



DR JS MOROKA LOCAL MUNICIPALITY

CONTRACT NUMBER: BID NO: JSM/W/20/20-21/W00

TENDER DOCUMENT

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES),KAMEELRIVIER (SCHEME),V3AND WATER TREATMENT PLANTS DR JS MOROKA MUNICIPALITY (CIDB 7ME/EP)

PREPARED BY:	PREPARED FOR:
Technical Services Department Dr. JS Moroka Local Municipality P/Bag X 4012 SIYABUSWA 0472 Tel: (013) 973 9126/7/8/9 Fax: (013) 973 9132/3 Email:	 EXPANDED PUBLIC WORKS PROGRAMME Creating opportunities towards human fulfilment The Municipal Manager Dr. JS Moroka Local Municipality P/Bag X 4012 SIYABUSWA 0472 Tel: (013) 973 9126/7/8/9 Fax: (013) 973 9132/3

NAME OF BIDDER (BIDDING ENTITY) (FULL NAME, i.e. (CC, (PTY) LTD, LTD, JV, SOLE PROPRIETOR etc.)

:

TEL NUMBER

:

FAX NUMBER

:

CIDB NO.

:

FAX NUMBER

:

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

R.....(In figures)



VERY IMPORTANT NOTICE ON DISQUALIFICATIONS:

A bid not complying with the peremptory requirements stated hereunder will be regarded as not being an "Acceptable bid", and as such will be rejected.

"Acceptable bid" means any bid which, in all respects, complies with the conditions of bid and specifications as set out in the bid documents, including conditions as specified in the Preferential Procurement Policy Framework Act (Act 5 of 2000) and related legislation as published in Government Gazette number 22549, dated 10 August 2001, in terms of which provision is made for this policy.

1. If a tax clearance certificate or copy thereof (or in the case of a joint venture, of all the partners in the joint venture) has not been submitted with the bid document on closing date of the bid.
2. If any pages have been removed from the bid document, and have therefore not been submitted, or a copy of the original bid document has been submitted.
3. Failure to complete the schedule of quantities as required, i.e. only lump sums provided.
4. Scratching out, writing over or painting out rates, without initialling next to the amended rates or information, affecting the evaluation of the bid.
5. The use of correction fluid (i.e. tippex) or any erasable ink, eg. pencil.
6. Non-attendance of mandatory/compulsory:
 - o Site inspections or;
 - o Information/Clarification meetings
7. The Bid has not been properly signed by a party having the authority to do so, according to the example of "Authority for Signatory"
8. No authority for signatory submitted – See example, where it is stated that a duly signed and dated original or certified copy of the company's relevant resolution (for each specific bid) of their members or their board of directors, must be submitted.
9. Required in respect of the bid have not been completed, except if information required on Preferencing Schedule in respect of HDI Equity and Equity Ownership Forms, is not completed, the bid will not be disqualified but no preference points will be awarded.
10. The bidder attempts to influence, or has in fact influenced the evaluation and/or awarding of the contract
11. The bid has been submitted either in the wrong bid box or after the relevant closing date and time
12. Failure to provide a valid certificate from the Department of Labour, or a declaration (Specific goals – "Equity ownership") by a designated employer that it complies with the Employment Equity Act 55 of 1998.
13. If any municipal rates and taxes or municipal service charges owed by the bidder or any of its directors to the municipality, or to any other municipality or municipal entity, are in arrears for more than three months.
14. If any bidder who during the last five years has failed to perform satisfactorily on a previous contract with the municipality, municipal entity or any other organ of state after written notice was given to that bidder that performance was unsatisfactory.
15. The accounting officer must ensure that irrespective of the procurement process followed, no award may be given to a person –
 - (a) who is in the service of the state, or;
 - (b) if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder, is a person in the service of the state; or;
 - (c) who is an advisor or consultant contracted with the municipality in respect of contract that would cause a conflict of interest?
16. Failure to provide:
 - (a) written proof of **registration** with the CIDB, in an appropriate contractor grading designation (category), as required in the bid documentation (if applicable); or
 - (b) written proof of **application** to the CIDB **for registration** as a contractor in an appropriate designation (category), as required in the bid documentation (if applicable).
17. Bid offers will be rejected if the bidder or any of his directors is listed on the Register of Bid 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.

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

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Witness:



18. Bid offers will be rejected if the bidder has abused the DR. JSMLM Supply Chain Management System.

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DR. JSMLM:

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19. Failure to attach a copy of a valid signed Joint Venture/Consortium agreement (if applicable) to the bid document.
20. Form of offer not completed and signed by the authorised signatory.
21. Not signing all pages on the space provided
22. Attach CV of Contracts Manager, Site Agent and Safety Officer
23. Certified Qualification of Contracts Manager (Minimum qualification in Civil / Water related projects), Site Agent and Safety Officer (Relevant Certificate)
24. Proof of Foreign Qualification approved from SAQA (if applicable)
25. Proof of Employment, letter confirming employment (Contracts Manager, Site Agent and Safety Officer)
26. Proof of relevant experience (copies of appointment letter and completion certificate)
27. Proof of Purchase of the tender document must be attached; failure to do that will lead to disqualification
28. A letter from the accounting officer (in case of a close cooperation or cooperative) or accounting firm (in case of a private company, stating that the business is going concern.
29. In case where the bidder fails to prove beyond reasonable doubt that the project will be completed with the amount stated on the form offer. The bidder in the latter case will be given an opportunity to present the facts for risk mitigation purposes.
30. The municipality also reserves the right not to appoint the lowest bidder and to appoint the bid in whole or in parts. The municipality also reserves the right to appoint the bid based on its risk assessment.

NOTE:

IN THIS DOCUMENT AND OTHER DOCUMENTS REFERRED TO BUT NOT ATTACHED, THE FOLLOWING WORDS ARE SYNONYMOUS WITH EACH OTHER.

1. CLIENT, EMPLOYER, DR. JS MOROKA LOCAL MUNICIPALITY (DR. JSMLM).
2. BID, TENDER AND VARIATIONS THEREOF
3. JOINT VENTURE / CONSORTIUM

BIDDER:

DR. JSMLM:

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Initial: DJSM

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Witness:

**DR. JS MOROKA LOCAL MUNICIPALITY**DEPARTMENT NAME: **TECHNICAL SERVICES**

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS .

SUMMARY FOR BID OPENING PURPOSES

NAME OF BIDDING ENTITY:

.....

PHYSICAL STREET ADDRESS:	POSTAL ADDRESS:

TELEPHONE NUMBER :

FAX NUMBER :

E-mail ADDRESS :

CONTRACT PRICE : R

(Amount brought forward from the Form of Offer and Acceptance)*

.....
Signed by authorised representative of the Bidding Entity.....
DATE

- Should any discrepancy occur between this figure and that stated in the Form of Offer and Acceptance, the latter shall take precedence and apply.

BIDDER:**DR. JSMLM:**

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Witness:

**DR. JS MOROKA LOCAL MUNICIPALITY**DEPARTMENT NAME: **TECHNICAL SERVICES**

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

**FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN
WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3
AND WATER TREATMENT PLANT.**

NB This list of contents indicates the standard sequence for the various parts of the Bid.

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BIDDER:**DR. JSMLM:**

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Witness:



DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: TECHNICAL SERVICES

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

**FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN
WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3
AND WATER TREATMENT PLANT.**

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DR. JSMLM:

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DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: TECHNICAL SERVICES

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FOR THE

**FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN
WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3
AND WATER TREATMENT PLANTS**

PART T1	BIDDING PROCEDURES	PAGE(S)
T1.1	BID NOTICE AND INVITATION TO BID	8
T1.2	BID DATA.....	9

BIDDER:

DR. JSMLM:

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**T1.1 BID NOTICE AND INVITATION TO BID****DR JS MOROKA MUNICIPALITY****INVITATION TO CONTRACTORS**

Tenders are hereby invited from Contractors with necessary experience and compliance documents, have an active **CIDB grading of a minimum of 7ME/EP** and are in good standing with the South African Revenue Services for the **FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES),KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT “** .

Tender documents will only be available from **08 JUNE 2021** and may be obtained from Dr JS Moroka Municipal Head Quarters at the cashier offices situated 2601/3 Bongimfundo Street, Siyabuswa during working hours 09h00 to 15h00 (Monday to Friday), upon payment of a non-refundable fee of **R 2 918,00 per document**. Only cash or bank guaranteed cheques will be accepted, and cheques are to be made payable to Dr JS Moroka Municipality. No tender documents will be sold beyond these dates.

All tenders and supporting documents shall be sealed in an envelope or package clearly marked **“Contract JSM/W/20/20-21/W00 for the FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES),KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS**

Duly completed tenders shall be placed in the tender box situated at the main entrance of Dr JS Moroka Local Municipality at 2601/3 Bongimfundo Street, Siyabuswa. No Fax or Late tenders will be accepted. Tenders will be evaluated on a 80/20-point system in terms of Dr JS Moroka Municipality's Supply Chain Management Policy in line with Preferential Procurement Framework Act 5 of 2000.

All Technical enquiries are to be directed to Mr J Mahlangu at (013) 973 9126/7/8/9 while document procurement related enquiries are to be directed to B Mokgetle at (013) 973 1101 from 07H45 to 16H15 Monday to Friday.

In all cases Tenders shall reach the stipulated address not later than 11h00 on 6 July 2021 when tenders shall be opened and read in public.

Mr BM Mhlanga
Acting Municipal Manager.

BIDDER:**DR. JSMLM:**

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Witness:



T1.2 BID DATA

The **Standard Conditions of Bid** for Procurements makes several references to the bid data for details that apply specifically to this bid. The bid data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of bid.

Clause number	Data
F.1.1 ACTIONS	The Employer is: The Municipal Manager Dr. JS Moroka Local Municipality 2601/3 Bongimfundo Street Private Bag X4012 Siyabuswa 0472
F.1.2 TENDER DOCUMENTS	The bid documents issued by the Employer comprise: THE BID Part T1 Bidding procedures Part T1.1 Bid notice and invitation to bid Part T1.2 Bid data Part T2 Returnable documents Part T2.1 List of returnable documents Part 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 Form of Guarantee C1.4 Agreement in terms of Occupational Health and Safety Act, 1993 Part C2 Pricing Data C2.1 Pricing Instructions C2.2 Bill of Quantity Part C3 Scope of Works C3 Scope of Works Part C4 Site Information C4 Site Information
F.1.4 COMMUNICATION AND EMPLOYER'S AGENT	(Compiler: Pawacons Consulting Engineers (Pty) Ltd) The Employer's agent is: Name: Mr G Ncube Address: 24 Hospital Street ,Newcastle Tel: 034-317-1138 E-mail: admin@pawacons.co.za

BIDDER:

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Witness:



Clause number	Data
F.2.1 ELIGIBILITY	Only those tenderers who are registered with the CIDB or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a 3CE class of construction work, are eligible to have their tenders evaluated . Joint Ventures are eligible to submit tenders provided that: 1. Every member of the joint venture is registered with the CIDB. 2. The lead partner has a contractor grading designation in the 7ME/EP 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 or 7ME/EP class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations. Accept that only those tenderers with a bank rating of not less than a "C" can be considered for evaluation.
F.2.7 CLARIFICATION MEETING	The arrangements for a compulsory/non-compulsory clarification meeting are: Prospective bidders should take note that because of the current situation of Covid 19, The Municipality must adhere to the regulations of Disaster Management Act in avoiding Gatherings. Enquiries will be addressed electronically.
F.2.13.2 SUBMITTING A TENDER OFFER	Each tenderer is required to return the complete set of documents as listed in the Tender data with all the required information supplied and completed in all respects.
F.2.13.3 SUBMITTING A TENDER OFFER	The whole original bid document, as issued by the DR. JSMLM, shall be submitted. No copies will be accepted. Bids may only be submitted on the Bid documentation issued by the DR. JSMLM.
F.2.13.5 SUBMITTING A TENDER OFFER	The Employer's address for delivery of bid offers and identification details to be shown on each bid offer package are: Location of bid box: Main Gate Physical address: Dr. JS Moroka Local Municipality 2601/3 Bongimfundo Street Private Bag X4012 Siyabuswa 0472 Identification details: Contract Number: JSM/W/20/20-21/W00 FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES),KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT
F.2.15 CLOSING TIME	The closing time for submission of bid offers is: 11h00, 6 JULY 2021. Telephonic, telegraphic, telex, facsimile or e-mailed bid offers will not be accepted.

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Clause number	Data
F.2.16 TENDER OFFER VALIDITY	The bid offer validity period is 90 days

Clause number	Data
F.2.18 PROVIDE OTHER MATERIAL	The bidder shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements
F.2.19 INSPECTIONS, TESTS AND ANALYSIS	Access must be provided for the inspection of the tenderer's offices if required.
F.2.23 CERTIFICATES	The bidder is required to submit with his bid . (1) a copy of the valid Certificate of Contractor Registration issued by the Construction Industry Development Board in terms of the Construction Industry Development Board Act (Form F006); and (2) an original Tax Clearance Certificate, issued by the South African Revenue Services (3) a copy of the valid Certificate of Competency for Contractor's Safety Officer in terms of OH/S Act (85/1993) section 16(2)
F3.4 OPENING OF BID SUBMISSIONS	The time and location for opening of the bid offers are: Immediately after the closing time for submission of bid. Location: Dr. JS Moroka Local Municipality 2601/3 Bongimfundo Street Private Bag X4012 Siyabuswa, 0472
F.3.5 TWO-ENVELOPE SYSTEM	A two-envelope procedure will not be followed.
F.3.9 3.9.1 ARITHMETICAL ERRORS	Replace the contents of the clause with the following: "Check responsive tender offers for arithmetical errors, correcting them in the following manner: a) Where there is a discrepancy between the amounts in figures and in words, the amount in figures shall govern. b) If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line-item total resulting from the product of the unit rate and the quantity, <u>the rate shall govern and the line item total shall be corrected.</u> c) Where there is an error in the total of the prices either because of corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall be adjusted to reflect the arithmetically correct summation of corrected line-item totals.
3.9.2	Consider the rejection of a tender offer if the tenderer does not accept the correction of the arithmetical errors in the manner described above."
F.3.11	The preference procedure for evaluation of responsive bid offers shall be the 80/20-point

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Clause number	Data
EVALUATION OF BID OFFERS	preference system, in full compliance with Form 2.3.3. Technical and general criteria will be evaluated in terms of paragraph 2.3.3.10.
F.3.13.1 ACCEPTANCE OF BID OFFER	Bids containing any one or more of the errors or omissions, or bids not having complied with any one of the peremptory bid conditions as detailed on page 2 of this bid document, shall not be considered, LR R R R and shall automatically be rejected.

Clause number	Data
F.3.18 PROVIDE COPIES OF THE CONTRACTS	The number of paper copies of the signed contract to be provided by the Employer is one .
ADDITIONAL CONDITIONS APPLICABLE TO THIS BID	The additional conditions of bid are: 1 The Employer may also request that the bidder provide written evidence that his financial, labour, and other resources are adequate for carrying out the contract. 2 The Employer reserves the right to appoint a firm of chartered accountants and auditors and/or execute any other financial investigations on the financial resources of any bidder. The bidder shall provide all reasonable assistance in such investigations. 3 The bidder shall be required to complete the Form of Offer and Acceptance (C1.1) and Bills of Quantity for all the region or regions for which they intend to bid for. 4 The bid document shall be submitted as a whole and shall not be taken apart. 5 List of returnable documents (PART T2) must be completed in full. (A bidder's company profile will not be used by the DR. JSMLM to complete PART T2 on behalf of the bidder) NB: If PART T2 is not completed in full by the bidder, this offer will be rejected.

