go activity	4	4	21		
			Injuries to road users involved in an accidents - approaching a Stop/Go activity	4	4	21	Construction Regulation 12(3)(d)	Reported and investigated
Concrete	I1	Manual Mixing	Cement dust inhalation	3	2	8	Hazardous Chemical Substances Regulations 8(a)(b)(c)	Material Safety Data Sheet, PPE, Supervision
			Hazardous substance contact - dry cement mix	3	3	13	Hazardous Chemical Substances Regulations 9A(2); 2; and Material Data Sheet	PPE, Induction Training
			Spillage/ pollution	3	3	13		PPE, Concrete mixing sheet
			Injury during mixing/ cement burns	3	3	13		Induction Training, supervision
	I2	Concrete Mixer Machine	Poor ventilation causing ill health	3	2	8	General Safety Regulations 5(5)	PPE, additional ventilation
			Accidental injury through flying objects	3	3	13	Hazardous Chemical Substances Regulations 10(3)	Induction training, supervision
			Spillage/ pollution	4	3	17		PPE, Concrete mixing sheet
			Clothing/body parts getting caught in open pulley. V-belts ect	3	3	13		Induction training, inspection register, all moving parts covered with guard
	I3	Exposure to Hazardous chemical substances	Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	PPE
			Burns to Skin	3	3	13		Material Safety Data Sheet
			Inhalation	3	3	13		Training on handling chemicals

Working at heights	J1	Climbing up and down equipment	Fall from equipment	4	3	17	General Safety Regulations (6)	Induction, PPE, Fall Protection plan
			Equipment used for incorrect purposes	3	3	13		Induction training, supervision
			Equipment failure resulting in injury/damage	3	3	13		Inspection register
	J2	Working on Scaffolding	Collapse of Scaffolding	3	3	13	Construction Regulation 16(1)	Competent scaffold erector, inspection register
			Person slipping/falling from scaffolding	4	3	17	Construction Regulation 16(2)	Fall protection plan, safety harnesses, barricades
			Falling objects from scaffolding causing injury/damage	4	3	17	Construction Regulation 16(1)(2)	PPE, safe work area, catch nets
			Scaffolding used for incorrect purpose	3	2	8		Induction Training, supervision
			Sharp edges causing injury	3	2	8		Eliminate or clearly mark edges
	J3	Working on Ladders	Fall from ladder	4	3	17	General Safety Regulation 13A(4)(a)(b)	PPE, safety harness, Fall protection plan
			Ladder not secure - slip	3	3	13	General Safety Regulation 13A(2)(a)(b)	Secure ladder
			Ladder damaged or substandard	3	3	13	General Safety Regulation 13A(2)(a)(b)	Ladder inspection Register
			Ladder used for incorrect purpose	3	2	8	General Safety Regulation 13A(3)(a)(b)	Induction Training, supervision
	J4	Working on the side of a mountain	Slip and fall	4	3	17	General Safety Regulations (6)	Fall protection plan, safety harnesses, barricades
Work in Confined Spaces	K1	Confined Spaces	Lack of oxygen	2	3	9	General Safety Regulations 5(1)	Additional ventilation
			Intoxicating Fumes	2	3	9	General Safety Regulations 5(1)(2)(a)(b)	Respiratory masks
Construction	L1	Bricklaying	Injury due to sharp bladed tools	3	3	13	Occupational Health and Safety Act 14(d)(e)	PPE, Induction Training
			Injury due to hauling of bricks	4	3	17		PPE, Induction Training
			Shards flying into eyes from breaking bricks	4	3	17		PPE, Induction Training

			Bricks falling from height	4	3	17		Safe work area, Induction Training, barricades
	L2	Bitumen Surfacing	Burns to Skin	3	2	9	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	PPE, Induction training
			Accidental Fire	3	3	13		Fire Fighting equipment, Induction Training, Emergency Plan
			Accidental spillage	4	3	17		SANParks EMP & Code of conduct
			Potential accident/collision of vehicle	4	3	17	Hazardous Chemical Substances Regulations 4(a)(b)(c)	Induction Training, Reflective vests, safe work area
			Hazardous fumes inhalation	3	3	13	Hazardous Chemical Substances Regulations 6(1)(a)(b)	PPE, Induction Training
			Hazardous Chemical Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)(b)	PPE, Material Data Sheet, induction Training
	L3	Layer Works	Potential accident/collision of vehicle	4	3	17	Hazardous Chemical Substances Regulations 14(b)	Induction Training, Reflective vests, safe work area
			Hazardous Chemical Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)	PPE, Material Data Sheet, induction Training
			Radio active exposure due to None-destructed density testing (Radio Active)	3	3	13	Hazardous Chemical Substances Regulations 5(4)	Induction Training, PPE
			Injury due to vehicle/plant	4	3	17	Occupational Health and Safety Act 24(1)(a)(b)(c)	Induction Training, Reflective vests, safe work area
	L4	Gabions	Injury due to rock packing	4	3	17	Occupational Health and Safety Act 24(1)(c)(ii)	PPE, Induction Training
			Fall, slip from height	3	3	13	Construction Regulation 10(2)(a)(b)(d)(e)	PPE, Fall Protection Plan, Safe Work area
			Cuts and abrasions from sharp material	4	2	12		PPE, Induction Training
			Collapse of structure	2	4	14	Construction Regulation 10(4)(c)(ii)(d)	Design of structure to be approved by competent designer
			Falling of material onto person	3	3	13		PPE, safe work area, catch nets
	L5	Culvert placing with lifting machinery	Heavy objects swinging out of control causing injury/damage	3	3	13	Driven Machinery 18(a)	Safe work area, Induction Training, Trained operator, Lifting Plan
			Crane/lifting tackle failure causing object to fall	3	3	13	Construction Regulation 22(a)(b)(d)(e)	Inspection Register, Trained operator

			Accidental collision with overhead power lines	2	3	9	Construction Regulation 22(a)	Assign a flag man, determine safe work area
			Lifting machine/crane falling over	3	3	13		Assign a flag man, determine safe work area
	L6	Kerb laying	Bodily injury due to handling	4	2	12	Occupational Health and Safety Act 24(1)(a)	PPE, Induction Training
			Falling of kerb onto person	3	2	8		Proper offloading plan, PPE
	L7	Road Construction	Risk of being struck by vehicle while working next to road	4	4	21	Occupational Health and Safety Act 24(3)(a)(b)	Traffic Management Plan, Road Signs, reflective vests, Flag man
			Failure of regulating traffic causing collisions	3	4	18		Competent person, supervision
			Injury from road users and public	4	4	21	Construction Regulations 23(1)(e)(j)	Restrict access to site, Signage
			Noise pollution	3	2	8	Noise Induced Hearing Loss Regulations 7(1)(a)(b)(c)(d)	PPE
			Inhalation of dust	3	2	8	Hazardous Chemical Substances Regulations 8(a)(b)(c)	PPE
	L8	Road Marking/ Painting	Exposure to chemicals/ inhalation of fumes	3	2	8	Hazardous Chemical Substances Regulations 6(a)(b)(c)	PPE, Supervision
			Spillage/ pollution from paint	4	2	12		PPE, Supervision
	L9		Flammable liquids - Accidental fire	3	3	13	Construction Regulation 25(a)(b)(e)(f)(g)	Proper storage facilities, Fire fighting equipment
			Unauthorized access to flammable liquids	3	2	8		Restricted access
			Injuries from tie wire	3	3	13	Occupational Health and Safety Act 24(2)	PPE, Induction Training
		Steel Fixing (Re-bar)	Fall from heights	3	3	13		PPE, Fall Protection Plan
			Falling components	3	3	13		PPE, safe work area, catch nets
			Back injuries from manual handling	3	3	13		PPE, limit lifting weight
			Steel structure collapsing	3	3	13		PPE, Supervision

Maximum Reasonable Consequence (C)

C	People and Safety	Health	Property or Production	Environmental or Community	Financial Impact
5	Could Kill or permanently disable		Could cause very major damage > R500K	A Major event creating irreversible damage/loss	>R10m
4	Could cause serious injury or disease (Major LTI)		Could cause major damage R100K to R500K	An event having substantial & permanent consequence to the environment	> R2.5m & < R10m
3	Could cause typical MTI / RWI / LTI		Could cause moderate damage R50K to R100K	An event having substantial temporary or a minor permanent consequence to the environment	> R500k & < R2.5m
2	Could cause First Aid injury		Could cause damage R5K to R50K	An event having temporary or a minor consequence to the environment	> R5k & < R500k
1	Couldn't cause injury or disease		Couldn't cause damage < R5K	No detrimental impact on the environment	<R5k

Likelihood of the event occurring(L)

L	Description of probability or potential of event occurring		
5	Very High	Common regular occurrence	Almost certain to happen
4	High	Possibility of regular occurrence	Likely to happen / Known to happen
3	Moderate	Isolated incidents - Could happen	Has been reported from elsewhere so it could happen
2	Low	Not likely to occur	Unlikely: not likely to happen but not impossible
1	Very Low	Rare - Very unlikely	Practically impossible

Risk Rating Matrix		Likelihood						Actions	
Consequence		5	4	3	2	1		High 20-25 Moderate 11-19 Acceptable 1-10	Immediate action to reduce risk. Introduce hard barriers and adequate controls to reduce risk. Control hazards. Monitor regularly Urgent attention to improve controls and reduce inherent risks. Monitor systems controls & audit quarterly & implementation of controls Controls in place. Tolerable risk levels. Ensure monitoring is as per H&S Policy
	5	25	24	22	19	15			
	4	23	21	18	14	10			
	3	20	17	13	9	6			
	2	16	12	8	5	3			
	1	11	7	4	2	1			

ANNEXURE B1

Environmental Management Plan

General construction activities in parks

Park: KRUGER NATIONAL PARK

Project: Shangoni Road Phase 1

Prepared by:



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:

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 may 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.

Part

1

1. ENVIRONMENTAL MANAGEMENT PLAN

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.

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

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 a way that the total footprint area is minimised.	ECO & Contractor

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:	ECO & Contractor

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.	
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 firefighting 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-always 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 Schedule or Rates 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	ECO & Contractor

routes approved by the ECO. Temporary access roads must be rehabilitated after usage as per prior agreement between the Park Manager and 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.	ECO & Contractor

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.	
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 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.	ECO & Contractor

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	ECO & Contractor

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.	

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

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 contractor 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 than 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	ECO & Contractor

Mitigation / Management Action	Responsible Agent
peripheral fence, or a site that has a regular / continual human presence. Failing this, regular daily inspections are essential.	
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

Mitigation / Management Action	Responsible Agent
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
Temporary fuel storage tanks and transfer areas also need to be located on an impervious surface adequately bounded 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 Contractor 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 form 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/Contract or
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/Contract or

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/Contract or

Gas and liquid fuel may not be stored in the same storage area.	ECO/Contract or
The Contractor must ensure that there is adequate fire-fighting equipment at the fuel stores.	ECO/Contract or
No open fires for heating or cooking will be permitted on site, unless otherwise agreed and then only in 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 firefighting 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/Contract or

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/Contract or

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/Contract or
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/Contract or
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/Contract or
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/Contract or
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/Contract or

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:	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 B2



FINAL ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) AND MAINTENANCE MANAGEMENT PLAN

for

PROPOSED SHANGONI GATE DEVELOPMENT WITHIN THE KRUGER NATIONAL PARK.

JULY 2017

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Contents

1. INTRODUCTION AND BACKGROUND

2. PREPARATION OF THE DOCUMENT

3. DESCRIPTION OF THE IMPACTS

4. APPLICABLE LEGISLATION

- 4.1 The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)
- 4.2 National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended)
- 4.3 National Environmental Management: Biodiversity Act 2004 (Act 10 of 2004)
- 4.4 The National Environmental Management Waste Act 2008 (Act 59 of 2008)
- 4.5 The Occupational Health and Safety Act 1993 (No 85 of 1993)
- 4.6 The National Environmental Management: Air Quality Act 2004 (No 39 of 2004)
- 4.7 The National Environmental Management: Water Act, 1998 (Act No. 36 of 1998)

5. PHASES OF THE PROJECT

- 5.1. The Planning and Design Phase
- 5.2. The Construction Phase
- 5.3. Rehabilitation Phase
- 5.4. The Operational Phase

6. ROLES AND RESPONSIBILITIES

- 5.5. Developer / Applicant
- 5.6. Contractor
- 5.7. The Environmental Control Officer (ECO)
- 5.8. Project Engineer (PE)
- 5.9. Environmental Liaison Officer (ELO)

7. ENVIRONMENTAL AWARENESS PROCEDURE

8. ENVIRONMENTAL MANAGEMENT PROGRAM (EMPr)

Alien Vegetation: Alien vegetation defined as undesirable plant growth which shall include, but not be limited to all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations.

Alien Species: A plant or animal species introduced from elsewhere: neither endemic nor indigenous.

Alternatives: Alternatives are different means of meeting the general purpose and need of a proposed activity. Alternatives may include location or site alternatives, activity alternatives, processes or technology alternatives, temporal alternatives or the „do nothing“ alternative.

Construction Activity: Any action taken by the Contractor, his subcontractors, suppliers or personnel during the construction process.

Cumulative impacts: Impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities (e.g. discharges of nutrients and heated water to a river that combine to cause algal bloom and subsequent loss of dissolved oxygen that is greater than the additive impacts of each pollutant). Cumulative impacts can occur from the collective impacts of individual minor actions over a period and can include both direct and indirect impacts.

Direct impacts: Impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity (e.g. noise generated by blasting operations on the site of the activity). These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.

Drainage line: A drainage line is a lower category or order of watercourse that does not have a clearly defined bed or bank. It carries water only during or immediately after periods of heavy rainfall i.e. non-perennial and riparian vegetation may or may not be present

‘Do nothing’ alternative: The „do nothing“ alternative is the option of not undertaking the proposed activity or any of its alternatives. The „do nothing“ alternative also provides the baseline against which the impacts of other alternatives should be compared.

Ecosystem: A dynamic system of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

Environment: the surroundings within which humans exist and that are made up of:

- i. The land, water and atmosphere of the earth;
- ii. Micro-organisms, plant and animal life;
- iii. Any part or combination of (i) and (ii) and the interrelationships among and between them; and
- iv. The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental impact: An action or series of actions that have an effect on the environment.

Environmental impact assessment: Environmental Impact Assessment (EIA), as defined in the NEMA EIA Regulations and in relation to an application to which scoping must be applied, means the process of collecting, organising, analysing, interpreting and communicating information that is relevant to the consideration of that application.

Environmental management: Ensuring that environmental concerns are included in all stages of development, so that development is sustainable and does not exceed the carrying capacity of the environment.

Environmental management programme: A plan that organises and co-ordinates mitigation, rehabilitation and monitoring measures in order to guide the implementation of a proposal and its ongoing maintenance after implementation.

General waste: Waste which does not pose an immediate hazard or threat to health or to the environment" and includes the following waste flows: domestic waste, construction and demolition waste, business waste, inert waste.

Habitat: The place in which a species or ecological community occurs naturally.

Hazardous waste: Waste that has the potential to cause a negative threat/impact to humans and/or the environment. It includes, but is not limited to, batteries, neon lights, fluorescent lights, printer cartridges, oil, paint, paint containers, oil filters, IT equipment etc.

Indirect impacts: Indirect or induced changes that may occur as a result of the activity (e.g. the reduction of water in a stream that supply water to a reservoir that supply water to the activity). These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.

Interested and affected party: Individuals or groups concerned with or affected by an activity and its consequences. These include the authorities, local communities, investors, work force, consumers, environmental interest groups, and the public

Pollution: A change in the environment caused by substances (radio-active or other waves, noise, odours, dust or heat emitted from any activity, including the storage or treatment or waste or substances. place

Significant impact: An impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

Waste: As per National Environmental Management: Waste Act means-

- a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or
- b) disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or
- c) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette, but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste.

