CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE, AGULHAS NATIONAL PARK

CONTRACT NO: SP-AG-0175

TENDER DOCUMENT

July 2016

ISSUED BY:
Ms Ntsatsi Elisa Makwa
Manager: Acquisition
SOUTH AFRICAN NATIONAL PARKS
P.O. BOX 787
PRETORIA
0001

NAME OF TENDERER: ........................................................................................................................................
The Tenderer is required to check the numbers of pages and should any be found to be missing or duplicated, or should any of the typing be distinct, or any doubt or obscurity arise 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 Quantity Surveying Service Provider 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.
1: The Tender
Part T1: Tendering procedures
CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE, AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

T1.1: Tender Notice and Invitation to Tender

The South African National Parks invites tenders for the Construction of the Agulhas Most Southern Tip Iconic Structure, Agulhas National Park

Preferences are offered to tenderers for Broad-Black Based Empowerment (B-BBEE) Status Level of Contribution in terms of the Preferential Procurement Regulations, 2011.

The following tenderers who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions are eligible to submit tenders:

✔ contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for 4 GB class of construction work; and

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 4 GB class of construction work; and
3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 4 GB class of construction work.

The physical address for collection of tender documents is:

Agulhas National Park Administration Offices
214 Main Road
L'Agulhas
7287

Tender documents will ONLY be available at the compulsory clarification meeting.

A non-refundable tender deposit of R 200-00 payable in cash is required on collection of the tender documents.

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

All Queries
Ms Ntsatsi Elisa Makwa Tel No: (012) 426 5260
e-mail elisa.makwa@sanparks.org

A compulsory clarification meeting with representatives of the Employer will take place at the Agulhas National Park Administration Offices Boardroom, 214 Main Road, L'Agulhas on 06 July 2016 starting 12:00 hrs

The Tenderer shall inspect and examine the Site and its surroundings and shall satisfy himself before submitting his tender as to the form and nature of the Site, the quantities and nature of the work and materials necessary for the completion of the Works and

Contractor

Witness for Contractor

Employer

Witness for Employer
the means of access of the Site, the accommodation he may require and in general shall himself obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect his tender. The tenderer must be represented at the site inspection by a person who is suitably qualified and experienced to comprehend the implications of the work involved. Attendance of the site inspection is compulsory and a tender will be disqualified if the site inspection is not attended by a representative of the tenderer.

The closing time for receipt of tenders is **28 July 2016 @ 11:00 hrs.**

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

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

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.
CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE, AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

T1.2: Tender Data

<table>
<thead>
<tr>
<th>Clause number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement. (see <a href="http://www.cidb.org.za">www.cidb.org.za</a>) 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.</td>
</tr>
<tr>
<td>F.1.1</td>
<td>The employer is the South African National Parks.</td>
</tr>
<tr>
<td>F.1.2</td>
<td>The tender documents issued by the employer comprises: 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 Construction Guarantee C1.4 Adjudicator’s Contract Part 2: Pricing data C2.1 Pricing instructions C2.2 Bills of Quantities Part 3: Scope of work C3 Scope of work Part 4: Site information C4 Site information</td>
</tr>
<tr>
<td>Clause number</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| F.1.4        | Should it be necessary for a bidder to obtain clarity on any matter arising from or referred to in this tender 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 20 July 2016 at 11:00. **Questions/enquiries received after 11:00 on 21 July 2016 will not be considered.**  |
| F.2.1        | The following tenderers who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions, are eligible to have their tenders evaluated:  
  a) contractors who have 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 4 GB class of construction work;  
  b) 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 4 GB class of construction work; and  
  3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for 4 GB class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.  
  For eligibility refer to Notice and Invitation to Tender T1.1 |
| F.2.7        | For particulars regarding the compulsory pre-tender clarification meeting (site inspection meeting), see Notice and Invitation to Tender T1.1 |
| F.2.12       | No alternative proposals will be accepted. |
| F.2.13.2     | Electronic tender offers will not be accepted. |
| F.2.13.3     | Parts of each tender offer communicated on paper shall be submitted as an original, plus Nil copies. |
| F.2.13.5     | The employer’s address for delivery of tender offers and identification details to be shown on each tender offer package are:  
  Location of tender box: **Reception at Agulhas National Park Administration Offices**  
  Physical address: **214 Main Road, L’Agulhas, 7287**  
  Tender for Contract Number SP-AG-0175, Construction of the Agulhas Most Southern Tip Iconic Structure, Agulhas National Park  
  Identification details: **Tender for Contract Number SP-AG-0175, Construction of the Agulhas Most Southern Tip Iconic Structure, Agulhas National Park** |
<p>| F.2.15       | The closing time for submission of tender offers is as per Notice and Invitation to Tender T1.1. |
| F.2.15       | Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted. |
| F.2.16       | The tender offer validity period is 90 days. |
| F.2.19       | Access shall be provided for inspections, tests and analysis as may be required by the employer. |</p>
<table>
<thead>
<tr>
<th>Clause number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.2.23</td>
<td>The tenderer is required to submit with his tender:</td>
</tr>
<tr>
<td></td>
<td>1. Proof of Contractor Registration issued by the Construction Industry Development Board - Compulsory</td>
</tr>
<tr>
<td></td>
<td>2. An original and valid B-BBEE Status Level verification Certificate or certified copy there of</td>
</tr>
<tr>
<td></td>
<td>3. Proof of registration of Closed Corporation or Company or other legal entities applicable to tender - Certified copy</td>
</tr>
<tr>
<td></td>
<td>4. Letter of good standing from the Compensation Commissioner – Compulsory</td>
</tr>
<tr>
<td></td>
<td>5. Letter of intent for a Construction Guarantee – Compulsory</td>
</tr>
<tr>
<td></td>
<td>6. National Treasury Central Supplier Database (CSD) Registration Report - Compulsory</td>
</tr>
<tr>
<td>F.3.4.1</td>
<td>The time and location for opening of the tender offers are:</td>
</tr>
<tr>
<td></td>
<td>11:00 on 28 July 2016 at the Reception of Agulhas National Park Administration Offices, 214 Main Road, L'Agulhas, 7287</td>
</tr>
<tr>
<td>F.3.11</td>
<td>The procedure for the evaluation of responsive tenders is Method 2.</td>
</tr>
<tr>
<td></td>
<td>The financial offer will be scored using Formula 1 (option 1) where the value of W1 is:</td>
</tr>
<tr>
<td></td>
<td>90 where the financial value inclusive of VAT of all responsive tenders received have a value excess of R1 000 000.</td>
</tr>
<tr>
<td>F.3.13.1</td>
<td>Tender offers will only be accepted if:</td>
</tr>
<tr>
<td></td>
<td>a) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation;</td>
</tr>
<tr>
<td></td>
<td>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;</td>
</tr>
<tr>
<td></td>
<td>c) the tenderer has not:</td>
</tr>
<tr>
<td></td>
<td>i) abused the employer’s supply chain management system;</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td>ii) failed to perform on any previous contract and has been given a written notice to this effect; and</td>
</tr>
<tr>
<td></td>
<td>e) has completed the Compulsory Enterprise Questionnaire, SBD4, 6.1, 7.1, 8, 9 and the 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.</td>
</tr>
<tr>
<td></td>
<td>f) Has submitted the documentation listed in F2.23</td>
</tr>
<tr>
<td>F.3.18</td>
<td>Provide to the successful tenderer one copy of the signed contract document.</td>
</tr>
</tbody>
</table>
Annex F
(normative)
Standard Conditions of Tender

F.1 GENERAL

F.1.1 Actions

F.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 F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

F.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.

F.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.

F.1.2 Tender Documents

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

F.1.3 Interpretation

F.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.

F.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.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 fulfil his or her duties impartially;
   ii) An individual or organisation 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 organisation which employs that employee.

b) Comparative offer means the tenderer’s financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis.

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; and

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.
e) Organization means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body.

f) Quality (functionality) means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

F.1.4 Communication and employer’s agent
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.

F.1.5 The employer’s right to accept or reject any tender offer
F.1.5.1 The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

F.1.5.2 The employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.

F.1.6 Procurement procedures
F.1.6.1 General
Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.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.

F.1.6.2 Competitive negotiation procedure
F.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 F.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.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.

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to make a fresh 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.

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

F.1.6.3 Proposal procedure using the two stage-system
F.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.
F.1.6.3.2 Option 2

F.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.

F.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.

F.2 TENDERER’S OBLIGATIONS

F.2.1 Eligibility

F.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.

F.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.

F.2.2 Cost of tendering
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.

F.2.3 Check documents
Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

F.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.

F.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.

F.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.

F.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.

F.2.8 Seek clarification
Request clarification of the tender documents, if necessary, by notifying the employer at least five working days before the closing time stated in the tender data.

F.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.

F.2.10 Pricing the tender offer

F.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 14 days before the closing time stated in the tender data.

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

F.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.
F.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.

F.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. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative tender offers
F.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.

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

F.2.13 Submitting a tender offer
F.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, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F.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.

F.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.

F.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.

F.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.

F.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.

F.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.

F.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.

F.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.

F.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.

F.2.15 Closing time
F.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.
F.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.

F.2.16 Tender offer validity

F.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.

F.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.

F.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.

F.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as “SUBSTITUTE”.

F.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 F.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.

F.2.18 Provide other material

F.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.

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

F.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.

F.2.20 Submit securities, bonds, policies, etc.

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.

F.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.

F.2.22 Return of other tender documents

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

F.2.23 Certificates

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

F.3 THE EMPLOYER’S UNDERTAKINGS

F.3.1 Respond to requests from the tenderer

F.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.
F.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.

F.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 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 drew documents.

F.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.

F.3.4 Opening of tender submissions
F.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.

F.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, preferences claimed and time for completion for the main tender offer only.

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

F.3.5 Two-envelope system
F.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.

F.3.5.2 Evaluate the quality 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 quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.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.

F.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.

F.3.8 Test for responsiveness
F.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.
F.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.

F.3.9 Arithmetical errors, omissions and discrepancies

F.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.

F.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 F.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) Arithmetical 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.

F.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.

F.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.

F.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.

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Financial offer

In the case of a financial offer:

a) Rank tender offers from the most favourable to the least favourable comparative offer.
b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in this sub clause is repeated.

F.3.11.3 Methods 2: Financial offer and preference

In the case of a financial offer and preferences:

a) Score each tender in respect of the financial offer made and preferences claimed, if any, in accordance with the provisions of F.3.11.7 and F.3.11.8.
b) Calculate the total number of tender evaluation points \( (T_{EV}) \) in accordance with the following formula:

\[
T_{EV} = N_{FO} + N_{P}
\]

where: 
\( N_{FO} \) is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7; 
\( N_{P} \) is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.

c) Rank tender offers from the highest number of tender evaluation points to the lowest.
d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub clause is repeated.

F.3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F.3.11.7 and F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
b) Calculate the total number of tender evaluation points \( (T_{EV}) \) in accordance with the following formula:

\[
T_{EV} = N_{FO} + N_{Q}
\]

where: 
\( N_{FO} \) is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7; 
\( N_{Q} \) is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.
c) Rank tender offers from the highest number of tender evaluation points to the lowest.
d) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub clause is repeated.

F.3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

a) Score each tender in respect of the financial offer made, preference claimed, if any, and the quality offered in accordance with the provisions of F.3.11.7 to F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
b) Calculate the total number of tender evaluation points \( (T_{EV}) \) in accordance with the following formula, unless otherwise stated in the Tender Data:

\[
T_{EV} = N_{FO} + N_{P} + N_{Q}
\]

where: 
\( N_{FO} \) is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7; 
\( N_{P} \) is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8. 
\( N_{Q} \) is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.
c) Rank tender offers from the highest number of tender evaluation points to the lowest.
d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub clause is repeated.

F.3.11.6 Decimal places
Score financial offers, preferences and quality, as relevant, to two decimal places.

F.3.11.7 Scoring Financial Offers
Score the financial offers of remaining responsive tender offers using the following formula:

\[
N_{FO} = W_{1} \times A
\]

where: 
\( N_{FO} \) is the number of tender evaluation points awarded for the financial offer.
\( W_{1} \) is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.

A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of A

<table>
<thead>
<tr>
<th>Formula</th>
<th>Comparison aimed at achieving</th>
<th>Option 1a</th>
<th>Option 2a</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Highest price or discount</td>
<td>( A = (1 + (P - P_m)/P_m) )</td>
<td>( A = P / P_m )</td>
</tr>
<tr>
<td>2</td>
<td>Lowest price or percentage commission / fee</td>
<td>( A = (1 - (P - P_m)/P_m) )</td>
<td>( A = P_m / P )</td>
</tr>
</tbody>
</table>

\[ a \] where:
- \( P_m \) = the comparative offer of the most favourable tender offer.
- \( P \) = the comparative offer of tender offer under consideration.

F.3.11.8 Scoring preferences
Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences. Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring quality
Score each of the criteria and sub criteria for quality in accordance with the provisions of the Tender Data. Calculate the total number of tender evaluation points for quality using the following formula:

\[ N_Q = W_2 \times S_O / M_S \]

where:
- \( S_O \) is the score for quality allocated to the submission under consideration;
- \( M_S \) is the maximum possible score for quality in respect of a submission; and
- \( W_2 \) is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data.

F.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.

F.3.13 Acceptance of tender offer
Accept the tender offer, if in the opinion of the employer, it does not present any unacceptable commercial risk and only if the tenderer:
- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the 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, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his 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.

F.3.14 Prepare contract documents

F.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.

F.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.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.

F.3.16 Notice to unsuccessful tenderers
F.3.16.1 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 After the successful tenderer has been notified of the employer’s acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.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.

F.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.
Part T2: Returnable Schedules
**CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE,**
**AGULHAS NATIONAL PARK**
**CONTRACT NO: SP-AG-0175**

**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.

<table>
<thead>
<tr>
<th>The tenderer must complete the following returnable documents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Returnable Schedules required only for tender evaluation purposes</td>
</tr>
<tr>
<td>Resolution of board of directors / members / partners</td>
</tr>
<tr>
<td>Resolution of Board of Directors / Members / Sole Proprietor/ Partners of Partnership (if applicable)</td>
</tr>
<tr>
<td>Special Resolution of Joint Venture Partners</td>
</tr>
<tr>
<td>Compulsory Enterprise Questionnaire</td>
</tr>
<tr>
<td>Record of Addenda to Tender Documents</td>
</tr>
<tr>
<td>Proposed Amendments and Qualifications</td>
</tr>
<tr>
<td>Schedule of Subcontractors</td>
</tr>
<tr>
<td>Capacity of Tenderer</td>
</tr>
<tr>
<td>Site inspection certificate</td>
</tr>
<tr>
<td>Health and Safety Specifications Acknowledgement</td>
</tr>
<tr>
<td>2 Other documents required only for tender evaluation purposes</td>
</tr>
<tr>
<td>Proof of Contractor Registration issued by the Construction Industry Development Board - Compulsory</td>
</tr>
<tr>
<td>An original and valid B-BBEE Status Level verification Certificate or certified copy there of</td>
</tr>
<tr>
<td>Proof of registration of Closed Corporation or Company or other legal entities applicable to tender - Certified copy</td>
</tr>
<tr>
<td>Letter of good standing from the Compensation Commissioner – Compulsory</td>
</tr>
<tr>
<td>Letter of intent for a Construction Guarantee – Compulsory</td>
</tr>
<tr>
<td>National Treasury Central Supplier Database (CSD) Registration Report - Compulsory</td>
</tr>
<tr>
<td>3 Returnable Schedules that will be incorporated into the contract</td>
</tr>
<tr>
<td>Form SBD 4: Declaration of interest</td>
</tr>
<tr>
<td>Form SBD 6.1: Preference points claim form in terms of the preferential procurement regulations 2011.</td>
</tr>
<tr>
<td>Form SBD 7.1: Contract Form: Purchase of Goods/Works</td>
</tr>
<tr>
<td>From SBD 8: Declaration of Past Supply Chain Management practice</td>
</tr>
<tr>
<td>From SBD 9: Certificate of independent Bid Determination</td>
</tr>
<tr>
<td>4 Other documents that will be incorporated into the contract</td>
</tr>
<tr>
<td>Health and Safety Specifications for General Construction Activities</td>
</tr>
<tr>
<td>Code of conduct for working in a National Park</td>
</tr>
<tr>
<td>Environmental Management Plan for General Construction Activities</td>
</tr>
<tr>
<td>5 C1.1 Offer and Acceptance (the offer portion of C1.1)</td>
</tr>
<tr>
<td>6 C1.2 Contract Data (Part 2)</td>
</tr>
<tr>
<td>7 C2.2 Bills of quantities (As per tender document, completed in black ink)</td>
</tr>
</tbody>
</table>
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,

<table>
<thead>
<tr>
<th>Name</th>
<th>Capacity</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
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.

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:

___________________________________________________________
_________________________________________________________________________________________________

(Hold 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: ____________________________________________________________________________________
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)

<table>
<thead>
<tr>
<th>Name</th>
<th>Capacity</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**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. 

Held at __________________________ (place)
On ___________________________ (date)

RESOLVED that:

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 days 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)

Postal Address: ________________________________
______________________________
______________________________
______________________________
_________________________ (code)

Telephone number: ________________________________ (code)
Fax number: ________________________________ (code)

<table>
<thead>
<tr>
<th>Name</th>
<th>Capacity</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contractor
Witness for Contractor
Employer
Witness for Employer
<table>
<thead>
<tr>
<th>8</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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
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: Particulars of sole proprietors and partners in partnerships

<table>
<thead>
<tr>
<th>Name*</th>
<th>Identity number*</th>
<th>Personal income tax number*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Section 5: Particulars of companies and close corporations

<table>
<thead>
<tr>
<th>Company registration number</th>
<th>Close corporation number</th>
<th>Tax reference number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- a member of any municipal council
- a member of any provincial legislature
- a member of the National Assembly or the National Council of Province
- a member of the board of directors of any municipal entity
- an official of any municipality or municipal entity
- an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- a member of an accounting authority of any national or provincial public entity
- an employee of Parliament or a provincial legislature
- an employee, director or board member of or otherwise employed by or contracted to the South African National Parks, or had or has any contractual relationships of any kind with the South African National Parks.

If any of the above boxes are marked, disclose the following:

<table>
<thead>
<tr>
<th>Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder</th>
<th>Name of institution, public office, board or organ of state and position held</th>
<th>Status of service (tick appropriate column)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Current</td>
</tr>
</tbody>
</table>
Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- □ a member of any municipal council
- □ a member of any provincial legislature
- □ a member of the National Assembly or the National Council of Province
- □ a member of the board of directors of any municipal entity
- □ an official of any municipality or municipal entity
- □ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- □ an employee of Parliament or a provincial legislature
- □ an employee, director or board member of or otherwise employed by or contracted to the South African National Parks, or had or has any contractual relationships of any kind with the South African National Parks.

<table>
<thead>
<tr>
<th>Name of spouse, child or parent</th>
<th>Name of institution, public office, board or organ of state and position held</th>
<th>Status of service (tick appropriate column)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Current</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>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*insert separate page if necessary

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.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Signed</th>
</tr>
</thead>
</table>

Name of Tenderer | Date

Contractor
Witness for Contractor
Employer
Witness for Employer
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)

<table>
<thead>
<tr>
<th>Date</th>
<th>Title or Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td></td>
</tr>
</tbody>
</table>

Name | Position | Signed

Name of Tenderer | Date

Contractor | Witness for Contractor | Employer | Witness for Employer
CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE, AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

Proposed Amendments and Qualifications

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

<table>
<thead>
<tr>
<th>Page</th>
<th>Clause or item</th>
<th>Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td></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>
<tr>
<td></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>
<tr>
<td></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>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Name                                      Position          Signed

Name of Tenderer                          Date

Contractor                                 Witness for Contractor  Employer  Witness for Employer
CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE, AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

Capacity of Tenderer

1. **WORK CAPACITY** (The Tenderer is requested to furnish the following full particulars, attach additional pages if more space is required. Failure to furnish the particulars may result in the Tender being disregarded.)