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DR. JSMLM:

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**Annex F**

(Normative)

Standard Conditions of Tender

- Note: 1 These Standard Conditions of Tender are identical to that contained In Annex F of SANS 294: 2004, *Construction Procurement Processes, Procedures and Methods*.
- 2 Annex E of SANS 294, *Construction Procurement Processes, Procedures and Methods*, and SAICE's Practice Manual #1, *The use of South African National Standards in Construction Procurement*, provide guidance on referencing these Standard Conditions of Tender in procurement documents.

F.1 General**F.1.1 Actions**

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.

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 for the calling for expressions of interest, the following definitions apply:

- a) comparative offer means the tenderer's financial offer after the factors of non-firm prices, all unconditional discounts and any other tendered parameters that will affect the value of the financial offer have been taken into consideration
 - b) 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
 - c) fraudulent practice means the misrepresentation of the facts 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
- 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 read, copied, and recorded. Writing 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.

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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 be 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.2 Tenderer's obligations

F.2.1 Eligibility

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.2.2 Cost of tendering

Accept that 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 satisfy 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@) 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.

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**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

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 Submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender documents with the alternative requirements the tenderer proposes.

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 a tender offer 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 in Mack 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.

BIDDER:**DR. JSMLM:**

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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.2.14 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. Proof of posting shall not be accepted as proof of delivery. The employer shall not accept tender offers submitted by telegraph, telex, facsimile or e-mail, unless stated otherwise in the tender data.

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.

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.

BIDDER:

DR. JSMLM:

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Initial: DJSM

2.....

Witness:



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 clarification

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.3.2 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 seven 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, the total of his prices, preferences claimed and time for completion, if any, 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

BIDDER:

DR. JSMLM:

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Initial: DJSM

2.....

Witness:



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 advice 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 Nondisclosure

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) 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.

BIDDER:

DR. JSMLM:

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Initial: DJSM

2.....

Witness:

**F.3.9 Arithmetical errors**

F.3.9.1 Check responsive tender offers for arithmetical errors, correcting them in the following manner:

- a) Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.
- b) If bills of quantities (or schedule of quantities or schedule of rates) 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 be corrected and the unit rate shall govern.
- c) 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.3.9.2 Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of his arithmetical errors in the manner described in F.3.9.1.

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**Evaluation Criteria**

The tenders were evaluated in terms of the Municipality Supply Chain Management and Preferential Procurement Policy, which is line with the Preferential Procurement Framework Act (Act 5 of 2000). Tenders were evaluated using the 80/20 points allocation system as prescribed. The total points out of a possible maximum of 100 are calculated using the following formulae

F.3.11.1 Price

In relation to Tendered Price, the points allocated to the Tender Price will be calculated using the following formula:

$$N_p = \frac{80 * [1 - (T_s - T_m)]}{T_m}$$

Where: N_p = number of tender adjudication points awarded in relation to price

T_s = Tender Sum

T_m = Lowest Tender Sum

F.3.11.2 Preferential Procurement

Preferential procurement points will be allocated according to the tenderer's B-BBEE status level, as per the **Preferential procurement policy framework act, 2000: preferential procurement regulations, 2011**, which came into effect on the 7th of December 2011.

In order to qualify for preferential procurement points, the tenderer must attach a certified copy of its valid B-BBEE construction sector scorecard as 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 (Act no. 53 of 2003)**.

BIDDER:

DR. JSMLM:

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2.....

Witness:



Points will be awarded to the tenderer for attaining the B-BBEE status level of contributor in accordance with the table below.

B-BBEE Status Level of Contributor	Number of points (80/20)
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

In the event of a Joint Venture (JV) Tender:

A 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 tender.

PLEASE REMEMBER:

- **TO ATTACH A VALID ORIGINAL TAX CLEARANCE CERTIFICATE**
- **IN CASE OF A JOINT VENTURE, THE VALID ORIGINAL TAX CLEARANCE CERTIFICATE OF EACH PARTNER, THIS MUST BE SUBMITTED WITH THE BID DOCUMENT**

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

F.3.13.1 Accept tender offer only if the tenderer complies with the legal requirements stated in the Tender Data.

F.3.13.2 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. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the employer and the successful tenderer as described in the form of offer and acceptance.

F.3.14 Notice to unsuccessful tenderers

After the successful tenderer has acknowledged the employer's notice Of acceptance, notify other tenderers that their tender offers have not been accepted.

F.3.15. Prepare contract documents

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:

BIDDER:

DR. JSMLM:

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Initial: DJSM

2.....

Witness:



- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents,
- c) other revisions agreed between the employer and the successful tenderer, and
- d) the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.16 Issue final contract

Prepare and issue the final draft of contract documents to the successful tenderer for acceptance as soon as possible after the date of the employer's signing of the form of Offer and acceptance (including the schedule of deviations, if any). Only those documents that the conditions of tender require the tenderer to submit, after acceptance by the employer, shall be included.

F.3.17 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.3.18 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.

BIDDER:

DR. JSMLM:

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Initial: DJSM

2.....

Witness:

**DR. JS MOROKA LOCAL MUNICIPALITY**DEPARTMENT NAME: *TECHNICAL SERVICES*

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

**FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN
WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3
AND WATER TREATMENT PLANTS .**

PART T2 LIST OF RETURNABLE DOCUMENTS

PAGE(S)

The bidder must complete the following returnable documents.

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T2.2	OTHER DOCUMENTS REQUIRED FOR BID EVALUATION PURPOSES	37
T2.3	RETURNABLE SCHEDULES THAT WILL BE INCORPORATED IN THE CONTRACT	47

NOTE:

Although the documents under Part T2 is headed "Returnable Documents" in line with the CIDB model, these are not the only documents to be returned together with the bid. **All** the documents indicated on Part T1, must be completed and signed where applicable and submitted as a **complete set of documents**.

BIDDER:**DR. JSMLM:**

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2.....

Witness:



T2.1 RETURNABLE SCHEDULES REQUIRED FOR BID EVALUATION PURPOSES

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PART T2 LIST OF RETURNABLE DOCUMENTS

The bidder must complete the following returnable documents.

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FORM 2.1.3:	STAFFING PROFILE	26
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BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**FORM 2.1.1****SCHEDULE OF EQUIPMENTS REQUIRED FOR THE CONTRACT**

The Bidder shall state below what Equipment will be available for the work should he be awarded the Contract.

DESCRIPTION, SIZE, CAPACITY	NUMBER

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**FORM 2.1.2****SIZE OF ENTERPRISE AND CURRENT WORKLOAD**

What was your turnover in the previous financial year? R _____

What is the estimated turnover for your current financial year? R _____

Physical facilities:

Provide information on offices, factories, yards and warehouses occupied by your enterprise (attach details if the space provided is not enough)

Description	Address	Area (m ²)

List your current contracts and obligations:

Description	Value (R)	Start date	Duration	Expected completed date

Do you have the capacity to supply the goods and services described in this bid, should the contract be awarded to you?

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**FORM 2.1.3****STAFFING PROFILE**

Provide information on the staff that you have available to execute this contract (attach a separate list if the space provided is insufficient)

Own staff: gender and race	Number of staff
Staff to be employed for the project: gender and race	Number of staff

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**FORM 2.1.4****PROPOSED KEY PERSONNEL**

The Bidder shall list below the key personnel (including first nominee and the second-choice alternate), whom he proposes to employ on the project should his Bid be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their qualifications, experience, positions held and their nationalities.

DESIGNATION	NAME OF	NATIONALITY:	SUMMARY OF		HDI Status Yes/No	NQF 7 Certified Yes/No
	(i) NOMINEE (ii) ALTERNATE		QUALIFICATIONS	EXPERIENCE AND PRESENT OCCUPATION		
<u>HEADQUARTERS</u> Partner/director						
Project Manager						
Other key staff (give designation)						
<u>PROJECT MONITORING</u> Site(s) Supervisors						
Other key staff (give designation)						

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**FORM 2.1.5 SCHEDULE OF PREVIOUS WORK CARRIED OUT BY BIDDER**

Provide the following information on **relevant previous experience**. Indicate comparable projects of similar or larger size. This information is material to the award of the Contract.

No points will be awarded if reference cannot be reached or if it refuses to supply information. Give at least two (2) names and telephone numbers and e-mail address per reference.

EMPLOYER (Name, tel no and fax no)	CONSULTING ENGINEER (Name, tel no and fax no)	NATURE OF WORK CARRIED OUT PREVIOUSLY	VALUE OF WORK	YEAR OF COMPLETION

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....**Initial:** DJSM**2.**.....**Witness:**

**FORM 2.1.6 FINANCIAL ABILITY TO EXECUTE THE PROJECT**

Provide details on the surety you will provide if the bid is awarded to you

AMOUNT

Which of the following institutions will provide surety?

- Bank registered in terms of the Bank Act 1990 (Act 94 of 1990): _____
- Insurance Company registered in terms of the Short-Term Insurance Act 1998 (Act 53 of 1998): _____
- Cash: _____

Provide the estimated cash flow on the project in terms of submissions of payment certificates or payment schedules to the Employer.

Month no	Amount (VAT included)			
	a Received	b Payments made	a – b Net cash flow	Cumulative cash flow
1			d	j=d
2			e	j+e=k
3			f	k+f=l
4			g	l+g=m
5			h	m+h=n
6			Etc.	Etc.
7				
8				
9				
10				
11				
12				
Maximum negative cash flow: Take the largest negative number in the last column and write it in here → → → → → →				

Notes:

- Value added tax to be included in all amounts
- Assume payment of certificates within 30 days of approval of certificate

From what sources will you fund the above amount (e.g. Funds internally available, bank overdraft, loan, etc)

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....**Initial:** DJSM

2.....

Witness:

**FORM 2.1.7 AUTHORITY FOR SIGNATORY**

All signatories, including sole proprietors, shall confirm their authority by **attaching to the last page of this bid** a duly signed and **dated original or certified copy** of the relevant resolution of their members or their board of directors, as the case may be.

An *example* for “COMPANIES / PARTNERSHIPS / CLOSE CORPORATIONS is shown below:

"By resolution of the board of directors passed on 12 February 2010, Mr M W Thomson has been duly authorised to sign all documents in connection with the Bid for Contract number 000/2010 and any Contract, which may arise there from on behalf of the Bidding Entity, namely, NMP (PTY) LTD"

SIGNED ON BEHALF OF THE BIDDING ENTITY: B.J. JONES

IN HIS CAPACITY AS: DIRECTOR / PARTNER / MEMBER

DATE: 12 February 2010

AUTHORISED PERSON'S SIGNATURE: M W Thomson

AS WITNESS: 1. M.A Ntuli

An *example* for “JOINT VENTURES” is shown below:

We, the undersigned are submitting this bid offer in Joint Venture and hereby authorize Mr. B. BROOK, authorised signatory of the company “ABCD (PTY) LTD”, acting in the capacity of lead partner, to sign all documents in connection with the bid for Contract number 000/2010 and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORIZED SIGNATORY
(Lead partner, i.e. <u>“ABCD (PTY) LTD”</u>)	P.O. Box 111 Springs 1560	Signature : Name : Designation :
Name of 2 nd Company	Address of 2 nd Company	Signature : Name : Designation :
Name of 3 rd Company	Address of 3 rd Company	Signature : Name : Designation :

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies: 1.....

Initial: DJSM

2.....

Witness:



An *example* for “SOLE PROPRIETOR” is shown below:

“I hereby certify that I’m the sole proprietor of the Bidding Entity, namely, “**MACADOO**” and therefore duly authorised to sign the bidding documents”

SIGNATURE OF SOLE PROPRIETOR: **M W Thomson**

IN HIS CAPACITY AS: **SOLE PROPRIETOR**

DATE: **12 February 2010**

AUTHORISED PERSON'S SIGNATURE: **M W Thomson**

AS WITNESS: **1. M A Ntuli**

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies: **1.....**

Initial: DJSM **.....**

2.....

Witness: **.....**



SCHEDULE OF PROPOSED SUBCONTRACTORS

Provide details on all sub-contractors you intend utilising for this contract

Type of work to be used for	a % of contract	Name of sub-contractor	b % HDI owner-ship	c = a x b Total contribution to HDI ownership
Total % of contract sub-contracted		Total contribution of HDI ownership:		

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



FORM 2.1.9 FINANCIAL REFERENCES

FINANCIAL STATEMENTS

I/We agree, if required, to furnish an audited copy of the latest set of financial statements together with my/our Directors' and Auditors' report.

DETAILS OF BIDDING ENTITY'S BANK

If the bidder is a Joint Venture or partnership, the information requested below is required for each member / partner.

I/We hereby authorise the Employer/Engineer to approach all or any of the following banks for the purposes of obtaining a financial reference:

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO BIDDER
Name of bank	
Contact person	
Branch name	
Branch code	
Street address	
Postal address	
Telephone number	()
Fax number	()
Account number	
Type of account, (i.e. cheque account)	

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**BIDDER'S TAX DETAILS**

Bidder's VAT vendor registration number:

Bidder's SARS tax reference number:

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO BIDDER
Name of bank	
Contact person	
Branch name	
Branch code	
Street address	
Postal address	
Telephone number	()
Fax number	()
Account number	
Type of account, (i.e. cheque account)	

BIDDER'S TAX DETAILS

Bidder's VAT vendor registration number:

Bidder's SARS tax reference number:

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**FORM 2.1.10 DETAILS OF ALTERNATIVE BIDS SUBMITTED**

See condition of bid.

DESCRIPTION

FORM 2.1.11 AMENDMENTS AND QUALIFICATIONS BY BIDDER

See condition of bid

PAGE	DESCRIPTION

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....**Initial:** DJSM**2**.....**Witness:**



FORM 2.1.12 LABOUR-ENHANCED METHODS: PROPOSED PLANNED ACTIONS OF BIDDER RESULTING IN DEVIATIONS FROM SPECIFIED WORK

ACTIVITY OR PAY ITEM	DESCRIPTION OF PLANNED ACTION RESULTING IN DEVIATION FROM SPECIFIED WORK

Compliance with Employment Equity Act 55 of 1998

Attach a valid certificate from the Department of Labour, or a declaration (refer to "Form 2.3.5 – Specific goals") by the **designated employer**, that the employer complies with the relevant chapters of the Employment Equity Act.

Definitions in terms of the last-mentioned Act.

"designated employer" means-

- an employer who employs 50 or more employees;
- an employer who employs fewer than 50 employees, but has a total annual turnover that is equal to or above the applicable annual turnover of a small business in terms of Schedule 4 to this Act."

"Schedule 4"

TURNOVER THRESHOLD APPLICABLE TO DESIGNATED EMPLOYERS

Sector or sub sector in accordance with the Standard Industrial Classification	Total annual turnover
Agriculture	R 2,00 m
Mining and Quarrying	R 7,50 m
Manufacturing	R 10,00 m
Electricity, Gas and Water	R 10,00 m
Construction	R 5,00 m
Retail and Motor Trade and Repair Services	R 15,00 m
Wholesale Trade, Commercial Agents and Allied Services	R 25,00 m
Catering, Accommodation and other Trade	R 5,00 m
Transport, Storage and Communications	R 10,00 m
Finance and Business Services	R 10,00 m
Community, Social and Personal Services	R 5,00 m

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies: 1.....