Watercourse: as per the National Water Act means -

- (a) a river or spring;
- (b) a natural channel in which water flows regularly or intermittently;
- (c) a wetland, lake or dam into which, or from which, water flows; and
- (d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

ACRONYMS & ABBREVIATIONS

BA:	Basic Assessment
BAR:	Basic Assessment Report
CDF:	Conservation Development Framework
CMP:	Construction Management Plan
DEA:	Department of Environmental Affairs
LEDET:	Limpopo Department of Economic Development, Environment and Tourism
DWS:	Department of Water Affairs and Sanitation
EA:	Environmental Authorisation
ECO:	Environmental Control Officer
EIA:	Environmental Impact Assessment
EMPr:	Environmental Management Programme
EMS:	Environmental Management System
I&AP:	Interested and Affected Party
IEM:	Integrated Environmental Management
KNP:	Kruger National Park
LED:	Local Economic Development
NEMA:	National Environmental Management Act, Act No. 107 of 1998
NEMPAA:	National Environmental Management: Protected Areas Act, Act No. 57 of 2003
SAHRA:	South African Heritage Resources Agency
SANParks:	South African National Parks

1. INTRODUCTION AND BACKGROUND

South African National Parks (SANParks) is proposing the development of Shangoni Gate visitor's entrance into the Kruger National Park (KNP) near the section where the Shingwedzi River crosses the boundary of the reserve at the vicinity of Altein Village, hereafter "the development". This development is coupled with the construction of the associated reception facilities, the development of an approximately 50,6 km road from the proposed gate reception to H1-6 road, a picnic spot, camping site and tented rest camp.

In terms of the National Environmental Management Regulations 2014, under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) the proposed development requires authorisation from the Department of Environmental Affairs as the competent authority, since the proposed development triggers the activities and thresholds listed in Government Notice R983 and R985 of the Environmental Impact Assessment Regulations, 2014. The aforesaid development is located in the Limpopo Province, and within the Kruger National Park, which is a National asset. The Limpopo Department of Economic Development, Environment and Tourism (LEDET) will be a commenting authority.

A key requirement of the National Environmental Management Act (NEMA) of 1998 is compliance with the principles of Integrated Environmental Management (IEM). Chapter Five of NEMA deals with IEM and its objective to promote the application of appropriate environmental management tools in order to ensure the integrated environmental management of activities.

Among these tools are Environmental Impact Assessments (EIAs) and Environmental Management Programmes (EMPr"s). In compliance with the above mentioned environmental legislation, the Department of Environmental Affairs (DEA) requires that the Applicant undertake a Basic Assessment (BA) for the proposed development, and that the Basic Assessment Report (BAR) includes a detailed EMPr.

The purpose of this EMPr is to formulate mitigating measures that should be made binding to all contractors and suppliers during construction of the proposed development, as well as measures that should be implemented during the operational phase. The point of departure for this EMPr is to take a pro-active route by addressing potential problems before they occur. The EMPr will also provide management responses that will ensure that the impacts of the development are minimised. This should limit corrective measures needed during the construction and operational phases of the development. Additional mitigation will be included throughout the project's various phases as necessary. This EMPr is therefore a stand-alone document, which must be used on site during each phase of the development (planning, construction and operational phases).

The Environmental Management Programme (EMPr) and maintenance plan (MP) must be disseminated to and used by the contractor, lodge manager and others involved in the construction and/or operational phases of the development. Any parties responsible for transgression of the underlying management measures outlined in this document will be held responsible of non-compliances and will be dealt with accordingly.

Aims and objectives of the EMPr

The purpose of this EMPr and MP is to provide an easily interpreted reference document that ensures that the project environmental commitments, safeguards and mitigation measures from the environmental planning documents, project approvals, and Scope of Works are implemented. It aims to minimise impacts associated with the development of the Shangoni Gate development in the KNP during the construction phase of the development and make sure the impacts on the environment are kept to a minimum. This includes ensuring that the mitigation measures described in the Basic Assessment Report and in the specialist studies are implemented.

The objectives for the EMPr and MP are:

- To develop, implement and maintain effective management systems for the environmental aspects of the maintenance works;
- To document details of environmental protection infrastructure and controls so that they are able to provide long term protection for the natural environment;
- To ensure compliance with relevant legislation (National, Provincial and Local), regulatory requirements and environmental documents;
- To maximise the value and outcomes of environmental monitoring activities so that the information can be applied to the planning and implementation of future projects;
- To ensure that all Environmental Management considerations are implemented during the operational and maintenance phases of the project.

The EMPr has been developed based on the findings of the on site assessment undertaken by Envirolution and the following specialist studies undertaken during the basic assessment process of this project:

- Wetland Delineation and Functional Assessment Report undertaken by Limosella Consulting, June 2016.
- A Vegetation Assessment Report undertaken by EcoAgent (Commissioned by Limosella Consulting), May 2016.
- A Fauna and Habitat Assessment Report undertaken by I. L Rautenbach *et al*, April 2016.
- Heritage Impact Assessment undertaken by Heritage Consultant, J van Schalkwyk (D Litt et Phil), May 2016.
- Visual Impact Assessment undertaken by I-Scape, May 2016.

All the Environmental specifications and the procedures discussed in this document were also developed in accordance with the relevant legislation applicable to the development.

The EMPr and MP is in line with the Kruger National Park management plan as it will tie in with the KNP Management Plan's mission of maintaining biodiversity in all its natural facets and fluxes, to provide human benefits and build a strong constituency and preserve as far as possible the wilderness qualities and cultural resources associated with the Park.

2. PREPARATION OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

This Environmental Management Programme was compiled by:

Company Name: Envirolution Consulting (Pty) Ltd
Contact person: Mr Thabang Sekele
Physical Address: No 52 Cnr Vorster Avenue and Glen Avenue, Glenanda
Postal Address: P.O Box 1898, Sunninghill, 2157
Telephone Number: (0861) 44 44 99
Fax Number: (0861) 62 62 22
E-mail: thabang@envirolution.co.za

Expertise of Environmental Practitioner that prepared the EMPr

Mr. Thabang Sekele forms part of the project team and acts as the Project Co-ordinator for all phases of the project. Thabang holds a Bachelor's degree in Environmental Management in which he majored in Geography and is a member of the International Association for Impact Assessment South Africa (IAIAsa). He is an Environmental Professional with good exposure to the Environmental Management field. Thabang's key focus is on strategic environmental assessment and advice; management and co-ordination of environmental projects, which includes integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; environmental auditing and compliance reporting; the identification of environmental management solution and mitigation/risk minimising measures; environmental auditing, monitoring and reporting compliance. Thabang has been an Environmental Assessment Practitioner and Environmental Control Officer for various projects entailing Environmental Authorisations in Gauteng, Mpumalanga and Free State provinces of South Africa. Thabang is currently a Project Manager and Environmental Professional at Envirolution Consulting.

3. DESCRIPTION OF THE IMPACTS

The Shangoni Gate Development will have potential vegetation, wetland (watercourses), fauna, avifauna, visual, heritage and socio-economic impacts.

3.1. Vegetation Impacts

In terms of vegetation impacts, a loss of indigenous vegetation or indigenous plant species due to clearing for construction for the new Shangoni Gate and the related developments. The disturbance of indigenous vegetation during construction and even during the operational phase will result in bare areas, suitable for invasive plants to get established. The new entrance road and people moving through the gate will cause a transport system for seeds and other propagules of plants, particularly of alien invasive plant species. Should disturbance occur, an increase in alien species can be expected within the disturbed areas. It is important to note that Alien invader plant species pose an ecological threat as they alter habitat structure, lower biodiversity, change ecosystem services and processes e.g. change nutrient cycling and productivity, and modify food webs. Allowing invasive plant species to establish and expand their distribution range without control may have vast accumulative effects. The establishment

and increase of woody alien species can pose an ecological threat. However, these species are not anticipated provided that the mitigation measures are implemented correctly and rehabilitation of the site is undertaken.

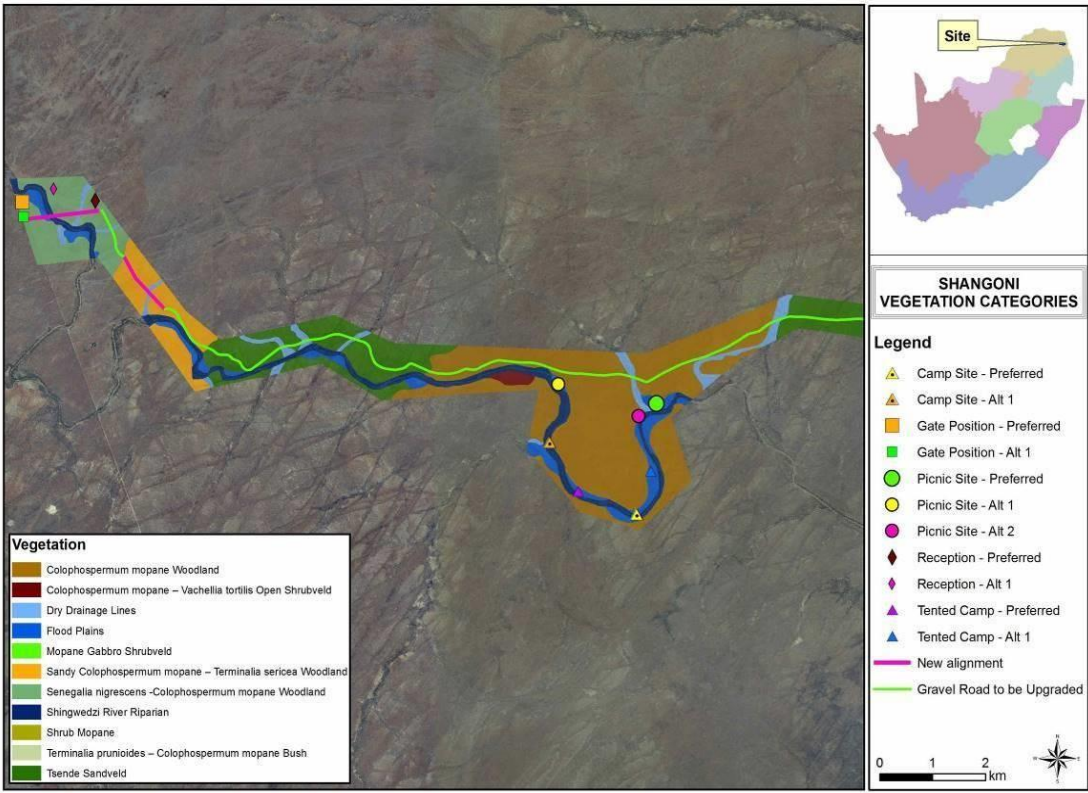


Figure 1: Vegetation map of study site Part 1 - (West)

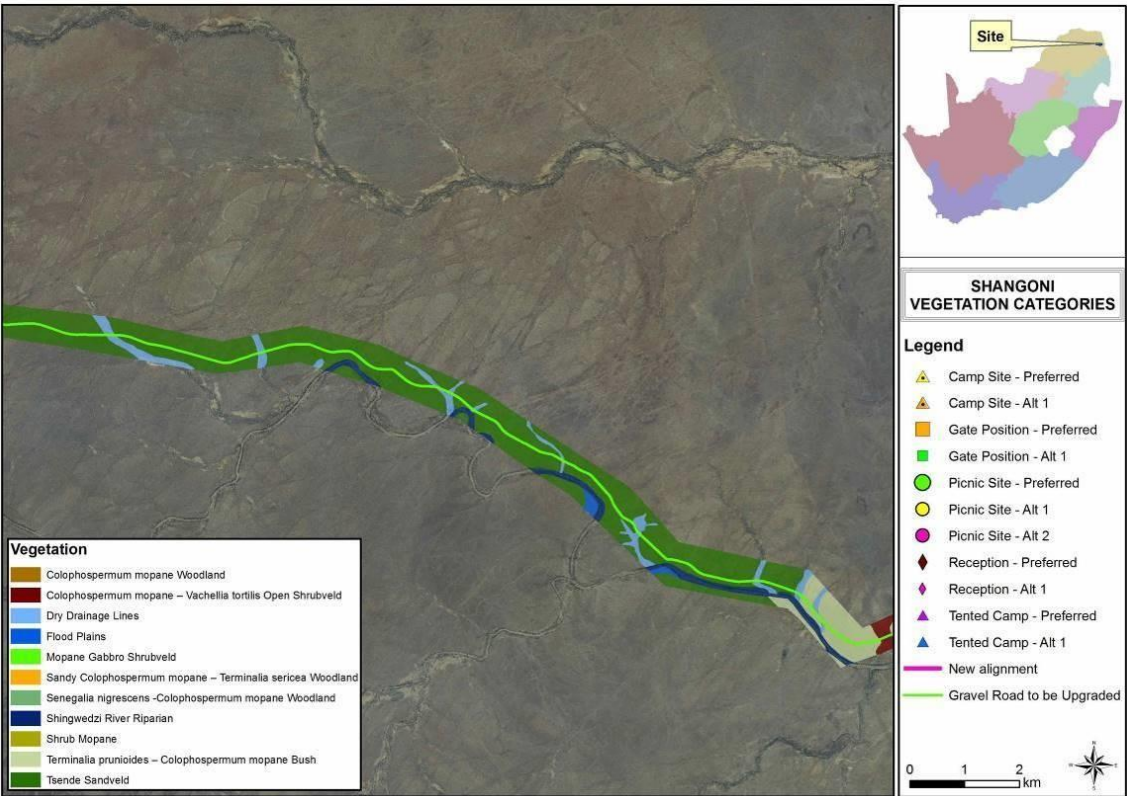


Figure 2: Vegetation map of the study site - part 2 (central)

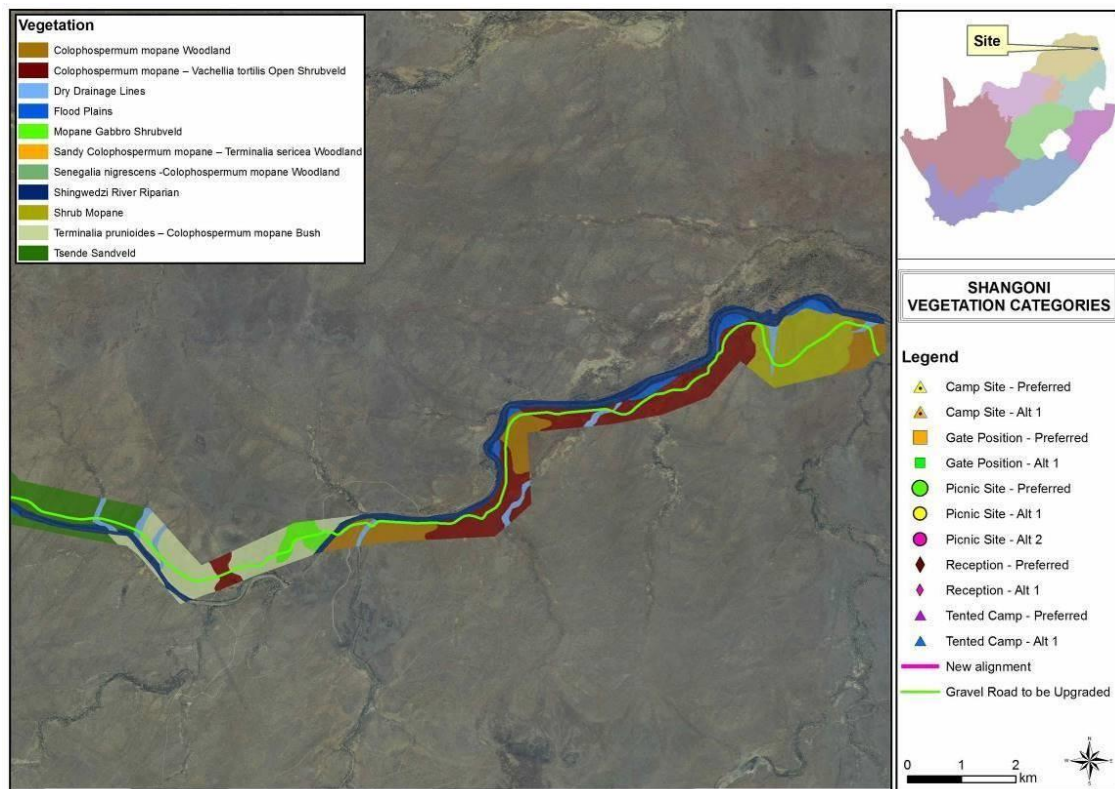


Figure 3: Vegetation map of the study site - part 3 (east)