<table>
<thead>
<tr>
<th>Skilled artisans employed</th>
<th>Unskilled employees employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories of artisans</td>
<td>Number</td>
</tr>
<tr>
<td></td>
<td>Categories of employees</td>
</tr>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Machinery</th>
<th>Plant</th>
<th>Workshops</th>
</tr>
</thead>
<tbody>
<tr>
<td></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>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contractor  
Witness for Contractor  
Employer  
Witness for Employer
1. QUALIFICATIONS AND EXPERIENCE OF PROPOSED SITE SUPERVISION TEAM FOR THE PROJECT

Tenderer to provide name(s), key qualifications and experience of site supervision team that will supervise the project on behalf of the Contractor.
2. PARTICULARS OF COMMITMENTS WHICH THE TENDERER HAS PREVIOUSLY COMPLETED AND PRESENTLY ENGAGED WITH:

2.1. Current projects:

<table>
<thead>
<tr>
<th>Project</th>
<th>Place (town)</th>
<th>Reference / Contact person</th>
<th>Contact Tel. No.</th>
<th>Contract amount</th>
<th>Contract period</th>
<th>Date of commencement</th>
<th>Scheduled date of completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 2.2. Previous projects:

<table>
<thead>
<tr>
<th>Project</th>
<th>Place (town)</th>
<th>Reference / Contact person</th>
<th>Contact Tel. No.</th>
<th>Contract amount</th>
<th>Contract period</th>
<th>Date of commencement</th>
<th>Scheduled date of completion</th>
<th>Actual date of completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contractor Witness for Contractor

Employer Witness for Employer
CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE,
AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

Site Inspection Certificate

This is to certify that I,  

Representing  
Company  
Position  
Visited the site on  

I have made myself familiar with all local conditions likely to influence the work and the cost thereof. I further certify that I am satisfied with the description of the work and explanations given at the site inspection meeting and that I understand perfectly the work to be done, as specified and implied, in the execution of this contract.

<table>
<thead>
<tr>
<th>Name Tenderer’s Representative</th>
<th>Position</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Tenderer</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Employer’s Representative</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE,
AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

HEALTH AND SAFETY SPECIFICATION ACKNOWLEDGEMENT RECEIPT

Contractor’s Acknowledgement:

I, ___________________________________________ representing ____________________________ (Contractors), have satisfied myself with the content of this Health and Safety Specification and have made the relevant provision under my Preliminary & General Section C6 for any and all costs involved to ensure compliance of this Specification and shall we be the successful contractor, we shall ensure that our employees and contractors on site comply with the requirements of these documents, our safety documentation and health and safety legislation.

Signature of Contractor                  Date

Comments:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
DECLARATION OF INTEREST

1. 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-

   o the bidder is employed by the state; and/or

   o 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.

2. 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

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 undertake remunerative work outside employment in the public sector? YES / NO

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.


Contractor

Witness for Contractor

Employer

Witness for Employer
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 / members or their spouses conduct business with the state in the previous twelve months? YES / NO

2.8.1 If so, furnish particulars:

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

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

2.9.1 If so, furnish particulars:

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

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

2.10.1 If so, furnish particulars:

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

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

2.11.1 If so, furnish particulars:

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

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

<table>
<thead>
<tr>
<th>Full Name</th>
<th>Identity Number</th>
<th>Personal Tax Number</th>
<th>Income Reference</th>
<th>State Employee Number / Persal Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contractor  Witness for Contractor  Employer  Witness for Employer
4 DECLARATION

I, THE UNDERSIGNED (NAME) …………………………………………………………………………………………………………………

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 2011

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution.

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2011.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:
   The 90/10 system for requirements with a Rand value above R1 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated to exceed R1 000 000 (all applicable taxes included) and therefore the 90/10 system shall be applicable.

1.3 Preference points for this bid shall be awarded for:
   (a) Price; and
   (b) B-BBEE Status Level of Contribution.

1.3.1 The maximum points for this bid are allocated as follows:

<table>
<thead>
<tr>
<th>POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3.1.1 PRICE</td>
</tr>
<tr>
<td>1.3.1.2 B-BBEE STATUS LEVEL OF CONTRIBUTION</td>
</tr>
</tbody>
</table>

Total points for Price and B-BBEE must not exceed 100.

1.4 Failure on the part of a bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.5 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

2.1 “all applicable taxes” includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;

2.2 “B-BBEE” means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;

2.3 “B-BBEE status level of contributor” means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

2.4 “bid” means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;

2.5 “Broad-Based Black Economic Empowerment Act” means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);

2.6 “comparative price” means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;
2.7 “consortium or joint venture” means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;

2.8 “contract” means the agreement that results from the acceptance of a bid by an organ of state;

2.9 “EME” means any enterprise with an annual total revenue of R5 million or less.

2.10 “Firm price” means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;

2.11 “functionality” means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;

2.12 “non-firm prices” means all prices other than “firm” prices;

2.13 “person” includes a juristic person;

2.14 “rand value” means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;

2.15 “sub-contract” means the primary contractor’s assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract;

2.16 “total revenue” bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the Government Gazette on 9 February 2007;

2.17 “trust” means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and

2.18 “trustee” means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

3. ADJUDICATION USING A POINT SYSTEM

3.1 The bidder obtaining the highest number of total points will be awarded the contract.

3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts;

3.3 Points scored must be rounded off to the nearest 2 decimal places.

3.4 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.

3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.

3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

POINTS AWARDED FOR PRICE

4.1 THE 90/10 PREFERENCE POINT SYSTEMS

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

\[
Ps = 90 \left( 1 - \frac{Pt - P_{min}}{P_{min}} \right)
\]

Where

\[
\begin{align*}
Ps & = \text{Points scored for comparative price of bid under consideration} \\
Pt & = \text{Comparative price of bid under consideration} \\
P_{min} & = \text{Comparative price of lowest acceptable bid}
\end{align*}
\]
5. **POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION**

5.1 In terms of Regulation 5 (2) and 6 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

<table>
<thead>
<tr>
<th>B-BBEE Status Level of Contributor</th>
<th>Number of points (90/10 system)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Non-compliant contributor</td>
<td>0</td>
</tr>
</tbody>
</table>

5.2 Bidders who qualify as EMEs in terms of the B-BBEE Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA’s approval for the purpose of conducting verification and issuing EMEs with B-BBEE Status Level Certificates.

5.3 Bidders other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.

5.4 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.

5.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.

5.6 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

5.7 A person will not be awarded points for B-BBEE status level if it is indicated in the bid documents that such a bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.

5.8 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

6. **BID DECLARATION**

6.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:
7. **B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3.1.2 AND 5.1**

7.1 B-BBEE Status Level of Contribution: .............. = .................(maximum of 10 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or an Accounting Officer as contemplated in the CCA).

8. **SUB-CONTRACTING**

8.1 Will any portion of the contract be sub-contracted? YES / NO (delete which is not applicable)

8.1.1 If yes, indicate:
   i) What percentage of the contract will be subcontracted? ____________ %
   ii) The name of the sub-contractor? ____________________________
   iii) The B-BBEE status level of the sub-contractor? ____________________________
   iv) Whether the sub-contractor is an EME? YES / NO (delete which is not applicable)

9. **DECLARATION WITH REGARD TO COMPANY/FIRM**

9.1 Name of company / firm: _______________________________________

9.2 VAT registration number: _______________________________________

9.3 Company registration number: _______________________________________

9.4 TYPE OF COMPANY / FIRM:
   □ Partnership/Joint Venture / Consortium
   □ One person business/sole propriety
   □ Close corporation
   □ Company
   □ (Pty) Limited

[TICK APPLICABLE BOX]

9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES
...........................................................................................................................................................................................
...........................................................................................................................................................................................
...........................................................................................................................................................................................

9.6 COMPANY CLASSIFICATION
   □ Manufacturer
   □ Supplier
   □ Professional service provider
   □ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

9.7 Total number of years the company/firm has been in business? ____________

9.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBEE status level of contribution indicated in paragraph 7 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

   (i) The information furnished is true and correct;
   (ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
   (iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 7,
the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;

(iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –

(a) disqualify the person from the bidding process;
(b) recover costs, losses or damages it has incurred or suffered as a result of that person’s conduct;
(c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
(d) restrict the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and
(e) forward the matter for criminal prosecution

WITNESSES:

1. .................................................. 2. ..................................................

..................................................
SIGNATURE(S) OF BIDDER(S)

DATE: ..................................................

ADDRESS: ..........................................

..................................................
..................................................
SBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

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

PART 1 (TO BE FILLED IN BY THE BIDDER)

1. I hereby undertake to supply all or any of the goods and/or works described in the attached bidding documents to (name of institution)………………………….. in accordance with the requirements and specifications stipulated in bid number……………………. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the purchaser during the validity period indicated and calculated from the closing time of bid.

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

   (i) Bidding documents, viz
       - Invitation to bid;
       - Tax clearance certificate;
       - Pricing schedule(s);
       - Technical Specification(s);
       - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;
       - Declaration of interest;
       - Declaration of bidder’s past SCM practices;
       - Certificate of Independent Bid Determination
       - Special Conditions of Contract;

   (ii) General Conditions of Contract; and

   (iii) Other (specify)

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

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

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

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

NAME (PRINT) ……………………………...
CAPACITY ……………………………...
SIGNATURE ……………………………
NAME OF FIRM ……………………………
DATE ……………………………

WITNESSES

1 ……………………………
2 ……………………………

DATE: ……………………………

Contractor
Witness for Contractor
Employer
Witness for Employer
CONTRACT FORM - PURCHASE OF GOODS/WORKS

PART 2 (TO BE FILLED IN BY THE PURCHASER)

I……………………………………………. in my capacity as………………………………………………………………………

1. accept your bid under reference number ………………………………dated…………………………….for the
supply of goods/works indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating delivery instructions is forthcoming.

3. I undertake to make payment for the goods/works delivered in accordance with the terms and conditions of the
contract, within 30 (thirty) days after receipt of an invoice accompanied by the delivery note.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PRICE (ALL APPLICABLE TAXES INCLUDED)</th>
<th>BRAND</th>
<th>DELIVERY PERIOD</th>
<th>B-BBEE STATUS LEVEL OF CONTRIBUTION</th>
<th>MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

SIGNED AT: …………………………………………………. ON

NAME (PRINT) …………………………………………………

SIGNATURE …………………………………………………

OFFICIAL STAMP

WITNESSES

1. …………………………………………………

2. …………………………………………………

DATE …………………………………………………
# SBD 8

## DECLARATION OF BIDDER’S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1. This Standard Bidding Document must form part of all bids invited.

2. It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3. The bid of any bidder may be disregarded if that bidder, or any of its directors have:
   a. abused the institution’s supply chain management system;
   b. committed fraud or any other improper conduct in relation to such system; or
   c. failed to perform on any previous contract.

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

<table>
<thead>
<tr>
<th>Item</th>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Is the bidder or any of its directors listed on the National Treasury’s database as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the <em>audi alteram partem</em> rule was applied).</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>4.1.1</td>
<td>If so, furnish particulars:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? To access this Register enter the National Treasury’s website, <a href="http://www.treasury.gov.za">www.treasury.gov.za</a>, click on the icon “Register for Tender Defaulters” or submit your written request for a hard copy of the Register to facsimile number (012) 3265445.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>4.2.1</td>
<td>If so, furnish particulars:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>4.3.1</td>
<td>If so, furnish particulars:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4</td>
<td>Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>4.4.1</td>
<td>If so, furnish particulars:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SBD 8

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) …………………………………………………………………………………………………………………………………………………
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

………………………………………………..
Signature

………………………………………………..
Date

………………………………………………..
Position

………………………………………………..
Name of Bidder
SBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

1 This Standard Bidding Document (SBD) must form part of all bids¹ invited.

2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *per se* prohibition meaning that it cannot be justified under any grounds.

3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:

   a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution’s supply chain management system and or committed fraud or any other improper conduct in relation to such system.

   b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.

4 This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.

5 In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.
CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Institution)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: ____________________________________________ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word “competitor” shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
   (a) has been requested to submit a bid in response to this bid invitation;
   (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
   (b) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium¹ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   (a) Prices;
   (b) Geographical area where product or service will be rendered (market allocation)
   (c) Methods, factors or formulas used to calculate prices;
   (d) The intention or decision to submit or not to submit, a bid;
   (e) The submission of a bid which does not meet the specifications and conditions of the bid; or
   (f) Bidding with the intention not to win the bid.

³ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

..........................................................  ..........................................................
Signature Date

..........................................................  ..........................................................
Position Name of Bidder

Contractor Witness for Contractor  Employer Witness for Employer
C: The Contract
Part C1: Agreement and contract data
OFFER

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

Construction of the Agulhas Most Southern Tip Iconic Structure: SP-AG-0175

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)

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning a copy of this acceptance form 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 .......................................................... Date ..........................................................

Name .............................................................

Capacity ..........................................................

For the tenderer

Name and address of organization ..........................................................

Name and signature of witnesses ..........................................................
ACCEPTANCE (NB: TO BE COMPLETED BY EMPLOYER NOT THE TENDERER)

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 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 fulfill 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 .......................................................... Date ..........................................................

Name ............................................................

Capacity ..........................................................

For the Employer The South African National Parks
643 Leyds Street
Muckleneuk
0002

Name and signature .......................................................... Date ..........................................................

of witness ..........................................................

Contractor

Witness for Contractor

Employer

Witness for Employer
Schedule of Deviations

<table>
<thead>
<tr>
<th></th>
<th>Subject</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By the duly authorized 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 tender 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.
CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE,
AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

C1.2 Contract Data

[Use for JBCC Series 2000 Principal Building Agreement (edition 5.0)]


Copies of these conditions of contract may be obtained from the Association of South African Quantity Surveyors (011-3154140), Master Builders Association (011-205-9000; 057-3526269) South African Association of Consulting Engineers (011-4632022) or South African Institute of Architects (051-4474909; 011-4860684; 053-8312003;)

The JBCC Principal Building Agreement makes 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 JBCC Principal Building Agreement.

Each item of data given below is cross-referenced to the clause in the JBCC Principal Building Agreement to which it mainly applies.

The variations to the JBCC Principal Building Agreement are:

<table>
<thead>
<tr>
<th>Clause</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Replace the following definitions in DEFINITIONS AND INTERPRETATIONS with the following wording: AGREEMENT means the agreement arising from the signing of the Form of Offer and Acceptance by the parties. BILLS OF QUANTITIES means the document drawn up in accordance with the Pricing Instructions contained in the Pricing Data. CONSTRUCTION PERIOD means the period commencing on the date that the agreement made in terms of the Offer and Acceptance comes into effect and ending on the date of practical completion. CONTRACT DOCUMENTS means the agreement and all documents referenced therein. CONTRACT DRAWINGS means the drawings listed in the Scope of Work. CONTRACT SUM means the total of prices in the Form of Offer and Acceptance. SCHEDULE means the variables listed in the Contract Data. INTEREST means the interest rate applicable on overdraft facilities as charged by First National Bank to SANParks.</td>
</tr>
<tr>
<td>3.5</td>
<td>Delete sub-clause 3.5</td>
</tr>
<tr>
<td>3.6</td>
<td>Delete sub-clause 3.6</td>
</tr>
<tr>
<td>3.9</td>
<td>Delete sub-clause 3.9</td>
</tr>
<tr>
<td>3.10</td>
<td>Delete sub-clause 3.11</td>
</tr>
</tbody>
</table>
| 5.4    | Clause 5.4 is amended by the addition of the following to the end thereof:-

“The authority of the principal agent to issue contract instructions or to perform duties as may be required for the relevant aspects of the works is delegated to the other agents as follows:-

1. Architects
The Architects is responsible for the architectural design, functional design and quality control. Without derogating from the generality thereof the Architects shall perform the following specific functions and duties:-

1.1 Give opinion on aspects of the works which are not in accordance with the agreement.
1.2 Supply the specified number of drawings.

Contractor Witness for Contractor Employer Witness for Employer
<table>
<thead>
<tr>
<th>Clause</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3</td>
<td>Be responsible for the design of the works.</td>
</tr>
<tr>
<td>1.4</td>
<td>Be responsible for primary coordination of design elements</td>
</tr>
<tr>
<td>1.5</td>
<td>Receive and accept design documentation undertaken by nominated or selected subcontractors.</td>
</tr>
<tr>
<td>1.6</td>
<td>Issue contract instructions to the contractor regarding:-</td>
</tr>
<tr>
<td>1.6.1</td>
<td>Alteration to design, quality or quantity of the works provided that such contract instruction shall not substantially change the scope of the works.</td>
</tr>
<tr>
<td>1.6.2</td>
<td>Removal of any materials and goods from the site and the substitution of any other materials and goods.</td>
</tr>
<tr>
<td>1.6.3</td>
<td>Removal or re-execution of any work.</td>
</tr>
<tr>
<td>1.6.4</td>
<td>Opening up of work for inspection.</td>
</tr>
<tr>
<td>1.6.5</td>
<td>Testing of work and materials and goods.</td>
</tr>
<tr>
<td>1.6.6</td>
<td>Protection of the works.</td>
</tr>
<tr>
<td>1.6.7</td>
<td>Making good physical loss and repairing damage to the works.</td>
</tr>
<tr>
<td>1.6.8</td>
<td>The lists for practical completion, works completion, final completion and defects.</td>
</tr>
<tr>
<td>1.6.9</td>
<td>Compliance with acts of parliament, regulations and bylaws.</td>
</tr>
<tr>
<td>1.7</td>
<td>Witness the handing over to the contractor of pegs, beacons and datum level.</td>
</tr>
<tr>
<td>1.8</td>
<td>Define levels and provide the contractor with the necessary information to set out the works.</td>
</tr>
<tr>
<td>1.9</td>
<td>Inspect the work from time to time and give the contractor interpretation and guidance on the standard and state of completion required for practical completion.</td>
</tr>
<tr>
<td>1.10</td>
<td>Inspect the works for practical completion.</td>
</tr>
<tr>
<td>1.11</td>
<td>Issue practical completion list and re-inspect upon request of contractor.</td>
</tr>
<tr>
<td>1.12</td>
<td>Issue works completion list.</td>
</tr>
<tr>
<td>1.13</td>
<td>Inspect the works for works completion upon request of contractor.</td>
</tr>
<tr>
<td>1.14</td>
<td>Inspect the works at the end of the defects liability period.</td>
</tr>
<tr>
<td>1.15</td>
<td>Issue a defects list and re-inspect upon request of contractor. Acceptance in principle of design by nominated or selected subcontractors.</td>
</tr>
</tbody>
</table>

2. **Quantity Surveying Service Provider (QSSP)**

The QSSP is responsible for all measurements, valuations, financial assessments and all other Quantity Surveying and cost control functions. Without derogating from the generality thereof, the QSSP shall perform the following specific functions and duties:

<table>
<thead>
<tr>
<th>Clause</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Consult with the contractor in correction of rates for errors and discrepancies.</td>
</tr>
<tr>
<td>2.2</td>
<td>Prepare the final account.</td>
</tr>
<tr>
<td>2.3</td>
<td>Prepare the monthly recovery statement.</td>
</tr>
<tr>
<td>2.4</td>
<td>Complete the contract document and arrange for the signing thereof.</td>
</tr>
<tr>
<td>2.5</td>
<td>Hold a signed set of the agreement and all the documents referred therein.</td>
</tr>
<tr>
<td>2.6</td>
<td>Identify any changes to the Standard JBCC Documentation in the Contract Data and determine any loss and expense caused to the contractor caused by non-disclosure thereof.</td>
</tr>
<tr>
<td>2.7</td>
<td>Deal with amounts paid by the contractor to authorities having jurisdiction over the works.</td>
</tr>
<tr>
<td>2.8</td>
<td>Measure and value the making good of physical loss or damage.</td>
</tr>
<tr>
<td>2.9</td>
<td>Issue contract instructions to the contractor regarding:</td>
</tr>
<tr>
<td>2.9.1</td>
<td>Rectification of discrepancies, errors in description or omissions in the agreement and the documents referred to therein.</td>
</tr>
</tbody>
</table>
Clause | Variation
--- | ---
2.9.2 | Furnishing proof of payment to **nominated** and **selected subcontractors**.
2.9.3 | Budgetary Allowances and work executed by the **contractor** there under.
2.9.4 | Contingency and other monetary provisions included in the Bills Of Quantities.
2.10 | Prepare **nominated** and **selected subcontract** tender documents.
2.11 | Receive proof from the **contractor** that the **contractor’s** payment obligations have been met in respect of **nominated and selected subcontractors**.
2.12 | Act on **employers** instructions to pay **nominated and selected subcontractors** directly.
2.13 | Adjustment of the contract value in respect of a revision to the date of **practical completion**.
2.14 | Calculate penalties for non-completion.
2.15 | Valuation of payment claims for payment certificates.
2.16 | Authorize or otherwise the removal of materials or goods from site by the **contractor** where these have been paid for.
2.17 | Calculate compensatory and penalty Interest due to the parties.
2.18 | With each payment certificate issue :-
2.18.1 | Details of amounts certified for each **nominated** or Selected Subcontractor
2.18.2 | Notification to each **nominated and selected subcontractors** showing the formulation of sub-contract amount included in payment certificates.
2.18.3 | A statement to the **employer** and **contractor** showing the total amount certified and all adjustment amounts.
2.19 | Determine the value of adjustments to the contract value.
2.20 | Receive from the **contractor** details of expense and loss claims and assess such claims.
2.21 | Issue recovery statement with payment certificate.
2.22 | Prepare the **final account** and submit to **contractor**.
3. **SANParks Technical Services (STS)**
The STS is responsible for all aspects of civil and structural engineering design and quality control. Without derogating from the generality thereof, the STS will perform the following specific functions and duties in respect of STS aspects of the **works**:-
3.1 | Give opinion of aspects of the **works** which are not in accordance with the **agreement**.
3.2 | Supply the specified number of drawings.
3.3 | Issue instructions
3.4 | Be responsible for the design of the **works**.
3.5 | Receive and accept design and design documentation undertaken by **nominated or selected subcontractors**.
3.6 | Issue **contract instruction** to the **contractor** regarding:
3.6.1 | Alteration to design, quality or quantity of the **works** provided that such **contract instruction** shall not substantially change the scope of the **works**.
3.6.2 | Removal of any **materials and goods** from the site and the substitution of any **materials and goods** therefore.
3.6.3 | Removal or re-execution of any work.
3.6.4 | Opening up of work for inspection
3.6.5 | Testing of work and **materials and goods**.
3.6.6 | Protection of **works**.
3.6.7 | Making good physical loss and repairing damage to the **works**.
<table>
<thead>
<tr>
<th>Clause</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6.8</td>
<td>Compliance with acts of parliament, regulations and bylaws.</td>
</tr>
<tr>
<td>3.7</td>
<td>Define levels and provide the contractor with the necessary information to set out the works.</td>
</tr>
<tr>
<td>3.8</td>
<td>Inspect the work from time to time and give the contractor interpretation and guidance on the standard and state of completion required for practical completion.</td>
</tr>
<tr>
<td>3.9</td>
<td>Inspect the works for practical completion.</td>
</tr>
<tr>
<td>3.10</td>
<td>Inspect the works for works completion upon request of contractor.</td>
</tr>
<tr>
<td>3.11</td>
<td>Inspect the works at the end of the defect liability period.</td>
</tr>
<tr>
<td>3.12</td>
<td>Acceptance in principle of design by nominated or selected subcontractors.</td>
</tr>
</tbody>
</table>

Clause 7.0 is amended by adding Clause 7.3.