Initial: DJSM

2.....

Witness:



DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: *TECHNICAL SERVICES:*

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS .

T2.2 OTHER DOCUMENTS REQUIRED FOR BID EVALUATION PURPOSES

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BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



FORM 2.2.1 COMPULSORY SITE INSPECTIONS / INFORMATION / CLARIFICATION MEETINGS

Where Compulsory Site Inspections and Compulsory Information, Briefing or Clarification Meetings are to be held, it shall be subject to the following conditions:

1. Necessity for Compulsory Site Inspection and Compulsory Information / Briefing / Clarification Meetings

Compulsory Inspections / Meetings must only be held where the nature of the contract is such that it requires either an inspection of a site or a briefing session. The Bid Specification Committee should indicate to the Bid Office that such a compulsory inspection or briefing is regarded as a necessity.

2. Attendance Register

An attendance register of potential bidders and the firms they represent shall be kept and signed by attendees. A copy of such Attendance Register shall immediately after the inspection/briefing be sent to the Bid Office.

3. Confirmation Notes of Inspection/Briefing Sessions

Confirmation Notes of the Compulsory Inspection or Briefing Session shall be held by or on behalf of the contact person of the Department for whom the Bid is being advertised. A copy of the notes shall be sent to each firm that was represented at the inspection/meeting as soon as possible after the inspection or meeting and before the closing date of the bid. A copy of the notes shall also be sent to the Bid Office. The relevant Department will ensure that the notes are submitted to the Bid Evaluation Committee and to the Bid Adjudication Committee.

4. Bid Documents

The bid documentation shall clearly state that where the inspection of a site or the attendance of a briefing session is compulsory, non-attendance thereof will lead to the disqualification of the bidder in question. The bid documentation shall further clearly state that if bid documents are obtained **after** the compulsory briefing session or site inspection, it will only be made available to firms that were represented at the meeting. The mere fact that a firm that was not represented at a compulsory site inspection/meeting, but nevertheless submitted to the municipality a set of bidding documents, should not be construed as creating any expectations that a bid will be considered by the Municipality.

BIDDER:

DR. JSMLM:

40

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



FORM 2.2.1 CERTIFICATE OF BIDDER'S ATTENDANCE AT THE COMPULSORY SITE/CLARIFICATION MEETING

This is to certify that I, **(NAME IN PRINT)**

representative of (Bidder)

.....

of (address)

.....

.....

Telephone number

Fax number

visited and inspected the Site / Attended Clarification Meeting on (date)

in the company of (Engineer/Engineer's Representative)

SIGNATURE OF BIDDER'S REPRESENTATIVE:

BIDDER:

DR. JSMLM:

41

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2......

Witness:



FORM 2.2.2 TAX CLEARANCE CERTIFICATE

AN ORIGINAL TAX CLEARANCE CERTIFICATE OBTAINED FROM SARS TO BE SUBMITTED WITH BID DOCUMENTS.

BIDDER:

DR. JSMLM:

42

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



FORM 2.2.3 PROOF OF REGISTRATION WITH CONSTRUCTION INDUSTRY DEVELOPMENT BOARD

The bidder is to affix to this page either:

- Written proof of his registration with the CIDB as a Category **7CE/6CE PE OR HIGHER**.

Or

- Written proof of his application to the CIDB for registration as a contractor in the category listed above.

Note:

1. Failure to affix such documentation as prescribed to this page shall result in this bid not being further considered for the award of the contract.
2. Should this bid be considered for award of the contract, based on proof of submission of application for registration in the appropriate category with the CIDB, and should proof of such subsequent registration not be forthcoming to the employer before the end of business, at the last working day, prior to evaluation by the Tender Evaluation Committee of the contract, then this bid will no longer be considered for the award of the contract.

BIDDER:

DR. JSMLM:

43

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



FORM 2.2.4 DECLARATION:

I/We, the undersigned:

- (a) bid to supply and deliver to the DR. JS Moroka Local Municipality [hereafter "DR. JSMLM"] all or any of the supplies and to render all or any of the articles, goods, materials, services or the like described both in this and the other Schedules to this Contract;
- (b) agree that we will be bound by the specifications, prices, terms and conditions stipulated in those Schedules attached to this bid document, regarding delivery and execution;
- (c) further agree to be bound by those conditions, set out in, "PARTS T1; T2; C1; C2; C3 and C4", attached hereto, should this bid be accepted in whole or in part;
- (d) confirm that this bid may only be accepted by the DR. JSMLM by way of a duly authorised Letter of Acceptance;
- (e) declare that we are fully acquainted with the Bid document and Schedules, and the contents thereof and that we have signed the Bill of Quantities and completed the Returnable Schedules and declarations, attached hereto;
- (f) declare that all amendments to the bid document have been initialled by the relevant authorised person and that the document constitutes a proper contract between the DR. JSMLM and the undersigned;
- (g) certify that the item/s mentioned in the bid document, qualifies/qualify for the preference(s) shown.;
- (h) acknowledge that the information furnished is true and correct;
- (i) accept that in the event of the contract being awarded as a result of preference claimed in this bid document, I may be required to furnish documentary proof to the satisfaction of the DR. JSMLM that the claims are correct. If the claims are found to be inflated, the DR. JSMLM may, in addition to any other remedy it may have, recover from me all cost, losses or damages incurred or sustained by the DR. JSMLM as a result of the award of the contract and/or cancel the contract and claim any damages which the DR. JSMLM may suffer by having to make less favourable arrangements after such cancellation;
- (i) declare that no municipal rates and taxes or municipal service charges owed by the bidder or any of its directors to the municipality, or to any other municipality or municipal entity, are in arrears for more than three (3) months; and
- (k) declare that I have not failed to perform satisfactorily during the last five (5) years on a previous contract with the Municipality, Municipal entity or any other organ of state, after written notice was given to me that my performance was unsatisfactory.

Signed at this day of 2015

Authorised Signature: _____

Name of Bidding Entity: _____

Date: _____

As witness: 1. _____

BIDDER:

DR. JSMLM:

44

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**FORM 2.2.5 DECLARATION OF INTEREST**

1. No bid will be accepted from persons in the service of the state*.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.
 - 3.1 Full Name:
 - 3.2 Identity Number:
 - 3.3 Company Registration Number:
 - 3.4 Tax Reference Number:
 - 3.5 VAT Registration Number:
 - 3.6 Are you presently in the service of the state* **YES / NO**
 - 3.6.1 If so, furnish particulars.

.....

.....
 - 3.7 Have you been in the service of the state for the past twelve months? **YES / NO**
 - If so, furnish particulars.

.....

.....
 - 3.8 Do you, have any relationship (family, friend, other) with persons in the service of the state
And who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
 - 3.8.1 If so, furnish particulars.

* MSCM Regulations: "in the service of the state" means to be –

- (a) a member of –
 - (i) any municipal Council.
 - (ii) any provincial legislature; or
 - (iii) the national Assembly or the national Council of provinces.
- (b) a member of the board of directors of any municipal entity.
- (c) an official of any municipality or municipal entity.
- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999).
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

BIDDER:**DR. JSMLM:**

45

Initial: Authorized signatory/ies:1.....**Initial:** DJSM**2.....****Witness:**



JS MOROKA LOCAL DR MUNICIPALITY

CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT “ .

3.9 Are you, aware of any relationship (family, friend, other) between a bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

3.9.1 If so, furnish particulars

3.10 Are any of the company's directors, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.10.1 If so, furnish particulars.

3.11 Are any spouse, child or parent of the company's directors, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.11.1 If so, furnish particulars.

CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

SHOULD THE INFORMATION REQUIRED ON THIS FORM NOT DULY BE SUPPLIED, THIS BID WILL BE REJECTED.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidding Entity

BIDDER:

DR. JSMLM:

46

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



FORM 2.2.6 DECLARATION FOR PROCUREMENT ABOVE R10 MILLION

DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (VAT INCLUDED)

For all procurement expected to exceed R10 million (VAT included), bidders must complete the following questionnaire:

1. Are you by law required to prepare annual financial statement for auditing? YES / NO

1.1 If yes, submit audited annual financial statements for the past three years or since since the date of establishment if established during the past three years.

.....
.....

2. Do you have any outstanding undisputed commitments for municipal services toward a municipality or any other service provider in respect of which payment is overdue for more than 30 days? YES / NO

2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days.

2.2 If yes, provide particulars.

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

3. Has any contract been awarded to you by an organ of state during the past five years, Including particulars of any material non-compliance or dispute concerning the execution of such contract?..... YES / NO

3.1 If yes, furnish particulars.

.....
.....

4. Will any portion of goods or services be sourced from outside the Republic and if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? YES / NO

4.1 If yes, furnish particulars

.....
.....

BIDDER:

DR. JSMLM:

47

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

BIDDER:

DR. JSMLM:

48

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



JS MOROKA LOCAL DR MUNICIPALITY

CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT “ .

DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: *TECHNICAL SERVICES*

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS .

T2.3 RETURNABLE SCHEDULES THAT WILL BE INCORPORATED IN THE CONTRACT

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FORM 2.3.2 CONDITIONS PERTAINING TO TARGETED PROCUREMENT	49

BIDDER:

DR. JSMLM:

49

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:

**FORM 2.3.1****RECORD OF ADDENDA TO BID DOCUMENTS**

We confirm that the following communications received from the Procuring Department before the submission of this bid offer, amending the bid documents, have been taken into account in this bid offer:

	Date	Title or Details
1		Confirmatory notes of compulsory site/clarification meeting
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

Attach additional pages if more space is required.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

BIDDER:

DR. JSMLM:

50

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2......

Witness:



FORM 2.3.2 CONDITIONS PERTAINING TO TARGETED PROCUREMENT

- 2.3.2.1 PREAMBLE
- 2.3.2.2 DEFINITIONS
- 2.3.2.3 LEGISLATIVE BASE
- 2.3.2.4 SCOPE
- 2.3.2.5 PURPOSE
- 2.3.2.6 OBJECTIVES
- 2.3.2.7 GENERAL PRINCIPLES GOVERNING THE MUNICIPALITY IN ITS
INTERACTION WITH BIDDERS
- 2.3.2.8 ADJUDICATION OF BIDS
- 2.3.2.9 ADJUDUCATION USING A POINT SYSTEM
- 2.3.2.10 IMPLEMENTATION FRAMEWORK
- 2.3.2.11 COMPLAINTS/DISQUALIFICATIONS
- 2.3.2.12 DISQUALIFICATIONS

BIDDER:

DR. JSMLM:

51

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2......

Witness:



DR. JS MOROKA LOCAL MUNICIPALITY
BID DOCUMENT**2.3.3 CONDITIONS PERTAINING TO TARGETED PROCUREMENT****1. EVALUATION OF TENDERS****Evaluation Criteria**

Municipal Supply Chain Management Policy will be used for evaluation of Prospective Service Provider as per the approved scoring system by the specification committee.

The evaluation will be done as per Preferential Procurement Regulations, 2011 issued in terms of section 5 of PPPFA, Act No. 5 of 2000.

The Construction Firm's tender responsiveness in relation to points is therefore summarized as follows:

Qualifications and experience of key personnel	25
Availability of fully equipped workshop	20
Experience of Firm	35
Financial capability	10
Locality	10
Sub-Total	100

A firm must obtain a minimum of 60 points out of the 100 points above to be considered for price and BBB-EE evaluation/ The functionality points shall be distributed as follows below:

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....**Initial:** DJSM**2.....****Witness:**



Item	Description	Points allocated
i)	Qualifications and demonstrated experience of key Personnel. Qualifications must be submitted. ▪ Qualified Mechanical/Electrical Engineer/-Pr Eng/Pr Tech;GCC registered+5years experience. 10 ▪ Qualified Artisan Fitter with +10 years' experience 7.5 ▪ Qualified Electrician +10years experience 7.5 ▪ Millwright with +5years industrial experience 5 ▪ Assistant Artisan Fitter/Electrician 2.5 Lesser experience and labour will be calculated on pro-rata basis	25
ii)	Availability of fully equipped workshop (<i>profile with images</i>) ▪ Fully established workshop facility 10 ▪ Lifting equipment (crane/forklift/gantry with chain & slings) for minimum of 1.5 tone 4 ▪ Work benches fitted a vice 4 ▪ Cleaning bay with power washer 2	20
iii)	Demonstrated experience of Tenderer – Experience relating to the refurbishment of municipal and/or industrial water and wastewater treatment works and pump stations in the past 10 years.(appointment letters/Completion certificates)- 5 points each. ▪ 7 Projects	35 35
iv)	Financial capability of contractor-submit bank rating letter ▪ Rating A 10 ▪ Rating B 8 ▪ Rating C 6 ▪ Rating D 4 ▪ Rating E 2 ▪ Rating F 0	10
v)	Locality(Utility bill/lease agreement/affidavit form local Councillor) ▪ Dr JS Moroka LM 10 ▪ Mpumalanga Province 5 ▪ Other 2	10

BIDDER:**DR. JSMLM:**

53

Initial: Authorized signatory/ies:1.....**Initial:** DJSM

2.....

Witness:



The score points are distributed as follows:

80 – POINTS (FOR PRICE):

ITEM No.	DESCRIPTION	ALLOCATED POINTS
1.	Price Competitiveness	80

In relation to Tendered Price, the points allocated to the Tender Price will be calculated using the following formula:

$$N_p = \frac{80 * [1 - (T_s - T_m)]}{T_m}$$

Where: **N_p** = number of tender adjudication points awarded in relation to price
T_s = Tender Sum

20 – POINTS (FOR BBEE):

BBEE status Level of Contributor	Number of points (80/10)
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-Compliant contributor	0

In the event of a Joint Venture (JV) Tender:

A 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 tender.

PLEASE REMEMBER:

- TO ATTACH A VALID ORIGINAL TAX CLEARANCE CERTIFICATE
- IN CASE OF A JOINT VENTURE, THE VALID ORIGINAL TAX CLEARANCE CERTIFICATE OF EACH PARTNER, THIS MUST BE SUBMITTED WITH THE BID DOCUMENT
- TO ATTACH A B-BBEE CERTIFICATE

BIDDER:

DR. JSMLM:

54

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



DR. JS MOROKA LOCAL MUNICIPALITY

BID DOCUMENT

DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: *TECHNICAL SERVICES*

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS .

THE CONTRACT	PAGE(S)
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PART C3 SCOPE OF WORKS	92
PART C4 SITE INFORMATION	254

BIDDER:

DR. JSMLM:

55

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: *TECHNICAL SERVICES*

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS .

PART C1 AGREEMENT AND CONTRACT DATA

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C1.3 FORM OF GUARANTEE	67
C1.4 AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)	73

BIDDER:

DR. JSMLM:

56

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



C1.1 FORM OF OFFER AND ACCEPTANCE

FORM OF OFFER AND ACCEPTANCE (AGREEMENT)

OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter a contract in respect of the following works: **FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES),KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS .**

The Bidder, identified in the Offer signature block below, has examined the documents listed in the Bid Data and addenda thereto as listed in the Bid Schedules, and by submitting this Offer has accepted the Conditions of Bid.

By the representative of the Bidder, deemed to be duly authorised, signing this apart of this Form of Offer and Acceptance, the Bidder 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 one copy of this document to the Bidder before the end of the period of validity stated in the Bid Data, whereupon the Bidder becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

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

FOR THE BIDDER:

Signature(s)

Name(s)

Capacity

(Name and address of organisation)

Name and signature of Witness

Date

BIDDER:

DR. JSMLM:

57

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Bidder'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 Bidder's Offer shall form an agreement, between the Employer and the Bidder 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 C1 to C4 above.