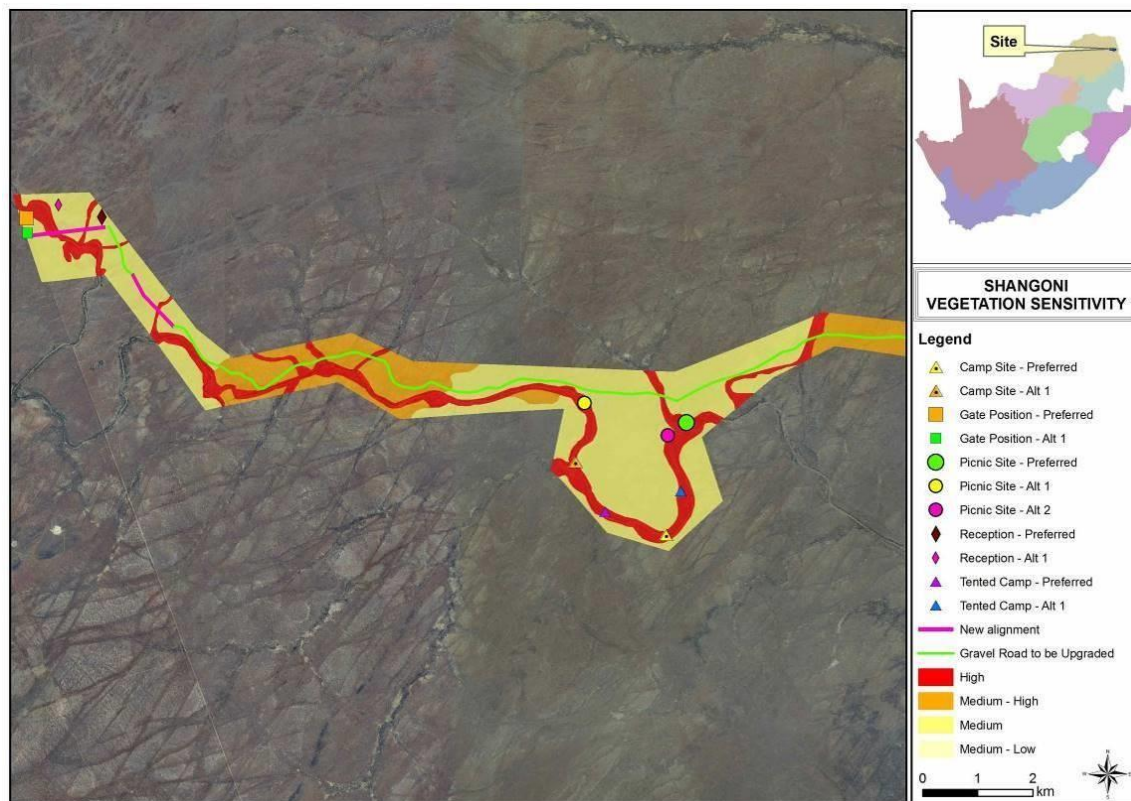


Figure 4: Sensitivity map of the study site

3.2. Watercourse Impacts

With regards to watercourse impacts, the main watercourse likely to be affected by the proposed activities is the Shingwedzi River. This river is classified as a non-perennial river, ephemeral in nature. Non-perennial ephemeral rivers are defined as rivers that have no active water flow for between 3 – 6 months in a year. A large number of smaller non-perennial rivers are also likely to be impacted by the proposed activities. The majority of these smaller rivers are also classified as non-perennial rivers although they are more likely to be episodic in nature. Episodic rivers are defined as rivers without active water flow for 9 months of the year or more. Both Ephemeral Rivers and Episodic Rivers are further characterised by high variability and high unpredictability as is evident in the occasional flooding of the Shingwedzi River. Riparian vegetation found along the banks of the Shingwedzi River are regarded as ecologically highly sensitive, as it is associated with a river, and all rivers (wetlands) in South Africa are regarded as ecologically sensitive. The removal of vegetation will also expose soil increasing the risk of erosion of the river banks. Large trees, including protected trees, do occur scattered within the riparian zone. The proposed developments are located outside the 1:100 year flood line.

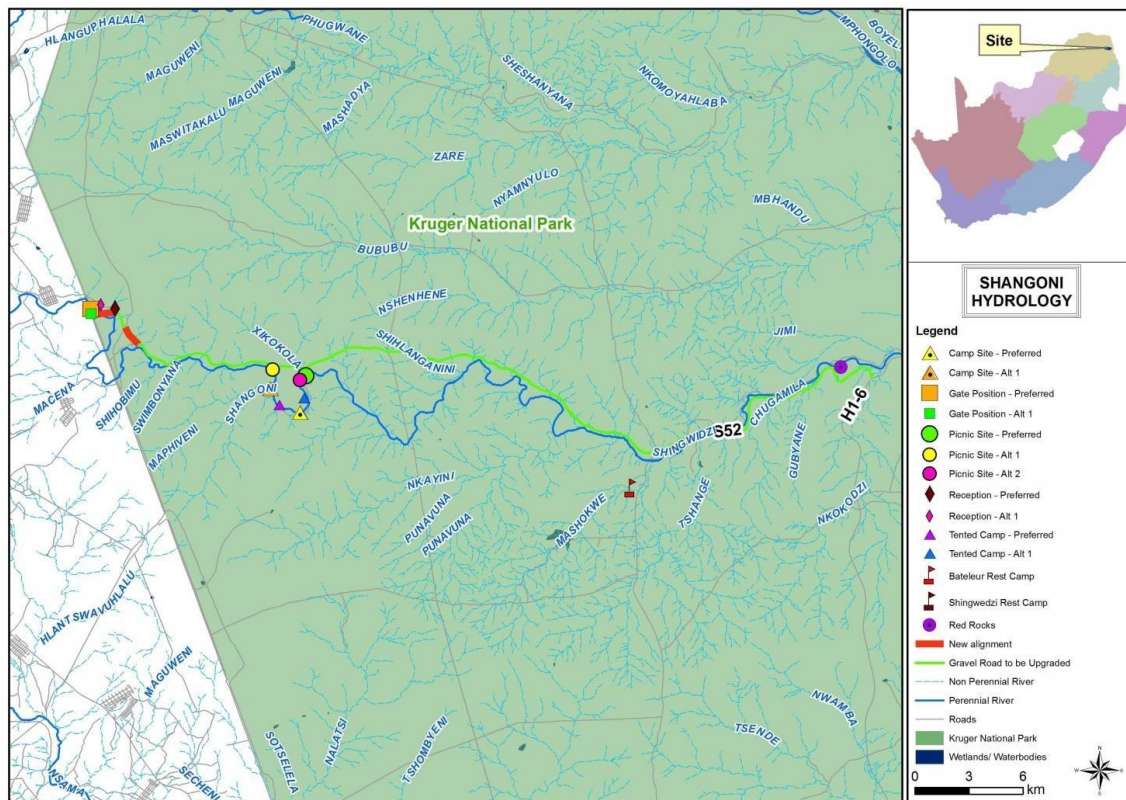


Figure 5: Hydrology map of study area.

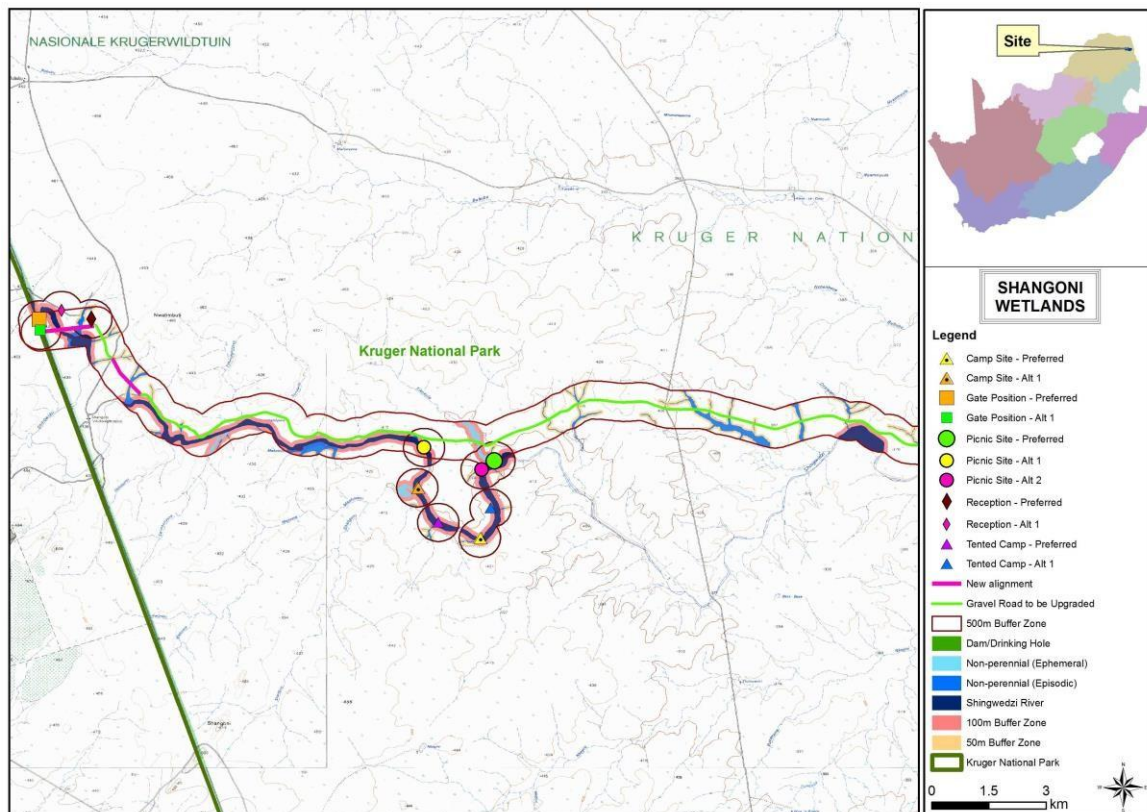


Figure 6: Watercourse sensitivity areas delineated together with associated buffer zones

3.3. Fauna, avifauna and habitat Impacts

The conservation status of the study area to be affected by the development and adjacent land is rated as Medium-High, i.e. Land where sections are disturbed but that is still ecologically sensitive to development/disturbance. The numerical significance (impact) values for the tourist amenities and for the upgraded road fall within the Moderate Environmental Significance class, in the case of public amenities only marginally. The proposed development will yield no noticeable influence of species richness given the extensive nature of the area where the improvements are planned. No threatened species will be fatally impacted by the proposed development since their survival potential is accommodated in the rest of the extensive natural areas of the park, contingent on heeding our proposals to safeguard vulture nests against disturbances. Two issues are redflagged as sensitive. The first is the riparian zone which is normally regarded as no-go areas. The second issue to address is the proximity of three White-backed Vulture nests in the vicinity of the five southernmost proposed development sites. The increase in traffic along the road will result in an increased risk of mortality for mammals, birds, reptiles and amphibians. This issue is particularly pertinent to SANParks staff members who will be using the road to travel to and from Giyani, Thohoyandou and surrounding areas, and who may use this road at night when the risk of road kill is far greater, particularly when speeding is involved. Groups of birds at particular risk include owls, nightjars and Bronze-winged Coursers. The specialists contend that given mitigation measures, there will be no impact on either species richness or overall conservation interests.

3.4. Visual Impacts

Within the study area, observers experience and interact differently with their environment and therefore value it differently. They may be affected by the proposed project due to additions or alterations in the

visual environment which may influence their experience and views of the visual resource. Tourists will have a minimal exposure to the road construction. They will pass the most western section of the road when travelling on the H1-6. Their exposure to the construction activity will be limited to that specific location, and will be brief. Tourists are users of the roads passing the road construction and their main purpose for visiting, is to enjoy the pristine character of the landscape. They are classified as observers of high sensitivity. Once the development is in the operational phase all the facilities and infrastructure will be similar in appearance and function compared to most of the other facilities in the park. It will be familiar additions that can be described as compatible with the KNP's existing infrastructure. This is considered in accordance with the KNP internal vision and planning strategy for the northern part of the park.

3.5. Heritage Impacts

As Stone Age material was identified on the surface in areas where sheet erosion is taking place, the material is viewed to have very little significance, as it is not in its original context any more. A natural site revered by people from the local community is located some distance off from the road that is to be upgraded and would therefore not be impacted on by the proposed development.

3.6. Socio-economic Impacts

The envisaged total investment in construction costs for the entire Shangoni Development (incl external related developments) of approximately R43.8 million, could create an additional R86.1 million in new business sales, R19.4 million in additional GGP, as well as an additional 194 onceoff employment opportunities. Total impact includes direct, indirect as well as induced effects. If the proposed Shangoni Gate Development were not to occur, the above benefits in terms of additional business sales, GGP, employment, as well as rates and taxes payable to the local fiscus, would be lost to the Greater Giyani Local Municipality and Thulamela Local Municipality, Mopani District and provincial economies. The proposed development will potentially provide numerous economic possibilities which will mainly benefit the surrounding communities and fits the Tourism strategy of development of underdeveloped nodes and one of the nearby communities have also been identified as a presidential poverty node. It must be noted that this proposed Shangoni Gate development inside the Kruger National Park forms part of a larger tourism development plan in the region that includes improved road access from Malamulele up to the proposed gate position, three star lodges outside the park, heritage sites with business opportunities (old gold mine and other heritage sites).

3.7. Paleontological Impacts

The development is taking place on the Letaba Basalt, Goudsplaatsgneiss, Timbavati Gabbro, Giyani Group, Shamiriri Formation, and Clarens Formation. It has an undulating topography. Only the Red Rocks Member and the Quaternary sands are potentially fossiliferous. The site is covered with lush vegetation (trees, grass). Big game is present. Threats are earth moving equipment/machinery (front end loaders, excavators, graders, dozers) during construction, digging of foundations, the sealing-in, disturbance, damage or destruction of the fossils by development, vehicle traffic, and human disturbance. The overburden and inter-burden must always be surveyed for fossils during construction. Special care must be taken during the digging, drilling, blasting and excavating of foundations, trenches, channels and footings and removal of overburden during construction not to intrude fossiliferous layers. The new gate and reception areas will be situated on the Giyani Group lavas, this area is not crucial to

the palaeontological heritage of the area as these lavas are devoid of fossils. The newly proposed picnic site, camp site and tented camp site will be situated on the Giyani Group and Goudplaatsgneiss sediments. This area was not investigated due to the presence of igneous sediments. Fossils were not found during the walk through..

3.8. Traffic Impacts

It is expected that the vehicle trips at Phalaborwa and Punda Maria gates will reduce and the reduction will be diverted to the Shangoni gate. Taking into consideration that the visitors' survey indicated that the likelihood of using the Shangoni gate was approximately 70%, it can be expected that a significant number of vehicles will be drive through the Shangoni gate. It was estimated that approximately 80 vehicle trips will be diverted to drive through the Shangoni gate daily. The new facilities proposed in the development; the tented rest camp, picnic and camping sites will generate additional traffic on the internal and external road network. As such, a total of 130 vehicle trips daily is estimated for the proposed gate – contributing approximately 80 vehicle trips in the peak hour. The potential safety risk of traffic generated by this type of development is the impact on the safety of animals within the park. This could be mitigated by enforcing and monitoring speed limits in the park. A speed limit of 50km/h is proposed for the surfaced roads within the development and this will be sufficient to minimize the potential road safety risks. Based on the Traffic Impact study conducted there is no direct relationship between the volume of traffic and the number of accidents involving animals in parks, but rather how well traffic is managed.

4. APPLICABLE LEGISLATION

Several laws and regulations apply to the protection of the environment and contain environmental principles and standards that need to be applied and permits and licences that need to be obtained. This EMPr will be subject to regulatory control under a range of State, Provincial and Local regulations. Such legislation largely embraces pollution prevention, resource use and conservation, and socio cultural (heritage) protection. This chapter reviews legislation pertaining to the proposed Shangoni Gate Development, Kruger National Park.