“The employer reserves the right to pay direct (i.e. not through the contractor) all or any permanent connections to local or other authority services. In the event of the employer paying direct for these charges the contractor will not be entitled to a ten percent (10%) mark-up in terms of Clause 32.4. All such provisional amounts included in the Total of prices in the Form of Offer and Acceptance will be omitted.”

Clause 9.0 is amended by adding Clause 9.1.4.

The contractor indemnifies and holds harmless the employer against all liability, losses, claims, damages, penalties, actions, proceedings or judgments (collectively referred to as “Losses”) arising from any infringement of letters, patent design, trademark, name, copyright or other protected rights in respect of any machine, plant, work, materials, thing, system or method of using, fixing, working or arrangement used or fixed or supplied by the contractor, but such indemnity shall not cover any use of the equipment or part thereof otherwise than in accordance with the provisions of the specification. All payments and royalties payable in one sum or by instalments or otherwise shall be included by the contractor in the price and shall be paid by him to those to whom they may be due or payable. The contractor shall reimburse the employer for all legal and other costs and expenses, including without limitation attorney’s fees on attorney-client scale incurred by the employer in connection with investigation, defending or settling any Losses in connection with pending or threatened litigation in which the employer is a party.

Clause 22.0 is amended by the addition of the following clauses-

22.6 The employer shall have the right to send his own employees or direct contractors on to the works for the purpose of installing tenant installations and requirements and any other special installations and systems. The contractor is to allow against the relevant items as described in this clause for any costs and no additional claims will be entertained due to the presence on the works of such direct contractors, employer’s employees or tenants.

22.7 Should the contractor be required to make good after such direct contractors, employer’s employees or tenants or to carry out jobbing, etc. The contractor shall reimburse the employer for any costs incurred by him in terms of clause 32.

22.8 The contractor shall not be entitled to any percentage, profit or discount on the value of any work executed by “direct contractors” but shall nevertheless allow these direct contractors and the employer’s employees to have access to the works, allocate reasonable space in the building for the storage of their materials, tools and equipment and coordinate via the principal agent the work of such direct contractors as necessary, all to the satisfaction of the principal agent. The contractor shall allow the direct contractors, etc., to use, free of charge, the latrine accommodation and water and power supply on the site and shall not in any way hinder or prevent the execution of their work.

Clause 29.0 is amended by:-

i) The addition of the following clauses:-

“29.9 Revision to the date for practical completion shall only be considered when work on the critical path of the agreed programme for the works is delayed”.

Contractor Witness for Contractor Employer Witness for Employer
Clause | Variation
---|---
ii) | “29.10 Acceleration
29.10.1 Irrespective of whether or not the principal agent rules that the contractor is entitled to an extension of time or a revision of the date for practical completion, the principal agent shall nevertheless, at any time, be entitled to instruct the contractor in writing to accelerate the progress of the remaining works to ensure that the works are completed by the original date for practical completion or revised date as the case may be.
29.10.2 Upon receipt of such instruction, the contractor shall take all necessary steps to ensure that the works are completed timeously including the provision by him of additional resources, plant, manpower, etc. and the working overtime or additional overtime beyond that contemplated at the time of tender (at all times adhering to the regulations and requirements of all authorities) and by all other adequate and proper means and methods. The contractor shall prove that such steps are being taken if called upon to do so.
29.10.3 The contractor's entitlement to compensation arising out of or in respect of any revision to the date for practical completion that may have been granted by the principal agent or alternatively where the principal agent has instructed the contractor to accelerate, shall be adjudicated strictly in terms of clause 32.
32.12 | Delete sub-clause 32.12
40 | Replace clause 40 with the following:
   | 40.1 Adjudication
   | 40.1.1 Any dispute between the parties shall be referred to adjudication. Adjudication shall be in accordance with the latest edition of the JBCC Series 2000 Adjudication Rules.
   | 40.1.2 The adjudicator shall be appointed in terms of the Adjudicator's Agreement.
   | 40.1.3 If a party is dissatisfied with the decision of the Adjudicator, the party may give the other party notice of dissatisfaction within 28 days of the receipt of the decision and refer the dispute to arbitration. If no notice of dissatisfaction is given within the specified time, the decision shall be final and binding on the parties.
   | 40.2 Arbitration
   | 40.2.1 Arbitration shall be by a single arbitrator in accordance with the provisions of the Arbitration Act of 1965 as amended and shall be conducted in accordance with such procedure as may be agreed between the parties or, failing such agreement, in accordance with the rules for Conduct of arbitrations published by the Association of Arbitrators current at the date the arbitrator is appointed.
   | 40.2.2 The arbitrator shall be mutually agreed upon or, failing agreement, to be nominated by the Association of Arbitrators.
### Part 1: Contract Data completed by the Employer

<table>
<thead>
<tr>
<th>Clause</th>
<th>Item and data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.2</strong></td>
<td><strong>Particulars of Employer</strong></td>
</tr>
<tr>
<td></td>
<td>Name: South African National Parks</td>
</tr>
<tr>
<td></td>
<td>Physical Address: 643 Leyds Street, Muckleneuk, PRETORIA</td>
</tr>
<tr>
<td></td>
<td>Postal address: PO Box 787, PRETORIA, 0001</td>
</tr>
<tr>
<td></td>
<td>Telephone: (012) 426 5126</td>
</tr>
<tr>
<td></td>
<td>Fax: (012) 343 4666</td>
</tr>
<tr>
<td><strong>5.1</strong></td>
<td><strong>Particulars of Principal Agent</strong></td>
</tr>
<tr>
<td></td>
<td>Name: SANParks Infrastructure and Special Projects Unit</td>
</tr>
<tr>
<td></td>
<td>Physical Address: 643 Leyds Street, Muckleneuk, PRETORIA</td>
</tr>
<tr>
<td></td>
<td>Postal address: PO Box 787, PRETORIA, 0001</td>
</tr>
<tr>
<td></td>
<td>Telephone: (021) 900-9060</td>
</tr>
<tr>
<td></td>
<td>Fax: (012) 343 4666</td>
</tr>
<tr>
<td><strong>1.1</strong></td>
<td>The <strong>works</strong> comprise Construction of Iconic Structure at the Southern-most Tip of Africa, Agulhas National Park</td>
</tr>
<tr>
<td><strong>1.1</strong></td>
<td>The <strong>site</strong> comprise of a gravel parking area, boardwalk and stone cairn and Africa map</td>
</tr>
<tr>
<td><strong>41.0</strong></td>
<td>The <strong>Employer</strong> is an organ of State</td>
</tr>
<tr>
<td><strong>31.11.2</strong></td>
<td>The interest rate applicable is the interest rate on overdraft facilities as charged by First National Bank to SANParks.</td>
</tr>
<tr>
<td><strong>11.2</strong></td>
<td>Lateral support insurance is to be effected by the <strong>contractor</strong>.</td>
</tr>
<tr>
<td><strong>26.1.2</strong></td>
<td>Extended <strong>defects</strong> liability period will apply to the following elements: n/a</td>
</tr>
<tr>
<td><strong>15.2.1</strong></td>
<td>Possession of the <strong>site</strong> is to be given within three days of the <strong>contractor</strong> providing the <strong>employer</strong> with <strong>construction guarantees</strong> in accordance with the provisions of 14.0.</td>
</tr>
<tr>
<td><strong>15.3</strong></td>
<td>The period for the commencement of the <strong>works</strong> after the <strong>contractor</strong> takes possession of the site is: Seven (7) <strong>working days</strong>. For the <strong>works</strong> as a whole: The date for <strong>practical completion</strong> is <strong>7 months</strong> The <strong>penalty</strong> per <strong>calendar day</strong> is: R 1,890 /day</td>
</tr>
<tr>
<td><strong>1.2</strong></td>
<td>The law applicable to the agreement shall be that of the Republic of South Africa.</td>
</tr>
<tr>
<td><strong>10.1, 10.2, 12.1</strong></td>
<td>Contract insurance is to be effected by the <strong>contractor</strong>.</td>
</tr>
<tr>
<td><strong>10.1, 10.2, 12.1</strong></td>
<td>Contract works insurance is to be effected by the <strong>contractor</strong> for a sum not less than the total of prices in the Form of Offer and Acceptance with a deductible in an amount that the <strong>contractor</strong> deems appropriate.</td>
</tr>
<tr>
<td><strong>10.1, 10.2, 12.1</strong></td>
<td>The following supplementary insurance is required: <strong>SASRIA insurance</strong> to be effected by the <strong>contractor</strong> For an amount equal to the gross tendered value inclusive of VAT plus 30% for fees and escalation. Full Final estimated value of the works including fees and escalation. With a deductible equal to the amount as determined by the contractors insurance company.</td>
</tr>
<tr>
<td>Clause</td>
<td>Item and data</td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
</tr>
<tr>
<td>1.1, 12.1</td>
<td><strong>Public liability insurance</strong> to be effected by the <strong>contractor</strong>&lt;br&gt;For an amount equal to the gross tendered value inclusive of VAT plus 30% for fees and escalation.&lt;br&gt;With a deductible equal to the amount as determined by the contractors insurance company.</td>
</tr>
<tr>
<td>1.1, 12.1</td>
<td>Support insurance to be effected by the <strong>contractor</strong>.</td>
</tr>
<tr>
<td>3.3, 15.1.3, 31.16.2</td>
<td>A waiver of the <strong>contractor's</strong> lien or right of continuing possession is required.</td>
</tr>
<tr>
<td>3.7</td>
<td>One copy of the construction document and one copy of the construction drawings are to be supplied to the <strong>contractor</strong> free of charge.</td>
</tr>
<tr>
<td>3.4</td>
<td>JBCC Engineering General Conditions are not to be included in the contract document.</td>
</tr>
<tr>
<td>31.3</td>
<td><strong>Contractor's</strong> Monthly claims for payment shall be submitted to the <strong>QSSP</strong> on the 21st day of each month (contractor to ensure that applications for payment from subcontractors are received on the 20th day of each month), following which the <strong>QSSP</strong> shall submit his valuation to the <strong>principal agent</strong> within 14 days. The payment shall be made by the <strong>employer</strong> to the <strong>contractor</strong> on the 21st day of the following month or the next working day should the 21st fall on a weekend. Payment shall only be made following receipt by the <strong>employer</strong> of both the original payment certificate and the <strong>contractor</strong>'s tax invoice.</td>
</tr>
<tr>
<td>31.5.3</td>
<td>The contract value is not to be adjusted.</td>
</tr>
<tr>
<td>14.5</td>
<td>The security to be provided by the contractor is a <strong>Variable construction guarantee</strong>.</td>
</tr>
<tr>
<td>40.0</td>
<td>Default dispute resolution shall be by adjudication. Disputes will finally be settled by arbitration.</td>
</tr>
</tbody>
</table>
CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE,
AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

Part 2: Contract Data completed by the Contractor

<table>
<thead>
<tr>
<th>Clause</th>
<th>Item and data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>The name of the Contractor is: ........................................</td>
</tr>
<tr>
<td></td>
<td>The address of the Contractor is:</td>
</tr>
<tr>
<td></td>
<td>Telephone: .................................................................</td>
</tr>
<tr>
<td></td>
<td>Facsimile: .................................................................</td>
</tr>
<tr>
<td></td>
<td>Cellphone: ......................................................................</td>
</tr>
<tr>
<td></td>
<td>Address (physical): .........................................................</td>
</tr>
<tr>
<td></td>
<td>..................................................................................</td>
</tr>
<tr>
<td></td>
<td>..................................................................................</td>
</tr>
<tr>
<td></td>
<td>..................................................................................</td>
</tr>
<tr>
<td></td>
<td>Address (postal): .........................................................</td>
</tr>
<tr>
<td></td>
<td>..................................................................................</td>
</tr>
<tr>
<td></td>
<td>..................................................................................</td>
</tr>
<tr>
<td></td>
<td>..................................................................................</td>
</tr>
<tr>
<td></td>
<td>Email:..............................................................................</td>
</tr>
</tbody>
</table>

Contractor

Witness for Contractor

Employer

Witness for Employer
C1.3 Construction Guarantee

[Use for JBCC Series 2000 Principal Building Agreement (edition 5.0)]

GUARANTOR DETAILS AND DEFINITIONS

Guarantor means . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

Physical address . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

Guarantor's signatory 1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
Capacity . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

Guarantor's signatory 1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
Capacity . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

Employer means The South African National Parks

Contractor means . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

Agent means SANParks Infrastructure and Special Projects Unit

Works means Construction of Iconic Structure at the Agulhas Most Southern tip

Site means Southern-most tip of Africa, Agulhas National Park

Agreement means the JBCC Series 2000 Principal Building Agreement

Contract Sum means the total of prices in the Form of Offer and Acceptance inclusive of VAT

Amount in figures R . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

Amount in words . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

Guaranteed Sum means the maximum aggregate amount of R . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

Amount in words . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

The Construction Guarantee required is of the type variable and the expiry date for the guarantee is Practical Completion.

AGREEMENT DETAILS

Sections: Total Sections __________________________ Last Section __________________________

Principal Agents issues: Interim payment certificates, Final payment certificates, Practical completion certificates/ and Final completion certificates

1. VARIABLE CONSTRUCTION GUARANTEE

1.1 Where a variable Construction Guarantee in terms of the Agreement has been selected this 1.0 with 3.0 to 13.0 shall apply. The Guarantor's liability shall be limited to the diminishing amounts of the Guaranteed Sum as follows:

GUARANTOR'S LIABILITY

1.1.1 Maximum Guaranteed Sum (not exceeding 12.5% of the contract sum) in the amount of:

________________________________________

From and including the date of issue of this Construction Guarantee and the up to and including the date of the interim payment certificate certifying in excess of 50% of the contract sum

Amount in words:

_____________________________________

1.1.2 Reducing to the Guaranteed Sum (not exceeding 7.5% of the contract sum) in the amounts of:

________________________________________

From and including the day after the date of the aforesaid interim payment certificate and up to and including the date of the only practical completion certificate or last practical completion certificate where there are sections.

Amount in words:

_____________________________________
Amount in words:

______________________________________________

1.1.3 Reducing to the Guaranteed Sum (not exceeding 4.0% of the contract sum) in the amount of:

______________________________________________

From and including the day after the date of the applicable practical completion certificate and up to and including the date of the only final completion certificate or last final completion certificate where there are sections

Amount in words: ________________________________________________

1.1.4 Reducing to the Guaranteed Sum (not exceeding 2.0% of the contract sum) in the amount of:

______________________________________________

From and including the day after the date of the applicable practical completion certificate and up to and including the date of the final payment certificate where payment is due to the Contractor, whereupon this Construction Guarantee shall expire. Where the final payment certificate reflects payment due to the Employer, this Construction Guarantee shall expire upon payment of the full amount certified.

Amount in words: ________________________________________________

1.2 For avoidance of doubt the Guarantor’s liability limits set out in 1.1.1 to 1.1.4 shall apply in respect of any claim received by the Guarantor during the period in question.

2. The Guarantor hereby acknowledges that:

3.1 Any reference in this Guarantee to the Agreement 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 surety ship.

3.2 Its obligation under this Guarantee is restricted to the payment of money.

4. Subject to the Guarantor’s maximum liability referred to in clauses 1.0 or 2.0, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Principal Agent in an interim or final payment certificate has not been made in terms of the Agreement and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2.

4.2 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) calendar days has elapsed since the first written demand in terms of sub-clause 4.1 and that the sum certified has still not been paid therefore the Employer calls upon this Construction Guarantee and demands payment of the sum certified from the Guarantor.

4.3 A copy of the said payment certificate which entitles the Employer to receive payment in terms of the Agreement of the sum certified in clause 4.0.

5. Subject to the Guarantor’s maximum liability referred to in clause 1.0 or 2.0, the Guarantor undertakes to pay 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 Construction Guarantee stating that:

5.1 Agreement has been cancelled due to the Contractor's default and that the Construction Guarantee is called up in terms of clause 5.0. The demand shall enclose a copy of the notice of cancellation; or
5.2 A provisional sequestration or liquidation court order has been granted against the Contractor and that the Construction Guarantee is called up in terms of clause 5.0. The demand shall enclose a copy of the court order.

6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of clauses 4.0 and 5.0 shall not exceed the Guarantor's maximum liability in terms of clause 1.0 or 2.0.

7. Where the Guarantor is a registered insurer and has made payment in terms of clause 5.0, 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 the Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Construction 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.

8. Payment by the Guarantor in terms of clause 4.0 or 5.0 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

9. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer deems fit and the Guarantor shall not have the right to claim his release from this Construction Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

10. The Guarantor chooses the physical address as stated above for all purposes in connection herewith.

11. This Guarantee is neither negotiable nor transferable and shall expire in terms of either 1.1.4 or 2.1, or payment in full of the Guaranteed Sum or on the Guarantee expiry date, whichever is the earlier, where after no claims will be considered by the Guarantor. The original of this Construction Guarantee shall be returned to the Guarantor after it has expired.

12. This Guarantee, with the required demand notices in terms of clauses 4.0 or 5.0, shall be regarded as a liquid document for the purpose of obtaining a court order.

13. Where this Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's 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 .................................................... Guarantor's Signatory 2 ....................................................

Witness 1 .............................................................. Witness 2 ..............................................................