Deviations from and amendments to the documents listed in the Bid Data and any addenda thereto listed in the Bid Schedules as well as any changes to the terms of the Offer agreed by the Bidder 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, which must be duly signed by the authorised representative(s) of both parties.

The Bidder 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 fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Bidder receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Bidder (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.

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

FOR THE CLIENT:

Signature(s) _____

Name(s) _____

Capacity _____

DR. JS MOROKA LOCAL MUNICIPALITY
(Name and address of organisation)

Name and signature of witness _____

Date _____

BIDDER:

DR. JSMLM:

58

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



SCHEDULE OF DEVIATIONS

Notes:

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

1	Subject _____
	Details _____
2	Subject _____
	Details _____
3	Subject _____
	Details _____
4	Subject _____
	Details _____
5	Subject _____
	Details _____
6	Subject _____
	Details _____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Bidder agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Bid Data and addenda thereto as listed in the Bid Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Bidder 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 bid documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

BIDDER:

DR. JSMLM:

59

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



FOR THE BIDDER:

Signature(s) _____

Name(s) _____

Capacity _____

(Name and address of organisation)

Name and signature of Witness _____

Date _____

FOR THE EMPLOYER:

Signature(s) _____

Name(s) _____

Capacity _____

DR JS MOROKA LOCAL MUNICIPALITY
(Name and address of organisation)

Name and signature of Witness _____

Date _____

BIDDER:

DR. JSMLM:

60

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



C1.2 CONTRACT DATA

The General Conditions of Contract for Construction Works, Third Edition, 2015, published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and is obtainable from www.saice.org.za.

The following Contract Specific Data, Variations and Additional Clauses referring to the General Conditions of Contract for Construction Works, Third Edition, 2015, are applicable to this Contract.

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

PART 1: DATA PROVIDED BY THE EMPLOYER

CONTRACT SPECIFIC DATA	
Clause	Data
1.1.1.13	The Defects liability Period is 3 months
1.1.1.14	The time for achieving Practical Completion
1.1.1.15	The Name of the Employer is Dr JS Moroka Municipality
1.1.1.26	The Pricing Strategy is Re-measurement Contract.
1.2.1.2	The address of the Employer is : Physical Address : 2601/3 Bongimfundo Street Postal Address : Private bag x 4012, Siyabuswa 0472 E-mail Address : technical @moroka.gov.za Tel No : (013) 973 9126/7 Fax No : (013) 973 9312/3
1.1.1.16	The Name of the Engineer is : Pawacons (Pty) Ltd
1.2.1.2	The address of the Engineer is: Physical Address : 24 Hospital Street ,Newcastle Postal Address : P O Box 942 Umtetweni 4235 E-mail Address : admin @pawacons.co.za Tel No : 034-317-1138
	The Engineer shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses of the General Condition of Contract ; 2015; 3rd Edition: Clause Description 6.3 Variations

BIDDER:

DR. JSMLM:

61

Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



CONTRACT SPECIFIC DATA	
Clause	Data
5.3.1	The documentation required before commencement with Works execution are : Health and Safety Plan (Refer to Clause 4.3) Initial program (Refer to Clause 5.6) Security (Refer to Clause 6.2) Insurance (Refer to Clause 8.6) All the Provisional Sums items are to subject to submission of three quotation and approval from the Municipality prior to any appointment.
5.3.2	The time to submit the documentation required before commencement with Works execution is 14 days.
5.4.2	The access and possession of Site shall not be exclusive to the Contractor but as set out in the Site Information.
5.8.1	The non-working days are Sundays. The special non-working days are : (i) South African public holidays. (ii) The year-end break commencing is a published annually for the construction industry.
5.12.2.2	Extension of time due to abnormal rainfall will be determined in accordance with the principles as set out in Annexure D to the Scope of Works: Extension of time due to abnormal rainfall.
5.13.1	The penalty for failing to complete the works is R 5 000/day.
5.16.3	The latent defect period is 10 years.
6.2.2	Additional retention in lieu of performance guarantee will not apply. The Contractor shall submit the selected security to the Employer before commencement with Works' execution.
6.8.3	Price adjustments for variations in the costs of special materials are allowed.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%.
6.10.3	The limit of retention money is 0%.
8.6.1.1.2	The value of Plant and materials supplied by the Employer to be included in the insurance sum is Nil.
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R250 000.00.
8.6.1.3	The limit of indemnity for liability insurance is R 5 000 000.00.
10.5.3	The number of Adjudication Board Members to be appointed is one.
10.7.1	The determination of disputes shall be by arbitration.

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....**Initial:** DJSM

2.....

Witness:

**PART 2: DATA PROVIDED BY THE CONTRACTOR**

Clause	Data												
1.1.1.9	The name of the Contractor is :												
1.2.1.2	The address of the Contractor is : Physical address : _____ Postal address : _____ E-mail address : _____ Fax : _____												
6.2.1	The security to be provided by the Contractor shall be one of the following: <table border="1"> <tr> <th>Type of security (Value Added Tax is excluded from the Contract Sum and the value of the Works for calculating the amount of the security)</th><th>Contractor's choice. Indicate "Yes" or "No"</th></tr> <tr> <td>Cash deposit of 10% of the Contract Sum.</td><td>No</td></tr> <tr> <td>Performance guarantee of 10 % of the Contract Sum.</td><td>Yes</td></tr> <tr> <td>Retention of 10% of the value of the Works.</td><td>Yes</td></tr> <tr> <td>Cash deposit of 5% of the Contract Sum plus retention of 5% of the value of the Works.</td><td>No</td></tr> <tr> <td>Performance guarantee of 5% of the Contract Sum plus retention of 5% of the value of the Works.</td><td>No</td></tr> </table>	Type of security (Value Added Tax is excluded from the Contract Sum and the value of the Works for calculating the amount of the security)	Contractor's choice. Indicate "Yes" or "No"	Cash deposit of 10% of the Contract Sum.	No	Performance guarantee of 10 % of the Contract Sum.	Yes	Retention of 10% of the value of the Works.	Yes	Cash deposit of 5% of the Contract Sum plus retention of 5% of the value of the Works.	No	Performance guarantee of 5% of the Contract Sum plus retention of 5% of the value of the Works.	No
Type of security (Value Added Tax is excluded from the Contract Sum and the value of the Works for calculating the amount of the security)	Contractor's choice. Indicate "Yes" or "No"												
Cash deposit of 10% of the Contract Sum.	No												
Performance guarantee of 10 % of the Contract Sum.	Yes												
Retention of 10% of the value of the Works.	Yes												
Cash deposit of 5% of the Contract Sum plus retention of 5% of the value of the Works.	No												
Performance guarantee of 5% of the Contract Sum plus retention of 5% of the value of the Works.	No												
6.5.1.2.3	The percentage allowance to cover overhead charges is _____												
6.8.3	The variation in cost of special materials is : Type of special material Unit Rate or price _____												

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



General Conditions of Contract for Construction Works, Second Edition, 2015

PRO FORMA

PERFORMANCE GUARANTEE

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

GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means: _____

Physical address: _____

“Employer” means: _____

“Contractor” means: _____

“Engineer” means: _____

“Works” means: _____

“Site” means: _____

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

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

Amount in words: _____

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

Amount in words: _____

“Expiry Date” means: _____

CONTRACT DETAILS

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

PERFORMANCE GUARANTEE

1. The Guarantor’s liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor’s period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



3. The Guarantor hereby acknowledges that:
 - 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
 - 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, 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 Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 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) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
 - 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
 - 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
 - 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



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 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
10. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
11. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
13. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
14. Where this Performance 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) _____

Capacity _____

Guarantor's signatory (2) _____

Capacity _____

Witness signatory (1) _____

Witness signatory (2) _____

BIDDER:

DR. JSMLM:

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Initial: Authorized signatory/ies:1.....

Initial: DJSM

2.....

Witness:



General Conditions of Contract for Construction Works, Third Edition, 2015

PRO FORMA

ADJUDICATION BOARD MEMBER AGREEMENT

Please note that words in italics within brackets are items which should be stated.

This Agreement is entered into between:

Adjudication Board Member: *(Name, physical address, postal address, e-mail address, fax number, telephone number and mobile number).*

Contractor: *(Name, physical address, postal address, e-mail address, fax number, telephone number and mobile number).*

Employer: *(Name, physical address, postal address, e-mail address, fax number, telephone number and mobile number).*

The Contractor and the Employer will hereinafter be collectively referred to as the Parties.

The Parties entered into a Contract for *(name of project)* which provides that a dispute under or in connection with the General Conditions of Contract for Construction Works, Second Edition, 2010, must be referred to *(ad-hoc adjudication/standing adjudication)*.

The undersigned natural person has been appointed to serve as Adjudication Board Member and together with the undersigned Parties agree as follows:

1. The Adjudication Board Member accepts to perform his duties in accordance with the terms of the Contract, the General Conditions of Contract for Construction Works Adjudication Board Rules and this Agreement.
2. The Adjudicator undertakes to remain independent and impartial of the Contractor, Employer and Engineer for the duration of the Adjudication Board proceedings.
3. The Adjudication Board Member agrees to serve for the duration of the Adjudication Board proceedings.
4. The Parties may at any time, without cause and with immediate effect, jointly terminate this Agreement.
5. Unless the Parties agree, the Adjudication Board Member shall not act as arbitrator or representative of either Party in any subsequent proceedings between the Parties under the Contract. No Party may call the Adjudication Board Member as a witness in any such subsequent proceedings.

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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2

Witness:



6. The standing Adjudication Board's duties shall end upon the Adjudication Board Member(s) receiving notice from the Parties of their joint decision to disband the Adjudication Board.
7. The Adjudication Board Member shall be paid in respect of time spent upon or in connection with the adjudication including time spent traveling:
 - a. A monthly retainer of *(amount)* for *(number)* of months, and/or
 - b. A daily fee of *(amount)* based on a *(number)* hour day, and/or
 - c. An hourly fee of *(amount)*, and/or
 - d. A non-recurrent appointment fee of *(amount)* which shall be accounted for in the final sums payable.

8. The Adjudication Board Member's expenses incurred in adjudication work shall be reimbursed at cost.

Upon submission of an invoice for fees and expenses to the Parties, the *(Contractor/Employer*)* shall pay the full amount within 28 days of receipt of the invoice and he shall be reimbursed by the other party by half the amount so that the fees and expenses are borne equally by the Parties. Late payment of such invoice shall attract interest at prime plus 3 % points compounded monthly at the prime rate charged by the Adjudication Board Member's bank.

This Agreement is entered into by:

Contractor's signature: _____

Contractor's name: _____

Place: _____

Date: _____

Employer's signature: _____

Employer's name: _____

Place: _____

Date: _____

Adjudication Board Member's signature: _____

Adjudication Board Member's name: _____

Place: _____

Date: _____

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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2

Witness:



** Delete the inapplicable party*

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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2

Witness:



C1.4 AGREEMENT IN TERMS OF THE OCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

THIS AGREEMENT made at _____

on this the _____ day of _____ in the year _____

between **THE DR. JS MOROKA LOCAL MUNICIPALITY**(hereinafter called "the **Employer**") of the one part,
herein represented by _____

in his capacity as _____

and

(hereinafter called "the Mandatory") of the other part, herein represented by _____

in his capacity as _____

WHEREAS the Employer is desirous that certain works be constructed, viz **Contract no.JSM/S/13/20-21/W16-17**

and has accepted a Bid by the Mandatory for the construction, completion and maintenance of such Works and whereas the Employer and the Mandatory have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatory with the provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 1 The Mandatory shall execute the work in accordance with the Contract Documents pertaining to this Contract.
- 2 This Agreement shall hold good from its Commencement Date, which shall be the date of a written notice from the Employer or Engineer requiring him to commence the execution of the Works, to either
 - (a) the date of the Final Approval Certificate issued in terms of Clause 5.16 of the General Conditions of Contract (hereinafter referred to as "the GCC"),
 - (b) the date of termination of the Contract in terms of Clauses 9 of the GCC.
- 3 The Mandatory declares himself to be conversant with the following:
 - (a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act:
 - (i) Section 8 : General duties of employers to their employees;
 - (ii) Section 9 : General duties of employers and self-employed persons to persons other than employees;

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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2

Witness:



- (iii) Section 37 : Acts or omissions by employees or mandataries, and
- (iv) Subsection 37(2) relating to the purpose and meaning of this Agreement.
- (b) The procedures and safety rules of the Employer as pertaining to the Mandatory and to all his subcontractors.
- 4 In addition to the requirements of Clause 33 of the GCC and all relevant requirements of the above-mentioned Volume 3, the Mandatory agrees to execute all the Works forming part of this Contract and to operate and utilise all machinery, plant and equipment in accordance with the Act.
- 5 The Mandatory is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.
- 6 ***The Mandatory warrants that all his and his subcontractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 which cover shall remain in force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.***
- 7 The Mandatory undertakes to ensure that he and/or subcontractors and/or their respective employers will at all times comply with the following conditions:
 - (a) The Mandatory shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Mandatory shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatory obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.
 - (b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Mandatory to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
 - (c) The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of section 32 of the Occupational Health and Safety Act into any incident involving the Mandatory and/or his employees and/or his subcontractors.

In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

SIGNED FOR AND ON BEHALF OF THE EMPLOYER:

WITNESS 1

NAME 1
(IN CAPITALS)

SIGNED FOR AND ON BEHALF OF THE MANDATORY:

WITNESS 1

NAME 1

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies: 1. **Initial:** DR. JSM

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2

Witness:



(IN CAPITALS)

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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2

Witness:



CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

The signatory for the company that is the Contractor in terms of the above-mentioned Contract and the Mandatory in terms of the above-mentioned Act shall confirm his or her authority thereto by attaching to this page a duly signed and dated copy of the relevant resolution of the Board of Directors.

An example is given below:

"By resolution of the Board of Directors passed at a meeting held on _____ 20.....,

Mr/Ms _____ whose signature

appears below, has been duly authorised to sign the AGREEMENT in terms of THE

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 of 1993) on behalf of _____

SIGNED ON BEHALF OF THE COMPANY: _____

IN HIS/HER CAPACITY AS : _____

DATE : _____

SIGNATURE OF SIGNATORY : _____

WITNESS 1

NAME 1
(IN CAPITALS)

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

2

Witness:



DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: *TECHNICAL SERVICES*

CONTRACT NO: *BID NO:JSM/W/20/20-21/W00*

FOR THE

**FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN
WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3
AND WATER TREATMENT PLANTS .**

PART C2 PRICING DATA

PAGE(S)

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C2.2 BILL OF QUANTITY	75

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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2

Witness:



C2.1 PRICING INSTRUCTIONS

- 1 The General Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings shall be read in conjunction with the Bill of Quantities.
- 2 The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.

Although the Bidder is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out and that the Engineer is obliged to base his assessment of the rates to be paid for such additional work on the rates the Contractor inserted in the Bill.

Clause 8 of each Standardized Specification, and the measurement and payment clause of each Particular Specification, read together with the relevant clauses of the Project Specifications, all set out which ancillary or associated activities are included in the rates for the specified operations.