According to Section 2 (1, 2 & 3) of the National Environmental Management Act No. 107 of 1998 (NEMA), all organs of state have to apply certain principles set out in NEMA when taking decisions that may significantly affect the environment. The key principles of this Act include that all "actions" that they approve must be economically, socially and environmentally sustainable. It further states that "people and their needs" must be at the forefront of "its concern" and their interests must be served equitably. The intent of this EMPr is to ensure that the developer conducts all its activities related to the construction and maintenance of this erosion protection measure in accordance with the provisions of the NEMA, and has taken into account the provisions of the Constitution and the principles of Integrated Environmental Management.

Key environmental legislations that are applicable to the project are described below:

4.1 The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)

The Constitution is the most important piece of legislation that provides a framework for environmental management in South Africa. There are various sections that have implications for environmental management, hence for sustainable development. The Bill of Rights is fundamental to the Constitution of South Africa and in, section 24 of the Act. Other sections in the Constitution that are of importance are section 32 which deals with the right of access to information; section 33 which provides for just administrative action; section 38 which deals with the extended *locus standi* provisions.

Section 24 therefore places a duty on all spheres of government to take reasonable steps, including to make laws, prevent pollution, promote conservation and ensure sustainable development.

While no permitting or licensing requirements arise from this legislation. However, this Act will find application during the construction phase of the project in proper management of the environment. An EMP has been compiled for this purpose, to ensure that the environment is protected throughout the phases of the development.

4.2 National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended)

The National Environmental Management Act (Act 107 of 1998) generally known as “NEMA” is South Africa’s overarching framework for environmental legislation. The NEMA Act sets out the principles of Integrated Environmental Management (IEM). NEMA aims to promote sustainable development, with wide-ranging implications for national, provincial, and local government. Included amongst the key principles is that all development must be environmentally, economically and socially sustainable and that environmental management must place people and their needs at the forefront, and equitably serve their physical, developmental, psychological, cultural and social interest. Section 24 provides for the prohibition, restriction and control of activities which are likely to have a detrimental effect on the environment. While Section 28 of NEMA creates a general duty of care on every person, and “person” is very widely defined, to take reasonable measures to prevent significant pollution or degradation of the environment from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

In terms of Section 19, the project proponent must ensure that reasonable measures are taken throughout the life cycle of this project to prevent significant pollution or degradation of the environment from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment

4.3 National Environmental Management: Biodiversity Act 2004 (Act 10 of 2004)

Provides management and conservation of South Africa’s biodiversity within the framework of the National Environmental Management Act 107 of 1998; the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources.

4.4 The National Environmental Management Waste Act 2008 (Act 59 of 2008)

The National Environmental Management Waste Act (NEMWA) reforms the law regulating waste management in order to protect health and the environment providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.

4.5 The Occupational Health and Safety Act 1993 (No 85 of 1993)

The Occupational Health and Safety Act makes provision in regulation Section 8 for the general duties of employers to their employees. Section 9 of the Regulations makes provision for general duties of employers and self employed persons to persons other than their employees.

While no permitting or licensing requirements arise from this legislation, this Act will find application during the construction phase of the project. Healthy and safety precautions measures must be put in place for the construction crew and the general public

4.6 The National Environmental Management: Air Quality Act 2004 (No 39 of 2004)

National Environmental Management: Air Quality Act (NEM:AQA) which provides for the control of dust, noise and offensive odours.

While no permitting or licensing requirements arise from this legislation, this Act will find application during the demolition phase of the project. Dust control regulations promulgated in November 2013 may require the implementation of a dust management plan.

4.7 The National Environmental Management: Water Act, 1998 (Act No. 36 of 1998)

The National Water Act aims to provide management of the national water resources to achieve sustainable use of water for the benefit of all water users. This requires that the quality of water resources is protected as well as integrated management of water resources with the delegation of powers to institutions at the regional or catchment level. The purpose of the Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled.

Of specific importance to this application is Section 19 of the National Water Act, 1998 (Act No. 36 of 1998), which states that an owner of land, a person in control of land or a person who occupies or uses the land which thereby causes, has caused or is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring and must therefore comply with any prescribed waste standard or management practices. Section 20 outlines the control of emergency incidents.

For the purpose of this project a Water Use Licence is required in terms of Section 21 (c) impeding or diverting

the flow of water in a watercourse and (i) altering the bed, banks, course or characteristics of a watercourse.

4.8. National Environmental Management: Protected Areas Act (Act No. 57 of 2003)

The National Environmental Management Protected Areas Act aims to to promote sustainable utilisation of protected areas for the benefit of people, in a manner that would preserve the ecological character of such areas. The Act sets out the importance to protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes in a system of protected areas; and the preservation the ecological integrity of those areas and the conservation of biodiversity in those areas.

The development will take place inside the Kruger National Park of which is classified as a protected area

4.8.1 National Environmental Management: Protected Areas Act (Act No. 57 of 2003) Section 50

The proposed development will involve commercial and community activities in a nature reserve and world heritage site.

4.9. Regulations for the proper administration of nature reserves and World Heritage sites: Section 19 & 20

The right to the sustainable, monitored use of identified biological resources in a Nature reserve will be involved.

5. PHASES OF THE PROJECT

The point of departure for this EMPr is to take a pro-active route by addressing potential problems before they occur. This should limit corrective measures needed during the construction and operational phases of the development. Additional mitigation will be included throughout the project's various phases, as required and if necessary.

The EMPr deals with the following phases as detailed below:

5.1. The Planning and Design Phase

The EMPr offers an ideal opportunity to incorporate pro-active environmental management measures with the goal of attaining sustainable development.

Pro-active environmental measures minimize the chance of impacts taking place during the construction and operational phase. There is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g. this EMPr) during the planning phase, the necessary corrective action can be taken to further limit potential impacts.

5.2. The Construction Phase

The bulk of the impacts during this phase will have immediate effect (e.g. noise-, dust- and water pollution).

If the site is monitored on a continual basis during the construction phase, it is possible to identify these impacts as they occur. These impacts will then be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management from the developer.

5.3. Rehabilitation Phase

This phase will involve restoring the land impacted during the construction phase as close as possible back to its original state. This process will mainly on rectifying the negative impacts that have been caused during construction by the removing pollution or contaminants and other dangerous substances from groundwater, sediment, or surface water and improvement of the soil.

5.4. The Operational Phase

By taking pro-active measures during the planning and construction phases, potential environmental impacts emanating during the operational phase will be minimised. This, in turn, will minimise the risk and reduce the monitoring effort, but it does not make monitoring obsolete.

5.5. The Decommissioning Phase

The decommissioning phase would entail the dismantling of the Shangoni entrance gate, Bridge over Shingwedzi River, Reception Facility, Picnic sites, Camping sites, Tented Sites, associated roads and the transportation of rubble from the site. It is anticipated that the Shangoni Gate development will be dismantled and removed and a rehabilitation plan (removal of all foreign material from park and provision of recycling plans) approved by the relevant authorities will be implemented.

6. ROLES AND RESPONSIBILITIES

The implementation of this EMPr requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during the construction phase. The stakeholders are discussed below.

6.1. Developer / Applicant

The developer remains ultimately responsible for ensuring that the development is implemented according to the requirements of the EMPr. Although the developer appoints specific role players to perform functions on his/her behalf, this responsibility is delegated. The developer is responsible for ensuring that sufficient resources (time, financial, human, equipment, etc.) are available to the other role players (e.g. the ECO, ELO and contractor) to efficiently perform their tasks in terms of the EMPr. The developer is liable for restoring the environment in the event of negligence leading to damage to the environment.

The developer must ensure that the EMPr is included in the tender documentation so that the contractor who is appointed is bound to the conditions of the EMPr.

The developer must appoint an independent Environmental Control Officer (ECO) during the construction phase to oversee all the environmental aspects relating to the development.

6.2. Contractor

The Contractor must ensure adherence to, and compliance with, the Construction EMPr in a legal and timely manner. The Contractor must ensure that all staff members, sub-contractors and suppliers have a comprehensive understanding of the EMPr and adhere to the provisions for the duration of the construction phase. The Contractor must designate a permanent Environmental Officer (EO) to monitor environmental compliance on a day-to-day basis on the construction site. The Contractor must ensure that all staff members, sub-contractors and suppliers are aware of the environmental issues relating to the construction activities that they are undertaking on site and of all mitigating and precautionary measures that must be implemented. The Contractor must ensure that training is undertaken for construction supervisors and crews to recognise environmental „red flags“ and ensure that these will not be disturbed, damaged or removed and to be brought to the immediate attention of the EO or ECO to determine an action plan and way forward.

In addition the Contractor must:

- Develop a layout of the operations of the construction site indicating the position of all construction activities, including but not limited to: offices, ablution facilities, storage areas, workshops, batching plant, stockpile areas, waste disposal facilities, hazardous substance storage area, access routes, etc. This layout plan is to be submitted to the ECO for acceptance prior to site establishment. Any changes to this plan will need to be reviewed in conjunction with the ECO.
- Ensure that all recommendations made in monitoring and audit reports are implemented throughout the construction phase.
- Accept liability for any and all Work required in terms of the environmental specifications, resulting from environmental negligence, mismanagement and / or non-compliance.

6.3 The Environmental Control Officer (ECO)

The Environmental Control Officer (ECO) is appointed by the developer as an independent monitor of the implementation of the EMPr. He/she must form part of the project team and be involved in all aspects of project planning that can influence environmental conditions on the site. The ECO must attend relevant project meetings, conduct inspections to assess compliance with the EMPr and be responsible for providing feedback on potential environmental problems associated with the development. In addition, the ECO is responsible for:

- Assisting in ensuring that the necessary environmental authorisations and permits have been obtained prior to construction commencing.
- Reviewing the Contractor's construction Method Statements.
- Monthly site inspections of all construction areas with regard to compliance with the EMPr.
- Monitoring and verifying adherence to the EMPr, the EA and approved Method Statements at all times.
- Monitoring and verifying that environmental impacts are kept to a minimum.
- Taking appropriate action if the specifications are not followed.
- Monitoring the undertaking by the Contractor of environmental awareness training for all new personnel coming onto site.
- Advising on the removal of person(s) and/or equipment not complying with the specifications.
- Auditing the implementation of the EMPr and compliance with the EA on a monthly basis.

- Compiling a final audit report regarding the EMPr and its implementation during the construction period after completion of the contract and submitting this report to the Employer and the authorising authority.

The ECO has the right to enter the site and do monitoring and auditing at any time, subject to compliance with health and safety requirements applicable to the site (e.g. wearing of safety boots and protective head gear).

(a) Liaison with Authorities

The ECO will be responsible for liaising with the Department of Environmental Affairs (DEA). The ECO must submit monthly environmental audit reports to the authorities (if required). These audit reports must contain information on the contractor and developer's levels of compliance with the EMPr. The audit report must also include a description of the general state of the site, with specific reference to sensitive areas and areas of non-conformance. The ECO must indicate suggested corrective action measures to eliminate the cause of the non-conformance incidents. In order to keep a record of any impacts, an Environmental Log Sheet (refer to Appendix 1) is to be kept on a continual basis.

(b) Liaison with Contractors

The ECO is responsible for informing the contractors of any decisions that are taken concerning environmental management during the construction phase. This would also include informing the contractors of the necessary corrective actions to be taken.

6.4 Project Engineer (PE)

The Project Engineer (PE) will be appointed by the „Developer" and will be required to oversee the construction programme and construction activities performed by the Contractor. The PE is expected to liaise with the Contractor and ECO on environmental matters, as well as any pertinent engineering matters where these may have environmental consequences. He/she will oversee the general compliance of the Contractor with the EMPr and other pertinent site specifications. The PE will also be required to be familiar with the EMPr specifications and further monitor the Contractor's compliance with the Environmental Specifications on a daily basis, through the Site Diary, and enforce compliance.

6.5 Environmental Liaison Officer (ELO)

The contractor must appoint an Environmental Liaison Officer (ELO) to assist with day-to-day monitoring of the construction activities. Any issues raised by the ECO will be routed to the ELO for the contractors' attention. The ELO shall be permanently on site during the construction phase to oversee the Contractor's internal compliance with the EMPr requirements and ensuring that the environmental specifications are adhered to. The ELO should ideally also be a senior and respected member of the construction crew.

The ELO will be responsible for keeping detailed records of all site activities that may pertain to the environment and include all these aspects in an environmental register. This register must be presented at each EMC meeting and be made available to the ECO during his/her monthly audits. In addition to the

environmental register the ELO must keep a register of complaints from any community members on environmental issues. Finally, the ELO will be required to keep a record of all on-site environmentally related incidents and how these incidents were dealt with. Past experience has revealed that, ELO"s that can relate to the work force are the most effective for information transfer and ensuring compliance with the EMPr.

7. ENVIRONMENTAL AWARENESS PROCEDURE

OBJECTIVE: Ensure all construction and operation personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and on-going minimisation of environmental harm (Environmental Awareness Plan)

To achieve effective environmental management, it is important that Contractors and site employees are aware of the responsibilities in terms of the relevant environmental legislation and the contents of this EMPr. The developer is responsible for informing its employees and contractors (transportation contractor) of their environmental obligations in terms of the environmental specifications, and for ensuring that employees are adequately experienced and properly trained in order to execute the works in a manner that will minimise environmental impacts. The developer"s obligations in this regard include the following:

- Employees must have a basic understanding of the key environmental features of the site and its surrounding environment.
- Ensuring that a copy of the EMPr is readily available on-site, and that all site staff are aware of the location and have access to the document. Employees must be familiar with the requirements of the EMPr and the environmental specifications as they apply to the operation of the facility.
- Ensuring that, prior to commencing any new site works, all employees have attended an Environmental Awareness Training course. The course must provide the site staff with an appreciation of the project's environmental requirements, and how they are to be implemented.
- Awareness of any other environmental matters, which are deemed to be necessary by the Environmental Control Officer.
- Ensuring that appropriate communication tools are used to outline the environmental "do"s and "don"ts" (as per the environmental awareness training course) to employees.
- Records must be kept of those that have completed the relevant training.
- Refresher sessions must be held to ensure the operating staffs are aware of their environmental obligations.

Prior to the commencement of construction activities on site and before any person commences with work on site thereafter, adequate environmental awareness and responsibility are to be appropriately presented

to all staff present onsite, clearly describing their obligations towards environmental controls and methodologies in terms of this EMPr. This training and awareness will be achieved in the following ways:

6.1 Environmental Awareness Training

Environmental Awareness Training must be undertaken by the Contractor and must take the form of an on-site talk and demonstration by the Contractor before the commencement of construction activities on site. This Environmental Awareness Training should include the Kruger National Park Code of Conduct. A record of attendance of this training must be maintained by the Contractor on site.

6.2 Induction Training

Environmental induction training must be presented to all persons who are to work on the site – be it for short or long durations.

This induction training should be undertaken by the Contractor and should include discussing the SANPark's environmental policy and values, the function of the EMPr and the importance and reasons for compliance to these. The induction training must highlight overall do's and don'ts on site and clarify the repercussions of not complying with these. The reporting procedure must be explained during the induction as well. Opportunity for questions and clarifications must form part of this training. A record of attendance of this training must be maintained by the Contractor on site.

6.3 Toolbox Talks

Toolbox talks should be held on a scheduled and regular basis (at least once a month) where the Contractor and all employees on site hold talks relating to environmental practices and safety awareness on site. These talks should also include discussions on possible common incidents occurring on site and the prevention of reoccurrence thereof. Records of attendance and the awareness talk subject must be kept on file.

8. ENVIRONMENTAL MANAGEMENT PROGRAM (EMPr)

The following table forms the core of this EMPr for the pre-construction, planning and design construction, operational and rehabilitation phases of the development. This table should be used as a checklist on site, especially during the construction phase. Compliance with this EMPr must be audited monthly during the construction phase and once immediately following completion of construction.