Guarantor's seal or stamp

Contractor Witness for Contractor

Employer Witness for Employer

Page 68 of 165
ADJUDICATOR’S CONTRACT

[Use for JBCC Series 2000 Principal Building Agreement (edition 5.0)]

This agreement is made on the ........ day of .......................................................... between:

...........................................................................................................................................(name of company / organization)
of ..........................................................................................................................................(address) and
...............................................................................................................................................(name of company / organization)
of ..........................................................................................................................................(address)
(the Parties) and

...........................................................................................................................................(name)
of ..........................................................................................................................................(address)
(the Adjudicator).

Disputes or differences may arise/have arisen* between the Parties under a Contract dated ............... and known as........................................................................................................................................................................

and these disputes or differences shall be/have been* referred to adjudication in accordance with the JBCC Series 2000 Adjudication Rules, (hereinafter called "the Procedure") and the Adjudicator may be or has been requested to act.

* Delete as necessary

IT IS NOW AGREED as follows:

1 The rights and obligations of the Adjudicator and the Parties shall be as set out in the JBCC Series 2000 Adjudication Rules.
2 The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the JBCC Series 2000 Adjudication Rules.
3 The Parties bind themselves jointly and severally to pay the Adjudicator’s fees and expenses as set out in the Contract Data.
4 The Parties and the Adjudicator shall at all times maintain the confidentiality of the adjudication and shall endeavor to ensure that anyone acting on their behalf or through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.
5 The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

SIGNED by:

Name:

who warrants that he / she is duly authorized to sign for and on behalf of
the first Party in the presence of

Witness:

Name:

Address:

Date:

SIGNED by:

Name:

who warrants that he / she is duly authorized to sign for and on behalf of
the first Party in the presence of

Witness:

Name:

Address:

Date:

SIGNED by:

Name:

the Adjudicator in the presence of

Witness:

Name:

Address:

Date:
### Contract Data

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Adjudicator shall be paid at the hourly rate of R. . . . . . . . . . . . . . . . . in respect of all time spent upon, or in connection with, the adjudication including time spent travelling.</td>
</tr>
</tbody>
</table>
| 2 | The Adjudicator shall be reimbursed in respect of all disbursements properly made including, but not restricted to:  
   (a) Printing, reproduction and purchase of documents, drawings, maps, records and photographs.  
   (b) Telegrams, telex, faxes, and telephone calls.  
   (c) Postage and similar delivery charges.  
   (d) Travelling, hotel expenses and other similar disbursements.  
   (e) Room charges.  
   (f) Charges for legal or technical advice obtained in accordance with the Procedure. |
| 3 | The Adjudicator shall be paid an appointment fee of R. . . . . . . . . . . . . . . . . This fee shall become payable in equal amounts by each Party within 14 days of the appointment of the Adjudicator, subject to an Invoice being provided. This fee will be deducted from the final statement of any sums which shall become payable under item 1 and/or item 2 of the Contract Data. If the final statement is less than the appointment fee the balance shall be refunded to the Parties. |
| 4 | The Adjudicator is/ is not* currently registered for VAT. |
| 5 | Where the Adjudicator is registered for VAT it shall be charged additionally in accordance with the rates current at the date of invoice. |
| 6 | All payments, other than the appointment fee (item 3) shall become due 7 days after receipt of invoice, thereafter interest shall be payable at 5% per annum above the Reserve Bank base rate for every day the amount remains outstanding. |

* Delete as necessary
Part C2: Pricing data
C2.1 Pricing Instructions

[Use for JBCC Series 2000 Principal Building Agreement (Edition 5.0)]

1. The Bills of Quantities have been drawn up in accordance with the Standard System of Measuring Building Work (as amended) published and issued by the Association of South African Quantity Surveyors (Sixth Edition (Revised)), 1999. Where applicable the:
   a. Civil engineering work has been drawn up in accordance with the provisions of the latest edition of SANS 1200 Standardized Specifications for Civil Engineering Works.
   b. Mechanical work has been drawn up in accordance with the provisions of the Model Bills of Quantities for Mechanical Work, published by the South African Association of Quantity Surveyors, July 2005).
   c. Electrical work has been drawn up in accordance with the provisions of the Model Bills of Quantities or Electrical Work, published by the South African Association of Quantity Surveyors, (July, 2005).

2. The agreement is based on the JBCC Series 2000 Principal Building Agreement, prepared by the Joint Building Contracts Committee, Edition 5.0, July 2007. The additions, deletions and alterations to the JBCC Principal Building Agreement as well as the contract specific variables are as stated in the Contract Data. Only the headings and clause numbers for which allowance must be made in the Bills of Quantities are recited.

3. Preliminary and general requirements are based on the various parts of SANS 1921, Construction and management requirements for works contracts. The additions, deletions and alterations to the various parts of SANS 1921 as well as the contract specific variables are as stated in the Specification Data in the Scope of Work. Only the headings and clause numbers for which allowance must be made in the Bills of Quantities are recited.

4. It will be assumed that prices included in the Bills 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).

5. The prices and rates in these Bills 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.

6. The drawings listed in the Scope of Works used for the setting up of these Bills of Quantities are kept by the Principal Agent or Engineer and can be viewed at any time during office hours up until the completion of the works.

7. 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.

8. 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.

9. Rates for work of similar description occurring in different sections of the Bill of Quantity shall be identical.
10. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.

11. Where any item is not relevant to this specific contract, such item is marked N/A (signifying “not applicable”)

12. The Contract Data and the standard form of contract referenced therein must be studied for the full extent and meaning of each and every clause set out in Section 1 (Preliminaries) of the Bills of Quantities.

13. The Bills of Quantities is not intended for the ordering of materials. Any ordering of materials, based on the Bills of Quantities, is at the Contractor’s risk.

14. The amount of the Preliminaries to be included in each monthly payment certificate shall be assessed as an amount prorated to the value of the work duly executed in the same ratio as the preliminaries bears to the total of prices excluding any contingency sum, the amount for the Preliminaries and any amount in respect of contract price adjustment provided for in the contract.

15. Where the initial contract period is extended, the monthly charge shall be calculated on the basis as set out in 10 but taking into account the revised period for completing the works.

16. The amount or items of the Preliminaries shall be adjusted to take account of the theoretical financial effect which changes in time or value (or both) have on this section. Such adjustments shall be based on adjustments in the following categories as recorded in the Bills of Quantities:
   a. an amount which is not to be varied, namely Fixed (F)
   b. an amount which is to be varied in proportion to the contract value, namely Value Related (V); and
   c. an amount which is to be varied in proportion to the contract period as compared to the initial construction period excluding revisions to the construction period for which no adjustment to the contractor is not entitled to in terms of the contract, namely Time Related (T).

17. Where no provision is made in the Bills of Quantities to indicate which of the three categories in 12 apply or where no selection is made, the adjustments shall be based on the following breakdown:
   a. 10 percent is Fixed;
   b. 15 percent is Value Related
   c. 75 percent is Time Related.

18. The adjustment of the Preliminaries shall apply notwithstanding the actual employment of resources in the execution of the works. The contract value used for the adjustment of the Preliminaries shall exclude any contingency sum, the amount for the Preliminaries and any amount in respect of contract price adjustment provided for in the contract. Adjustments in respect of any staged or sectional completion shall be prorated to the value of each section.
C2.2 Bills of Quantities
Part C3: Scope of Work
## C3: Scope of Work

[Use for JBCC Series 2000 Principal Building Agreement (edition 5.0)]

<table>
<thead>
<tr>
<th></th>
<th>DESCRIPTION OF THE WORKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employer's objectives</td>
</tr>
<tr>
<td></td>
<td>The development of the Iconic structure will establish the Southernmost point as a prime tourism attraction for the Western Cape and South Africa. This will attract more visitors to the area, thus extending the appeal of the Park to local and international visitors.</td>
</tr>
<tr>
<td>1.2</td>
<td>Overview of the works</td>
</tr>
<tr>
<td></td>
<td>This tender is for the construction of an Iconic Structure at the Agulhas Most Southern Tip in Agulhas National Park</td>
</tr>
<tr>
<td>1.3</td>
<td>Extent of the works</td>
</tr>
<tr>
<td></td>
<td>As above</td>
</tr>
<tr>
<td>1.4</td>
<td>Location of the works</td>
</tr>
<tr>
<td></td>
<td>Most Southern Tip of Africa along Suiderstrand Road within Agulhas National Park</td>
</tr>
<tr>
<td>1.5</td>
<td>Temporary works</td>
</tr>
<tr>
<td></td>
<td>Nil</td>
</tr>
</tbody>
</table>

## DRAWINGS

|   | See drawing List |

## PROCUREMENT

### 3.1 Subcontracting

#### 3.1.1 Scope of mandatory subcontractor work

|   | Nil |

#### 3.1.2 Preferred subcontracting / suppliers

|   | n/a |

#### 3.1.3 Subcontracting procedures

|   | n/a |

## CONSTRUCTION

### 4.1 Applicable SANS 2001 standards for construction works

|   | SANS 10142-1 of 2006 |
|   | SABS 0400 |
|   | SANS 1200 |

### 4.2 Applicable national and international standards

|   | SANS |
|   | SABS |

### 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: Option A as hereinafter defined
- Electricity: Option A as hereinafter defined
- 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 for area of the works

4.7 **Other facilities and services**
All temporary facilities to be provided by contractor

5 **MANAGEMENT OF THE WORKS**

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:

<table>
<thead>
<tr>
<th>SANS 1921-1, General engineering and construction works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>4.1.7</td>
</tr>
<tr>
<td>4.2.1</td>
</tr>
<tr>
<td>4.2.2</td>
</tr>
<tr>
<td>4.3.1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
3. 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.

4. Notwithstanding the fact that the Programme has been prepared in conjunction with the Principal Agent, the Contractor shall be responsible at all times for maintaining the accuracy, validity and reasonableness of the Programme, and the implementation thereof.

5. 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 Principal Agent. The Programme will be processed on the Principal Agents system and the Contractor shall provide all the co-operation necessary to achieve this.

6. Documentation will not be available in complete detail at the commencement stage. However the Contractor, in conjunction with the Principal 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 Principal Agent, and suitably recorded in the Programme.

7. 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 Principal Agent for such changes, clearly identifying the reasons for requiring such change. The Contractor and Principal Agent shall thereafter agree such changes, if any. Should the Principal 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 Principal 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 Principal Agent together with associated effects shall be incorporated in a revision to the Programme.

8. The Contractor and the Principal 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.

9. 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 Principal Agent. Such Working Programmes shall at all times relate to the constraints of the current Programme.

10. Notwithstanding anything to the contrary contained herein the Principal 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 Principal Agent, requires to be expedited.

11. Should the Contractor and/or Principal Agent be of the opinion that such instruction warrants a revision to the Programme, then the provisions of 7 above shall apply.

12. Should it appear, in the Principal 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 Principal 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 Sundry Fittings
   - 2.2 Sundry Metalwork
   - 2.3 Sundry Builder’s Work

### 4.3.3

The notice period for inspection is 14 days.

### 4.7.3

Blasting operations will not be required.

### 4.9.3

Specific requirements of the employer are described in the scope of work.

### 4.12.2

The contractor will provide representative samples of materials, workmanship and finishes as the Principal Agent may require.

Upon request of Principal 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:

Nil

### 4.14.5

The Contractor is required to provide latrine and ablution facilities.

### 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.

### 4.14.7

The requirements for the termination, diversion or maintenance of existing services are:

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:


**Health and Safety Specifications for SANParks (all construction activities).** 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 **Environmental Management Plan (EMP) for Development Activities in South African National Parks**, Said specification is attached as Annexure B of the Scope of Works.

### 4.22

The works to be undertaken by nominated and selected subcontractors comprise:
<table>
<thead>
<tr>
<th>Variations</th>
</tr>
</thead>
</table>
| 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 principal 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.” |

<table>
<thead>
<tr>
<th>Additional Clauses</th>
</tr>
</thead>
</table>
| 1 | Prime Cost Amounts  
All prime cost items are for material and goods delivered to site. The contract documents shall make provision for the contractor to separately price for overheads and profit and for taking delivery, unloading, checking against invoices and/or delivery notes, getting in, unpacking, storing, hoisting and fixing of such material and goods. The contractor shall check the quantity and condition of all materials and goods on taking delivery as any material and goods subsequently found missing or damaged shall be replaced at the contractor's expense. |
| 2 | Cash flow predictions  
The contractor shall provide all reasonable assistance to the principal 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. |
| 3 | Protection/isolation of existing /sectional occupied works  
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. |
| 4 | Security of the works  
The contractor shall take all appropriate measures for general security of the works. |
| 5 | Minimum requirements for construction equipment  
Construction equipment must comply with all relevant legal requirements and must be adequate to execute the works. |
| 6 | Deposits and fees  
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. |
| 7 | Water and electricity  
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: |
## 5.2.2 Code of Conduct for working in the SANParks

The document *Code of Conduct for working in the SANParks* is applicable to this contract, and is attached as Annexure D.

## 5.3 Unauthorized Persons On Site

The Contractor shall at all times strictly exclude all unauthorized persons from the Works.

No workmen or laborers 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 Contractors employees has been allocated and approved by the Park Officials.

Furthermore the Contractor shall take all measures necessary to ensure that no workmen are allowed into the building at any time after Practical Completion without the specific permission of the Principal Agent.

## 5.4 Quality plans and control

Quality inspections will be held at regular intervals. The contractor must notify the Principal 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

n/a

## 5.6 Other contractors on site

n/a

<table>
<thead>
<tr>
<th>Service</th>
<th>Option</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Contractor responsibility</td>
<td>Employer responsibility</td>
<td>Contractor responsibility</td>
</tr>
<tr>
<td>Water</td>
<td>The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections and purchase water from the local authority for the works at his own cost.</td>
<td>The Contractor shall make, and upon completion remove, all the necessary connections to the Employer’s water supply at designated points and make use of water free of charge for construction purposes only.</td>
<td>The Contractor shall make, and upon completion remove, all the necessary connections and water meters to the Employer’s water supply at designated points and be responsible for costs associated with all water consumed.</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>The Contractor is to provide, and remove and make good upon completion, all the necessary temporary electrical connections and installations and purchase electricity form the local authority / ESKOM for the works at his own cost.</td>
<td>The Contractor is to provide, and remove and make good upon completion, all the necessary temporary electrical connections and installations and purchase electricity form the local authority / ESKOM for the works at his own cost.</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>
## 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);
- 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 Principal Agent on Practical Completion all relevant product warranties and guarantees, any operating and maintenance instruction manuals, data or instructions required by the Principal 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.

### 5.7.2 Security at completion

At completion, the Contractor shall leave the Works secure with all accesses locked. The Contractor shall account for and hand over to the Principal Agent all keys, properly labeled with an itemized schedule to be signed by the Principal Agent as receipt.

### 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 Principal Agent has signed it.

All notifications of inspections and all requests for information should be in writing.

#### 5.9.1 Site Instructions

Contract Instructions issued on Site are to be recorded by the Principal Agent in a Site Instruction Book which will be issued by the Principal Agent and which shall be maintained on Site. Only Site Instructions issued in such book will be effected by the contractor.

### 5.10 Management meetings

The schedule for the site meetings will be agreed upon at the site hand-over meeting.

#### 5.10.1 Progress Meetings

The Principal 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 principal agent. The principal agent shall record and distribute the minutes of the meetings.

#### 5.10.2 Technical meetings

At the instance of the principal 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. |
| 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 as per the attached Attendance Register – Annexure D. The 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. |
| 5.14 | Bonds and guarantees  
All guarantees must be delivered to the SANParks Principal Agent. |
| 5.15 | Payment certificates  
The Principal 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. |
| 5.16 | Permits  
n/a |
| 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 |

**ANNEXES**

| A | Health and Safety Specifications for SANParks (all construction activities) |
| B | Environmental Management Plan (EMP) for Development Activities in South African National Parks. |
| C | Code of Conduct for working in the SANParks |
| D | Geotechnical Survey |
Part C3: Drawings
<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Drawing No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Boardwalk and Integrated Seating</td>
<td>A1-4</td>
</tr>
<tr>
<td></td>
<td>Plan A-1 - 4 and</td>
<td>A10</td>
</tr>
<tr>
<td></td>
<td>Plan A-10</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Stone Wall Types</td>
<td>A-2</td>
</tr>
<tr>
<td></td>
<td>Drawing No's. A-2 to A-7</td>
<td>A-7</td>
</tr>
<tr>
<td>3</td>
<td>Signage</td>
<td>A-8</td>
</tr>
<tr>
<td></td>
<td>Drawing no. A8 (D04 and D05)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part C3: Specifications
CONTENTS

1. GENERAL
   1.1 STANDARD SPECIFICATIONS
   1.2 PROJECT SPECIFICATIONS
   1.3 SEQUENCING OF WORK TO INCLUDE ARTISTS

2. SITE PREPARATION
   2.1 DEMARCATION OF THE SITE
   2.2 SEARCH AND RESCUE OF PLANT MATERIAL
   2.3 SITE CLEARING

3. EARTHWORKS
   3.1 TOPSOIL CLEARING AND STOCKPILING
   3.2 EXCAVATION
   3.3 COMPACTION

4. BOARDWALK AND INTEGRATED SEATING

5. WALLS
   5.1 MATERIALS AND PREPARATION
   5.2 WALLS TYPES

6. PAVING
   6.1 BASE LAYERS
   6.2 PAVING LAYER
   6.3 TEXTURED CONCRETE PAVING
   6.4 STONE AND PEBBLE BANDS
   6.5 METAL STRIPS IN PAVING TO MARK EQUATOR, TROPIES AND NORTH/SOUTH LINE

7. AFRICA MAP LANDART

8. STEEL PLATE LANDART

9. SIGNAGE
1. **General**

1.1 **Standard Specifications**

The standard specifications, not included herewith, but applicable to this Contract will be:

SANS 1200: Standard Specification for Civil Engineering Construction

In particular:

<table>
<thead>
<tr>
<th>Specification</th>
<th>Revision</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SANS 1200AA</td>
<td>Rev 2</td>
<td>General (Small Works)</td>
</tr>
<tr>
<td>SANS 1200C</td>
<td></td>
<td>Site Clearance</td>
</tr>
<tr>
<td>SANS 1200DA</td>
<td>Rev 2</td>
<td>Earthworks</td>
</tr>
<tr>
<td>SANS 1200DK</td>
<td>Rev 1</td>
<td>Gabions and Pitching</td>
</tr>
<tr>
<td>SANS 1200DM</td>
<td></td>
<td>Earthworks (Roads, Subgrade)</td>
</tr>
<tr>
<td>SANS 1200GA</td>
<td>Rev 1</td>
<td>Concrete (Small Works)</td>
</tr>
<tr>
<td>SANS 1200MF</td>
<td></td>
<td>Base</td>
</tr>
</tbody>
</table>

1.2 **Project Specifications**

Specifications particular to this project are provided in 2 to 9 below.

1.3 **Sequencing of Work to include Artists**

Two Land Artist will be involved in the development of the Southern Icon, in particular for the construction of Map of Africa and the manufacture Compass Point Steel Plates. The Contractor is to liaise with the artists and make provision for their access to the site and time required to construct/install their respective art works.

The Contractor is to make allowance for 20 calendar days in his programme for the construction of the Map of Africa art work by the artist. This construction should take place after compaction of the in-situ soil and G5 material layer of the Dias and prior to construction of the paving layer. The artist will require the surrounding area of the Dias for work area.

The Compass point Steel Plates will be manufactured off site and delivered to site once the bulk of the construction has been completed. The foundations and receiving areas will have been constructed by the Contractor prior to the steel plates arriving on site. The installation of the plates will require approximately 2 days. The Contractor will be required to provide access to the site for the artist to install the plates.

1.4 **SANParks Environmental Management Plan (EMP) and Green Building Principles**

The SANParks EMP applies to this project and Green Building principles should be strived for. For example, rubble produced on site should be used on site, as backfill to walls or as subbase, and no rubble should leave site.

2. **Site Preparation**

2.1 **Demarcation of the site**

Prior to the work commencing, the work area is to be demarcated with ‘Readyfence Panels’ covered in shade cloth, and securely pegged into the ground to prevent being blown over or removed.

The alignment of the fencing is to be agreed with the Architect and SANParks prior to erection thereof.

The Architect/Landscape Architect will indicate all rock outcrops and plants which are to be retained within the work area, for inclusion in the development. These are to be demarcated with 1.2m high ‘Tenax’ orange plastic fencing or 1.2m high shade cloth covered fencing and protected from damage.