- 3 Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Project Specifications. No consideration will be given to any claim by the Contractor submitted on such a basis. The Bill has been drawn up generally in accordance with the latest issue of Civil Engineering Quantities. Should any requirement of the measurement and payment clause of the appropriate Standardized or Project Specification(s) be contrary to the terms of the Bill or, when relevant, to the Civil Engineering Quantities, the requirement of the appropriate Standardized, Project, or Particular Specification as the case may be, shall prevail.
- 4 Unless stated to the contrary, items are measured net in accordance with the Drawings without any allowance having been made for waste.
- 5 The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the construction of the work described, and shall cover the costs of all general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Bid is based.
- 6 The quantities set out in the schedule of quantities are only approximate quantities. The quantities of work finally accepted and certified for payment, and not the quantities given in the schedule of quantities, will be used to determine payments to the contractor.
- 7 An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.

The Bidder shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the bidden rates shall apply should work under these items actually be required.

Should the Bidder group a number of items together and bid one sum for such group of items, the single bidden sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil.

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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2

Witness:



The bidder rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

- 8 The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment.

Ordering of materials are not to be based on the Bill of Quantities, but only on information issued for construction purposes.

- 9 For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Standardized, Project or Particular Specifications
Quantity	:	The number of units of work for each item
Rate	:	The payment per unit of work at which the Bidder bids to do the work
Amount	:	The quantity of an item multiplied by the bidded rate of the (same) item
Sum	:	An amount bidded for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units

- 10 The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m ²	=	square metre
m ² -pass	=	square metre-pass
ha	=	hectare
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
kW	=	kilowatt
kN	=	kilonewton
kg	=	kilogram
t	=	ton (1 000 kg)
%	=	per cent
MN	=	meganewton
MN-m	=	meganewton-metre
PC Sum	=	Prime Cost Sum
Prov Sum	=	Provisional Sum

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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Witness:



NB: PLEASE STATE THE FOLLOWING:

- **ARE/IS BID PRICE/S FIRM:**

YES	NO
-----	----

- **IF THE BID PRICE(S) ARE NOT FIRM, SUPPLY THE INFORMATION REGARDING ESCALATION APPLICABLE TO THIS BID:**

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

2

Witness:

**C2.2 BILL OF QUANTITIES.**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A:PRELIMINARY & GENERAL		
ITEM No.	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT(R)
1	SANS 1200 A	<u>PRELIMINARY AND GENERAL</u>				
1,1		<u>SCHEDULED FIXED -CHARGE AND VALUE-RELATED ITEMS</u>				
1.1.1		Contractual Requirements	Sum	1		
1.1.2		<u>Establishment of facilities on the site</u>				
1.1.2.1		Facilities required by Engineer				
1.1.2.2		a) Furnished Office (1 No.)	Sum	1		
1.1.2.3		b) Laptop for use by Intern	Sum	1		
1.1.2.4		c) Nameboards	No	2		
1.1.2.5		d) Toilet (1No.)	Sum	1		
1.1.2.2		<u>Facilities required by Contractor</u>				
		a) Offices & Storage Sheds	Sum	1		
		b) Workshops	Sum	1		
		c) Laboratories	Sum	1		
		d) Ablution & Latrine facilities	Sum	1		
		e) Tools & Equipment	Sum	1		
		f) Water Supplies, Electric Power & Communications	Sum	1		
		g) Dealing with Water	Sum	1		
		h) Access	Sum	1		
		i) Plant	Sum	1		
1.1.3		Other Fixed Charge Obligations	Sum	1		
1.1.4		Removal of site establishment	Sum	1		
1.1.5		Compliance with OHS Act (1993) & Covid 19 regulations	Sum	1		
1.1.5		Compliance with the Construction Environmental Management Programme	Sum	1		
TOTAL CARRIED FORWARD						

BIDDER:**DR. JSMLM:**

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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2

Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A:PRELIMINARY & GENERAL		
ITEM No.	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT(R)
TOTAL BROUGHT FORWARD						
1,2		<u>TIME-RELATED ITEMS</u>				
1.2.1		Contractual Requirements	months	6		
1.2.2		Operation and Maintenance of Facilities on Site, for Duration of Construction, except where otherwise stated	months	6		
1.2.2.1		<u>Facilities required by Engineer</u>				
		a) Furnished Office (1 No.)	months	6		
		b) Telephone (Cell phone)	months	6		
		c) Nameboards (2 No.)	months	6		
		e) Survey Assistants & Materials	months	0		
1.2.2.2		<u>Facilities required by Contractor</u>				
		a) Offices & Storage Sheds	months	6		
		b) Workshops	months	6		
		c) Laboratories	months	6		
		d) Ablution & Latrine facilities	months	6		
		e) Tools & Equipment	months	6		
		f) Water Supplies, Electric Power & Communications	months	6		
		g) Dealing with Water	months	6		
		h) Access	months	6		
		i) Plant	months	6		
1.2.3		Supervision for the Duration of Construction	months	6		
1.2.4		Other Time Related Obligations	months	6		
1.2.5		Compliance with OHS Act (1993) & Covid 19 regulations	months	6		
1.2.6		Compliance with the Construction Environmental Management Programme	months	6		
1,3	SANS 1200A	<u>PROVISIONAL SUMS</u>				
1.3.1		Community Liaison Officer	Prov Sum	1		R50 000,00
1.3.2		Overheads and profit on item 1.3.1	%			
1.3.5		Allowance for relocation of existing services	Prov Sum	1		R35 000,00
TOTAL CARRIED FORWARD						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A:PRELIMINARY & GENERAL		
ITEM No.	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT(R)
TOTAL BROUGHT FORWARD						
1.3.6		Overheads and profit on item 1.3.5	%			
1.3.9		Allowance for Health & Safety and Environmental Auditing	Prov. Sum	1	75 000,00	R75 000,00
1.3.10		Overheads and profit on item 1.3.9	%			
1.3.11		Allow provisional sum for Engineer's representative(Local intern)	Prov. Sum	1	75 000,00	R75 000,00
1.3.12		Overheads and profit on item 1.3.11	%			
1.3.13		Additional survey	Prov. Sum	1	50 000,00	R50 000,00
1.3.14		Overheads and profit on item 1.3.13	%			
1.3.15		Liaison with power authority	sum	1		
TOTAL FOR SECTION CARRIED TO SUMMARY						

BIDDER:**DR. JSMLM:**

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A:WAALKRAL PUMPSTATION		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
2,1		PUMPS AND MOTORS				
2.1.3		Remove ,clean and assess condition of existing equipment and any pending failures and report				
		a)760Kw motor	No	2,00		
		b) Sulzer high lift pump	No	2,00		
2.1.4		Allow provisional sum for refurbishment of motor, pump & associated equipment as directed by Engineer	Prov Sum	1,00	R750 000,00	R750 000,00
2.1.5		Overheads and profit on item 2.1.3	%			
2.1.6		Supply all materials ,replace sump, test, and commission submersible pump	sum	1,00		
2.2		ELECTRICAL WORKS				
2.2.3		Supply new 6.6kV MCC panel c/w MV switchgear and 3 x soft starters as per electrical engineer specification.	sum	1,00		
2.2.4		Repair of flood lights and installation of daylight sensors.	Sum	1,00		
2.2.5		Supply, deliver and Install New control systems as per specifications	sum	1,00		
2.2.6		Supply deliver and install new start stop stations	each	3,00		
2.2.7		Disconnect and Remove existing MV panel	sum	1,00		
2.2.8		Disconnect and remove existing MV and control cables	sum	1,00		
2.2.9		Supply, deliver and install new cables 25mm ² 3C XLPE 11kV	m	36,00		
2.2.10		Terminate new MV cables in place	each	8,00		
2.2.11		Supply, deliver and install new control panel and operator station	No	3,00		
2.2.12		commission power circuits	sum	4,00		
TOTAL CARRIED FORWARD						

BIDDER:**DR. JSMLM:**

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A:WAALKRAL PUMPSTATION		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
2.2.13	SANS 1200 D SDD8-1	Commission new control system	sum	1,00		
2.2.14		Inspect, test and report on existing instrumentation and control system	sum	1,00		
2.2.15		Inspect, test and report on existing telemetry system	sum	1,00		
2.2.16		Allow for completion and interfacing of telemetry system	Prov sum	1,00		
2.2.17		Overheads and profit on above item	%	10,00		
2,3		Telemetry				
2.3.1		Supply and install new inlet flow meter and outlet and linked to telemetry with downloadable data	sum	1,00		
2.3.2		Installation of level control sensors on the reservoirs	Sum	1,00		
2.4		Valves				
2.4.1		Replace 350 mm diameter non return valve flanged both ends.	No.	3,00		
2.4		BUILDING				
2.4.1		Renovations Pumpstation Building	Prov sum	1,00	R120 000,00	R120 000,00
2.4.2		Overheads and profit on item 3.1.2	%	10,00		
2.4.3		Replace street lighting at residences Beka Led Lume	No	8,00		
2.5		MISCELLENOUS				
2.5.1		Allow for provisional sum for minor works and refurbishment of selected equipment/components as directed by the engineer	prov sum	1,00	R50 000,00	R50 000,00
2.5.2		Overheads and profit on item 3.1.2	%	10,00		
2.6		GRASS CUTTING AND TOOLS				
2.6.1	Allow provional sum for acquisition of small tools and equipment for maintenance teams as directed by engineer	Prov Sum	1,00	R25 000,00	R25 000,00	
2.6.2	Overheads and profit on item 2.6.1	%	10,00			
2.6.3	Provide all tools and equipment for cutting grass within the treatment works and dispose as directed.	ha	0,50			
TOTAL CARRIED FORWARD						

BIDDER:

DR. JSMLM:

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A:WAALKRAL PUMPSTATION		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
2.7		SECURITY SYSTEM				
2.7.1		Allow provisional sum for Standalone pepper spray alarm system as directed by engineer,	Prov sum	1,00	R23 500,00	R23 500,00
2.7.2		Overheads and profit on above item	%	10,00		
2.7.3		Allow for CCTV camera system complete with accessories	Prov sum	1,00	R33 000,00	R33 000,00
2.7.4		Overheads and profit on above item	%	10,00		
2.7.5		Allow for Intruder alarm system complete with accessories	Prov sum	1,00	R15 000,00	R15 000,00
2.7.6		Overheads and profit on above item	%	10,00		
2.7.7		Allow for completion and interfacing of telemetry system	Prov Sum	1,00	R45 000,00	R45 000,00
2.7.8		Overheads and profit on item above	%	10,00		
2.7.9		Submission of valid CoCs for electrical installation	sum	1,00		
2.7.10		Submission of as built drawings	sum	1,00		
2.7.11		Submission of O&M Manuals	sum	1,00		
2.8.1	SANS 1200 D SDD8-1	Instrumentation Supply and install new inlet flow meter and outlet and linked to telemetry with downloadable data	sum	1,00		
2.8.2		Supply and install flow level controllers on the reservoir	Sum	1,00		
2.8.3		Valves Supply all materials and labour and replace 350 mm diameter non-return valve flanged both ends.	No.	3,00		
2.9.4						
2.9.5		MISCELLENIOUS				
2.9.6		Allow for provisional sum for civil and building works as directed by Engineer.	prov sum	1,00	R50 000,00	R50 000,00
2.9.7		Overheads and profit on item 2.5.1	%	10,00		
2.9.8		SIGN BOARD				
2.10.1		Supply and install sign board at the entrance of the pumpstation as per drawing No 20-01-02-ENG-MEC-015-PRE	Sum	1,00		
TOTAL FOR SECTION CARRIED TO SUMMARY						

BIDDER:

DR. JSMLM:

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A: BLOOD FONTEIN PUMPSTATION		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
3.0		PUMPS AND MOTORS				
3.1.1		Remove ,clean and assessment condition of existing equipment and any pending failures and report				
		a) 18.5KW MOTOR	No	2		
		b) KSB pump-TA-80-200,Impellor 179mm	No	2		
3.1.2		Allow provisional sum for refurbishment of 2 ksb pumps and 18,5kw motors, type -TA-80-200 Impela dia-179mm	Prov Sum	1	100 000,00	100 000,00
3.1.3		Overheads and profit on item 3.1.2	%			
3.2		ELECTRICAL WORKS				
3.2.1		Inspect, test and report on faulty soft starter	sum	1		
		Allow provisional sum for repair of faulty soft starter	Prov Sum	1	4 500,00	4 500,00
		Overheads and profit on item above	%			
		Allow provisional sum for replacement soft starter	Prov Sum	1	12 500,00	12 500,00
		Overheads and profit on item above	%			
3.2.2		Replace pumproom lights and switches and sockets	sum	1		
3.2.3		Inspect, test and report instrumentation and control system	sum	1		
3.2.4		Inspect, test and report telemetry system	sum	1		
3.2.5		Submit new and valid CoCs	sum	1		
3.2.6		Provide O&M manuals	sum	1		
3.2.7		Provide as built drawings	sum	1		
3.2.8		Allow for completion and interfacing of telemetry system	Prov sum	1	R 45 000,00	45 000,00
3.2.9		Overheads and profit on item above	%			
3.2.10		Allow for rectification of instrumentation and control system	Prov sum	1	R 11 000,00	11 000,00
3.2.11		Overheads and profit on item above	%			
3.2.12		Allow for 18.5kW soft starter replacement	Prov sum	1	R 22 000,00	22 000,00
3.2.13		Overheads and profit on item above	%			
3.2.14		Commission MCC controls	sum	1		
3.2.15		Recommission all pumps	sum	1		
TOTAL CARRIED FORWARD						

BIDDER:

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A: BLOOD FONTEIN PUMPSTATION		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						-
3.3		SECURITY LIGHTING				
3.3.1		Supply and installation of lamps and electrical cabling and panels for security lights as per drawing No 20-01-02-ENG-ELE-003-PRE	No	8		
3.3		GRASS CUTTING AND TOOLS				
3.3.1		Provide all tools and equipment for cutting grass within the treatment works and dispose as directed.	ha	1		
3.4.		BUILDINGS				
3.4.1		Replace and installation 8 damaged roof sheets 5,2m chromadek sheets Azeu blue, including all accessories ridges and nails.	no	7		
3.4.2		Replaced damaged rhino board ceiling including brandering and all associated 500 x 500mm nonslip Ceramic floor tiles fixed with "Tal Professional" adhesive to plaster, and flush pointed with "Tal Fine Epoxy grout" jointing compound all in accordance with manufacturers	m2	25		
3.4.3			m2	25		
3.5.5		Connection of water to the existing toilet and repairs to broken Cistern and doors	Sum	1		
3.5.6		Supply all materials ,labour and equipment and construct Guard room complete as per drawing No.....	Sum	1		
3.5.7		Installation of new lights and all associated fittings in the operator's office.	Sum	1		
3.5.8		Replace damaged windowpanes in the main building	Sum	1		
3.5.9		Desludging septic Tank and dispose to Siyabuswa sewage works	Sum	1		
3.5.10		SECURITY SYSTEM				
		Supply and install pepper spray alarm system as directed by engineer,	sum	1		
3.5.11		Allow provisional sum for intruder alarm system as directed by engineer,	Prov sum	1	15 000,00	15 000,00
3.5.12		Overheads and profit on item above	%			
3.5.13		Allow for CCTV camera system complete with accessories as itemised by engineer	Prov sum	1	33 000,00	33 000,00
		Overheads and profit on item above	%			
TOTAL CARRIED FORWARD						

BIDDER:

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION A: BLOOD FONTEIN PUMPSTATION		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
3.6.1		FLOW METER Supply and install new inlet flow and outlet meter and linked to telemetry with downloadable data	no	2		
3.7		SIGN BOARD Supply and install sign board at the entrance of the plant as per drawing No...20-01-02-ENG-MEC-015-PRE	Sum	1		
3.7.1						
TOTAL FOR SECTION CARRIED TO SUMMARY						-