8.1. PRE CONSTRUCTION, PLANNING AND DESIGN PHASE.

Table 1: Pre construction, planning and design phase: Environmental Management Programme for the proposed project

Activity / issue	Action required during pre-construction, planning and design phase	Responsible party
Final Specialist Walk-through	a) An ecological specialist, fauna specialist, surface water specialist, visual specialist and heritage specialist must be commissioned to perform a final walkthrough of the site. Recommendations by the specialists must be made regarding the final positioning of the respective proposed developments. These recommendations must cover buffer identification, sensitive sites identification, no-go areas identification, fine scale mapping and site specific mitigation measures within the development footprint.	Developer, Contractor, ECO
8.1.1 Appointment and Duties of ECO	The Developer must appoint an independent Environmental Control Officer (ECO) who must monitor the contractor's compliance with the EMPr. The developer must provide the ECO and contractor with a copy of the EMPr. The priority of the ECO is to maintain the integrity of the development conditions outlined in the EMPr. The ECO must form part of the project management team and attend all project meetings. The contractor must ensure that the construction crew attend an environmental briefing and training session presented by the ECO prior to commencing activities on site. Report on environmental compliance at the monthly site meetings	Developer, Contractor, ECO
Activity / issue	Action required during pre-construction, planning and design phase	Responsible party
8.1.2. Appointment and Duties of ELO	The contractor must appoint an Environmental Liaison Officer (ELO). This person will be required to monitor the situation with a direct hands-on approach, and ensure compliance and co-operation of all personnel. He/She should be fluent in the languages of the employees. This EMPr must be made binding to the main contractor as well as individual contractors and should be included in tender documentation for the construction contract.	Contractor, Developer, ECO

Activity / issue	Action required during pre-construction, planning and design phase	Responsible party
8.1.3. Training for Site Personnel	All Contractor teams involved in construction work are to be required to undergo some form of environmental induction on their obligations towards environmental controls and methodologies in terms of this EMP, prior to commencing of the works. The Contractor shall ensure that all site personnel have a basic level of environmental awareness training. Topics covered should include; - What is meant by "Environment" - Why the environment needs to be protected and conserved - How construction activities can impact on the environment - What can be done to mitigate against such impacts - Awareness of emergency and spills response provisions - Social responsibility during construction of the fire station It is the Contractor's responsibility to provide the site foreman with environmental training and to ensure that the foreman has sufficient understanding to pass this information onto the construction staff. Training should be provided to the staff members in the use of the appropriate firefighting equipment. Translators are to be used where necessary. - Use should be made of environmental awareness posters on site. - The need for a "clean site" policy also needs to be explained to the workers. - Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitised to any potential hazards associated with their tasks. The Contractor must monitor the performance of construction workers to ensure that the points relayed during their introduction have been properly understood and are being followed. Environmental inductions may take the form of onsite talks and demonstrations by the Contractor and the ECO. Induction report will be signed by the Contractor as well as the Employee undergoing Induction, and records kept for auditing purposes and copies given to the ECO for filing. The education / awareness programme should be aimed at all levels of management and staff within the Contractor's team, and particularly labour drawn from surrounding communities.	Developer, ECO, Contractor

Activity / issue	Action required during pre-construction, planning and design phase	Responsible party
8.1.4. Record Keeping	a) It is recommended that photographs are taken of the site prior to, during and immediately after construction as a visual reference. These photographs should be stored with related documents and other records related to this EMP. b) All specialists reports (Vegetation, Wetland Delineation, Fauna, Geotechnical, Socio-economic, Heritage Impact Assessment must be kept on site. c) The Contractor shall ensure that all pertinent permits, certificates and permissions have been obtained prior to any activities commencing on site and ensure that they are strictly enforced / adhered to. This includes, for example, updating the Department of Water Affairs and Sanitation (DWS) Water Use licence and other monitoring programs. All records related to the implementation of this management plan (e.g. site instruction book, ECO reports, induction records, method statements, must be kept together in an office where it is safe and can be retrieved easily. d) All relevant records should be kept for a minimum of two years after construction and should at any time be available for scrutiny by any relevant authorities or stakeholder.	Developer, ECO, Contractor
8.1.5. Layout Plan	a) The Environmental sensitivity maps compiled during the Basic Assessment and present in the vegetation report, fauna and wetland report should be used as a decision tool to guide the final layout design of the proposed development. b) The extent of the construction sites and access roads should be demarcated on site layout plans and should be restricted to disturbed areas or those identified with low conservation importance. Therefore, no construction personnel or vehicle may leave the demarcated area except those authorised to do so. Those areas surrounding the construction site that are not part of the demarcated development area should be considered as “no-go” areas for employees, machinery or even visitors;	Developer, Contractor

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Activity / issue	Action required during pre-construction, planning and design phase	Responsible party
8.1.6. Environmental Protection Plan	Within 21 days of the Commencement Date, the Site Contractor shall prepare and submit to the Project Manager for approval in consultation with the ECO an Environmental Protection Plan. The Plan shall cover all environmental protection works and shall also include descriptions of environmental safeguards and emergency procedures. The Plan shall include a description of the administrative structure and lines of communication which shall be established between the Contractor's and his subcontractors' workforce for the implementation of environmental protection procedures. Details of the expertise available for the implementation of environmental protection procedures must also be provided. In addition this plan must have a site layout plan and showing the final positions and extent of all permanent and temporary site structures and infrastructure, including: • Buildings • Contractors" camp • Roads and access routes, gates and fences. • Essential services (permanent and temporary water, electricity and sewage) • Rubble and waste rock storage and disposal sites. • Site toilets and ablutions. • Firebreaks. • Excavations and trenches. • Topsoil stockpiles. • Spoil areas. • Construction materials stores. • Vehicle and equipment stores. Sensitive and No go areas & applicable buffers. This must include all areas of Environmental sensitivity (natural environment, sensitive habitats wetland areas and protected species) • All temporary and permanent water management structures including bunds and sumps.	Developer, Contractor

Activity / issue	Action required during pre-construction, planning and design phase	Responsible party
8.1.7. Existing Services and Infrastructure	a) The Contractor shall ensure that existing essential services (e.g. solar hybrid structures, boreholes etc) are not damaged or disrupted unless required by the contract and with the permission of the PE. b) The Contractor shall be responsible for the repair and reinstatement of any existing infrastructure that is damaged or services which are interrupted. c) Such repair or reinstatement will be to the Contractor's cost and shall receive top priority over all other activities. d) A time limit for the repairs may be stipulated by the RE in consultation with the Contractor.	Developer, Contractor
8.1.8. Emergency Preparedness	a) If chemicals in sufficient quantity and toxicity have the potential to be released on the construction sites, emergency contingency plans should be prepared as safety measures (Bunded areas). These safety measures should be communicated to the relevant personnel on the construction site. All hazardous installations require a Risk Assessment in terms of the Occupational Health and Safety Act, (Act No.85 of 1993) for construction sites.	Developer, Contractor
8.1.9. Method	a) The Contractor shall submit written Method Statements to the RE for the activities identified by the RE or ECO. Activities that will require method statements include: • Logistics for the Environmental Awareness Training Course • Location and Layout of Construction camp • Construction procedures • Cement and concrete batching • Solid and Hazardous Waste Management	Developer, Contractor, ECO

Activity / issue	Action required during pre-construction, planning and design phase	Responsible party
	b) Method Statements shall be submitted at least ten working days prior to the proposed commencement of work on an activity to allow the RE (and/or ECO) time to study and approve the method statement. c) Contractor shall not commence work on that activity until such time as the Method Statement has been approved in writing by the RE contract. d) The Contractor shall carry out the activities in accordance with the approved Method Statement. e) Under certain circumstances, the RE may require changes to an approved Method Statement. In such cases the proposed changes must be agreed upon in writing between the Contractor and the RE, and appropriate records retained. f) Approved Method Statements shall be readily available on the site and shall be communicated to all relevant personnel. Approval of the Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the EMPr specifications.	

Activity / issue	Action required during pre-construction, planning and design phase	Responsible party
8.1.10. Establishment Site	a) The contractor shall establish his construction camp, office/s and any other infrastructure as per the agreed site layout plan in a manner that does not adversely affect the environment. b) The contractor shall submit a method statement for site clearance for approval by the RE in consultation with the ECO. Site establishment shall take place in an orderly manner and all required amenities shall be installed at Camp site before the main workforce move onto site. c) Designate access roads during the planning phase allowing only wetland crossing at designated points d) The Construction camp shall have the necessary ablution facilities with chemical toilets at commencement of construction activities to the satisfaction of the Project Manager. The Contractor shall inform all site staff to make use of supplied ablution facilities and under no circumstances shall indiscriminate sanitary activities be allowed other than in supplied facilities. e) Safe drinking water for human consumption shall be available at the site offices and at other convenient locations on site. All water used on site must be taken from a legal source and comply with the recognised standards for potable and other uses. f) No fires on site will be allowed. Activities which may pose a risk of fire must be identified and suitable measures must be put in place to prevent any possible damage by fire. Contractors must inform the staff of the risk of fires and fire prevention and emergency procedures in the event of a fire. Fire fighting equipment shall be supplied by the Contractor at suitable locations g) The construction camp must preferably be positioned where it will not visually impact on adjacent landowners and should not be located in an environmentally sensitive area All sensitive areas, heritage (if encountered), wetland, drainage lines, should be demarcated and fenced off before development commences. These areas should be treated as “no go” areas. i) Invasive alien plant species should be treated in an appropriate manner. h) Alien plant eradication and follow-up control activities prior to construction.	Developer, Contractor, ECO

8.2. CONSTRUCTION PHASE Table 2: Construction Phase: Environmental Management Programme for the proposed project

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.1. Protection of Vegetation	a) Limit disturbance of natural vegetation to a minimum. b) Avoid removal of large trees. c) No protected trees or plants may be removed without the relevant permits from the Department of Agriculture, Forestry and Fisheries (DAFF). d) Do not plant any non-indigenous trees or shrubs or any garden ornamentals at the gate, use KNP indigenous plant species only. e) Remove and control all alien woody plant species that may appear during construction. f) The clearing of vegetation must be kept to a minimum and remain within the footprint of the particular picnic site, camping and tented camp site. g) The clearing of vegetation must be kept to a minimum and remain within the footprint of the bridge – erosion of the river banks must be avoided at all times. h) The clearing of vegetation must be kept to a minimum and remain within the footprint of the road. i) Disturbed areas must be rehabilitated immediately after construction has been completed in that area by sowing appropriate indigenous grass species, this is to avoid erosion of the river banks. j) Disturbed areas on road shoulder must be rehabilitated immediately after construction has been completed in that area (e.g. by sowing appropriate indigenous grass species). k) During the construction phase workers must be limited to areas under construction and access to the undeveloped riparian areas must be strictly controlled. l) Areas which have been disturbed will be quickly colonised by invasive alien species. An ongoing management plan must be implemented for the clearing/eradication of alien species. m) Monitor all sites disturbed by construction activities for colonisation by exotics or invasive plants and control these as they emerge. Implement fines for the damage or destruction of marked and protected specimens. n) Staff may not tamper or remove flora and neither may anyone collect seed from the plants without permission from the local authority.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.2. Protection of Fauna and Habitat	a) The standard SANParks speed restrictions (50km/h on tar roads and 40km on dirt roads) are deemed adequate if it is enforced. b) The tented camp, camp site and picnic site terrain should preferably be planned according to the “light footprint” / rustic principle. c) Normal precautionary measures included in the SANParks construction and operational modus operandus would suffice viz. unwarranted use of natural resources (viz. poaching, trapping, harvesting plant materials). d) Impacts can be offset by providing extraordinary opportunities such as bat hotels, sufficiently-sized drainage pipes supporting bridges to coincidentally serve as daytime roosts for cave-dwelling bats, nooks and crannies as refuge for reptiles, nesting, educational amenities (such as at the reception facility), bird baths etc. e) All staff and contractors must undergo an environmental induction course held by the ECO as well as faunal education and awareness programmes. f) None other than the standard precautionary measures incorporated in SANParks bestpractice development protocol in a conservation area. g) Runoff rain water from the black-topped road will influence grass and seedling germination that in turn will require the standard maintenance procedures developed by SANParks over time. h) Education and awareness campaigns on faunal species and their habitat are recommended to help increase awareness, respect and responsibility towards the environment for all staff and contractors.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
	i) The spatial extent of construction activities must be minimized, and as far as possible must be restricted to the areas on which buildings, roads etc will actually be located. j) No poaching or snaring of any game is permitted. The operator must implement fines in this regard. k) The boundaries of the development footprint areas are to be clearly demarcated and it must be ensured that all activities remain within the demarcated footprint area. l) The development should maintain connectivity between ecologically important habitats by retaining natural corridors for the movement of fauna. m) Pets and livestock are not allowed on site. n) Any bird nests that are found during the construction period must be reported to the Environmental Control Officer (ECO). o) Movement of construction vehicles and workers beyond the boundary of the site must be minimized. In addition, workers must be instructed to minimize disturbance of birds at all times, and steps must be taken to ensure that no illegal hunting occurs. p) The Critically Endangered White-backed Vultures that are breeding in the vicinity of the proposed camp site and tented camp site require special consideration in terms of mitigation. A 500-m buffer zones must be maintained around each nest site, within which no activity takes place. q) Driving at night on the new road by SANParks staff must be kept to a minimum.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.3. Protection of Wetlands and other Watercourses	a) Construction affecting watercourses must be restricted to the dryer winter months. b) A temporary fence or demarcation must be erected around No-Go Areas outside the proposed works area prior to any construction taking place as part of the contractor planning phase when compiling work method statements to prevent access to the adjacent portions of the watercourse. c) Effective stormwater management should be a priority during both construction and operational phase. This should be monitored as part of the EMP. High energy stormwater input into the watercourses should be prevented at all cost. Changes to natural flow of water (surface water as well as water flowing within the soil profile) should be taken into account. d) No impeding water flow during construction. e) Consider the various methods and equipment available and select whichever method(s) that will have the least impact on watercourses. f) Water may seep into trenching and earthworks. It is likely that water will be contaminated within these earthworks and should thus be cleaned or dissipated into a structure that allows for additional sediment input and slows down the velocity of the water thus reducing the risk of erosion. Effective sediment traps should be installed. g) Retain vegetation and soil in position for as long as possible, removing it immediately ahead of construction / earthworks in that area. h) Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining natural vegetation cover.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
	i) Rehabilitation plans must be submitted and approved for rehabilitation of damage during construction and that plan must be implemented immediately upon completion of construction. j) During the construction phase measures must be put in place to control the flow of excess water so that it does not impact on the surface vegetation. k) Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas. l) Runoff from the construction area must be managed to avoid erosion and pollution problems. m) Where construction occurs in the demarcated watercourse and buffer, extra precautions should be implemented to so as to minimise watercourse loss. n) Provision of adequate sanitation facilities located outside of the watercourse or its associated buffer zone. o) Implementation of appropriate stormwater management around the excavation to prevent the ingress of run-off into the excavation and to prevent contaminated runoff into the watercourse. p) The development footprint must be fenced off from the watercourses and no related impacts may be allowed into the watercourse e.g. water runoff from cleaning of equipment, vehicle access etc. q) Maintenance of construction vehicles / equipment should not take place within the watercourse or watercourse buffer. r) The wetland rehabilitation- and monitoring plan must be used in conjunction with this EMP to mitigate the construction related impacts.	Developer, Contractor, ECO, ELO
8.2.4. Erosion and Sedimentation	a) Do not allow erosion to develop on a large scale before taking action. b) Increased run-off during construction must be managed using berms and other suitable structures as required to ensure flow velocities are reduced; this must be done in consultation with the ECO	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
	c) Where possible, no construction activities should be undertaken within the moist grasslands. d) The extent of wetland conditions should be verified by a wetland specialist and no activities should take place within these areas without that a Water Use License was granted by the Department of Water Affairs (DWA) for these activities e) Make use of existing roads and tracks where feasible, rather than creating new routes through vegetated areas. f) Leave as much natural vegetation as possible intact during construction. g) Retain vegetation and soil in position for as long as possible, removing it immediately ahead of construction / earthworks in that area. h) Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining natural vegetation cover. The grassland can be removed as sods and re-established after construction is completed. i) Colonisation of the disturbed areas by plants species from the surrounding natural vegetation must be monitored to ensure that vegetation cover is sufficient within one growing season. If not, then the areas need to be rehabilitated with a grass seed mix containing species that naturally occur within the study area. j) Protect all areas susceptible to erosion (especially the sloped rocky grassland) and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.5. Alien Invasive Plant Species	a) An alien invasive management programme must be incorporated into the Environmental Management Programme. b) Ongoing alien plant control must be undertaken during construction. c) Monitor all sites disturbed by construction activities for colonisation by exotics or invasive plants and control these as they emerge. d) The clearing of vegetation must be kept to a minimum and remain within the footprint of the bridge – erosion of the river banks must be avoided at all times. e) Disturbed areas must be rehabilitated immediately after construction has been completed in that area by sowing appropriate indigenous grass species, this is to avoid erosion of the river banks. f) During the construction phase workers must be limited to areas under construction and access to the undeveloped riparian areas must be strictly controlled. g) Rehabilitated areas must be monitored to ensure the establishment of re-vegetated areas. h) An on-going management plan must be implemented for the clearing/eradication of alien species. i) The clearing of vegetation must be kept to a minimum and remain within the footprint of the new road; j) Disturbed areas on road shoulder must be rehabilitated immediately after construction has been completed in that area (e.g.by sowing appropriate indigenous grass species). k) During the construction phase workers must be limited to areas under construction and access to the undeveloped areas must be strictly controlled l) No large trees may be removed (they are needed for shade)	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.6. Hazardous materials storage and protection of soil and ground water	a) Materials storage areas should not be allowed in close proximity to ecologically sensitive areas. b) Provide the ECO with a list of all petroleum, chemical, harmful and hazardous substances and materials on site, together with storage, handling and disposal procedures for these materials. c) Ensure that all hazardous substances (chemicals, oils, etc.) are stored in appropriate, tamper proof containers in locked stores. d) Petroleum, chemical, harmful and hazardous materials must be stored in enclosed, bunded areas. The bunded areas shall be clearly marked. e) The bund must have a volume of 10% of the volume of the largest tank in the storage area plus 10% of the volume of all other tanks. f) The slab must be sloped towards a sump to enable any spilled fuel and water to be removed. g) Any wastewater collected at the sump shall be disposed of as hazardous waste h) Ensure that all hazardous substances are used and handled by qualified personnel on bunded surfaces. i) Ensure that no oil, petrol, diesel etc. is discharged onto the ground. j) All hazardous products to be dispensed from 200 litre drums shall be transferred by pump, and not dispensed by tipping of the drum. k) Tanks containing fuel must have lids, which are to remain firmly shut. l) Gas and liquid fuel may not be stored in the same storage area. m) No smoking is allowed inside the stores or within 3m of a bund n) The Contractor must ensure that there is adequate fire-fighting equipment at the fuel stores. o) Fuels and chemicals may not be stored under trees. p) Exercise extreme care with the handling of diesel and other toxic solvents so that spillage is minimised. q) Vehicles and machinery may not veer from the dedicated roads and tracks. r) Once construction is complete, obsolete roads should be obliterated by breaking the surface crust and erecting earth embankments to prevent erosion, while the natural species composition should be re-established.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.8. Concrete and cement mixing	a) Ensure that concrete and cement works are undertaken in specified areas only. b) Ensure that all operations that involve the use of cement and concrete are carefully controlled. Water and slurry from concrete mixing operations must be contained to prevent pollution of the ground surrounding the mixing points. c) Use plastic trays or liners when mixing cement and concrete: Do not mix cement and concrete directly on the ground. d) Excess concrete from mixing must be deposited in a designated area awaiting removal to an approved landfill site. e) All visible remains of excess concrete shall be physically removed immediately and disposed of as waste. Washing the visible signs into the ground is not acceptable. All excess aggregate shall also be removed.	Developer, Contractor, ECO, ELO
8.2.9. Handling and disposal of contaminated water	a) No discharge of pollutants such as cement, concrete, lime, chemicals, fuels or oils will be allowed into any water resource. b) Only above ground temporary storage tanks will be allowed on site c) Contaminated or potentially contaminated water will be kept separated from unpolluted stormwater and no unpolluted stormwater will be allowed into the conservancy tank	Developer, Contractor, ECO, ELO
Activity / issue	Mitigation required during Construction Phase	Responsible party