2.2 **Search and rescue of plant material**

Prior to the site being cleared of vegetation, the SANParks will have a team ‘Search and Rescue’ the site for plant material which will be used to re-vegetate the disturbed areas on completion of the construction works.

The Contractor is to liaise with the Architect/Landscape Architect in order to establish if this operation has been completed and by when it needs to be completed for him to commence clearing the site.
2.3 Site Clearing

The remaining vegetation is to be cut to ground level, mulched through a chipping machine and spread across the area for removal with the topsoil.

All other rocks (other than those outcrops protected) are to be removed and stockpiled on site in an area agreed to by the Architect/Landscape Architect.

3. Earthworks

3.1 Topsoil clearing and stockpiling

Topsoil, including chipped material and root material, is to be removed to a depth of 150mm and stockpiled on site in an area agreed to by the SANParks/Architect/Landscape Architect.

Topsoil shall be stored in piles no higher than 2 m and protected from wind and rain erosion with shade cloth or similar approved material.

Topsoil shall not be stockpiled for longer than 6 months (preferably 3 months) prior to redistribution in order to preserve seeds and bulbs within the natural topsoil.

3.2 Excavation

Excavation will be required for foundations and for the path through the low beach pebble dune to the existing monument.

Although encountered at a depth of approximately 1.0 m (TP 3) to the north of the proposed site, bedrock is unlikely to be encountered in excavation for the shallow foundations.

Excavated material is to be used on site and any pebbles and rocks stockpiled for future use in walls and paving.

Any excess material is to be removed to an approved spoil site.

3.3 Compaction

A Geotechnical report by Core Geotechnical Consultants is available for the Contractors reference.

The upper 1.0 – 1.5 meters of loose sandy soil shall be re-compacted for the pavement layers and the shallow foundations of the feature walls, where bearing pressures will likely be less than 20 kPa.

3.4 Mole Barriers

Mole barriers are to be installed around the Dias and associated walls and paths as indicated on the plans.

Kaytech Mole Barrier Reference No: DS GNRL 0500-09/2013, abrasion resistant, flexible HDPE sheet manufactured specifically as an underground barrier to stop the lateral burrowing of the Cape Dune Mole Rat or similar rodents, or similar, shall be used

4. Boardwalk and Integrated Seating

Refer to Plans A-1 to 4 and A-10.

SANParks will construct the boardwalks and integrated seating, to the Architect/Landscape Architect’s detail.

The Contractor shall liaise with the SANParks, Architect/Landscape Architect with regards to the co-ordination of the boardwalk and the Icon structure, where these meet and overlap.

Any programme requirements must be communicated timeously to the SANParks, Architect/Landscape Architect
5. **Walls**

5.1 **Materials and preparation**

a) **Materials**

Sand, lime and cement shall comply with the provision of SANS 1090, 523 and 471 respectively.

b) **Mixing of mortar**

- Mortar shall be thoroughly mixed on a clean dry non-absorbent surface or in a concrete mixer.
  
  I. **Setting Mortar**: Setting mortar shall be composed of 6 parts sand (by volume) to 1 part (by volume) of cement. Dry-pack setting is not permitted and mortar shall be mixed to and used at a masonry mortar consistency.
  
  II. **Pointing Mortar**: Pointing mortar shall be composed of 3 parts sand (by volume) to 1 part (by volume) of cement.

No admixtures including air-entraining agents, pigments, accelerators, retarders or water-repelling agents shall be used without the Engineer's/Architect's approval. All mortars are to be used within 30 minutes of final mixing and re-tempering or use of partially hardened material is not permitted.

c) **Only CEM I to SANS 50197-1 shall be used**

d) **Compo mortar**

Compo mortar shall be used where instructed by the Architect, for masonry work and shall consist of cement, lime and sand in proportions of 1:2:9

e) **Stone**

Stone, if necessary, shall be imported where ordered by the Architect/Landscape Architect. The imported stone shall be sandstone of similar colour and texture to that obtained in the surrounding area. The Contractor shall be responsible for locating his own supply of stone.

Only salvaged stone from site works may be used. Stone from the surrounding areas may not be collected for use on the project.

Stones of mass of approximately 20kg to 50kg, some larger, shall be carefully selected and placed to form the walling. Stone dimensions will be between 200mm min and 400mm. Walls shall be between approximately 400-500mm high and 450 – 1000 mm thick or as indicated on setting out plan A-4. The stone shall be well bedded in a mortar layer.

Large quarried rocks, up to 1m³, 1000kg, will be required for the area to the south.

The wall cavity of wider walls shall be filled with rubble and excess mortar, which would have needed to be carted off site, sand, small stone.

f) **Coping**

Large flat stones to be separately stockpiled for use as wall coping. Stones to be placed in a header course and should cover the width of the walls when 450 mm wide. Wider walls will have the surface made up of large flat coping stones as per detail W1 and W2 on plan A-7

5.2 **Walls Types**

a) **Scope**

Construction of capped stone walls, as shown on Dwg.No.’s A-2 to A-7 and as specified herein including laying out of the walls, preparation of the sandstone rocks from earthworks or imported, setting of stonework, pointing of joints and cleanup. Only skilled labour is to be employed for this work.

b) **Stone Wall Types (Refer to Drawing No’s. A-2 to A-7)**
i) Wall type W1 and W2 shown on A-7
A stone wall with rubble core

The width and height of the walls varies as per the setting out drawing. The walls are to be constructed (incrementally) using timber shuttering.

ii) Wall type as per A-6
The width, height and slope of the walls varies as per the setting out drawing (A6).

c) Sample wall

Up to three sample sections of each walling on A-6 and A-7 shall be constructed for approval by the Architect/Landscape Architect. All walling shall be constructed in accordance with the approved sample.

The Contractor shall prepare for review and approval, 3 number, 500 mm high by 3m long mock-up of walls W1, W2 and W9, in position on plan, complete as detailed on the drawings A-6 and A7. The mock-up shall demonstrate the aesthetic effects and qualities of materials and execution of work. On approval by the Architect/Landscape Architect, the mock-up will be retained and maintained by the Contractor on site as the standard for judging completed work.

The Contractor shall not commence construction of the walls until the mock-up have been approved.

5.3 Construction

a) Construction will be by use of shutter boards to facilitate erection of semi-dry packed wall with the fair or flat face of the stones on the exposed face of the wall.
b) Stone to be carefully selected. Stones are to be held in place by mortar, not visible, including where wall 'fades' into the ground as per W1 elevation. Mortar joints to be recessed a min. of 25mm as per detail W1 and W2. Joints to cleaned out while the mortar is still wet.
c) Protection and Cleaning - During construction, all loose material, mortar smears, droppings or fines shall be cleaned from the facing stones at the end of each day. Wet sponge to clean stones as soon as shutter is removed.

5.4 Measurement and Payment

The rate shall include for preparation of salvaged and imported rocks, laying up of stonework, cleaning of joints, The approved mock up shall also be measured under this item.

6. Paving

6.1 Base layers

a) This shall be 150mm G7 selected layer compacted to 98% Mod ASSHTO on an in-situ subgrade compacted to 95% Mod ASSHTO. Refer to Engineer’s drawing details.

6.2 Paving layer

a) Surface beds shall be 150 mm thick fibre reinforced concrete slabs with movement joints as per Engineer’s detail.
b) Slabs should be sloped to facilitate drainage away from the center.
c) Early curing of the concrete slabs will be critical and curing compounds should not be permitted.
d) Top of dias and pathway beds to be either wood floated, exposed aggregate finish or ‘shell and pebble’ textured finish.

6.3 Textured concrete paving White scored lime based concrete with shells and white pebble stone aggregate paving

a) This paving is to comprise the greater part of the paved area outside of the Africa Map Landart.
b) The finish is to include pebble and sea shells surface finish, either rolled into wet surface or included in mix, depending on samples produced and sea shell availability.
c) The shells shall be 90% shell, 10 – 50 mm size with no particles smaller than 9mm and shall be well washed and salt free.

d) The pebble size shall vary between 20mm and 40mm and shall be well washed and salt free.

e) The finished surface is to expose shell and stone texture.

f) Mock up slabs of this paving shall be constructed for approval by the Architect/Landscape Architect. All paving shall be constructed in accordance with the approved sample.

g) The Contractor shall not commence construction of the paving until the mock-up’s have been approved.

6.4 Stone and pebble bands

a) The concrete paving will be dissected by bands of beach cobbles and stone paving as per Drawing no. A-11.

b) Stone and cobble paving will be flush with the adjacent concrete paving.

c) Stone is to be semi-dressed stone, sourced from local quarries and shall be sandstone of similar colour and texture to that found in the immediate surrounding area.

d) Beach cobbles are to be sourced from earthworks on site or an approved source.

e) Stones/cobbles are to be set in a wet concrete base, flat side up, butt jointed. Dry lime and sand to be swept into joints. Paving to be kept moist if very hot.

6.5 Metal strips in paving to mark equator, tropics and north/south line

a) A 60mm continuous steel strip is to be installed into the paving as per Engineers Drawing Detail 1 and A-11, extending the equator and tropic lines from the Africa Map Landart to the edge of the paved area, as well as the North – South line.

7. Africa Map Landart

The Africa Map Landart is to be constructed by a specialist Land Artist.

The compaction and foundation of the area is to be done by the Contractor as per Engineers specification.

The Contractor shall allow access to the Land Artist and liaise with the artist to programme for this artwork to happen during the construction period. See 1.3.

8. Steel Plate Landart

a) The Steel Plate Land-art is to be manufactured off site by others, and delivered to site by others.

b) The Contractor is to prepare and construct the foundation for the Steel Plates as per Engineers Specification, in consultation with the Land Artist, Engineer and Architect/Landscape Architect.

c) The Contractor shall liaise with the Artist and make allowance in the programme for the installation of the steel plates. See 1.3.

d) The contractor is to assist with the installation of the 4 steel plates.

9. Signage

a) Signage is to be manufactured using 3 mm thick Coreten-A steel, with text or symbols cut out of the steel, as per Drawing no. A8 (D04 and D05)

b) Signage plates are to be fixed to walls or stones using 120mm x 10 (6mm) mm Coreten dowels, epoxied to concrete or stone walls.

c) There is to be a 50mm gap between the steel plate and the concrete or stone wall it is fixed to.

d) The Payment measurement is to include for supply of materials, manufacture of signage, delivery to site and installation thereof.
Part C4: Site Information
Annexure A

Health and Safety Specifications for South African National Parks
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)
   • 5.8 Occupational Health and Safety Policy
   • 5.9 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
     o 5.15.1 Induction
     o 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
   • 5.29 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 site against unauthorized access by the 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:

- SABS codes and standards referred to by the Occupational Health and Safety Act
- Regulations as per the Occupational Health and Safety Act (Act 85 of 1993) with specific reference but not limited to:
  - General Safety Regulations (GN 928, 25 June 2003)
  - General Machinery Regulations (GN R1521, 5 August 1988)
  - Electrical Machinery Regulations (GN R250, 25 March 2011)
  - Electrical Installation Regulations (GN R242, 6 March 2009)
  - Driven Machinery Regulations (GN R1010, 18 July 2003)
  - Hazardous Chemical Substance Regulations (GN R930, 25 June 2003)
  - Hazardous Biological Agents Regulations (GN R 1390, 27 December 2001)
- 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 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;

“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, deceleration devices, lifelines 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;

“fall protection permit” means a document issued in terms of regulation 3;
• 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;


“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 falsework, 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 falsework, 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 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—
  o 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;
  o ensure that potential contractors submitting tenders have made
    sufficient provision for health and safety measures during the
    construction process;
  o 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;
  o 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;
  o appoint each contractor in writing for the part of the project on the
    construction site
  o take reasonable steps to ensure that each contractor's health and
    safety plan is implemented and maintained on the construction site;
  o 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;
  o 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;
  o 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;
  o discuss and negotiate with the contractor the contents of their health and
    safety plan and finally approve that plan for implementation;
  o 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;
  o 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;
  o 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

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

Contractor Witness for Contractor Employer Witness for Employer
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 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).

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 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 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 Health and Safety Training

The Contractor shall quarterly 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

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 a 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 delivery 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 box/es 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 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 withstanding 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;
- 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 work 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;

Contractor

Witness for Contractor

Employer

Witness for Employer
• 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 contractor may dispose of waste and debris from a high place by a chute unless the chute:
  o is adequately constructed and rigidly fastened;
  o if inclined at an angle of more than 45 degrees to the horizontal, is enclosed on its four sides;
  o if of the open type, is inclined at an angle of less than 45 degrees to the horizontal;
  o where necessary, is fitted with a gate at the bottom end to control the flow of material; and
  o 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

Contractor

Witness for Contractor

Employer

Witness for Employer
• 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

Contractor Witness for Contractor Employer Witness for Employer
• 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 guardrails 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.
- 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 Substances (HBS)

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 name 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 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

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:

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness training (Toolbox Talks)</td>
<td>At least fortnightly and before hazardous work is carried out</td>
<td>Attendance Register</td>
</tr>
<tr>
<td>Health and Safety Committee Meetings</td>
<td>Monthly</td>
<td>Minutes signed by employer</td>
</tr>
<tr>
<td>Health and Safety Reports</td>
<td>Monthly</td>
<td>Report covering:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Incidents / Accidents and investigation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Non conformance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Health and Safety Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) HIRA Updates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e) Internal &amp; External Audits</td>
</tr>
<tr>
<td>General Inspections</td>
<td>As per Health and Safety Specifications &amp; OHSA</td>
<td>Report of Health and Safety Specifications and OHSA compliance:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Scaffolding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Lifting Machinery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Excavations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Construction vehicle</td>
</tr>
<tr>
<td>General Inspections</td>
<td>Monthly</td>
<td>Covering:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Fire Fighting Equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Portable Electrical Equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Hand Tools</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Ladders</td>
</tr>
<tr>
<td>Record Keeping</td>
<td>On-going</td>
<td>Covering:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) General Complaints</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Fines</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) General Incidents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) MSDS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e) Surveillance Medicals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>f) Inspection Registers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>g) Department of Labour Notices</td>
</tr>
</tbody>
</table>
**ANNEXURE A**

The contractor shall submit the info below in an Annexure 2 prior to construction commencement.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Health and Safety Specification Requirement</th>
<th>OHSA Requirement</th>
<th>Submission date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Notification of Intention to Commence Construction</td>
<td>Construction Regulation 2014</td>
<td>At least 7 days before commencement on site</td>
</tr>
<tr>
<td>2</td>
<td>Construction Work Permit</td>
<td>Construction Regulation 2014</td>
<td>At least 30 days prior to project commencement</td>
</tr>
<tr>
<td>3</td>
<td>Assignment of Responsible Person to Manage Building Work Via Health and Safety Organogram</td>
<td>Construction Regulation 2014</td>
<td>Before commencement on site</td>
</tr>
<tr>
<td>4</td>
<td>Competency for Health and Safety Positions</td>
<td>Client / Client Agent requirement</td>
<td>Before commencement on site</td>
</tr>
<tr>
<td>5</td>
<td>Letter of Good Standing</td>
<td>Compensation of Occupational Injuries &amp; Disease Act (COIDA) 130 of 1993</td>
<td>Before commencement on site</td>
</tr>
<tr>
<td>6</td>
<td>Occupational Health and Safety Policy</td>
<td>Client / Client Agent requirement</td>
<td>Before commencement on site</td>
</tr>
<tr>
<td>7</td>
<td>Risk Assessment, Safety Plan, Fall Protection Plan, Demolition Method Statement</td>
<td>Client / Client Agent requirement</td>
<td>Before commencement on site</td>
</tr>
</tbody>
</table>

**ANNEXURE B: APPOINTMENTS**

The Contractor shall make the following appointments:

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chief Executive Officer (OSHACT 16(1))</td>
<td>17</td>
<td>Material Hoist Inspector (CR19(8)(a))</td>
</tr>
<tr>
<td>2</td>
<td>Contract Director/Manager (OSHACT 16(2))</td>
<td>18</td>
<td>Material Hoist Operator (CR19(6))</td>
</tr>
<tr>
<td>3</td>
<td>Construction Manager (CR 8(1))</td>
<td>19</td>
<td>Bulk Mixing Plant Supervisor (CR20(1))</td>
</tr>
<tr>
<td>4</td>
<td>Construction Supervisor (CR 8(7))</td>
<td>20</td>
<td>Bulk Mixing Plant Operator (CR20(2))</td>
</tr>
<tr>
<td>5</td>
<td>Assistant Construction Supervisor (CR 8(8))</td>
<td>21</td>
<td>Controller of Explosive Actuated Fastening Devices (CR21(2)(g)(1))</td>
</tr>
<tr>
<td>6</td>
<td>Construction Safety Officer (CR 8(5))</td>
<td>22</td>
<td>Construction Vehicle and Mobile Plant Operator (CR23(1)(d)(i))</td>
</tr>
<tr>
<td>7</td>
<td>Construction risk assessor (CR 9(1))</td>
<td>23</td>
<td>Controller of Temporary Electrical Installations (CR24(’c’))</td>
</tr>
<tr>
<td>8</td>
<td>Fall Protection Competent Person (CR 10(1))</td>
<td>24</td>
<td>Stacking Supervisor (CR28(a))</td>
</tr>
<tr>
<td>9</td>
<td>Traffic Safety Officer</td>
<td>25</td>
<td>Fire Extinguishing Equipment Inspector (CR29(h))</td>
</tr>
<tr>
<td>10</td>
<td>Safety Representative (where &gt; 20 employees on site)</td>
<td>26</td>
<td>FIRE FIGHTERS (CR29(i))</td>
</tr>
<tr>
<td>11</td>
<td>Temporary work Designer (CR 12(1))</td>
<td>27</td>
<td>First Aider (GSR 3)</td>
</tr>
<tr>
<td>12</td>
<td>Temporary work Supervisor (CR12(2))</td>
<td>28</td>
<td>Fall Protection Plan Developer (CR 10(1)(a))</td>
</tr>
</tbody>
</table>
7. PROJECT DETAILS

PROJECT DIRECTORY:

Client
SANParks
643 Leyds Street, Muckleneuk
Pretoria
Tel: 012-425-5126
Fax: 012-343-3894
Contact: Ms A van Wyk
email: antionet.vanwyk@sanparks.org

Client Agent
I&SP Unit
1st Floor, IPIC Centre,
c/o Bottelary Rd & Amandel Drive
Kuilsriver
Tel: 021-900-9060

Architecture
Agulhas Icon Design Group
52 Orchard Street, Newlands
Cape Town, 8001
Tel: 021-683-6395
Fax: 021-683-2079
Contact: Stephen Dugmore
email: stephen@sdks-architects.co.za

PROJECT DETAILS:

Description of Works
The construction of the Agulhas Most Southern Tip Iconic Structure

Anticipated Construction Duration
7 Months

Provisional Start Date
October 2016

Completion Date
April 2017
## 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

**Wild Animals:** Snakes are known in the area

### Overhead, Above Ground and Underground Services crossing the site:

<table>
<thead>
<tr>
<th>Service</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Underground</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Ground Level</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Services Drawings available</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Way leaves required</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Permits required</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Isolation required</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

### Existing structures and surrounding land use (with a significant impact on Health and Safety):

- The site is on the Coastline

### Existing ground conditions and ground survey report:

- Geotechnical report available

### Existing Traffic Systems:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions</td>
<td>Gravel road to parking and boardwalk to site that serves as a pedestrian walkway.</td>
</tr>
<tr>
<td>Restrictions to access</td>
<td>Applicable</td>
</tr>
<tr>
<td>Speed restrictions</td>
<td>Normal road restrictions</td>
</tr>
</tbody>
</table>

## PROJECT HEALTH AND SAFETY REQUIREMENTS:

**Significant health and safety hazards identified by Designer and Client Agent:**

**Working at Heights:** With the additions and alterations, 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 site camp and surrounds as well as the work area and surrounds.

**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.

**Wild Animals:** There are snakes in the area and the principle contractor will have to ensure that they or their workers do not get killed or hurt during the construction phase.