BIDDER:**DR. JSMLM:**

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS.				SECTION A:KAMEELRIVER RESERVOIR 1		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
6.0		PUMPS AND MOTORS				
6.1.1		Remove ,clean and assess condition of existing equipment and any pending failures				
		a) 160 kw; Weg motor	No	3		
		b) Curro pumps	No	3		
6.1.2		Allow provisional sum for refurbishment of motor, pump & associated equipment as directed by Engineer	Prov Sum	1	900 000,00	900 000,00
6.1.3		Overheads and profit on item 6.1.2	%			
6.1.4		PIPEWORK AND FITTINGS				
		200 mm non return valve	No.	3		
6.1.5		150mm PRV bermard valve	No.	1		
6.1.6		200 mm control valve	No.	3		
6.1.7		Replace leaking control valve from reservoir .	Sum	1		
6.2		ELECTRICAL WORKS				
6.2.1	SPEC T/AT	Refurbish MCC panel - clean and make good openings, terminations and wiring in MCC and make ready for CoCs.	Sum	1		
6.2.2		Supply, deliver and install 70mm ² 4C PVC/SWA/PVC cables on cable tray	m	120		
6.2.3		Terminate 70mm ² 4c PVC/SWA/PVC cables	No	6		
6.2.4		Motor thermistor and bearing protection complete with cabling and relays for 3 motors	sum	1		
6.2.5		Replace existing lighting and small power fittings as per specifications	sum	1		
6.2.6		Commission MCC controls	sum	1		
6.2.7		Recommission all pumps	sum	1		
6.2.8		Submit new and valid CoCs	sum	1		
6.2.9		Provide O&M manuals	sum	1		
6.2.10		Provide as built drawings	sum	1		
6.2.11		Provide client user training	sum	1		
TOTAL CARRIED FORWARD						

BIDDER:

DR. JSMLM:

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS.				SECTION A:KAMEELRIVER RESERVOIR 1		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
		Instrumentation and telemetry				
		Test and report on instrumentation and telemetry system	sum	1		
		Allow for completion and interfacing of instrumentation system	Prov sum	1	45 000,00	45 000,00
		Overheads and profit on item above	%			
6.3		MISCELLANEOUS				
6.3.1		Provide all tools and equipment for cutting grass and dispose as directed.	ha	1		
		SIGN BOARD				
6.3.2		Supply and install sign board at the entrance of the plant as per drawing No...20-01-02-ENG-MEC-015-PRE	Sum	1		
6.4		SECURITY				
6.4.1		Half brick wall in1.4 C/s mortar plastered both sides and painted to close several access doors	m2	20		
6.4.2		New pumpstation double door 2600mm x 1600mm as per Drawing	Sum	1		
6.4.3		Supply and install standalone pepper spray alarm system as directed by Engineer,	Sum	1		
6.4.4		Allow provisional sum for intruder alarm system as directed by engineer,	Prov sum	1	15 000,00	15 000,00
6.4.5		Overheads and profit on item above	%			
6.4.6		Allow for CCTV camera system complete with accessories	Prov sum	1	33 000,00	33 000,00
6.4.7		Overheads and profit on item above	%			
6.4.8		Allow for completion and interfacing of telemetry system	Prov sum	1	R45 000,00	45 000,00
6.4.9		Overheads and profit on item above	%			
6.5		BUILDINGS				
		Internal and External				
6.5.1		Hack of and remove all paint &,apply one coat Plascon Plaster Primer (UC 56)undercoat and allow to dry for at least 16 hours. Apply 2 coats Plascon Polvin Super Acrylic PVA (EPL) paint to ;	Sum	1		
TOTAL FOR SECTION CARRIED TO SUMMARY						

BIDDER:

DR. JSMLM:

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS.				SECTION A: KAMEELRIVER RESERVOIR 2		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
7.0		PUMPS AND MOTORS				
7.1.1		Remove ,clean and assess condition of existing equipment and any pending failures				
		a) 185 kw; Weg motor	No	2		
		b) Pumps	No	2		
7.1.2		Allow provisional sum for refurbishment of motor, pump & associated equipment as directed by Engineer	Prov Sum	1	600 000,00	R600 000,00
7.1.3		Overheads and profit on item 7.1.2	%			
7.2		ELECTRICAL				
7.2.1		Installation of flood lights with daylight sensors complete with the necessary cables required.	No .	6		
7.2.2		Supply, deliver and install 95mm ² 4C PVC/SWA/PVC cables on cable trays	m	90		
7.2.3		Supply, deliver and install 50mm ² single core copper insulated conductors on cable tray	m	90		
7.2.4		Terminate 95mm ² 4C PVC/SWA/PVC	No	8		
7.2.5		Terminate 50mm ² insulated copper conductor	No	8		
7.2.6		Provide kick pipes to protect cables at the transformer point 110mm diameter	m	6		
7.2.7		Inspect, test and report on telemetry system	sum	1		
7.2.8		Commission power circuits	sum	1		
7.2.9		Commission control circuits	sum	1		
7.2.10		Provide as built drawings	sum	1		
7.2.11		Provide O&M Manuals	sum	1		
7.2.12		Submit CoCs for the installation	sum	1		
7.2.13		Provide client user training	No	1		
TOTAL CARRIED FORWARD						

BIDDER:

DR. JSMLM:

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS.				SECTION A: KAMEELRIVER RESERVOIR 2		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
7.3		BUILDINGS				
7.3.1		Construction of Guard room complete as per Drawing No..	Sum	1		
7.3.2		Repair broken windows and install burglar bars	Sum	1		
7.3.3		New pumpstation double door 2600mm x 1600mm as per drg	Sum	1		
7.4		SECURITY				
7.4.1		Supply and install Standalone pepper spray alarm system as directed by Engineer,	Sum	1		
7.4.2		Supply all labour,materials and equipment to repair existing fencing	m	20		
7.4.3		Allow provisional sum for intruder alarm system as directed by engineer,	Prov sum	1	R15 000,00	R15 000,00
7.4.4		Overheads and profit on item above	%	10		
7.4.5		Allow for CCTV camera system complete with accessories Overheads and profit on item above	Prov sum %	1	R33 000,00	R33 000,00
7.5		SIGN BOARD				
7.5.1		Supply and install sign board at the entrance of the plant as per drawing No 20-01-02-ENG-MEC-015-PRE	Sum	1		
7.6		MISCELLENIOUS				
7.6.1		Allow Provional sum for acquisition of small tools and equipment for maintenance teams as directed by engineer	Prov Sum	1	R25 000,00	R25 000,00
7.6.2		Overheads and profit on item 7.6.1	%			
7.6.3		Provide all tools and equipment for cutting grass within the treatment works and dispose as directed.	ha	1		
TOTAL FOR SECTION CARRIED TO SUMMARY						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION: ABSTRACTION PUMPSTATION		
Item No	Payment Clause	Short Description	Unit	Quantity	R0,00	Amount R c
8		PUMPS AND MOTORS				
8.1.1		Remove ,clean and asses condition of existing equipment and any pending failures and provide report				
		a) 75kw(Weg) motor/ pump	No	2		
		b) 132kw(Siemens)motor/ pump	No	4		
8.1.2		Allow Provisional sum for refurbishment of motor, pump & associated equipment as directed by Engineer	Prov Sum	1	2 000 000,00	2 000 000,00
8.1.3		Overheads and profit on item 8.1.2	%	10		
8.2		ELECTRICAL WORKS				
8.2.1		Supply, deliver and install new 800kVA pad mount transformer complete with protection as specified	Sum	1		
8.2.2		Supply, deliver and install new MV switch as specified	Sum	1		
8.2.3		MV terminations for MV Switch	No	2		
8.2.4		MV terminations for transformer	No	1		
8.2.5		LV terminations for transformer	No	1		
8.2.6		Refurbish 132kW soft starter panel	No	1		
8.2.7		Replace 132kW soft starter	No	1		
8.2.8		Replace vandalised cable 95mm ² 4C PVC/SWA/PVC armoured	m	70		
8.2.8		Replace vandalised cable 70mm ² 4C PVC/SWA/PVC armoured	m	70		
8.2.9		Replace vandalised cable 50mm ² 4C PVC/SWA/PVC armoured	m	60		
8.2.10		Replace vandalised 35mm ² insulated copper conductor	m	70		
8.2.11		Replace vandalised 25mm ² insulated copper conductor	m	60		
8.2.12		MCC room lighting and small power	sum			
8.2.13		Supply deliver and install 50W LED flood lights on motor platform	No	4		
8.2.14		Supply, deliver and install 2.5mm ² 3C PVC/SWA/PVC for flood lights	m	60		
8.2.15		Terminate 70mm ² 4C PVC/SWA/PVC armoured cable	No	6		
8.2.16		Terminate 50mm ² 4C PVC/SWA/PVC armoured cable	No	4		
8.2.17		Terminate 35mm ² insulated copper conductor	No	4		
TOTAL CARRIED FORWARD						

BIDDER:**DR. JSMLM:**

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION: ABSTRACTION PUMPSTATION		
Item No	Payment Clause	Short Description	Unit	Quantity	R0,00	Amount R c
TOTAL BROUGHT FORWARD						
8.2.18		Terminate 25mm ² insulated copper conductor	No	4		
8.2.19		Terminate 2.5mm ² 4C PVC/SWA/PVC armoured cable	No	8		
8.2.20		Inspect, test and report instrumentation and control system	No.	1		
8.2.21		Allow provisional sum for Stand alone pepper spray alarm system as directed by engineer,	Prov sum	1	R23 500,00	R23 500,00
8.2.22		Overheads and profit on item above	%			
8.2.23		Allow for CCTV camera system complete with accessories	Prov sum		R33 000,00	R33 000,00
8.2.24		Overheads and profit on item above	%			
8.2.25		Allow for Intruder alarm system complete with accessories	Prov sum		R15 000,00	R15 000,00
8.2.26		Overheads and profit on item above	%			
8.2.27		Allow for completion and interfacing of telemetry system	Prov Sum	1	R45 000,00	R45 000,00
8.2.28		Overheads and profit on item above	%			
8.2.29		Allow for complete installation and commissioning of motor protection system	sum	1	R125 000,00	R125 000,00
8.2.30		Overheads and profit on item above	%			
8.2.31		Provide O&M Manuals	sum	1		
8.2.32		CoCs for entire installation	Sum	1		
8.2.33		As built drawings for electrical installation	Sum	1		
		Provide client user training	sum	1		
8.4		BUILDINGS				
8.3.1		Construction of operators office complete as per drawing ..	Sum	1		
8.3.2		Allow provisional sum for minor building renovations additions as directed by Engineer	Prov Sum	1	R20 000,00	R20 000,00
8.3.3		Overheads and profit on item 8.1.2	%			
8.5		SIGN BOARD				
8.5.1		Supply and install sign board at the entrance of the plant as per drawing No 20-01-02-ENG-MEC-015-PRE	Sum	1		
TOTAL FOR SECTION CARRIED TO SUMMARY						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION: WATERVAL PUMP STATION		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
11		PUMPS				
11.1.1		Remove ,clean and asses condition of existing equipment and any pending failures				
		a) 11kw Motor	No	2		
		b) KSB pumps	No	2		
11.1.2		Allow Provisional sum for refurbishment of motor, pump & associated equipment as directed by Engineer	Prov Sum	1	R 100 000,00	100 000,00
11.1.3		Overheads and profit on item 11.1.2	%			
11.2		Electrical Works				
11.2.1		LV cable 35mm ² 4c PVC/SWA/PVC armoured	m	100		
11.2.2		Earth wire 25mm ² insulated copper conductor	m	100		
11.2.3		LV terminations 35mm ² 4C PVC/SWA/PVC	No	2		
11.2.4		Earth wire termination 25mm ²	No	2		
11.2.5		Trenching for cable above 1000mm deep 500mm wide	m	100		
11.2.6		Danger warning tape installed at 600mm depth in trench	m	100		
11.2.7		Kick pipe 70mm diameter galvanised steel	m	2		
11.2.8		New MCC panel	Sum	1		
11.2.9		CoCs for entire installation	Sum	1		
11.2.10		4mm ² 3C PVC/SWA/PVC cable	m	24		
11.2.11		2.5mm ² Bare copper earth wire	m	280		
11.2.12		Emergency stop button on pedestal stand	No	2		
11.2.13		Light switch surface mount 1 lever 1 way	No	6		
11.2.14		35W vaporproof linear LED light	No	4		
11.2.14		35W vaporproof LED light c/w battery backup	No	3		
11.2.15		Bulkhead light for toilet	No	1		
11.2.16		Veranda light vapour proof	No	1		
11.2.17		15A Weatherproof socket outlet surface mount	No	2		
11.2.18		15A single socket outlet flush	No	8		
11.2.19		15A double socket outlet flush	No	3		
TOTAL CARRIED FORWARD						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION: WATERVAL PUMP STATION		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
11.2.20		20mm conduit complete with accessories for lights and sockets for the building	sum	1		
11.2.21		2.5mm ² single core cables	m	400		
11.2.22		4 x 200W LED flood lights on 6m poles	No	5		
11.2.23		Submission of valid CoCs	sum	1		
11.2.24		As built drawings	sum	1		
11.2.25		O&M Manuals	sum	1		
11.2.26		Allow for attendance of witnessed factory acceptance tests	sum	1		
		User client training	sum	1		
11.3		SECURITY				
11.3.1		Supply and install Standalone pepper spray alarm system as directed by engineer,	sum	1		
11.3.2		Allow for CCTV camera system complete with accessories	Prov sum	1		
11.3.3		Overheads and profit on item above	%	10		
11.3.4		Allow for Intruder alarm system complete with accessories	Prov sum	1		
11.3.5		Overheads and profit on item above	%	10		
11.3.6		200mm perforated heavy duty galvanised steel cable tray complete with support structure and accessories	m	15		
11.4		MISCELLENIOUS				
11.4.1		Allow Provisional sum for acquisition of small tools and equipment for maintenance teams as directed by engineer	Prov Sum	1	R25 000,00	25 000,00
11.4.2		Overheads and profit on item 3.1.2	%			
11.4.3		Allow for repositioning of Eskom pole/metering point to secure position	Prov Sum	1,00	R25 000,00	25 000,00
		Overheads and profit on item 3.1.2	%			
11.4		SIGN BOARD				
11.5.1		Supply and install sign board at the entrance of the plant as per drawing No 20-01-02-ENG-MEC-015-PRE	Sum	1		
TOTAL FOR SECTION CARRIED TO SUMMARY						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION :WELTREVEDEN WATER TREATMENT WORKS		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
12.0		PUMPS AND MOTORS				
12.1.1		Remove ,clean and asses condition of existing equipment and any pending failures				
		Bloedfontein Pumps				
		a) 110kw motor	No	2		
		b) Pumps Q=45L/sec	No	2		
		Walkraal pumps				
		c) 350kw motor	No	4		
		d) Pumps -Q=175L/sec	No	4		
		Walkraal pumps				
		e) 160kw motor	No	3		
		f) Pump Q=175L/sec	No	3		
		Kameelrivier Pumps				
		g) 132kw motor	No	4		
		h) Sulzer Pump-Q=45L/sech=158m	No	4		
12.1.2		Allow Provisional sum for refurbishment of motor, pump & associated equipment in 12.1.1 as directed by Engineer	Prov Sum	1	R3 100 000,00	R3 100 000,00
12.1.3		Overheads and profit on item 12.1.2	%			
12.1.4		Remove ,clean and assess condition of existing equipment and repair				
		a) air blowers and motors 37kw	No	2		
		b) Refurbish and repair actuator valves in sand filtration basin	No	13		
12.1.5		Allow Provisional sum for refurbishment of motor, pump & associated equipment as directed by Engineer	Prov Sum	1	R300 000,00	R300 000,00
12.1.6		Overheads and profit on item 12.1.5	%			
12.1.7		Supply all materials and replace sump submersible pump	no	1		
12.2		ELECTRICAL				
12.6.7		Inspect, test and report on transformers 1250kVA	No	3		
12.2.1		Service and maintain 1250 Kva transformers	sum	3		
12.2.2		Supply and installation of lamps and electrical cabling and panels for security lights and repair existing lights	sum	1		
12.2.3		Repair of flood lights and installation of daylight sensors.	Sum	1		
12.2.4		Remove existing MV panel	No	1		
12.3.5		Supply, delivery and install 5 panel - 3 transformer feed switchgear as per engineer's specifications	No	1		
12.6.6		Replace incomer 2000A ACBs on MCC	No	2		
TOTAL CARRIED FORWARD						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION :WELTREVEDEN WATER TREATMENT WORKS		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
12.3.1		Replace/incorporate 2000A bus coupler into the MCC busbar system	No	1		
12.2.2		Replace 630A soft starters in panel complete with fuses and wiring	No	3		
12.2.3		Replace 200A soft starters in panel complete with fuses and wiring	No	5		
12.2.4		Inspect, test and report motor supply cables	No	12		
12.2.5		Inspect test and report instrumentation and control system	sum	1		
12.2.6		Inspect, test and report soft starters	No	1		
12.2.7		Allow for upgrade and making good of instrumentation and control system	Prov sum	1	R350 000,00	R350 000,00
12.2.8		Overheads and profit on item above	%			
12.2.9		Allow for automation system remedial works	Prov sum	1	R135 000,00	R135 000,00
12.2.10		Overheads and profit on item above	%			
12.2.11		Allow for 630A soft starters as per engineer's specifications	Prov sum	2	R165 000,00	R330 000,00
12.2.12		Overheads and profit on item above	%			
12.2.13		Allow for 200A soft starters as per engineer's specifications	No	3	R120 000,00	R360 000,00
12.2.14		Overheads and profit on item above	%			
12.2.15		Allow for 100A soft starters as per engineer's specifications	No	3	R82 500,00	R247 500,00
12.2.16		Overheads and profit on item above	%			
12.3		Instrumentation and Telemetry				
12.3.1	SANS 1200 D SDD8-1	Supply and install new inlet and outlet flow meter and outlet and linked to telemetry with downloadable data	sum	1		
12.3.2		Inspect, test and report on telemetry receiver system at central control room	sum	1		
12.3.3		Inspect, tests and report on instrumentation and control system at the water treatment works	sum	1		
12.3.4		Provide new HMI station for central monitoring of pumpstations as per engineer's specification complete with software and licenses	sum	1		
12.3.8		Allow for making good of telemetry system	sum	1		
12.3.9		Overheads and profit on item above	%			
12.4		CHLORINE EQUIPMENT				
12.4.1		Allow Provisional sum for refurbishment of chlorination susyem,testing,commisioning and training of staff as directed by Engineer	Prov sum	1	R350 000,00	R350 000,00
12.4.2		Overheads and profit on item 12.3.1	%			
TOTAL CARRIED FORWARD						