8.2.10. Visual Impacts	a) Buildings are to be simple in form and deliberately separated to lessen impact on the environment and allow for placement adjustments during construction to preserve large trees and protected specimens. b) Subtle walkways between buildings to connect without overpowering. c) Locate construction camps outside the borders of the KNP in areas that is already disturbed to avoid additional disturbance inside the park. d) In the event that construction camps are located in the KNP, put stringent restrictions in place to contain the footprint of the camp by temporarily fencing it and clearly demarcating the entire construction area to minimise disturbance of areas outside the construction site. e) Keep the construction camp and construction area neat and tidy at all times. Remove any waste products from the site or contain it in an enclosed area to avoid wind blowing waste into the bush. f) Implement dust suppression measures during earthworks to minimise the impact of dust clouds. g) Appoint a suitable architect and landscape architect to design the infrastructure and the adjoining surroundings with sensitivity towards the environment and its current character. h) No structure may exceed the height of the surrounding vegetation. i) Additional trees and shrubs can be planted around the structures as an offset measure to the loss in vegetation in the footprint of the infrastructure. j) All signage should be non-intrusive but clear. No sign boards will be placed on separate frameworks higher than 2 m above the ground level to avoid it exceeding the height of the vegetation.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.11. Lighting	a) Working hours shall generally be restricted to daylight hours b) Security lights shall be directed from the perimeter wall towards the centre of the camp with a down angle	Developer, Contractor, ECO, ELO
8.2.12. Solid Waste management	a) Litter generated by the construction crew must be collected in rubbish bins and disposed of weekly at registered waste disposal sites. b) Where feasible, collect waste paper, glass and metal waste separately and arrange for collection by recycling contractors. c) Litter bins must be equipped with a closing mechanism to prevent their contents from blowing out or being scavenged on by the surrounding animals. d) Ensure that personnel make use of the litter bins provided. Keep all Work Sites and at the Contractors camp tidy and litter free at all times. e) All building rubble, solid and liquid waste etc must be disposed of as necessary at an appropriately licensed refuse facility. f) Ensure that no refuse wastes are burnt on the premises or on surrounding premises. No fires will be allowed on site. g) The construction site must be kept in a clean and orderly state at all times. h) Ensure that no litter, refuse, wastes, rubbish, rubble, debris and builders wastes generated on the site be placed, dumped or deposited on adjacent/surrounding veld during or after the construction period of the project and that they are disposed of an approved at an approved registered waste facility.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.13. Storm water Management	a) No stockpiles or construction materials may be stored or placed within any drainage lines. b) Should a freak storm displace the temporary earth embankments or other erosion control structures, a visual inspection of the site must be made and any damage be recorded. Any damage and loss of soil resulting from a storm is to be remedied immediately. Should the temporary walls collapse due to construction error, the contractor is to fund the remediation process. c) Storm water at the construction crew camp must be managed so as to reduce the silt loads into the ecological environment. Measures must be implemented to distribute storm water as evenly as possible to avoid point sources of erosion. d) The site must be managed in a manner that prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids, silt or chemicals. e) Make use of erosion control measures to minimise erosion at excavation / clearing sites or aggregate storage sites. Earth moving construction activities to take place in dry season as far as possible. f) The protective buffer around the watercourses must be respected as it acts as a trap for sediment and contaminants. Measures must be put in place around sensitive areas to protect these from sediment and contaminants. g) Remove only vegetation essential for construction and do not allow any disturbance to the adjoining natural vegetation cover. h) Ensure that measures are in place to control the flow of excess water so that it does not impact on the surface vegetation. i) The accumulation of water on the surface should be prevented. The drainage of the surface should be done in such a way that storm water will be led away quickly and efficiently without any erosion taking place. j) Do not allow surface water or storm water to canalize or be concentrated. k) Storm water outflows should not be allowed to enter directly into watercourses. l) Runoff from roads must be managed to avoid erosion and pollution problems. m) Place and maintain erosion control barriers as appropriate to prevent sedimentation. n) Prevent storm water or contaminated water directly entering any watercourse. o) Install waste traps to catch litter conveyed by surface runoff.	Developer, Contractor, ECO, ELO
49	p) All waste traps within the storm water system will be emptied / cleaned regularly to ^{Comp} ensure their efficient functioning	led by Envirolution Consulting (Pty) Ltd

Activity / issue	Mitigation required during Construction Phase	Responsible party

8.2.13. Storm water Management	q) Proactively protect steep access roads, cuttings against and other areas susceptible to erosion by installing all the necessary temporary and permanent drainage works as soon as possible and by taking such other measures as may be necessary to prevent surface water being concentrated in water sources and from scouring the slopes, banks or other areas. r) Repair all erosion damage as soon as possible. Do not allow erosion to develop on a large scale before effecting repairs. s) The stabilisation of disturbed areas, access roads and / or steep cuttings is very site specific and could include reno mattresses, mitre drains, drainage pipes, benches, gabions; scarifying (ripping) areas along the natural contours or packing branches and rocks. t) Monitor all rehabilitated areas for at least a year following the completion of rehabilitation works for failure of vegetation to establish and / or erosion. Immediately implement remedial measures as required.	Developer, Contractor, ECO, ELO
8.2.14. Noise management	a) Construction activities must be limited to normal KNP hours and according to KNP policy. b) The contractor must ensure that noise levels remain within acceptable limits. c) Complaints register will be maintained, in which any complaints from the community will be logged. Complaints will be investigated and, if appropriate, acted upon. d) The operational layout shall be designed so as to control noise at source by the selection and positioning of temporary and permanent plant. Appropriate directional and intensity settings should be maintained on hooters and sirens. e) Silencer units on plant and vehicles shall be maintained in good working order where feasible for use. f) Where required, the Contractor shall provide noise attenuation measures in the form of cladding and earth beams between sources of on-site noise and surrounding fauna and avifauna. g) Ensure that employees and staff conduct themselves in an acceptable manner while on site, both during Work hours and after hours.	Developer, Contractor, ECO, ELO
Activity / issue	Mitigation required during Construction Phase	Responsible party

	h) No loud music is permitted on site or in the Camp.	
8.2.15. Dust control	a) Wet all unprotected cleared areas and stockpiles with water to suppress dust pollution during dry and windy periods. b) Ensure proper rehabilitation of disturbed areas in order to minimise bare patches.	Developer, Contractor, ECO, ELO
8.2.16. Crime, safety and security	a) Ensure that the construction vehicles are under the control of competent personnel and are in proper working order. b) Ensure that only suitably qualified personnel use construction vehicles c) Ensure that the contact details of the police or security company and ambulance services are available on site. d) Limit access to the construction crew camp to construction workers through access control. e) Comply with the requirements of the Occupational Health and Safety Act, 1993 (Act No.85 of 1993) requirements.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
	f) Ensure that the handling of equipment and materials is supervised and adequately instructed. g) Vehicular traffic during construction activities must be limited to a maximum speed limit of 40 km/hr. h) Site notices informing the tourists of the planned activities must be placed at visible locations a few days prior to new sections being started. i) The safety and security fence around the development site must be completed before construction commences internally. j) Security fence is to be inspected daily to ensure no illegal entry points are created. k) The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act, 1993 (Act No.85 of 1993) and the National Building Regulations. l) The contractor must supply his own security arrangements in consultation with SANParks for the construction camp within the framework of the EMP. m) Equipment and materials must be handled by staff that have been supervised and adequately trained. n) Staff must be regularly updated about the safety procedures. o) Emergency facilities must be available and adequately supplied for use by staff and tourists. p) Ensure that the handling of equipments and materials is supervised and adequately instructed. q) Limit access to the construction crew camp only to the workforce. r) Do not allow the movement of public within the development site by posting notices at the entrance gates, and where necessary on the boundary fence. s) Appropriate notification signs must be erected, warning the residents and visitors about the hazards around the construction site and presence of heavy vehicles	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.17. Fire Prevention	a) The Contractor must take all the necessary precautions to ensure that fires are not started as a result of activities on site. b) No open fires will be permitted anywhere on site. c) No incineration or burning of waste will be permitted anywhere on site. d) Provide personnel and staff with gas for cooking purposes in demarcated, safe areas within the construction camp. e) Establish and maintain a fire break around the perimeter of the construction site prior to the commencement of construction activities. The input of SANParks must be sought in terms of required width and timing. The actual execution of the firebreak must be co-ordinated with SANParks. The contractor may not act independently in this regard. f) The Contractor should contact all of the adjacent farm owners prior to the commencement of the construction phase and ensure that he/she has the contact numbers so that they can be contacted in the event of a fire. g) Contractor to ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. h) Measures to reduce the risk of fires include clearing working areas and avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high risk dry, winter months. i) The Contractor shall supply all site offices, kitchen areas, workshop areas, material stores and any other areas identified with suitable, tested and approved fire-fighting equipment j) All equipment shall be maintained in good operating order. k) Contractor to provide fire-fighting training to selected construction staff. l) In the event of a fire being caused by construction workers and or construction activities, the appointed contractors must compensate SANParks and private lodge owners for any damage caused by the fire. The contractor should bear the costs associated with fighting the fire. m) The control of fires within the KNP is the responsibility of SANParks. The contractor should not attempt to control natural fires without the consent and direction of SANParks	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.18. Excavation work	a) Topsoil is to be handled twice only – once to strip and stockpile, and once to replace and level. Position topsoil stockpiles on the higher side of a disturbed area, and above a 1:50 year flood line wherever possible. b) Ensure that all topsoil is stored in such a way and in such a place that it will not cause the damming up of water, erosion gullies, or wash away itself. Undertake excavations carefully, incorporating appropriate drainage. c) For significant trees (as indicated by the ELO / ECO), trenching must 3m away from the stem. a) Excavate and backfill trenches on a progressive basis. b) Ensure that no trench longer than 1000m is exposed at any one time. - Do not allow excavations to stand open for longer than 2 days where at all possible. Excavations should preferably be opened and closed on the same day. c) Trenching through wetlands and drainage lines may only be undertaken upon instruction by the ELO / ECO. In such a situation be sure to return the profile of the wetland / drainage line to one similar to the pre-construction profile. No ridge or channel feature may remain. d) During construction through a wetland, the majority of the flow of the wetland must be allowed to pass down the stream (i.e. no damming must be allowed to take place). Instream diversions should be used rather than the construction of new channels. e) f)	Developer, Contractor, ECO, ELO
8.2.19. Stockpiling soil	a) The areas where excavated soil will be stockpiled must be bordered by berms to prevent soil loss caused by rain. b) Do not stockpile topsoil in drainage lines. c) Do not stockpile topsoil in heaps exceeding 2m in height. d) Protect topsoil stockpiles from erosion. e) Remove exotic / invasive plants and broad leaf weeds that emerge on topsoil stockpiles. - Ensure that topsoil is at no time buried, mixed with spoil (excavated subsoil), rubble or building material, or subjected to compaction or contamination by vehicles or - f)	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
	machinery. This will render the topsoil unsuitable for use during rehabilitation. g) The Contractor will be held liable for the replacement of any topsoil rendered unsuitable for use during rehabilitation, for reasons due to his negligence or mismanagement on site.	
8.2.20. Heritage Impacts	a) Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. b) Upon receipt of such notification, the heritage practitioner will arrange for the excavation to be examined by an Archaeologist as soon as possible c) Under no circumstances shall archaeological artefacts be removed, destroyed or interfered. d) Any archaeological sites exposed during construction activities may not be disturbed prior to authorisation by the South African Heritage Resources Agency or Archaeologist.	Developer, Contractor, ECO, ELO