**Normal construction hazards expected are as follow:**

- Bricklaying
- Brush 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 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: Not applicable on this project

GENERAL ARRANGEMENTS
Restrictions on times: Monday - Friday 08:00 to 17:00 Saturday 08:00-13:00
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
<table>
<thead>
<tr>
<th>Site camp location and set up:</th>
<th>Restrictions/requirements, storage areas and security to be advised in consultation with principal agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ablution and Welfare:</td>
<td>Contractor to provide as per regulations</td>
</tr>
<tr>
<td>Environmental Conditions:</td>
<td>Contractor must take into account adverse weather conditions on site activities and implement control measures to mitigate risk</td>
</tr>
<tr>
<td>Induction Training:</td>
<td>All workers to receive induction training prior to commencement on site. Special reference to SANParks EMP and Code of Conduct</td>
</tr>
</tbody>
</table>

## PROTECTION OF SITE AGAINST UNAUTHORIZED ACCESS BY PUBLIC

**Excavation Fencing:** Note that excavations that are accessible to public and must have suitable precautionary measures. The entire site is to be fenced off with ready fencing. There needs to be access control.

**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.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

The Client requires the Contractor to ensure that employees (and other under his/her control) wear the following minimum PPE:

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overalls</td>
<td>Yes, required</td>
</tr>
<tr>
<td>Safety Harnesses</td>
<td>May be, required</td>
</tr>
<tr>
<td>Hard Hats</td>
<td>Yes, required</td>
</tr>
<tr>
<td>Safety Footwear</td>
<td>Yes, required</td>
</tr>
<tr>
<td>Reflective Vests</td>
<td>Yes, required</td>
</tr>
<tr>
<td>Goggles / Gloves / ear and respiratory protection</td>
<td>As per job function</td>
</tr>
<tr>
<td>Specialist equipment</td>
<td>As per job function</td>
</tr>
</tbody>
</table>

## 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:

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrol</td>
<td>Cement</td>
</tr>
<tr>
<td>Diesel</td>
<td>Silicone</td>
</tr>
<tr>
<td>Bitumen</td>
<td>Concrete</td>
</tr>
<tr>
<td>Paint</td>
<td>additives</td>
</tr>
</tbody>
</table>
BASELINE RISK ASSESSMENT
Baseline Risk Assessment

PROJECT: CONSTRUCTION OF THE AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE, AGULHAS NATIONAL PARK
CONTRACT NO: SP-AG-0175

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.

<table>
<thead>
<tr>
<th>Steps in operation</th>
<th>Ref No.</th>
<th>Hazard</th>
<th>Risk Description</th>
<th>L</th>
<th>C</th>
<th>R</th>
<th>Controls Measures</th>
<th>Other Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Onsite Activities</td>
<td>A1</td>
<td>Access to Site</td>
<td>Pedestrian &amp; people equipment interaction causing injury</td>
<td>4</td>
<td>2</td>
<td>12</td>
<td>Occupational Health and Safety Act 24(1)</td>
<td>Area to be secured and barricaded / fenced</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dust Inhalation</td>
<td></td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>Hazardous Chemical Substances Regulations (36)(37)(38)</td>
<td>Induction Training &amp; PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unauthorised entry</td>
<td></td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>Occupational Health and Safety Act 12(2)</td>
<td>Site Visit Register, signage, Permit for vehicle access</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slip, trip, and fall</td>
<td></td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>Occupational Health and Safety Act 12(1)(b)(c)</td>
<td>Induction Training &amp; PPE</td>
</tr>
<tr>
<td></td>
<td>A2</td>
<td>Placing of office/ containers if lifting is involved</td>
<td>Heavy objects swinging out of control causing injury/damage</td>
<td>2</td>
<td>4</td>
<td>14</td>
<td>Driven Machinery 18(11)</td>
<td>Safe work area, Induction Training, Trained operator, Lifting Plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crane/lifting tackle failure causing object to fall</td>
<td></td>
<td>2</td>
<td>4</td>
<td>14</td>
<td>General Machinery Regulations 7(a)(9b)</td>
<td>Inspection Register, Trained operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental collision with overhead power lines</td>
<td></td>
<td>2</td>
<td>4</td>
<td>14</td>
<td>General Machinery Regulations 7(a)(b)</td>
<td>Assign a flag man, determine safe work area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lifting machine/crane falling over</td>
<td></td>
<td>2</td>
<td>4</td>
<td>14</td>
<td>General Machinery Regulations 5(1)(2)</td>
<td>Assign a flag man, determine safe work area</td>
</tr>
<tr>
<td></td>
<td>A3</td>
<td>Hand Loading and offloading of heavy machinery &amp; equipment</td>
<td>Items rolling/slipping falling causing injury</td>
<td>4</td>
<td>2</td>
<td>12</td>
<td>General Machinery Regulations 2(1)</td>
<td>Induction training, PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incorrect Lifting procedure resulting in injury</td>
<td></td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>General Machinery Regulations 3(2)</td>
<td>Induction training, Proper lifting procedure, PPE</td>
</tr>
<tr>
<td></td>
<td>A4</td>
<td>Machine loading and offloading of heavy machinery &amp; equipment</td>
<td>Failure of machinery causing injury</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Driven Machinery 18(1)(a)(b)</td>
<td>Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equipment falling</td>
<td></td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>General Machinery Regulations 2(2)</td>
<td>PPE</td>
</tr>
</tbody>
</table>

Contractor: ___________________________  Witness for Contractor: ___________________________  Employer: ___________________________  Witness for Employer: ___________________________
<table>
<thead>
<tr>
<th>Steps in operation</th>
<th>Ref No.</th>
<th>Hazard</th>
<th>Risk</th>
<th>Risk Rating</th>
<th>Controls Measures</th>
<th>Other Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>L</td>
<td>C</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Collision of vehicles</td>
<td></td>
<td>3 3 13</td>
<td>General Machinery Regulations7(a)(b)</td>
<td>Flag men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment interaction</td>
<td>A5</td>
<td>3 4 18</td>
<td>Construction Regulation 23(1)(d)(i)</td>
<td>Traffic management plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian collision</td>
<td></td>
<td>3 4 18</td>
<td>Construction Regulation 23(2)(c)</td>
<td>Pedestrians Walkways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of drinking water, dehydration of workers</td>
<td>A6</td>
<td>3 5 22</td>
<td>Construction Regulation 30(1)(a)</td>
<td>Provision of drinking water &amp; Induction training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of sanitary facilities, unhygienic conditions</td>
<td></td>
<td>3 5 22</td>
<td>Construction Regulation 30(1)(b) and 30(2)</td>
<td>Provision of chemical toilets &amp; proper housekeeping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall, slip resulting in potential injury/damage</td>
<td>A7</td>
<td>4 3 17</td>
<td>Construction Regulation 28(d)</td>
<td>Storage plan, induction training and restricted access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obstructing critical equipment and walkways</td>
<td></td>
<td>4 3 17</td>
<td>Construction Regulation 27(a)(c)(g)</td>
<td>Storage plan, induction training and restricted access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammable liquids catching fire</td>
<td></td>
<td>3 3 13</td>
<td>Construction Regulation 25(a)(b)(c)</td>
<td>Storage plan, induction training and fire fighting equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous storage of materials</td>
<td></td>
<td>3 3 13</td>
<td>Hazardous Chemical Regulation(25)9A(2)</td>
<td>Storage plan, regular inspections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure</td>
<td>A8</td>
<td>3 3 13</td>
<td>Hazardous Chemical Regulation 9A(1)(a-p)</td>
<td>PPE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td>3 3 13</td>
<td>Hazardous Chemical Substances Regulation (36)(37)(38)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burns to Skin</td>
<td></td>
<td>3 3 13</td>
<td>Hazardous Chemical Substances Regulations 9A(2); Material Data Sheet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to live wires-electrocution</td>
<td>A9</td>
<td>2 5 19</td>
<td>Construction Regulation 24(a)(b)</td>
<td>Lockable DB box, Inspection register</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faulty earth leakage</td>
<td></td>
<td>2 5 19</td>
<td>SANS 10142</td>
<td>Competent person to do installation &amp; inspection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short circuit causing fire</td>
<td></td>
<td>2 4 14</td>
<td>Construction Regulation 24(b)</td>
<td>Weekly inspection, Induction Training &amp; Fire fighting equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>A10</td>
<td>Issue of PPE</td>
<td>Incorrect PPE</td>
<td>4 2 12</td>
<td>General Safety Regulation 2(1)</td>
<td>PPE Register</td>
<td></td>
</tr>
<tr>
<td>A11</td>
<td>Usage of PPE</td>
<td>Incorrect use of PPE</td>
<td>4 2 12</td>
<td>General Safety Regulation 3(2)</td>
<td>PPE Register, Induction Training, supervision</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negligence to use PPE</td>
<td>4 2 12</td>
<td>General Safety Regulation 5</td>
<td>PPE Register, Induction Training, supervision</td>
<td></td>
</tr>
<tr>
<td>A12</td>
<td>Adverse storms</td>
<td>Struck by lightning</td>
<td>2 5 19</td>
<td>Induction Training Safe Operation Procedure</td>
<td>Proper warning system</td>
<td></td>
</tr>
<tr>
<td>A13</td>
<td>Adverse heat</td>
<td>Dehydration, Sunburn, heat stroke</td>
<td>3 4 18</td>
<td>Induction Training Safe Operation Procedure</td>
<td>Proper drinking water, PPE</td>
<td></td>
</tr>
<tr>
<td>A14</td>
<td>Working in excessive winds</td>
<td>Exposure to dust</td>
<td>3 4 18</td>
<td>Hazardous Chemical Substances Regulation (36)(37)(38)</td>
<td>PPE</td>
<td></td>
</tr>
<tr>
<td>A15</td>
<td>House keeping</td>
<td>Objects lying around can result in slip/fall</td>
<td>4 2 12</td>
<td>Construction Regulation 27(a)(b)</td>
<td>Regular cleaning of site</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unhygienic conditions</td>
<td>3 3 13</td>
<td>Construction Regulation 27(d)</td>
<td>Induction Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pollution of area</td>
<td>3 2 8</td>
<td>Construction Regulation 27(e)</td>
<td>Proper waste bins and waste removal</td>
<td></td>
</tr>
<tr>
<td>A16</td>
<td>Fire prevention</td>
<td>Open Fires</td>
<td>3 3 13</td>
<td>Construction Regulation 29(a)</td>
<td>SANParks EMP &amp; Code of conduct</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inadequate fire fighting equipment</td>
<td>4 3 17</td>
<td>Construction Regulation 29(g)(h)</td>
<td>Inspection register, supervision</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Run away fires</td>
<td>4 4 21</td>
<td>Emergency evacuation plan</td>
<td>SANParks EMP &amp; Code of conduct</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental Fires</td>
<td>3 4 18</td>
<td>Construction Regulation 29(a)(d)(iii)</td>
<td>Designated smoking areas</td>
<td></td>
</tr>
<tr>
<td>A17</td>
<td>Environmental pollution</td>
<td>Pollution of ground, air, workspace</td>
<td>3 2 8</td>
<td>Environmental Regulation 6(d)</td>
<td>SANParks EMP &amp; Code of conduct, Induction Training, Provide proper trash bins</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Littering</td>
<td>4 2 12</td>
<td>SANParks Environmental Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>-------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L  C  R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A18</td>
<td>Working near hazardous animals incl. snakes, spiders &amp; scorpions</td>
<td>Poisons bites/ attack by large animals</td>
<td>3  3  13</td>
<td>SANParks Environmental Management Plan</td>
<td>Induction Training, SANParks ranger where required, Proper treatment in first aid kit</td>
<td></td>
</tr>
<tr>
<td>A19</td>
<td>Working in close proximity of water</td>
<td>Falling into water &amp; drowning</td>
<td>3  4  18</td>
<td>Construction Regulation 26(1)(a)/(b)</td>
<td>Safe work area, Induction Training, barricades</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pollution of water body</td>
<td>3  4  18</td>
<td>SANParks Environmental Management Plan Construction Regulation 26(2)</td>
<td>Induction Training</td>
<td></td>
</tr>
<tr>
<td>A20</td>
<td>Emergency Evacuation Plan</td>
<td>Emergency contact numbers not available</td>
<td>3  4  18</td>
<td>Emergency evacuation plan</td>
<td>Emergency Contact Numbers displayed and readily available</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusion of emergency evacuation plan</td>
<td>3  4  18</td>
<td>Emergency evacuation plan</td>
<td>Proper induction training</td>
<td></td>
</tr>
<tr>
<td>Plant or vehicle &amp; equipment</td>
<td>B1</td>
<td>Construction vehicles</td>
<td>Equipment Failure</td>
<td>4  4  21</td>
<td>Construction Regulation 23(1)(k)</td>
<td>Vehicle check list and regular maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Un-roadworthy vehicles</td>
<td>3  4  18</td>
<td>Construction Regulation 23(2)(i)/(j)/(k)</td>
<td>Vehicle check list and regular maintenance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Speeding/ Operation</td>
<td>3  4  18</td>
<td>Construction Regulation 23(2)(l)</td>
<td>Safe traffic route, imply penalties, traffic calming measures</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Potential accident/collision</td>
<td>4  4  21</td>
<td>General Machinery Regulations 7(a)</td>
<td>Induction Training, Reflective vests, safe work area</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Material/equipment fall from vehicle</td>
<td>4  4  21</td>
<td>Construction Regulations 23(1)(b)/(g)/(h)</td>
<td>Properly secure all goods</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vehicle/plant not used for correct purpose</td>
<td>3  3  13</td>
<td>Construction Regulations 23(1)(b)/(c)</td>
<td>Supervision, controlled access to vehicle/plant</td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>Licencing of operators</td>
<td>Unauthorized operation of equipment</td>
<td>3  3  13</td>
<td>Construction Regulation 23(1)(d)/(i)/(ii)</td>
<td>Valid operator, restricted access to machinery, supervision</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expired licenses</td>
<td>3  1  6</td>
<td>Construction Regulation 23(1)(d)/(i)/(ii)</td>
<td>Keep OHS file up to date</td>
<td></td>
</tr>
<tr>
<td>B3</td>
<td>Parking of vehicles</td>
<td>Runaway vehicle</td>
<td>3  4  17</td>
<td>Safe Operation Procedures (SOP)</td>
<td>Vehicle check list, use stop block behind tyres</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parking in unsafe areas</td>
<td>3  1  4</td>
<td>Construction Regulation 23(2)(i)/(j)</td>
<td>Demarcate proper parking areas</td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Controls Measures</td>
<td>Other Controls</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td></td>
<td>Transportation of employees</td>
<td>Interaction with other vehicle- collision</td>
<td>4 4 21</td>
<td>Construction Regulation 23(1)(b)(j)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Supervisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicle checklist, vehicle must meet required standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Equipment not roadworthy</td>
<td>3 1 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Construction Regulations 23(a)(b)</td>
<td>Supervision and monitor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Equipment not licensed</td>
<td>3 1 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Construction Regulation 23(2)(b)</td>
<td>Supervision and monitor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Operator of vehicle transporting employees not licensed and authorized</td>
<td>3 1 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Construction Regulation 23(2)(i)(j)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicle not equipped to transport employees</td>
<td>3 1 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Construction Regulation 23(d)(ii)(j)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Adhering traffic legislation</td>
<td>3 1 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Construction Regulation 23(2)(j)</td>
<td>Supervision, implement fines</td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td></td>
<td>Transportation of material or equipment with people</td>
<td>Material/equipment fall from vehicle</td>
<td>4 4 21</td>
<td>Construction Regulation 23(g)(h)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Properly secure all goods</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Potential accident/collision</td>
<td>4 4 21</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Construction Regulation 23(2)(g)(h)(j)</td>
<td>Induction Training, Reflective vests, safe work area</td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td></td>
<td>Towing a Trailer</td>
<td>Vehicle accident</td>
<td>4 4 21</td>
<td>Construction Regulations 23(e); Occupational Health and Safety Act 24(1)(c)(iii)(iv)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Awareness, trained operator</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Towing coupler failure</td>
<td>3 3 13</td>
<td>Construction Regulation 22(e)</td>
<td>Inspection Register</td>
<td></td>
</tr>
<tr>
<td><strong>Hand Tools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td></td>
<td>Injury Due to</td>
<td>Incorrect tools used</td>
<td>4 3 17</td>
<td>Hand tool register, Induction Training</td>
<td>Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Safe Operation Procedure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Defective tools</td>
<td>4 3 17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Safe Operation Procedure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PPE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Struck by flying debris</td>
<td>3 3 13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Safe Operation Procedure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PPE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2</td>
<td></td>
<td>Hand Drills</td>
<td>Clothing being grabbed by rotating drill</td>
<td>3 3 13</td>
<td>Safe Operation procedure, Toolbox Talks Electrical Machinery Regulations 10(3)(4)</td>
<td>PPE, Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PPE, Supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unsecured work piece rotating with drill</td>
<td>3 3 13</td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>-------------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L  C  R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaving flying into eyes</td>
<td>3 3 13</td>
<td>PPE, Supervision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accidental injury</td>
<td>4 3 17</td>
<td>Electrical Machinery Regulations 10(4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrocut</td>
<td>3 5 22</td>
<td>Electrical Machinery Regulations 10(1) (a)(b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**D3** Angle Grinder

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Hazard</th>
<th>Risk</th>
<th>Risk Rating</th>
<th>Controls Measures</th>
<th>Other Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 3 13</td>
<td>Safe Operation procedure, Toolbox Talks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaving flying into eyes</td>
<td>3 3 13</td>
<td>Electrical Machinery Regulations 10(3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to noise</td>
<td>3 3 13</td>
<td>Noise Induced Hearing Loss Regulations (7)(1)(a)(b)(c)(d)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td>2 3 5</td>
<td>Safe Operation procedure, Toolbox Talks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**D4** Other electrical portable hand tools

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Hazard</th>
<th>Risk</th>
<th>Risk Rating</th>
<th>Controls Measures</th>
<th>Other Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 5 22</td>
<td>Electrical Machinery Regulations 10(1) (a)(b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to noise</td>
<td>3 3 13</td>
<td>Noise Induced Hearing Loss Regulations (7)(1)(a)(b)(c)(d)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td>2 3 5</td>
<td>Safe Operation procedure, Toolbox Talks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**D5** Explosive actuated fastening device

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Hazard</th>
<th>Risk</th>
<th>Risk Rating</th>
<th>Controls Measures</th>
<th>Other Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 3 13</td>
<td>Explosive Regulations 15(a)(b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accidental injury</td>
<td>3 3 13</td>
<td>Explosive Regulations 15(b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contractor Witness for Contractor