BIDDER:**DR. JSMLM:**

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION :WELTREVEDEN WATER TREATMENT WORKS		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
12.5		MISCELLENOUS				
12.5.1		Allow for provisional sum for minor works and refurbishment of selected equipment/components as directed by the engineer	Prov sum	1	R100 000,00	R100 000,00
12.5.2		Overheads and profit on item 12.4.1	%			
12.6		SECURITY SYSTEM				
12.6.1		Supply and install Stand-alone pepper spray alarm system as directed by Engineer,	sum	1		
12.7.4		Allow for CCTV camera system complete with accessories	Prov sum	1	R33 000,00	R33 000,00
12.7.5		Overheads and profit on item above	%			
12.7.6		Allow for Intruder alarm system complete with accessories	Prov sum	1	R15 000,00	R15 000,00
12.7.7		Overheads and profit on item above	%			
12.7.8		Allow for completion and interfacing of telemetry system	Prov Sum	1	R45 000,00	R45 000,00
12.7.9		Overheads and profit on item above	%			
12.8		SIGN BOARD				
12.8.1		Supply and install sign board at the entrance of the pumpstation as per drawing No 20-01-02-ENG-MEC-015-PRE	Sum	1		
12.8.2		SLUDGE LAGOONS				
12.8.2		Supply materials and equipment to clean all vegetation around the ponds	ha	12		
12.8.3		Clean all debris and vegetation on the discharge channel	m	600		
12.8.4		PIPE WORK				
12.8.4		Supply all labour and materials for replacement of pipes as specified in drawing for pipe specials	sum	1	R200 000,00	R200 000,00
		Overheads and profit on item above	%			
TOTAL FOR SECTION CARRIED TO SUMMARY						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION :SCHEDULE OF RATES		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
1,1		4kW Direct online starter 400V as per typical starter drawings	NO	RATE ONLY		
1,2		5.5kW Direct online starter 400V as per typical starter drawings	NO	RATE ONLY		
1,3		7.5kW Direct online starter 400V as per typical starter drawings	NO	RATE ONLY		
1,4		12.5kW Direct online starter 400V as per typical starter drawings	No	RATE ONLY		
2		Automatic start-delta starters complete with contactors, overloads and timers, start/stop buttons, indicator lamps and all accessories for full functionality	No	RATE ONLY		
2,1		7.5kW automatic star-delta starters 400V as per typical starter drawings	NO	RATE ONLY		
2,2		11kW automatic star-delta starters 400V as per typical starter drawings	No	RATE ONLY		
2,3		15kW automatic star-delta starters 400V as per typical starter drawings	No	RATE ONLY		
2,4		18.5kW automatic star-delta starters 400V as per typical starter drawings	NO	RATE ONLY		
2,5		22kW automatic star-delta starters 400V as per typical starter drawings	NO	RATE ONLY		
2,6		30kW automatic star-delta starters 400V as per typical starter drawings	NO	RATE ONLY		
2,7		37.5kW automatic star-delta starters 400V as per typical starter drawings	No	RATE ONLY		
2,8		45kW automatic star-delta starters 400V as per typical starter drawings	No	RATE ONLY		
2,9		55kW automatic star-delta starters 400V as per typical starter drawings	NO	RATE ONLY		
3		Soft starters 400V complete with internal bypass, with additional overload by M550 relay, to include protection MCB/fuses, LCD display, RS485 interface, status indication, start stop buttons	NO	RATE ONLY		
3,1		5.5kW	NO	RATE ONLY		
3,2		7.5kW	NO	RATE ONLY		
3,3		15kW	NO	RATE ONLY		
3,4		22kW	NO	RATE ONLY		
3,5		30kW	NO	RATE ONLY		
3,6		37kW	NO	RATE ONLY		
3,7		45kW	NO	RATE ONLY		
3,8		75kW	NO	RATE ONLY		
3,9		132kW	NO	RATE ONLY		
3.10		185kW	NO	RATE ONLY		
TOTAL CARRIED FORWARD						

BIDDER:**DR. JSMLM:**

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION :SCHEDULE OF RATES		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
4		Variable speed drives	No	RATE ONLY		
4,1		5.5kW	No	RATE ONLY		
4,2		7.5kW	No	RATE ONLY		
4,3		15kW	No	RATE ONLY		
4,4		22kW	No	RATE ONLY		
4,5		30kW	No	RATE ONLY		
4,6		37kW	No	RATE ONLY		
4,7		45kW	No	RATE ONLY		
4,8		75kW	No	RATE ONLY		
4,9		132kW	No	RATE ONLY		
4.10		185kW	No	RATE ONLY		
5		Start/stop stations	No	RATE ONLY		
5,1		Emergency stop station with mushroom button in weatherproof box mounted on pedestal	No	RATE ONLY		
5,2		Start stop station complete with start, stop and emergency lockout button as per typical drawings in IP65 enclosure and mounted on pedestal	No	RATE ONLY		
6		Cables - Low voltage cables	No	RATE ONLY		
6,1		Single core PVC cables 1000V	No	RATE ONLY		
6,2		2.5mm ²	No	RATE ONLY		
6,3		4mm ²	No	RATE ONLY		
6,4		6mm ²	No	RATE ONLY		
6,5		10mm ²	No	RATE ONLY		
6,6		16mm ²	No	RATE ONLY		
6,7		25mm ²	No	RATE ONLY		
6,8		35mm ²	No	RATE ONLY		
6,9		50mm ²	No	RATE ONLY		
7		70mm ²	No	RATE ONLY		
7.1		95mm ²	No	RATE ONLY		
TOTAL CARRIED FORWARD						
FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND				SECTION :SCHEDULE OF RATES		

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.						
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
7.2		95mm ²	No	RATE ONLY		
7.3		120mm ²	No	RATE ONLY		
7.4		150mm ²	No	RATE ONLY		
7.5		185mm ²	No	RATE ONLY		
7.6		240mm ²	No	RATE ONLY		
6,2		Bare earthwire				
6.2.1		2.5mm ²	m	RATE ONLY		
6.2.2		4mm ²	m	RATE ONLY		
6.2.3		6mm ²	m	RATE ONLY		
6.2.4		10mm ²	m	RATE ONLY		
6.2.5		16mm ²	m	RATE ONLY		
6.2.6		25mm ²	m	RATE ONLY		
6.2.7		35mm ²	m	RATE ONLY		
6.2.8		50mm ²	m	RATE ONLY		
6.2.9		70mm ²	m	RATE ONLY		
6.2.10		95mm ²	m	RATE ONLY		
6.2.11		120mm ²	m	RATE ONLY		
6.2.12		150mm ²	m	RATE ONLY		
6,3		Multicore cables PVC/SWA/PVC 1000V				
6.3.1		2.5mm ² 3C	m	RATE ONLY		
6.3.2		2.5mm ² 4C	m	RATE ONLY		
6.3.3		4mm ² 3C	m	RATE ONLY		
6.3.4		4mm ² 4C	m	RATE ONLY		
6.3.5		6mm ² 3C	m	RATE ONLY		
6.3.6		6mm ² 4C	m	RATE ONLY		
6.3.7		10mm ² 3C	m	RATE ONLY		
6.3.8		10mm ² 4C	m	RATE ONLY		
6.3.9		16mm ² 3C	m	RATE ONLY		
6.3.10		16mm ² 4C	m	RATE ONLY		
6.3.11		25mm ² 3C	m	RATE ONLY		
6.3.12		25mm ² 4C	m	RATE ONLY		
6.3.13		35mm ² 3C	m	RATE ONLY		
6.3.14		35mm ² 4C	m	RATE ONLY		
6.3.15		50mm ² 3C	m	RATE ONLY		
6.3.16		50mm ² 4C	m	RATE ONLY		
6.3.17		70mm ² 3C	m	RATE ONLY		
6.3.18		70mm ² 4C	m	RATE ONLY		
6.3.19		95mm ² 3C	m	RATE ONLY		
6.3.20		95mm ² 4C	m	RATE ONLY		
6.3.21		120mm ² 3C	m	RATE ONLY		
6.3.22		120mm ² 4C	m	RATE ONLY		
6.3.23		150mm ² 3C	m	RATE ONLY		
6.3.24		150mm ² 4C	m	RATE ONLY		
6.3.25		185mm ² 3C	m	RATE ONLY		
6.3.26		185mm ² 4C	m	RATE ONLY		
7		Cable trays - medium duty galvanised steel				
7,1		Linear runs				
7.1.1		100mm linear run	m	RATE ONLY		
7.1.2		150mm linear run	m	RATE ONLY		
7.1.3		200mm linear run	m	RATE ONLY		
7.1.4		300mm linear run	m	RATE ONLY		
7.1.5		400mm linear run	m	RATE ONLY		
7.1.6		600mm linear run	m	RATE ONLY		
7.1.7		800mm linear run	m	RATE ONLY		
7,2		Bends				
7.2.1		100mm bend	No	RATE ONLY		
TOTAL FOR SECTION CARRIED FORWAD						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION :SCHEDULE OF RATES		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
7.2.2		150mm bend	No	RATE ONLY		
7.2.3		200mm bend	No	RATE ONLY		
7.2.4		300mm bend	No	RATE ONLY		
7.2.5		400mm bend	No	RATE ONLY		
7.2.6		600mm bend	No	RATE ONLY		
7.2.7		800mm bend	No	RATE ONLY		
7,3		Tees				
7.3.1		100mm Tee	No	RATE ONLY		
7.3.2		150mm Tee	No	RATE ONLY		
7.3.3		200mm Tee	No	RATE ONLY		
7.3.4		300mm Tee	No	RATE ONLY		
7.3.5		400mm Tee	No	RATE ONLY		
7.3.6		600mm Tee	No	RATE ONLY		
7.3.7		800mm Tee	No	RATE ONLY		
8		Lights				
8,1		1200mm LED tubes (18W) 3000 lumen complete with fitting	No	RATE ONLY		
8,2		1200mm LED tubes (18W) 3000 lumen complete with fitting c/w battery backup 30 min	No	RATE ONLY		
8,3		15W LED Bulkhead fitting 6400K, 1800 lumen	No	RATE ONLY		
8,4		15W LED Bulkhead fitting 6400K, 1800 lumen c/w battery backup 30 min	No	RATE ONLY		
8,5		100W LED floodlight	No	RATE ONLY		
8,6		150W LED Flood light	No	RATE ONLY		
8,7		150W LED Highbay light	No	RATE ONLY		
8,8		200W LED Highbay light	No	RATE ONLY		
9		Sockets				
9,1		15A Single socket outlet flush	No	RATE ONLY		
9,2		15A Double socket outlet Flush	No	RATE ONLY		
9,3		15A Single socket outlet surface c/w box	No	RATE ONLY		
10		Cable terminations complete with lugs, glands and shrouds				
10,1		single cores				
10.1.1		2.5mm ²	No	RATE ONLY		
10.1.2		4mm ²	No	RATE ONLY		
10.1.3		6mm ²	No	RATE ONLY		
10.1.4		10mm ²	No	RATE ONLY		
10.1.5		16mm ²	No	RATE ONLY		
10.1.6		25mm ²	No	RATE ONLY		
TOTAL FOR SECTION CARRIED FORWAD						