8.2.21. Sewage and effluent	a) Ensure that the facility sewage system is maintained in a sanitary and operational state. b) Ensure that the facility sewage system is not overloaded, and that it functions within its design capacity. c) Take action to reduce output or increase capacity if necessary. d) Ensure that measures are put in place to prevent all leaks and spills. e) Repairs to the sewage system must be done immediately. f) In the event of a failure or overflow situation at the waste water treatment plant, implement a back-up system which will ensure that no sewage is discharged into the environment. g) Regular removal of sludge from the septic tanks by a licenced contractor (if required). h) Ensure that all treated effluent meets or exceeds South African water quality regulations prior to discharge or reuse. i) Undertake monthly wastewater monitoring to ensure that the output quality of the water complies with the minimum standards as prescribed by DWA. Ensure that these records are kept up to date and are available upon request.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
8.2.21. Hazardous waste	a) The disposal of hazardous waste must comply with all relevant Regulations, Norms and Standards pertaining to waste classification in order to ensure disposal at the correct landfill class. b) Avoid the generation of hazardous waste wherever possible through procurement processes e.g. purchasing of less toxic / environmentally friendly products. c) Petroleum, chemical, harmful and hazardous waste must be stored in enclosed, bunded areas. The bunded areas shall be clearly marked. Such waste shall be disposed of offsite at a licensed hazardous waste disposal site. d) Hazardous waste may be temporarily stored on site in vessels equipped with secondary containment structures to prevent contamination of soil, groundwater and surface waters due to accidental spills or releases. e) Forecast and prevent potential situations in which accidents and spills can mitigate against unwarranted waste emissions. f) Hazardous waste must be separated at source from the general waste stream. Common potential hazardous wastes include chemicals, used oils, oil contaminated waste, used cooking oils, fats and greases from extraction fans/filters, paint waste, fluorescent bulb waste, battery waste and E-waste. g) Effective grease traps should be installed at all kitchen or cooking facilities and these should be regularly serviced and checked for functionality. h) Certain hazardous wastes, including used oil, batteries and light bulbs, can be recycled through reputable agents. Where possible, all hazardous wastes, including hydrocarbon wastes such as oils, should be recycled either by a recognized recycling company or returned to the supplier. i) All hazardous wastes that cannot be reused or recycled should be labelled correctly and stored in the designated waste storage area until collected for correct disposal. j) Load and unload any solid hazardous materials in a manner that reduces potential spills. k) Ensure that a spills containment kit is available on site and that personnel are trained in spills clean up procedures. l) No spills may be hosed down into the surrounding natural environment.	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
	m) Immediately clean leaks and spills of hazardous substances and dispose of as hazardous waste. n) The EO and ECO should be notified immediately if a hazardous waste spill occurs, to ensure proper cleanup and disposal. o) Any contaminated soil / substrate must be removed and stored in a skip until it can be disposed of at a permitted disposal site. p) Report major spills to the regional DWS office. q) Hazardous waste disposal must be undertaken by an approved waste contractor, and waste must be disposed of at a permitted hazardous waste disposal facility on a regular basis. r) All hazardous waste transported from the site must be reconciled with safe disposal certificates to be issued by the waste management service provider. These should be kept on file for inspection by the environmental authorities if required.	
8.2.22 Socio-economic impact	a) Where possible, the applicant should make it a requirement for contractors to implement a „locals first“ policy for construction jobs, specifically semi and low-skilled job categories. This will reduce the potential impact that this category of worker could have on local family and social networks. b) Maximise the use of local labour from surrounding communities for low – semi skilled jobs far as possible. c) The appointment of local suppliers and contractors. d) Implement mitigation measures to monitor and control the activities of construction workers and for the control of nuisance impacts. e) Access to the construction site must be strictly controlled. f) Where feasible, training and skills development programmes for surrounding community locals should be run throughout the construction period. g) The Contractor shall provide sanitation facilities in the form of chemical toilets, at all camps, offices, workshops and construction sites for staff and visitors. No other form of sanitation will be permitted unless a connection with a local sewer main is possible. The	Developer, Contractor, ECO, ELO

Activity / issue	Mitigation required during Construction Phase	Responsible party
	provision of this facility will comply with current legislation. A minimum of one toilet per 11 people or within 100 meters of the work site in order to prevent any breach of sanitary bylaws or offence to public decency.	
8.2.23. Traffic impact	a) Appropriate traffic control and warning signage must be implemented during the entire construction phase. b) No vehicles will be allowed within the 30m buffer of sensitive environments (wetland, pans, drainage lines) c) Sufficient maintenance of roads. d) Establish a speed reduction awareness campaign to the contractor to keep speeds below 50 km/h. e) The maximum speed limit on the surfaced road inside the park is 50 km/h. Generally, slower vehicle speeds tend to reduce the occurrence of severe traffic accidents. f) Traffic speed signs must be established at sufficient intervals along the construction footprint. g) Establish a speed reduction awareness campaign for the contractors h) No construction vehicles allowed on the roads after between 06:00-18h00 i) Implement penalty fines to speed violators. j) The maximum speed limit on the surfaced road inside the park is 50 km/h. Generally, slower vehicle speeds tend to reduce the occurrence of severe traffic accidents. k) The physical design of the road inside the park should ensure sufficient visibility to allow for reaction and deceleration so as to provide adequate stopping distance. l) The road traffic signs inside the park should be visible	Developer, Contractor, ECO, ELO
8.2.24. Palaeontological Impact	a) The overburden and inter-burden must always be surveyed for fossils during construction. Special care must be taken during the digging, drilling, blasting and excavating of foundations, trenches, channels and footings and removal of overburden during construction not to intrude fossiliferous layers. b) The Environmental Control Officer must familiarise him- or herself with the Clarens Formation fossils.	Developer, Contractor, ECO, ELO

8.3. REHABILITATION PHASE Table 3: Construction Phase: Environmental Management

Programme for the proposed project

Activity / issue	Action required in Rehabilitation Phase	Responsible party
8.3.1 Removal of construction phase structures and infrastructure	a) Clear and completely remove from site all construction plant, equipment, storage containers, temporary fencing, temporary services, fixtures and any other temporary Works. Materials that will not be used again must be sold if possible or rehabilitated to blend in with the surrounding landscape. b) Ensure that all access roads utilised during construction (which are not earmarked for closure and rehabilitation) are returned to a usable state and / or a state no worse than prior to construction. - c)	Developer, Contractor, ECO, ELO
8.3.2. Inert waste, rubble and hazardous waste	a) Clear the site of all inert waste and rubble, including surplus rock, foundation and batching plant aggregates. b) Load and haul excess spoil and inert rubble to fill in borrow pits / dongas or to dump	Developer, Contractor, ECO, ELO

Activity / issue	Action required in Rehabilitation Phase	Responsible party
removal	sites indicated / approved by the EO / ECO. c) Remove from site all domestic waste and dispose of in the approved manner at a registered waste disposal site. d) Remove from site all temporary fuel stores, hazardous substance stores, e) Hazardous waste stores and pollution control sumps. Dispose of hazardous waste in the approved manner. f) Remove from site all pollution containment structures. Dispose of materials that will not be used again as hazardous waste. g) Remove from site all temporary sanitary infrastructure and waste water disposal systems. Take care to avoid leaks, overflows and spills and dispose of any waste in the approved manner.	

Activity / issue	Action required in Rehabilitation Phase	Responsible party
8.3.3 Vegetation Rehabilitation	a) Cordon off areas that are under rehabilitation as no-go areas using danger tape and steel droppers. If necessary, these areas should be fenced off to prevent vehicular, pedestrian and livestock access. b) Ensure that maintenance work does not take place haphazardly, but according to a fixed plan. c) Maintenance workers may not trample natural vegetation and work should be restricted to previously disturbed footprint. In addition, mitigation measures as set out for the construction phase should be adhered to. d) Introduce adequate sedimentation control measures at watercourse crossings and when excavation or disturbance within moist grasslands takes place. e) Address erosion donga crossings, applying soil erosion control and bank stabilisation procedures as specified by the ECO.	Developer, Contractor, ECO, ELO

	f) Do not allow erosion to develop on a large scale before effecting repairs. When in doubt, seek advice from the ECO. g) Repair all erosion damage as soon as possible and in any case not later than six months before the termination of the Maintenance Period to allow for sufficient rehabilitation growth	
Activity / issue	Action required in Rehabilitation Phase	Responsible party
8.3.4. Wetland / Watercourse Rehabilitation	a) Rehabilitation plans must be submitted and approved for rehabilitation of damage during construction and that plan must be implemented immediately upon completion of construction. b) Implementation of best rehabilitation/management practices. c) Rehabilitate or revegetate disturbed areas. d) Monitor the establishment of alien invasive species within the areas affected by the construction and take immediate corrective action where invasive species are observed to establish.	Developer, Contractor, ECO, ELO

8.4 OPERATIONAL PHASE Table 4: Operational Phase: Environmental Management Programme and Maintenance plan for the proposed project

Activity / issue	Action required during operational phase	Responsible party
4.1. Protection of vegetation	a) Do not plant any non-indigenous trees or shrubs or any garden ornamentals at the gate, use KNP indigenous plant species only. b) Rehabilitated areas must be monitored to ensure the establishment of re-vegetated areas. c) Remove and control all alien woody plant species that may appear during operational phase. d) Monitor all sites disturbed by construction activities for colonisation by exotics or invasive plants and control these as they emerge. e) Ongoing alien plant control must be undertaken during operational phase. f) An alien invasive management programme must be incorporated during operation. g) Maintenance workers and guests may not trample natural vegetation and work should be restricted to dedicated roads, paths and gardens within the development footprint. h) No unauthorised access is permitted to buffer areas or any natural areas outside of the facility footprint. i) No wood may be collected for firewood or any other purpose. j) Guests and staff should be provided with information explaining different types of vegetation and sensitive species and why disturbance should be avoided, as well as rules regarding commuting. KNP policy and rules should not be disregarded or violated e.g. no person shall pick, disturb, remove or destroy and plant. k) Camp management need to keep their staff aware that moving outside of the lodge site into natural bush is strictly forbidden and disciplinary action should be taken against staff that do so.	Developer, Contractor

Activity / issue	Action required during operational phase	Responsible party
8.4.2. Protection of Wetlands /	a) In the event that maintenance must be carried out, all equipment should be parked overnight and/or fuelled at least 500 meters from a watercourse.	Developer, Contractor.

Activity / issue	Action required during operational phase	Responsible party
Watercourses	b) The contractor shall ensure that a method statement is prepared prior to maintenance work to ensure that excessive quantities of sand, silt and silt-laden water do not enter watercourses. c) Appropriate measures, e.g. erection of silt traps, or drainage retention areas to prevent silt and sand entering drainage or watercourses must be taken. d) Plan monitoring during the operational phase to ensure that the construction footprint is adequately rehabilitated e) During maintenance or emergencies in areas that slope toward wetlands, install sediment barriers along the edge of the maintenance activity as necessary to prevent sediment flow into wetlands. f) Monitoring should be done to ensure that sediment pollution is timeously dressed. g) Monitor the establishment of alien invasive species within the areas affected by the construction and take immediate corrective action where invasive species are observed to establish. h) Operational activities should not take place within watercourses or buffer zones, nor should edge effects impact on these areas. i) Operational activities should not impact on rehabilitated or naturally vegetated areas. j) Regular independent water quality monitoring should form part of operational procedures in order to identify pollution.	

	k) Control of waste discharges and do not allow dirty water from operational activities to enter the watercourse. l) Ensure that no operational activities impact on the watercourse or buffer area. This	

Activity / issue	Action required during operational phase	Responsible party
	includes edge effects m) Control of waste discharges and do not allow dirty water from operational activities to enter the watercourse. n) Ensure that no operational activities impact on the watercourse or buffer area. This includes edge effects. Drip trays must be utilised during repairs and maintenance of all machinery. The depth of the drip tray must be determined considering the total amount / volume of oil in the vehicle. The drip tray must be able to contain the volume of oil in the vehicle.	
8.4.4. Preventing spread of alien invasive species	a) Plan an alien invasive plant work group that can carry out follow-up alien plant control for at least three years after construction b) Ensure that contractors can identify the relevant plants and are aware of the removal procedures. c) SANParks must develop a management and monitoring programme for alien and invasive species detailing basic ID information, actions to prevent the establishment of invasive plants and methods of removal of site during construction. Follow manufacturer's instruction when using chemical methods, especially in terms of quantities, time of application etc. d) Management measures to eradicate and control alien plants need to be informed by the Park's invasive species management program. e)	Developer, Contractor.

8.4.5. Protection of Fauna	a) Normal precautionary measures included in the SANParks construction and operational modus operandus would suffice viz. unwarranted use of natural resources	Developer, Contractor.

Activity / issue	Action required during operational phase	Responsible party
	(viz. poaching, trapping, harvesting plant materials). b) Impacts can be offset by providing extraordinary opportunities such as bat hotels, sufficiently-sized drainage pipes supporting bridges to coincidentally serve as daytime roosts for cave-dwelling bats, nooks and crannies as refuge for reptiles, nesting, educational amenities (such as at the reception facility), bird baths etc. c) All staff and maintenance contractors must undergo an environmental induction course held by the ECO as well as faunal education and awareness programmes. d) Guests and visitors must be made aware of the value of fauna. e) No raw, wild-animal derived products such as meat, bones, organs and hides may be brought into or removed from the Kruger National Park. f) Education and awareness campaigns on faunal species and their habitat are recommended to help increase awareness, respect and responsibility towards the environment for all staff. g) The normal rules applicable to visitors to KNP must be strictly enforced at the campsite, tented camp, picnic area, etc. h) Disturbance by residents of birds breeding and foraging in the area should be minimized. i) No plant, animal, wildlife or any natural or cultural items may be removed from the park without permission. To cut, damage, destroy or be in possession of any plant or part thereof, including dry wood or firewood is a serious offence. Importing of any specimen of an alien or listed invasive species into a national park is prohibited	

Activity / issue	Action required during operational phase	Responsible party
8.4.6. General Waste Management	a) Waste must be transported from the point of generation directly to the centralised waste storage area where it can be safely stored prior to offsite disposal. b) It is permissible to establish intermediate storage areas / collection points. All such areas would have to comply with safe storage requirements. c) Duty of care obligations should be adopted and enforced, meaning that only reputable waste transport companies and permitted waste disposal facilities are used. d) Recordkeeping of the waste types and quantities must be as accurate as possible. Landfill waybills must be obtained and kept on file. e) Arrangements must be in place for the regular maintenance and cleaning of waste/recycling storage areas. f) Develop a comprehensive system for waste separation at the relevant generation points. g) Staff should be made aware of the aim to recycle waste by means of posters, training and staff meetings. h) Guests should be made aware of the park's recycling programmes by means of recycling instructions in rooms, foyers and in strategic locations i) Separate viable recyclable components from the general waste stream prior to disposal. Recyclables that are typically recovered from general waste include metals, plastics, glass, and paper / cardboard. j) Recycling bins should be placed in strategic and convenient locations throughout the entire Shongoni Development and in sizes suitable to their location. They should be	Developer, Contractor.

Activity / issue	Action required during operational phase	Responsible party
	lidded and appropriately labelled or colour coded. k) Waste storage receptacles must be covered or lidded to prevent scavenging by wild animals and vermin, and to prevent waste from being windblown into the adjacent sensitive areas.	

Activity / issue	Action required during operational phase	Responsible party
8.4.7. Hazardous Waste Management	a) b) The disposal of hazardous waste must comply with all relevant Regulations, Norms and Standards pertaining to waste classification in order to ensure disposal at the Greater Giyani Waste facility in its correct landfill class. c) Avoid the generation of hazardous waste wherever possible through procurement processes e.g. purchasing of less toxic / environmentally friendly products. Petroleum, chemical, harmful and hazardous waste must be stored in enclosed, bunded areas. d) The bunded areas shall be clearly marked. Such waste shall be disposed of off-site at a licensed hazardous waste disposal site. Hazardous waste must be separated at source from the general waste stream. Common potential hazardous wastes include chemicals, used oils, oil contaminated waste, used cooking oils, fats and greases from extraction fans/filters, paint waste, fluorescent bulb waste, battery waste and E-waste. e) All hazardous wastes that cannot be reused or recycled should be labelled correctly and stored in the designated waste storage area until collected for correct disposal. f) Hazardous waste disposal must be undertaken by an approved waste contractor, and waste must be disposed of at a permitted hazardous waste disposal facility on a regular basis. All hazardous waste transported from the lodge must be reconciled with safe disposal certificates to be issued by the waste management service provider. These should be kept on file for inspection by the environmental authorities if required. g)	Developer, Contractor.