Employer Witness for Employer

Page 132 of 165
<table>
<thead>
<tr>
<th>Steps in operation</th>
<th>Ref No.</th>
<th>Hazard</th>
<th>Risk</th>
<th>Risk Rating</th>
<th>Controls Measures</th>
<th>Other Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Clearance E1</td>
<td>Site/Bush Clearing</td>
<td>Accidental discharge</td>
<td>3 3 13</td>
<td>Explosive Regulations 15(a)(b)</td>
<td>Safety mechanism working, Store in unloaded condition</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moving machinery accident</td>
<td>4 3 17</td>
<td>Construction Regulation 23(2)(b)</td>
<td>Reflective vests, restricted access, induction training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury due to hand tools</td>
<td>4 3 17</td>
<td>Safe Operation Procedures (SOP)</td>
<td>Induction Training, PPE, First Aider</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Snakes/Spider bites</td>
<td>3 3 13</td>
<td>SANParks Environmental Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dangerous animals in vicinity</td>
<td>3 3 13</td>
<td>SANParks Environmental Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical cables and other services in way of work area</td>
<td>3 4 17</td>
<td>Construction Regulation 24(c)</td>
<td>Properly mark &amp; demarcate existing services</td>
<td></td>
</tr>
<tr>
<td>E2 Tree felling</td>
<td></td>
<td>Injury from chainsaw</td>
<td>3 3 13</td>
<td>Safe Operation Procedures (SOP)</td>
<td>Trained operator, PPE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury from falling tree</td>
<td>3 3 13</td>
<td>Safe work area, PPE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Felling from height</td>
<td>3 3 13</td>
<td>Safety Harness, Fall Protection Plan, PPE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure to electrical cables</td>
<td>3 3 13</td>
<td>Electrical Installation Regulations(5)(1)(2)</td>
<td>Safe work area, PPE</td>
<td></td>
</tr>
<tr>
<td>E3 Removal of waste</td>
<td></td>
<td>Moving machinery accident</td>
<td>4 4 22</td>
<td>Construction Regulation 23(1)(b)(c)</td>
<td>Reflective vests, restricted access, induction training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Waste material falling of vehicle</td>
<td>3 3 13</td>
<td>Construction Regulations 23(1)(b)(c)</td>
<td>Secure load, stay within maximum vehicle load capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dust Inhalation</td>
<td>3 2 8</td>
<td>Hazardous Chemical Substances Regulation (36)(37)(38)</td>
<td>Induction Training &amp; PPE</td>
<td></td>
</tr>
<tr>
<td>E4 Demolition</td>
<td></td>
<td>Structure/rubble falling on person</td>
<td>3 3 13</td>
<td>Construction Regulation 14(1); 4(ii)</td>
<td>Induction Training, PPE, demarcate area</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dust Inhalation</td>
<td>3 2 8</td>
<td>Hazardous Chemical Substances Regulation (36)(37)(38)</td>
<td>Induction Training &amp; PPE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Presence of lead</td>
<td>2 4 14</td>
<td>Lead Regulations (3)</td>
<td>PPE, Induction Training</td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L</td>
<td>C</td>
<td>R</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Presence of Asbestos</td>
<td>2</td>
<td>4</td>
<td>14</td>
<td>Asbestos Regulations (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hitting electrical cable - electrocution</td>
<td>3</td>
<td>5</td>
<td>22</td>
<td>Construction Regulation 24(a)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hitting of gas line - explosion</td>
<td>3</td>
<td>5</td>
<td>22</td>
<td>Construction Regulation 14(1)(2)</td>
</tr>
<tr>
<td>Excavation &amp; backfilling</td>
<td>F1</td>
<td>Hand Digging of holes/trenches</td>
<td>Injury due to defective tools</td>
<td>4</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>F1</td>
<td>Hand Digging of holes/trenches</td>
<td>Injury due to improper work method</td>
<td>4</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>F1</td>
<td>Hand Digging of holes/trenches</td>
<td>Trip/fall into holes</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F2</td>
<td>Machine Digging of holes/trenches</td>
<td>Collapse of trench</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F2</td>
<td>Machine Digging of holes/trenches</td>
<td>Collapse of adjacent structure</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F2</td>
<td>Machine Digging of holes/trenches</td>
<td>Malfunction of machinery</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F2</td>
<td>Machine Digging of holes/trenches</td>
<td>Unauthorized driver</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>F2</td>
<td>Machine Digging of holes/trenches</td>
<td>Unnecessary Damage to environment</td>
<td>3</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>F3</td>
<td>Tipping of material</td>
<td>Material falling on to person</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F3</td>
<td>Tipping of material</td>
<td>Malfunction of equipment causing injury/damage</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F4</td>
<td>Use of Jackhammer</td>
<td>Exposure to excessive noise</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F4</td>
<td>Use of Jackhammer</td>
<td>Injury due to malfunction of equipment</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F4</td>
<td>Use of Jackhammer</td>
<td>Exposure to prolonged vibration</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
<td>-------------</td>
<td>------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L</td>
<td>C</td>
<td>R</td>
</tr>
<tr>
<td>F5</td>
<td></td>
<td>Hitting of electrical cable and services</td>
<td>Electrocutiion</td>
<td>3</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>F6</td>
<td></td>
<td>Opening trenches</td>
<td>Risk of collapse</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fall, slip into trench</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td>General Safety Regulations 2(5)(6)</td>
</tr>
<tr>
<td>F7</td>
<td></td>
<td>Compaction</td>
<td>Personal Injury</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collision of machinery</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>General Machinery Regulations 4(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dust Inhalation</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>Hazardous Chemical Substances Regulation (36)(37)(38)</td>
</tr>
<tr>
<td>Installation of pipes/cables</td>
<td>G1</td>
<td>Installation of sewer/water pipes in trenches</td>
<td>Fall, slip into trench</td>
<td>4</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure to hazardous biological agents</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Hazardous Biological Agent Regulations 5(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pipe handling/lifting resulting in injury</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Induction training, PPE</td>
</tr>
<tr>
<td>G2</td>
<td></td>
<td>Installation of electrical cable in trench</td>
<td>Fall, slip into trench</td>
<td>4</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cable handling/lifting resulting in injury</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Electrical Installation Regulations(2)(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dangerous/unsafe cable Joints</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Electrical Installation Regulations(5)(1)(2)</td>
</tr>
<tr>
<td>Temporary Works</td>
<td>H1</td>
<td>Shoring/formwork/Shuttering</td>
<td>Collapse of equipment</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury during assembly/dismantling</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Construction Regulations 12(3)(a)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Failure of equipment</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Inspection register</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collapse/bursting of structure</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>Construction Regulation 12(3)(c)(f)</td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------</td>
<td>------------------------------------------------------------------------</td>
<td>------</td>
<td>-------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inaccessibility to work area</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>Adequate safe access provided</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fall, slip from shoring/formwork</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Construction Regulation 10(1)(b);(2)(a)(b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Falling material from height</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td>Fall Protection Plan, PPE, safety nets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cuts and abrasions from splinters and nails</td>
<td>4</td>
<td>2</td>
<td>12</td>
<td>PPE, safety nets</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>Injuries to employees involved in an accidents while setting up and taking down Stop/Go procedure</td>
<td>4</td>
<td>4</td>
<td>21</td>
<td>Construction Regulation 12(3)(d)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injuries to employees involved in an accidents - in the midst of Stop/Go activity</td>
<td>4</td>
<td>4</td>
<td>21</td>
<td>Visibility jackets, radio communication</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injuries to road users involved in an accidents - approaching a Stop/Go activity</td>
<td>4</td>
<td>4</td>
<td>21</td>
<td>Construction Regulation 12(3)(d)</td>
</tr>
<tr>
<td>Concrete</td>
<td>I1</td>
<td>Manual Mixing</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>Hazardous Chemical Substances Regulations 8(a)(b)(c)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cement dust inhalation</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Material Safety Data Sheet, PPE, Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hazardous substance contact - dry cement mix</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillage/ pollution</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, Concrete mixing sheet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury during mixing/ cement burns</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Induction Training, supervision, PPE</td>
</tr>
<tr>
<td></td>
<td>I2</td>
<td>Concrete Mixer Machine</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>General Safety Regulations 5(5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poor ventilation causing ill health</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, additional ventilation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental injury through flying objects</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Induction training, supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillage/ pollution</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td>PPE, Concrete mixing sheet</td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L  C  R</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I3</td>
<td>Bulk Mixing Plant</td>
<td>Clothing/body parts getting caught in open pulley, V-belts etc.</td>
<td>3  3  13</td>
<td>Induction training, inspection register, all moving parts covered with guard</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I3</td>
<td>Bulk Mixing Plant</td>
<td>Unauthorized operation</td>
<td>3  2  8</td>
<td>Construction Regulation 20(1)(a)(b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I3</td>
<td>Bulk Mixing Plant</td>
<td>Malfunction of equipment causing injury/damage</td>
<td>3  3  13</td>
<td>Inspection Register &amp; maintenance register</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I4</td>
<td>Concrete pumping</td>
<td>Cement Burns</td>
<td>3  2  8</td>
<td>Safe Operation Procedures (SOP)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I4</td>
<td>Concrete pumping</td>
<td>Accidental collision with pump</td>
<td>2  3  9</td>
<td>General Safety Regulations 2(5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Trained operator, supervision, restricted access to machinery</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I4</td>
<td>Concrete pumping</td>
<td>Collapse/bursting of structure</td>
<td>2  3  9</td>
<td>Safe Operation Procedures (SOP)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Design of structure to be loaded to be approved by competent designer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I4</td>
<td>Concrete pumping</td>
<td>Malfunction of equipment causing injury/damage</td>
<td>3  3  13</td>
<td>Safe Operation Procedures (SOP)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inspection register</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I5</td>
<td>Exposure to Hazardous chemical substances</td>
<td>Exposure</td>
<td>3  3  13</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I5</td>
<td>Exposure to Hazardous chemical substances</td>
<td>Burns to Skin</td>
<td>3  3  13</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I5</td>
<td>Exposure to Hazardous chemical substances</td>
<td>Inhalation</td>
<td>3  3  13</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working at heights</td>
<td>J1</td>
<td>Climbing up and down equipment</td>
<td>Fall from equipment</td>
<td>4  3  17</td>
<td>Induction, PPE, Fall Protection plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>General Safety Regulations (6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Induction training, supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inspection register</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>J2</td>
<td>Working on Scaffolding</td>
<td>Collapse of Scaffolding</td>
<td>3  3  13</td>
<td>Construction Regulation 16(1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Competent scaffold erector, inspection register</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>J2</td>
<td>Working on Scaffolding</td>
<td>Person slipping/falling from scaffolding</td>
<td>4  3  17</td>
<td>Construction Regulation 16(2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fall protection plan, safety harnesses, barricades</td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>-------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L</td>
<td>C</td>
<td>R</td>
</tr>
<tr>
<td>J3</td>
<td>Working on Ladders</td>
<td>Falling objects from scaffolding causing injury/damage</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scaffolding used for incorrect purpose</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>Construction Regulation 16(1)(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sharp edges causing injury</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>J3</td>
<td>Working on Ladders</td>
<td>Fall from ladder</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td>General Safety Regulation 13A(4)(a)(b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ladder not secure - slip</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>General Safety Regulation 13A(2)(a)(b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ladder damaged or substandard</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>General Safety Regulation 13A(2)(a)(b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ladder used for incorrect purpose</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>General Safety Regulation 13A(3)(a)(b)</td>
</tr>
<tr>
<td>K1</td>
<td>Confined Spaces</td>
<td>Lack of oxygen</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>General Safety Regulations 5(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intoxicating Fumes</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>General Safety Regulations 5(1)(2)(a)(b)</td>
</tr>
<tr>
<td>L1</td>
<td>Bricklaying</td>
<td>Injury due to sharp bladed tools</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Occupational Health and Safety 8(1)(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fall from heights</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury due to hauling of bricks</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shards flying into eyes from breaking bricks</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bricks falling from height</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>Plastering</td>
<td>Falling Material onto person</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Safe Operation Procedures (SOP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fall from heights</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>-------------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L C R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L3 Painting</td>
<td>Spillage/ pollution</td>
<td>3 3 13</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)</td>
<td>Drop sheets to be used</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hazardous substance contact - dry plaster mix</td>
<td>3 3 13</td>
<td></td>
<td>PPE, Induction Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dust - ill health</td>
<td>3 3 13</td>
<td></td>
<td>PPE, induction training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unauthorised use of grinders during preparation for painting</td>
<td>3 3 13</td>
<td></td>
<td>PPE, Supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure to chemicals/ inhalation of fumes</td>
<td>3 4 18</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)</td>
<td>PPE, Supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spillage/ pollution from paint</td>
<td>3 3 13</td>
<td></td>
<td>PPE, Supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flammable liquids - Accidental fire</td>
<td>3 4 18</td>
<td>Construction Regulation 25(a)(b)(c)(d)(e)(f)(g)</td>
<td>Proper storage facilities, Fire fighting equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improper ventilation</td>
<td>3 3 13</td>
<td></td>
<td>Restricted access</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unauthorized access to flammable liquids</td>
<td>3 3 13</td>
<td></td>
<td>PPE, Fall Protection Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall from heights</td>
<td>3 3 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L4 Tiling</td>
<td>Injury due to sharp bladed tools</td>
<td>3 3 13</td>
<td>Safe Operation Procedures (SOP)</td>
<td>PPE, Induction Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shards flying into eyes from breaking tiles</td>
<td>4 3 17</td>
<td></td>
<td>PPE, Induction Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure to chemicals/ inhalation of fumes</td>
<td>3 4 18</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)</td>
<td>PPE, Supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L5 Carpentry &amp; Joinery</td>
<td>Injury due to sharp bladed tools</td>
<td>3 3 13</td>
<td>Safe Operation Procedures (SOP)</td>
<td>PPE, Induction Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shards flying into eyes</td>
<td>4 3 17</td>
<td></td>
<td>PPE, Induction Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure to chemicals/ inhalation of fumes</td>
<td>3 4 18</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)</td>
<td>PPE, Supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>-------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury due to hauling of material</td>
<td>4 3 17</td>
<td></td>
<td>PPE, Induction Training</td>
<td></td>
</tr>
<tr>
<td>L5</td>
<td></td>
<td>Chasing of services into brickwork</td>
<td>Dust Inhalation</td>
<td>3 2 8</td>
<td>Hazardous Chemical Substances Regulation (36)(37)(38)</td>
<td>Induction Training &amp; PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Electrocution - hitting of services</td>
<td></td>
<td>Construction Regulation 24(a)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Injury due to sharp bladed tools</td>
<td>3 3 13</td>
<td>Safe Operation Procedures (SOP)</td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shards flying into eyes</td>
<td>4 3 17</td>
<td></td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td>L6</td>
<td></td>
<td>Rope Access Work</td>
<td>Falling from height</td>
<td>3 3 13</td>
<td>Construction Regulations 18(1)(a)(b)(c)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Failure of equipment</td>
<td>4 3 17</td>
<td>Construction Regulations 18(2)(a)(b)(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Improper equipment</td>
<td>3 3 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L7</td>
<td></td>
<td>Roof Construction</td>
<td>Falling Material onto person</td>
<td>3 3 13</td>
<td>Construction Regulations 10(1)(a)(b)(c)</td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fall from heights</td>
<td>3 3 13</td>
<td>PPE, Fall Protection Plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Collapse of structure</td>
<td>3 3 13</td>
<td>Competent designer, supervision</td>
<td></td>
</tr>
<tr>
<td>L8</td>
<td></td>
<td>Water pipeline connections</td>
<td>Person coming into contact with liquid under pressure</td>
<td>3 3 13</td>
<td>Safe Work Procedure</td>
<td>PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Exposure to thread sealant</td>
<td>3 3 13</td>
<td></td>
<td>PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Release of pressure during pressure test</td>
<td>2 2 5</td>
<td></td>
<td>PPE</td>
</tr>
<tr>
<td>L9</td>
<td></td>
<td>Sewer pipeline connections</td>
<td>Person coming into contact with hazardous biological agents</td>
<td>3 2 8</td>
<td>Hazardous Biological Agents Regulation 4(1)(a)(b)(c);(2)(3)</td>
<td>PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Explosion due to hazardous fumes</td>
<td>3 2 8</td>
<td></td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>-------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Person coming into contact with liquid under pressure</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE</td>
</tr>
<tr>
<td>L10</td>
<td>L10</td>
<td>Electrical cable connections/electrical installations</td>
<td>Electrocution</td>
<td>3</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dangerous/unsafe cable Joints</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental switch on while work in progress</td>
<td>3</td>
<td>5</td>
<td>22</td>
<td>Construction Regulation 24(a)(b)(d)(e)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inadequate material used, causing short circuit/fire</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short circuit can blow up when switching</td>
<td>3</td>
<td>5</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>L11</td>
<td>L11</td>
<td>Work on Water pipeline reticulation</td>
<td>Person coming into contact with liquid under pressure</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure to thread sealant</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Release of pressure during pressure test</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>PPE</td>
</tr>
<tr>
<td>L12</td>
<td>L12</td>
<td>Work on Sewer pipeline reticulation</td>
<td>Person coming into contact with hazardous biological agents</td>
<td>3</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explosion due to hazardous fumes</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suspended pipe work, pipe falling on person</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Person coming into contact with liquid under pressure</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE</td>
</tr>
<tr>
<td>L13</td>
<td>L13</td>
<td>Medium Voltage reticulation</td>
<td>Electrocution</td>
<td>3</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dangerous/unsafe cable Joints</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Construction Regulation 24(d)(e)</td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>-------------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L C R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L15</td>
<td>L14</td>
<td>Exposure to mechanical components</td>
<td>Accidental switch on while work in progress</td>
<td>3 5 22</td>
<td></td>
<td>Apply lockout procedure before doing connections</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L14</td>
<td></td>
<td>Short circuit can blow up when switching</td>
<td>3 5 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L15</td>
<td></td>
<td>Water &amp; Sewage Treatment</td>
<td>Chemical Exposure</td>
<td>3 3 13</td>
<td>Occupational Health and Safety Act 24(1)(a)(c)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Slip and fall</td>
<td>3 3 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Exposure to UV lights</td>
<td>3 3 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L16</td>
<td></td>
<td>High Voltage reticulation &gt; 1000V</td>
<td>Discharge of cable</td>
<td>3 5 22</td>
<td>Electrical Installation Regulations 9(1) General Machinery Regulations 2(1)(2)(3)(i)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Electrocution</td>
<td>3 5 22</td>
<td>Construction Regulation 24(a)(b)(c)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dangerous/unsafe cable Joints</td>
<td>3 3 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Accidental switch on while work in progress</td>
<td>3 5 22</td>
<td>Electrical Installation Regulations 2(1)(2)(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Short circuit can blow up when switching</td>
<td>3 5 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L17</td>
<td>Road Construction</td>
<td>Risk of being struck by vehicle while working next to road</td>
<td>4 4 21</td>
<td>Occupational Health and Safety Act 24(3)(a)(b)</td>
<td>Traffic Management Plan, Road Signs, reflective vests, Flag man</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Failure of regulating traffic causing collisions</td>
<td>3 4 18</td>
<td></td>
<td>Competent person, supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Controls Measures</td>
<td>Other Controls</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------</td>
<td>------</td>
<td>-------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury from road users and public</td>
<td>4 4 21</td>
<td>Construction Regulations 23(1)(e)(j)</td>
<td>Restrict access to site, Signage</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Noise pollution</td>
<td>3 2 8</td>
<td>Noise Induced Hearing Loss Regulations 7(1)(a)(b)(c)(d)</td>
<td>PPE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inhalation of dust</td>
<td>3 2 8</td>
<td>Hazardous Chemical Substances Regulations 8(a)(b)(c)</td>
<td>PPE</td>
<td></td>
</tr>
<tr>
<td>L18</td>
<td>Paving</td>
<td>Injury due to sharp bladed tools</td>
<td>3 3 13</td>
<td>Occupational Health and Safety 8(1)(2)</td>
<td>PPE, Induction Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury due to hauling of paving blocks</td>
<td>4 3 17</td>
<td></td>
<td>PPE, Induction Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shards flying into eyes from breaking bricks</td>
<td>4 3 17</td>
<td></td>
<td>PPE, Induction Training</td>
<td></td>
</tr>
<tr>
<td>L19</td>
<td>Kerb laying</td>
<td>Bodily injury due to handling</td>
<td>4 2 12</td>
<td>Occupational Health and Safety Act 24(1)(a)</td>
<td>PPE, Induction Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Falling of kerb onto person</td>
<td>3 2 8</td>
<td></td>
<td>Proper offloading plan, PPE</td>
<td></td>
</tr>
<tr>
<td>L20</td>
<td>Bitumen Surfacing</td>
<td>Burns to Skin</td>
<td>3 2 9</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)</td>
<td>PPE, Induction training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental Fire</td>
<td>3 3 13</td>
<td>Fire Fighting equipment, Induction Training, Emergency Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental spillage</td>
<td>4 3 17</td>
<td>SANParks EMP &amp; Code of conduct</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Potential accident/collision of vehicle</td>
<td>4 3 17</td>
<td>Hazardous Chemical Substances Regulations 4(a)(b)(c)</td>
<td>Induction Training, Reflective vests, safe work area</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hazardous fumes inhalation</td>
<td>3 3 13</td>
<td>Hazardous Chemical Substances Regulations 6(1)(a)(b)</td>
<td>PPE, Induction Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hazardous Chemical Exposure</td>
<td>3 3 13</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)(b)</td>
<td>PPE, Material Data Sheet, Induction Training</td>
<td></td>
</tr>
<tr>
<td>L21</td>
<td>Layer Works</td>
<td>Potential accident/collision of vehicle</td>
<td>4 3 17</td>
<td>Hazardous Chemical Substances Regulations 14(b)</td>
<td>Induction Training, Reflective vests, safe work area</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hazardous Chemical Exposure</td>
<td>3 3 13</td>
<td>Hazardous Chemical Substances Regulations 10(1)(a)</td>
<td>PPE, Material Data Sheet, Induction Training</td>
<td></td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
<td>---------------------------------------------</td>
<td>---------------</td>
<td>-------------</td>
<td>--------------------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Radioactive exposure due to None-</td>
<td>3 3 13</td>
<td></td>
<td>Hazardous Chemical Substances Regulations 5(4)</td>
<td>Induction Training, PPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>destructed density testing (Radio Active)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury due to vehicle/plant</td>
<td>4 3 17</td>
<td></td>
<td>Occupational Health and Safety Act 24(1)(a)(b)(c)</td>
<td>Induction Training, Reflective vests, safe work area</td>
</tr>
<tr>
<td>L22</td>
<td>Gabions</td>
<td>Injury due to rock packing</td>
<td>4 3 17</td>
<td></td>
<td>Occupational Health and Safety Act 24(1)(c)(i)</td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fall, slip from height</td>
<td>3 3 13</td>
<td></td>
<td>Construction Regulation 10(2)(a)(b)(d)(e)</td>
<td>PPE, Fall Protection Plan, Safe Work area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cuts and abrasions from sharp material</td>
<td>4 2 12</td>
<td></td>
<td></td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collapse of structure</td>
<td>2 4 14</td>
<td></td>
<td>Construction Regulation 10(4)(c)(ii)(d)</td>
<td>Design of structure to be approved by competent designer</td>
</tr>
<tr>
<td>L23</td>
<td></td>
<td>Falling of material onto person</td>
<td>3 3 13</td>
<td></td>
<td></td>
<td>PPE, safe work area, catch nets</td>
</tr>
<tr>
<td></td>
<td>Culvert placing with lifting machinery</td>
<td>Heavy objects swinging out of control causing injury/damage</td>
<td>3 3 13</td>
<td></td>
<td>Driven Machinery 18(a)</td>
<td>Safe work area, Induction Training, Trained operator, Lifting Plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crane/lifting tackle failure causing object to fall</td>
<td>3 3 13</td>
<td></td>
<td>Construction Regulation 22(a)(b)(d)(e)</td>
<td>Inspection Register, Trained operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental collision with overhead power lines</td>
<td>2 3 9</td>
<td></td>
<td></td>
<td>Assign a flag man, determine safe work area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lifting machine/crane falling over</td>
<td>3 3 13</td>
<td></td>
<td>Construction Regulation 22(a)</td>
<td>Assign a flag man, determine safe work area</td>
</tr>
<tr>
<td>L24</td>
<td>Road Marking/ Painting</td>
<td>Exposure to chemicals/ inhalation of fumes</td>
<td>3 2 8</td>
<td></td>
<td>Hazardous Chemical Substances Regulations 6(a)(b)(c)</td>
<td>PPE, Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spillage/ pollution from paint</td>
<td>4 2 12</td>
<td></td>
<td></td>
<td>PPE, Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flammable liquids - Accidental fire</td>
<td>3 3 13</td>
<td></td>
<td>Construction Regulation 25(a)(b)(e)(f)(g)</td>
<td>Proper storage facilities, Fire fighting equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unauthorized access to flammable liquids</td>
<td>3 2 8</td>
<td></td>
<td></td>
<td>Restricted access</td>
</tr>
<tr>
<td>Steps in operation</td>
<td>Ref No.</td>
<td>Hazard</td>
<td>Risk</td>
<td>Risk Rating</td>
<td>Controls Measures</td>
<td>Other Controls</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>L25</td>
<td>Steel Fixing (Re-bar)</td>
<td>Injuries from tie wire</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fall from heights</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, Fall Protection Plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Falling components</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, safe work area, catch nets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Back injuries from manual handling</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, limit lifting weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Steel structure collapsing</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, Supervision</td>
</tr>
<tr>
<td>Metalwork</td>
<td>M1</td>
<td>Welding and flame cutting</td>
<td>Unsafe flame cutting/ welding equipment</td>
<td>3</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Employees not competent to perform duty</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Flame cutting equipment to be fitted with flashback arrestors, supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unsafe storage</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Injury / burns to person</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Proper storage facility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental fire</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>Burn shield in First Air Box</td>
</tr>
<tr>
<td></td>
<td></td>
<td>General Safety Regulations 9(5)</td>
<td></td>
<td></td>
<td></td>
<td>Fire fighting equipment</td>
</tr>
<tr>
<td>M2</td>
<td>Steel fixing</td>
<td>Injuries from tie wire</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>General Administrative Regulations 8(1)(a)(b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fall from heights</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, Induction Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Falling components</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, Fall Protection Plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Back injuries from manual handling</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, safe work area, catch nets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Steel structure collapsing</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>PPE, limit lifting weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>General Administrative Regulations 8(1)(a)(b)</td>
<td></td>
<td></td>
<td></td>
<td>PPE, Supervision</td>
</tr>
</tbody>
</table>
## Maximum Reasonable Consequence (C)

<table>
<thead>
<tr>
<th>C</th>
<th>People Health and Safety</th>
<th>Property or Production</th>
<th>Environmental or Community</th>
<th>Financial Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Could Kill or permanently disable</td>
<td>Could cause very major damage &gt; R500K</td>
<td>A Major event creating irreversible damage/loss</td>
<td>&gt; R10m</td>
</tr>
<tr>
<td>4</td>
<td>Could cause serious injury or disease (Major LTI)</td>
<td>Could cause major damage R100K to R500K</td>
<td>An event having substantial &amp; permanent consequence to the environment</td>
<td>&gt; R2.5m &amp; &lt; R10m</td>
</tr>
<tr>
<td>3</td>
<td>Could cause typical MTI / RWI / LTI</td>
<td>Could cause moderate damage R50K to R100K</td>
<td>An event having substantial temporary or a minor permanent consequence to the environment</td>
<td>&gt; R500k &amp; &lt; R2.5m</td>
</tr>
<tr>
<td>2</td>
<td>Could cause First Aid injury</td>
<td>Could cause damage R5K to R50K</td>
<td>An event having temporary or a minor consequence to the environment</td>
<td>&gt; R5k &amp; &lt; R500k</td>
</tr>
<tr>
<td>1</td>
<td>Couldn't cause injury or disease</td>
<td>Couldn't cause damage &lt; R5K</td>
<td>No detrimental impact on the environment</td>
<td>&lt; R5k</td>
</tr>
</tbody>
</table>

### Likelihood of the event occurring (L)

<table>
<thead>
<tr>
<th>L</th>
<th>Description of probability or potential of event occurring</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Very High: Common regular occurrence: Almost certain to happen</td>
</tr>
<tr>
<td>4</td>
<td>High: Possibility of regular occurrence: Likely to happen / Known to happen</td>
</tr>
<tr>
<td>3</td>
<td>Moderate: Isolated incidents - Could happen: Has been reported from elsewhere so it could happen</td>
</tr>
<tr>
<td>2</td>
<td>Low: Not likely to occur: Unlikely: not likely to happen but not impossible</td>
</tr>
<tr>
<td>1</td>
<td>Very Low: Rare - Very unlikely: Practically impossible</td>
</tr>
</tbody>
</table>

---

Contract number: SP-AG-0175

Contractor

Witness for Contractor

Employer

Witness for Employer

Page 146 of 165
Risk Rating Matrix

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 4 3 2 1</td>
<td>20-25</td>
</tr>
<tr>
<td>25 24 22 19 15</td>
<td>Moderate 11-19</td>
</tr>
<tr>
<td>23 21 18 14 10</td>
<td>Acceptable 1-10</td>
</tr>
</tbody>
</table>

Actions

- **High (20-25)**: Immediate action to reduce risk. Introduce hard barriers and adequate controls to reduce risk. Control hazards. Monitor regularly.
- **Moderate (11-19)**: Urgent attention to improve controls and reduce inherent risks. Monitor systems controls & audit quarterly & implementation of controls.
- **Acceptable (1-10)**: Controls in place. Tolerable risk levels. Ensure monitoring is as per H&S Policy.

DRAFTING COMMITTEE

<table>
<thead>
<tr>
<th>INTITALS</th>
<th>SURNAME</th>
<th>DESIGNATION</th>
<th>CONTACT DETAILS</th>
<th>HIRA TRAINING</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Williams</td>
<td>Senior Project Manager</td>
<td>021-900 9060</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Jones</td>
<td>Regional Project Manager</td>
<td>021-900 9060</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Jacobs</td>
<td>Roads Manager</td>
<td>021-900 9060</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Mitchell</td>
<td>Project Manager</td>
<td>028-435 6078</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Dugmore</td>
<td>Architect</td>
<td>021-683 6395</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Annexure B
Environmental Management Plan
General construction activities in parks

Park: AGULHAS NATIONAL PARK
Project: CONSTRUCTION OF AGULHAS MOST SOUTHERN TIP ICONIC STRUCTURE

Prepared by:

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

1. ENVIRONMENTAL MANAGEMENT PLAN

A. DECLARATION

I, the undersigned in my capacity as designated below, 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. ENVIRONMENTAL MANAGEMENT PLAN

1.1 GENERAL

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

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

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

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

1.2 OBJECTIVES OF THE EMP

The EMP has the following goals:

- Identifying those construction activities that 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.

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 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 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.
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

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

2.1.2 CONTRACT AREAS

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

2.1.3 SENSITIVE ECOLOGY

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).

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

2.1.5 ROADS

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.

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

Contractor  
Witness for Contractor  
Employer  
Witness for Employer
2.1.6 SITE ESTABLISHMENT

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>
| 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. | ECO & Contractor |

2.1.7 MATERIALS HANDLING, USE AND STORAGE

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 camps and office sites where necessary.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Water for human consumption: Water for human consumption should be available at the site offices and at other convenient locations on site.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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 ablation 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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Cooking Fuel: The Contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. Collection of firewood is not permitted.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

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.

Safety: All the necessary handling and safety equipment required for the safe use of...
2.1.8 WATER SUPPLY

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO</td>
</tr>
</tbody>
</table>

2.1.9 LIQUID WASTE

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>SANParks</td>
</tr>
<tr>
<td>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.</td>
<td>SANParks</td>
</tr>
</tbody>
</table>

2.2 CONSTRUCTION MANAGEMENT PLAN

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

2.2.1 VEHICULAR ACCESS AND MOVEMENT OF CONSTRUCTION VEHICLES

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

2.2.2 MOVEMENT OF CONSTRUCTION PERSONNEL, LABOURERS AND EQUIPMENT

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

2.2.3 VEGETATION CLEARING

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>The extent of all construction site footprints will be minimised and limited to existing and / or already disturbed areas wherever possible. 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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>
The ECO must be present during vegetation clearing.

### Plant Search and Rescue:
- Plant search and rescue (i.e. the location and removal of specified plant species, without unnecessary damage, and their transfer to a specified location) and the collection of seed, shall be conducted by the ECO prior to the onset of any site clearing operations, should the ecologist/ SANParks Scientific Services indicate this to be necessary.
- Sensitive areas and/or species that have been selected for conservation by the ecologist / SANParks Scientific Services, Park Manager or ECO, shall be demarcated with danger tape. No activity shall take place at these areas.
- De-stumping shall only occur at the request of the ECO. Where roots can act as erosion protection, trees should be cut as close as possible to the ground level.
- During the clearing of woody vegetation no basal cover or grass and topsoil shall be removed and damage to this layer shall be minimised as far as possible.

### 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.

### 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, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled. This includes, for example, service roads, stockpile areas, stop/go facilities, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled. This includes, for example, service roads, stockpile areas, stop/go facilities, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled. This includes, for example, service roads, stockpile areas, stop/go facilities, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled. This includes, for example, service roads, stockpile areas, stop/go facilities, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled. This includes, for example, service roads, stockpile areas, stop/go facilities, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled. This includes, for example, service roads, stockpile areas, stop/go facilities, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled. This includes, for example, service roads, stockpile areas, stop/go facilities, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled.

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, windows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise stockpiled.

### PROTECTION OF FAUNA

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>The Contractor and his employees shall not bring any domesticated animals onto the site.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>The Contractor shall ensure that the work site be kept clean, tidy and free of rubbish that would attract animals.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>No poaching of fauna and flora shall be tolerated by the Contractor or his personnel on Site or elsewhere.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

### HERITAGE AND/OR ARCHAEOLOGICAL SITES

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

### SOIL MANAGEMENT

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topsoil: The Contractor is required to strip topsoil together with grass / groundcover from all 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 &amp; conditions. Topsoil must be stockpiled for later use.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Topsoil is to be handled twice only - once to strip and stockpile, and secondly to replace, level, shape and scarify.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Topsoil stockpiles are not to exceed 1.5 m in height and should be protected to prevent erosion where needed.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

### EROSION CONTROL

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion Control:</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

---

Contract number: SP-AG-0175
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.

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.

Where required, cut-off trenches can be installed to divert substantial run-off and prevent erosion.

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.

Storm water drainage measures are required on site to control runoff and prevent erosion.

2.2.10 EXCAVATION, BACKFILLING AND TRENCHING

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Any such excavations should ideally be undertaken within the confines of an established construction site - i.e. a site that is either protected with a peripheral fence, or a site that has a regular / continual human presence. Failing this, regular daily inspections are essential.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>If need be, spread the rocks in as natural looking manner as possible in the veld.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Removed soil is to be used to backfill areas where required (i.e. such as existing and un-rehabilitated gravel pits).</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Excavated material is to be stockpiled along the trench within the working servitude, unless otherwise authorised.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

2.2.11 LEVELLING

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
</tbody>
</table>
| Excess topsoil is to be spread evenly over the area in a manner that blends | ECO &
in with the natural topography.

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.

2.2.12 SAND EXTRACTION

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is a specialised and potentially environmentally impacting activity, which must be undertaken with the approval and overall management of the Park.</td>
<td>Contractor / SANParks</td>
</tr>
<tr>
<td>Regular inspections must be undertaken by the local Section Ranger and ECO to monitor and audit the effects and impacts of such removals.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>On completion of the sand-winning activity, the river bed will be rehabilitated to the satisfaction of the ECO and Section Ranger.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

2.2.13 STOCKPILING, HANDLING AND STORAGE OF BUILDING MATERIALS

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stockpiles and storage yards will be demarcated in areas already disturbed or where they will cause minimal disturbance.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>The Contractor will ensure that all operations that involve the use of cement and concrete are carefully controlled.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Concrete mixing may only take place in the construction camp or in agreed specific areas on site.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>All visible remains of excess concrete will be deposited in a designated area</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

2.2.14 SERVICING AND RE-FUELLING OF CONSTRUCTION EQUIPMENT

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>The ground under the servicing and refuelling areas must be protected against pollution caused by spills and / or tank overfills (bunded / lined).</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>In such instances the Contractor will ensure that he has drip trays available to collect any oil or fluid.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>All equipment that leaks must be repaired immediately or must be removed from site.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
</tbody>
</table>

2.2.15 SOLID WASTE MANAGEMENT

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>An adequate number of ‘scavenger proof’ refuse bins must be provided at the construction sites and at the construction camps.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>The Contractor will ensure that all personnel immediately deposit waste in the waste bins provided.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>All waste must be transported in an appropriate manner (e.g. plastic rubbish bags).</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>The Contractor may not dispose of any waste and / or construction debris by</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

Contractor Witness for Contractor Employer Witness for Employer
2.2.15 LIQUID WASTE MANAGEMENT

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>All washing operations will take place off-site at a location where wastewater can be disposed of in an acceptable manner.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>Trucks delivering concrete may not be washed on site or anywhere inside the park.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>No spills may be hosed down into a storm water drain or sewer, or into the surrounding natural environment.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO &amp; Contractor</td>
</tr>
</tbody>
</table>

2.2.16 HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
<tr>
<td>The Contractor will be responsible for establishing an emergency procedure for dealing with spills or releases of petroleum.</td>
<td>Contractor</td>
</tr>
</tbody>
</table>

Storage of all hazardous material is to be safe, tamper proof and under strict control. | ECO & Contractor |
Petrochemical, 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

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Contractor must ensure that rainwater containing pollutants does not run-off into natural areas and thus result in a pollution threat.</td>
<td>ECO/Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO/Contractor</td>
</tr>
</tbody>
</table>

2.2.18 FIRE

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

2.2.19 DUST

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Contractor shall take precautions to the satisfaction of the ECO to limit the production of dust and damage caused by dust.</td>
<td>ECO/Contractor</td>
</tr>
</tbody>
</table>

2.2.20 NOISE

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
</tbody>
</table>

2.2.21 VISUAL

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>ECO/Contractor</td>
</tr>
<tr>
<td>Care will be taken when positioning the lights to ensure the least visual impact, while still providing a safe work environment for construction staff.</td>
<td>ECO/Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO/Contractor</td>
</tr>
<tr>
<td>No painting or marking of natural features shall take place. Marking for surveying and other purposes shall only be done with pegs and beacons.</td>
<td>ECO/Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>ECO/Contractor</td>
</tr>
</tbody>
</table>

2.2.22 SITE CLEAN-UP AND REHABILITATION

<table>
<thead>
<tr>
<th>Mitigation / Management Action</th>
<th>Responsible Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Contractor must ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project.</td>
<td>Contractor</td>
</tr>
<tr>
<td>Fully rehabilitate (e.g. clear and clean area, rake, pack branches etc.) all disturbed areas and protect them from erosion.</td>
<td>Contractor</td>
</tr>
<tr>
<td>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.</td>
<td>Contractor</td>
</tr>
<tr>
<td>Before final decisions about the choice of plant species are taken the Section Ranger should be approached for their advice.</td>
<td>Contractor</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating</th>
<th>Item</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vehicular access and movement of construction vehicles</td>
<td>13.</td>
<td>Stockpiling, handling and storage of building materials</td>
</tr>
<tr>
<td>2.</td>
<td>Movement of construction personnel, labourers and equipment</td>
<td>14.</td>
<td>Servicing and re-fuelling of construction equipment</td>
</tr>
<tr>
<td>3.</td>
<td>Vegetation clearing</td>
<td>15.</td>
<td>Liquid waste management</td>
</tr>
<tr>
<td>5.</td>
<td>Cultural and/or archaeological sites</td>
<td>17.</td>
<td>Run-off from construction camps</td>
</tr>
<tr>
<td>6.</td>
<td>Soil management</td>
<td>18.</td>
<td>Fire</td>
</tr>
<tr>
<td>7.</td>
<td>Erosion control</td>
<td>19.</td>
<td>Dust</td>
</tr>
<tr>
<td>8.</td>
<td>Slope protection</td>
<td>20.</td>
<td>Noise</td>
</tr>
</tbody>
</table>

Remedial Action on Non-compliance: (Action and Time Plan)

<table>
<thead>
<tr>
<th>Close out:</th>
<th>Response required by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Control Officer</td>
<td>Contractor</td>
</tr>
<tr>
<td>Name</td>
<td>Name</td>
</tr>
<tr>
<td>Date</td>
<td>Date</td>
</tr>
</tbody>
</table>

Comments:

Records:

- PARK MANAGER
- CONTRACTOR
- PROJECT MANAGER
Annexure C

Code of Conduct for working in the South African 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 subordinates 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 endeavor 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 handled 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.

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.

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.

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.

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.

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.

No animals may be killed in the park.

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**

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

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

9. **ROAD RULES AND SPEED LIMITS**

9.1 Road Rules

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

9.2 **Speed limit for personnel**

All employees of SANParks, as well as employees from outside 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 preferable be given prior notice of the date and the route. If it is not possible to notify him, it must be done immediately on completion of the trip.

12. **GUEST PRIVILEGES**

Arrangements regarding guests must be made by the site supervisor with the Park Manager or designated person. Only immediate family members (parents and children) will be allowed free access to a national park with the permission of the Park Manager or designated person.

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

13.1 Every employee residing in living quarters in a rest camp or on a designated site must:
   13.1.1 Obey all reasonable and lawful rules given by the Park Manager or designated person;
   13.1.2 Reside only in specific quarters/designated site reserved for them;
   13.1.3 Maintain cleanliness and sanitation in his place of residence.

13.2 No person residing, working or officially present in a park, is allowed to:
   13.2.1 Accommodate any unauthorized person, assist him or give him permission to enter or live in any designated living areas;
   13.2.2 Behave in such a way as to be detrimental to maintaining discipline, order for health in such living areas;

13.3 Without written permission from the Park Manager or designated person;
   13.3.1 Keep live animals or poultry;
   13.3.2 Excavate or have excavations made
   13.3.3 Build or make any alterations to existing building;

13.4 In any way, either directly or indirectly, hinder any employee, Security Officer, Ranger or anyone 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.


13.15 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 them 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.

END