8.4.8. Sewage and	a) Ensure that the sewage system/facilities are maintained in a sanitary and operational	Developer,

Activity / issue	Action required during operational phase	Responsible party
Effluent	state. Ensure that the sewage system/facilities are not overloaded, and that it functions within its design capacity. Take action to reduce output or increase capacity if necessary. b) Ensure that measures are put in place to prevent all leaks and spills. Repairs to the sewage system must be done immediately. c) In the event of a failure or overflow situation at the waste water treatment plant, implement a d) back-up system which will ensure that no sewage is discharged into the environment. e) Regular removal of sludge from the septic tanks by a licenced contractor.	Contractor.

8.4.9. Storm water management	a) b) All activities that affect surface drainage should be designed so as to ensure that storm water runoff does not lead to excessive surface erosion problems on the site. c) Porous paving surfaces should be used in place of hard paved surfaces in order to promote and encourage the infiltration of storm water. The protective buffer around the watercourses must be respected as it acts as a trap for sediment and contaminants. Measures must be put in place around sensitive areas to protect these from sediment and contaminants. d) Ensure that measures are in place to control the flow of excess water so that it does not impact on the surface vegetation. e) The accumulation of water on the surface should be prevented. The drainage of the surface should be done in such a way that storm water will be led away quickly and efficiently without any erosion taking place.	Developer, Contractor.

Activity / issue	Action required during operational phase	Responsible party
	f) Do not allow surface water or storm water to canalize or be concentrated. g) Runoff from roads must be managed to avoid erosion and pollution problems. h) Place and maintain erosion control barriers as appropriate to prevent sedimentation. i) Prevent storm water or contaminated water directly entering any watercourse. Install waste traps to catch litter conveyed by surface runoff.	
	j) All waste traps within the storm water system will be emptied / cleaned regularly to ensure their efficient functioning.	

	k) Dissipate concentrated storm water flows through energy dissipaters or vegetated areas. l) Repair all erosion damage as soon as possible. Do not allow erosion to develop on a large scale before effecting repairs. m) Monitor all rehabilitated areas for at least a year following the completion of rehabilitation works for failure of vegetation to establish and / or erosion. Immediately implement remedial measures as required.	
8.4.10. Socio-economic management	a) SANParks is responsible for making the necessary arrangements for transporting staff to and from site on a daily basis. b) Where reasonable and practical, the Operator should appoint local employees and implement a „locals first“ policy, especially for semi and low-skilled job categories. Where feasible, efforts should be made to employ local employees that are compliant with Black c) Economic Empowerment (BEE) criteria. Where feasible, training and skills development programmes for locals should be	Developer, Contractor.

Activity / issue	Action required during operational phase		Responsible party
	initiated and maintained throughout the operational phase.		
	d)	The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.	

	e) Clear criteria for identifying and funding projects and initiatives should be identified. The criteria should be aimed at maximising the benefits for the community as a whole and not individuals within the community. f) The operator of the facility should implement a training and skills development programme for locals during the first 5 years of the operational phase. The aim of the programme should be to maximise the number of South African"s and locals employed during the operational phase of the project.	
8.4.11. Fire management	a) Fires must be made at a designated SANParks provided braai place provided at the respective areas, or in another area approved by the SANParks Section Ranger or Fire Manager. In all cases, the ground within a minimum radius of 4 m from where the fire is to be made must be clear of all combustible material, to reduce the possibility of the veld igniting. In instances where there a „social" fire is made e.g. in a lapa, the fire may only be made where the ground is cleared of all combustible material for a radius of at least 5 m from the fire place. During windy conditions, the fire must be kept small or be extinguished. The fire must at all times be under the control of an adult. Ensure that fires do not jump into the veld and start a veld-fire.	Developer, Contractor
Activity / issue	Action required during operational phase	Responsible party
	f) Inform guests about the dangers of making large fires, especially on windy conditions because fires can also ignite the thatching of huts etc.	

	g) No incineration or burning of waste is permitted on the site. h) Establish and maintain a fire break around the perimeter of the site. i) Fire-fighting training is to be provided to selected operational staff. j) SANParks is to ensure that the necessary fire fighting equipment is on site in terms of relevant legislative requirements. k) Appropriate fire fighting equipment to be provided, and clearly marked. Emergency numbers to be displayed. Report incidents to KNP's Emergency Call Centre on 013 735 4325	
Traffic Impact	a) The maximum speed limit on the surfaced road inside the park is 50 km/h. Generally, slower vehicle speeds tend to reduce the occurrence of severe traffic accidents. b) The road traffic signs inside the park should be visible. c) As per the SANPARK regulations, private vehicles (except permitted game drive vehicles) should not allowed to drive between dusk and dawn. The gate times will vary based on the time of the year. d) SANParks must manage traffic as per the KNP road and traffic management policies	Developer, Contractor

8.5 DECOMMISSIONING PHASE Table 4: Decommissioning Phase: Environmental Management Programme for the proposed project

Activity / issue	Action required during operational phase	Responsible party
8.4.1. Buildings structures demolition and transportation of debris and rubble	a) A demolition schedule must be developed taking into consideration breeding seasons of important fauna species and any other KNP conservation requirements. b) The identification of a suitable rubble and debris disposal site must be conducted in consultation with the local municipality. c) Definition of boundaries around work areas to control access and construction vehicular traffic d) Electricity cables must be terminated or rerouted away from the site to be decommissioned. e) An Occupational and Safety plan must be prepared and implemented measures to be used. f) Scheduling and Planning for transportation of debris and rubble not coinciding with peak visitor traffic movement. g) During the demolition, manual works will be preferred. However the Mechanical work (use of excavators etc.) will also be done as per requirement, but considering safety measures and noise considerations. h) The transportation of the waste and other materials should be in safe manner considering the SANParks traffic rules. i) Truck loads must be covered with plastic sheets to prevent dust pollution and other hazards.	Developer, Contractor

Activity / issue	Action required during operational phase	Responsible party
8.4.2. Air, Noise and Dust & Watercourse Pollution during the dismantling of the buildings	a) Sufficient Water spraying at the decommissioning site must be conducted. b) Avoid usage of machines/equipment with extra noise. c) Do not accumulate and burn waste at the site. d) Carry out decommissioning activities in stages; give adequate notice and information of activities to potentially affected visitors in the park. e) Precaution will be taken while using the machines and equipment, during demolition. f) Prohibit the contamination of ground water and surrounding watercourses g) Identify proper location to dispose wastewater from demolition and other activities in consultation with Limpopo (LEDET) Provincial Authority. h) Store hazardous wastes in safe place and make the provision for appropriate management. i) Seepage coming from buildings and demolition waste that contains hazardous materials must be strictly controlled as they can transport hazardous substances which has the potential to contaminate the soil and as well as pollute groundwater.	Developer, Contractor

Activity / issue	Action required during operational phase	Responsible party
Waste Management	a) The waste from the demolition activities will be disposed on the prescribed area in consultation with local municipality authority. b) Temporary rubble/spoil stockpile areas should not be near to the any type of watercourse or environmentally sensitive area. c) The disposal of waste should not further deteriorate the surrounding environment. d) The practice of waste minimisation must be implemented e) Waste classification and recycling is recommended. f) The reuse and recycling of building and demolition waste as far as possible is encouraged.	

Activity / issue	Action required during operational phase	Responsible party
Vegetation Protection	a) Retain and protect plant species within the decommissioning footprint, especially endangered species. b) Promote the systematic eradication of invasive plant species infestations, especially in protected areas and close to watercourses (riparian areas). c) Minimise threats to vegetation communities or plant species (e.g. through firewood collection, vandalism, off-road driving etc.). Promote proper veld and fire management. d) Limit disturbance of natural vegetation to the decommissioning footprint. e) Avoid any damage of large trees. f) No protected trees or plants may be removed without the relevant permits from the Department of Agriculture, Forestry and Fisheries (DAFF). g) Disturbed areas must be rehabilitated immediately after decommissioning has been completed in that area by sowing appropriate indigenous grass species, this is to avoid erosion of the river banks.	

APPENDIX 1: INCIDENT AND ENVIRONMENTAL LOG

ENVIRONMENTAL INCIDENT LOG				
Date	Env. Condition	Comments <i>(Include any possible explanations for current condition and possible responsible parties. Include photographs, records etc. if available)</i>	Corrective Action Taken <i>(Give details and attach documentation as far as possible)</i>	Signature

APPENDIX 2: COMPLAINTS RECORD SHEET

[illegible]

APPENDIX 3: CURRICULUM VITAE OF THABANG SEKELE

Name: THABANG AMOS SEKELE

Name of Firm: ENVIROOLUTION CONSULTING (PTY) LTD

Position: Project Co-ordinator and Environmental Control Officer

Date of Birth: 23 March 1988

Nationality: South African

Languages: English, Afrikaans, Sepedi, Setswana, Zulu

EDUCATIONAL QUALIFICATIONS

BA, University of South Africa (Geography, Environmental Management), 2014

PROFESSIONAL AFFILIATIONS

Member of International Association for Impact Assessment South Africa (IAIASa)

EMPLOYMENT EXPERIENCE

1. ENVIROOLUTION CONSULTING

Enviroolution Consulting is a specialist consulting company, focusing on Environmental Engineering and Management Consulting.

FEBRUARY 2015 - PRESENT: ENVIRONMENTAL CONSULTANT

Environmental Control Officer for the following projects (current/in process):

- Environmental Control Officer for Broadacres Residential Development, Fourways (Gauteng)
- Environmental Control Officer for Eskom construction of Bophirima Substation and associated 132 kV power line, Vryburg (North West)
- Environmental Control Officer for Eskom construction of Freedom Park Substation and associated power line, Rustenburg (North West)
- Environmental Control Officer for Fairlands Rehabilitation and Embankment Protection of the Spruit River, Fairlands, Randburg (Gauteng)
- Environmental Control Officer for Khayalitsha Extension 11 Housing Project, Tembisa (Gauteng)
- Environmental Control Officer for Kruisfontein Phase 3 Bulk Water Supply Pipeline, Soshanguve, Tshwane (Gauteng)
- Environmental Control Officer for Stinkwater Water Reticulation and Yard Connections, Hammanskraal. Tshwane (Gauteng)
- Environmental Control Officer for Tsakane Housing Project, (Gauteng)
- Environmental Control Officer for Tsakane Bulk Water Services and Pump Station, (Gauteng)
- Environmental Control Officer for Villa Liza Sewage Pipe and Storm Water system installation, Boksburg (Gauteng)
- Environmental Control Officer for Gautrain Rapid Rail Link Project at Rhodesfield and Centurion Stations (Gauteng)
- Environmental Control Officer for Rainbow Chicken Expansion of farming operations at Bronkorstspuit (Gauteng)

- Environmental Control Officer for Johannesburg Development Agency Alexandra Automotive Industrial Park (Gauteng)
- Environmental Control Officer for Johannesburg Development Agency, Upgrade and Redevelopment of Paterson Park Recreational centre (Gauteng)
- Environmental Control Officer for Zamdela Civils Installations Project at Sasolburg (Free State)
- Environmental Control Officer for Reconstruction of Abbes Road and Ancillary works at Braamfisherville (Gauteng)
- Environmental Control Officer for Construction of Stormwater System along Ballyclare Road, Bryanston (Gauteng)

Trainee Environmental Auditor for the following project(s):

- Eskom Kusile Power Station Bi-Annual Audit (July 2015) at eMalahleni (Mpumalanga)

Project Co-ordinator for the following projects (current/in process):

- Basic Assessment for the development of Shangani Gate reception facilities and associated infrastructure, Kruger National Park (SANParks)
- Basic Assessment for the construction of Plaatjies 132kV Substation and rebuilding of Plaatjies 88kV powerline, Braamfisherville, City of Johannesburg Municipality, Gauteng Province (Eskom)
- Basic Assessment for the construction Tarlton-Westgate SAR Millsite 132kV line and expansion of the SAR Millsite substation, Krugersdorp, Gauteng Province (Eskom)
- Basic Assessment for the construction of 132 kV Westgate Ntshona substation and 132 kV powerline, Krugersdorp, Gauteng Province (Eskom)
- Basic Assessment for the construction of 132 kV Taunus-Diepkloof powerline and two 132 kV substations, Soweto, Gauteng Province (Eskom)
- Basic Assessment for the construction of 123kV Blue Hills Crowthorne Powerline and associated substation, Midrand (Eskom)

Compiled Environmental Management Plans/Programmes for the following projects:

- Stormwater System along Ballyclare Road, Bryanston (Gauteng).
- Construction of the Parking Bay opposite Gautrain Station, Centurion (Gauteng)
- Reconstruction and Upgrade of Crownwood Road and Intersections, Johannesburg, Gauteng Province.
- Rehabilitation of Bridges on M1 over Oxford Road and Federation Road.
- Development of Sidewalks, Cycle Lanes and Storm Water Infrastructure in Meadowlands East, Soweto, Gauteng Province.

2. MYEZO ENVIRONMENTAL MANAGEMENT SERVICES (PTY) LTD

Myezo Environmental Management Services (Pty) Ltd, is a company that provides a range of environmental services mainly specialising in mining, since 2005. Responsibilities: environmentally related issues and administration. 2014 - 2015: ENVIRONMENTAL ADMINISTRATOR

Myezo projects included:

- Alexkor Sea Concession exporation - Compiling background information document and general administration.
- Clover Alloys – Maintaining and administering the project file and monitoring environmental compliance with the Environmental Management Programme

3. MOKGOBELA TRADING CC

Mokgobela Trading is a company mainly involved in providing building maintenance and minor construction services.

2013 – 2014: JUNIOR OPEATIONS ASSISTANT Mokgobela duties included:

- Observing external service providers in water-use licence applications
- Drafting reports from public participation meetings
- Occasionally supervising artisans on site
- Observing senior colleagues in drafting reports
- Gathering information about residents surroundings
- Attending community forum meetings
- Data capturing and creating spread sheets
- Answering telephone queries
- Booking meetings
- Drafting of memos

REFERENCES:

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Ms Babalwa Fatyi

Managing Director: Myezo Environmental Management Services

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Tel: 012 998 7642

E-Mail Address: babalwa@myezo.co.za

Mrs. Perpetua Mokgobela Malebane

Managing Director: Mokgobela Trading cc

Tel: 011 985 1132

Cell: 072 575 6338

ANNEXURE C

Code of Conduct for working in the South African National Parks

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 authorized 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 driver's 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.
- 1.2 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.

- 1.3 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.
- 1.4 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.
- 1.5 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.
- 1.6 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.
- 1.7 No animals may be killed in the park.
- 1.8 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 organization'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

9.1 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.

9.2 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 organizations 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 preferably 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.

14. 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 authorized 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.

ANNEXURE D

LOCAL BENEFICIATION GOALS:

1. During Construction:

Local beneficiation (Thulamela Municipality, Collins Shabane Municipality and Greater Giyani Municipality) is built into the Contract as follows:

1. 30% of all building and construction materials to be sourced from suppliers within a 150km radius of the nearest entrance gate who have a BBBEE rating of 3 or higher
2. 100% of general and semi-skilled employees to be employed for local communities within a 150 km radius from the nearest entrance gate
3. 50% of skilled and supervisory employees to be employed for local communities within a 150 km radius from the nearest entrance gate
4. 30% of all specialist sub-contractors to be sourced from firms within a 150km radius of the nearest entrance gate who have a BBBEE rating of 3 or higher.
5. Should the Contractor fail to achieve the Community Participation Goals CPG), the following penalties shall be applied:
 - a. $(\text{CPG (required)} - \text{CPG (achieved)}) / \text{CPG (required)} \times 2.5\%$ of Tender Value
 - b. In the event that the Contractor can motivate that the above-noted CPG's are not achievable or are detrimental to the Construction Programme, it shall be communicated to the Client, who retains the discretion to alter the CPG.

ANNEXURE E

Geotechnical Report under separate cover