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. Initial: DR. JSM

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION :SCHEDULE OF RATES		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
10.1.7		35mm ²	No	RATE ONLY		
10.1.8		50mm ²	No	RATE ONLY		
10.1.9		70mm ²	No	RATE ONLY		
10.1.10		95mm ²	No	RATE ONLY		
10.1.11		120mm ²	No	RATE ONLY		
10.1.12		150mm ²	No	RATE ONLY		
10.1.13		185mm ²	No	RATE ONLY		
10,2		3 cores				
10.2.1		2.5mm ²	No	RATE ONLY		
10.2.2		4mm ²	No	RATE ONLY		
10.2.3		6mm ²	No	RATE ONLY		
10.2.4		10mm ²	No	RATE ONLY		
10.2.5		16mm ²	No	RATE ONLY		
10.2.6		25mm ²	No	RATE ONLY		
10.2.7		35mm ²	No	RATE ONLY		
10.2.8		50mm ²	No	RATE ONLY		
10.2.9		70mm ²	No	RATE ONLY		
10.2.10		95mm ²	No	RATE ONLY		
10.2.11		120mm ²	No	RATE ONLY		
10.2.12		150mm ²	No	RATE ONLY		
10.2.13		185mm ²	No	RATE ONLY		
10,3		4 cores				
10.3.1		2.5mm ²	No	RATE ONLY		
10.3.2		4mm ²	No	RATE ONLY		
10.3.3		6mm ²	No	RATE ONLY		
10.3.4		10mm ²	No	RATE ONLY		
10.3.5		16mm ²	No	RATE ONLY		
10.3.6		25mm ²	No	RATE ONLY		
10.3.7		35mm ²	No	RATE ONLY		
10.3.8		50mm ²	No	RATE ONLY		
10.3.9		70mm ²	No	RATE ONLY		
10.3.10		95mm ²	No	RATE ONLY		
10.3.11		120mm ²	No	RATE ONLY		
10.3.12		150mm ²	No	RATE ONLY		
10.3.13		185mm ²	No	RATE ONLY		
TOTAL FOR SECTION CARRIED FORWAD						

BIDDER:**DR. JSMLM:**

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Witness:



FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.				SECTION :SCHEDULE OF RATES		
Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount R c
TOTAL BROUGHT FORWARD						
11		Conduits	No	RATE ONLY		
11,1		Surface mount conduit				
		20mm PVC	No	RATE ONLY		
11,2		20mm PVC conduit chased into wall	No	RATE ONLY		
		20mm galvanised steel conduit surface mount complete with support, couplings, bends as may be required per linear length	No	RATE ONLY		
11,3		25mm galvanised steel conduit surface mount complete with support, couplings, bends as may be required per linear length	No	RATE ONLY		
11,4		32mm galvanised steel conduit surface mount complete with support, couplings, bends as may be required per linear length	No	RATE ONLY		
11,5		100 x 100mm surface mount box	No	RATE ONLY		
11,6		100 x 100mm flush mount box	No	RATE ONLY		
11,7		100 x 50mm surface mount box	No	RATE ONLY		
11,8		100 x 50mm flush mount box	No	RATE ONLY		
11,9		RTU : 8l/Os c/w radio unit and aerial accessories and IP65 enclosure	No	RATE ONLY		
11,10		Flow sensor and transimeters	No	RATE ONLY		
11,11		Magflow	No	RATE ONLY		
12		Thermistor relays	No	RATE ONLY		
13		Bearing protection relays	No	RATE ONLY		
14						
15						
16						
TOTAL FOR SECTION CARRIED TO SUMMARY						

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**SUMMARY**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT.		
SUMMARY		
SECTION	DESCRIPTION	AMOUNT
1	PRELIMINARY AND GENERAL	
2	WAALKRALL	
3	BLOODFONTEIN	
4	KAMEELRIVER RESERVOIR 1	
5	KAMEELRIVER RESERVOIR 2	
6	ABSTRACTION PUMPSTATION	
7	WATERVAL PUMPSTATION	
8	WELTREVEDEN WATER TREATMENT WORKS	
9	SCHEDULE OF RATES	
	SUB TOTAL	
	ADD 10% CONTIGENCIES TO BE USED AS DIRECTED BY ENGINEER & APPROVED BY CLIENT	
	TOTAL EXCL VAT	
	ADD 15% VAT	
	TOTAL CARRIED TO FORM OF OFFER	

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DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: *TECHNICAL SERVICES*

CONTRACT NO: *BID NO:JSM/W/20/20-21/W00*

FOR THE

**FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN
WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3
AND WATER TREATMENT PLANT.**

PART C3 SCOPE OF WORKS

CONTENTS

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C3.1.1 Employer's objectives

C3.1.2 Overview of the Works

C3.1.3 Extent of Works

C3.1.4 Location of the Works

C3.1.5 Temporary Works

C3.2 ENGINEERING

C3.2.1 Standards and Codes of Practice

C3.2.2 Employer's Design

C3.2.3 Contractor's Design

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C3.4.6 Variations and additions to SABS 1200 Standardized specifications and particular Specifications

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C3.5.1 Generic Specification

C3.6 HEALTH AND SAFETY

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MANAGEMENT PLAN

PART C4 SITE INFORMATION

PART C5 DRAWINGS

VOLUME 2- PART C3.4.6.1 ELECTRICAL SPECIFICATIONS

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STATUS

In the event of any discrepancy between the Scope of Works and a part or parts of the SABS 1200 Standardized Specifications, the Bill of Quantities or the Drawings, the Project Specifications shall take precedence and prevail in the Contract.

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 EMPLOYER'S OBJECTIVES

The employers' objectives are to deliver public infrastructure using labour-intensive methods and sub-contractors where possible. The works in this contract are to be executed by using both conventional construction and labour-intensive construction methods according to the Special Public Works Programme (SPWP) as prescribed in the guidelines of the Expanded Public Works Programme (EPWP).

The following prerequisites will apply for the appointment of sub-contractors:

- All sub-contractors used will be Black Economic Empowerment (BEE) compliant.
- Sub-contractors will preferably be from the village where the Works are executed.
- Otherwise, Sub-Contractors will be from the Ward where the works are executed.
- Otherwise, sub-contractors will be from the Dr JS Moroka Municipality Regions in the proximity of the community where the Works are executed.
- Prior to site establishment, the successful tenderer will submit details of the sub-contractors to be used in the execution of the Works.

Works earmarked for Sub-contractors and Labour-Intensive construction methods will be listed in the bill of quantities to distinguish them from the conventional construction works. Labour Intensive construction methods shall be implemented using unemployed local workers who are temporarily employed in terms of the project specification. The main contractor must provide NQF2 level training to the sub-contractors.

The tenderer must provide the details of the sub-contractor he/she intends using.

It must be noted that an established contractor, in terms of the prescribed category of the CIDB, will be appointed. Only certain components of the project, in the bill of quantities, will be executed in terms of the guidelines and requirements of the EPWP. The rates prescribed in the Government Gazette of 16th February

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2007 : Regulation Gazette No 8635 Volume 500, number 29635 must be used. Sub-contractors must be paid fortnightly, and the main contractor must allow for financing such pay-outs. Sub-contractors must be paid within 7 days from presenting invoice and failure to adhere will be penalised R1 000/day. Failure of sub-contractors for non-payment of his labour will be penalised at 50% of his payment by the main contractor. Contractor must provide accommodation for CE supervisory staff and the establishment and re-establishment of sub-contractors. Contractor must enter market-related rates.

The contractor must familiarise him/her with the abovementioned requirements and price this document accordingly.

The tenderer should where possible use local sub-contractors, or alternatively those in neighbouring areas, and should also include their BEE status.

C3.1.2 OVERVIEW OF THE WORKS

The work to be carried out includes the replacement and refurbishment of pump station and treatment plants installations within Dr JS Moroka Municipal area.

The work to be carried out under this contract includes the supply of equipment, materials ,labour(stripping, installation) testing and commissioning of electro-mechanical and minor civil works at pump stations listed in section C3.1.4.

C3.1.3 EXTENT OF WORKS

1) The Works to be carried out by the Contractor under this Contract comprise mainly the following:

(a) Electrical installations

Scope of Electrical works: Table 1					
Works Description	KAMEELRIVER PUMP STATION 1	KAMEELRIVER PUMP STATION 2	WAALKRALL PUMP STATION	WATERVAL PUMP STATION	SKIMMING PUMP STATION
MCC	Clean and and secure cabling properly	Clean and and secure cabling properly	Supply and deliver new MCC with softstarters	Supply and install new MCC as per schematics	Supply and install new MCC as per schematics
Cables	Supply missing cables pices, Joint and terminate LV cables	Supply missing cables pices, Joint and terminate LV cables, secure main incoming cables	Disconnect cables from existing MV panel and transformers, Rconnect cables to new switchgear	Supply missing cables pices, Joint and terminate LV cables	Install new cables as per bills of quantity
Small power and lighting	Replace pumproom lights and switches	Replace pumproom lights and switches	Replace pumproom lights and switches and small power	Install new small power and lighting	Install new small power and lighting
Pumpstation security	Install intruder alarms, CCTV and pepperspray systems	Install intruder alarms, CCTV and pepperspray systems	Install intruder alarms, CCTV and pepperspray systems	Install intruder alarms, CCTV and pepperspray systems	Install intruder alarms, CCTV and pepperspray systems
Instrumentation and control	Rewire and recommission instrumentation and control systems	Rewire and recommission instrumentation and control systems	Rewire and recommission instrumentation and control systems	Install new instrumentation and control systems	Install new instrumentation and control systems
Telemetry system	Review existing and link to central controls, allow for mobile device monitoring	Review existing and link to central controls, allow for mobile device monitoring	Review existing and link to central controls, allow for mobile device monitoring	Install new telemetry system and allow for mobile monitoring	Install new telemetry system and allow for mobile monitoring
Main power supply	Ensure adequate power supply at transformer point	Secure incoming cable from the transformer point, ensure adequate capacity at the transformer point	N/A at time of inspection	Replace and secure vandalised cable	Apply to Eskom, Install new line to link site, install new MV switch, metering point, transformer and related cabling to MCC room
Factory acceptance test	Not required	Not required			
Testing and commissioning	Test and commission reworked components	Test and commission reworked components	All components to be tested and recommissioned	Test and commissioned all plant	Test and commissioned all plant
Submission of As built drawings	Submit as built drawings for all components	Submit as built drawings for all components	Submit as built drawings for all components	Submit as built drawings for all components	Submit as built drawings for all components
Submission of CoCs	Submit new and valid CoC for all components	Submit new and valid CoC for all components	Submit new and valid CoC for all components	Submit new and valid CoC for all components	Submit new and valid CoC for all components
Submission of O&M Manuals	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items
User training	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components

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Witness:

**JS MOROKA LOCAL DR MUNICIPALITY**CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES),KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT "

Scope of Electrical works: Table 2

Works Description	WELTREVEDEN WATER TREATMENT WORKS	BLOEDFONTEIN PUMP STATION	V3 RESERVOIRS PUMP STATION	SPITSPUNT PUMP STATION	DAM ABSTRACTION PUMP STATION	LEFISO PUMP STATION
MCC	Refurbish existing MCC, replace missing and malfunctioning starters, supply and install new breakers for incomers and buscoupler, connect buscoupler to full functionality	Repair and/or replace existing starter, recommission control system	Repair and/or replace existing starter, recommission control system	Refurbish existing MCC and replace starters with new, replace control and instrumentation system	Refurbish malfunctioning starters, control and protection system	Rewire vandalised existing MCC panel
Cables	N/A as at time of inspection	N/A as at time of inspection	N/A as at time of inspection	N/A as at time of inspection	Replace vandalised cables	Install new LV cables including trenching, cable trays and terminations
Small power and lighting	Replace pumproom lights and switches and small power	Replace pumproom lights and switches and small power	N/A as at time of inspection	Replace pumproom lights and switches and small power	Replace pumproom lights and switches and small power, additional external lighting required	Install new small power and lighting
Pumpstation security		Install intruder alarms, CCTV and pepperspray systems	Install intruder alarms, CCTV and pepperspray systems	Install intruder alarms, CCTV and pepperspray systems	Install intruder alarms, CCTV and pepperspray systems	Install intruder alarms, CCTV and pepperspray systems
Instrumentation and control	Review existing instrumentation and control systems and recommissioning	Review existing instrumentation and control systems and recommissioning	Review existing instrumentation and control systems and recommissioning	Review existing instrumentation and control systems and recommissioning	Review existing instrumentation and control systems and recommissioning	Install new instrumentation and control systems
Telemetry system	Review existing and link to central controls, allow for mobile device monitoring	Review existing and link to central controls, allow for mobile device monitoring	Review existing and link to central controls, allow for mobile device monitoring	Review existing and link to central controls, allow for mobile device monitoring	Review existing and link to central controls, allow for mobile device monitoring	Install new telemetry system and allow for mobile monitoring
Main power supply	Attend to MV cable at overhead line	N/A as at time of inspection	N/A as at time of inspection	N/A as at time of inspection	Replace MV switch and transformer	Replace vandalised MV switch, transformer and main incoming cable
Factory acceptance test	Not required	Not required	Not required	Not required	Not required	Not required
Testing and commissioning	Test and commission reworked components	All components to be tested and recommissioned	All components to be tested and recommissioned	All components to be tested and recommissioned	All components to be tested and recommissioned	Test and commissioned all plant
Submission of As built drawings	Submit as built drawings for all components	Submit as built drawings for all components	Submit as built drawings for all components	Submit as built drawings for all components	Submit as built drawings for all components	Submit as built drawings for all components
Submission of CoCs	Submit new and valid CoC for all components	Submit new and valid CoC for all components	Submit new and valid CoC for all components	Submit new and valid CoC for all components	Submit new and valid CoC for all components	Submit new and valid CoC for all components
Submission of O&M Manuals	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items	Submit O&M manuals for all supplied and refurbished items
User training	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components	Provide user training for all refurbished and new components

(b) Mechanical installations

Scope of Mechanical works: Table 3

SECTION	DESCRIPTION	TYPE OF INSTALLATION	MOTORS		PUMPS		REQUIREMENTS
			Motor	Type & size	Pump	Make	
1	WALKRAAL RESERVOIR	BULK WATER P/STATIONS	Motor 1	760 kw	Pump 1	Sulzer	Inspect and refurbish existing motor and pumps
			Motor 3	760 kw	Pump 3	Sulzer	Inspect and refurbish existing motor and pumps
			Motor 2	760kw	Pump 2	Sulzer	Supply ,install and commission new motors and pump
2	BLOEDFONTEIN RESERVOIR	WATER PUMP STATION	Motor 1	18.5kw	Pump 1	Ksb	Inspect and refurbish existing motor and pumps
			Motor 2	18.5kw	Pump 2	Ksb	Inspect and refurbish existing motor and pumps
3	SPUITSPUNT RESERVOIR	WATER PUMP STATION	Motor 1	TBA	Pump 1	TBA	Supply ,install and commission new motors and pump
			Motor 2	TBA	Pump 2	TBA	Supply ,install and commission new motors and pump
	SPUITSPUNT RESERVOIR 2	WATER BOOSTER P/STATION	Motor 1	37kw, Alstom	Pump 1	Ksb pumps	Inspect and refurbish existing motor and pumps
			Motor 2	37kw, Alstom	Pump 2	Ksb pumps	Supply ,install and commission new motors and pump
4	LEFISO RESERVOIR	WATER PUMP STATION	Motor 1	TBA	Pump 1	TBA	Supply ,install and commission new motors and pump
			Motor 2	TBA	Pump 2	TBA	Supply ,install and commission new motors and pump
5	KAMEELRIVER RESERVOIR 1	WATER PUMP STATION	Motor 1	160kw, Weg	Pump 1	Curo pumps	Inspect and refurbish existing motor and pumps
			Motor 2	160kw, Weg	Pump 2	Curo pumps	Inspect and refurbish existing motor and pumps
			Motor 3	160kw, Weg	Pump 3	Curo pumps	Inspect and refurbish existing motor and pumps
6	KAMEELRIVER RESERVOIR 2	WATER PUMP STATION	Motor 1	185 kw, Weg	Pump 1	Gorman Rupp	Inspect and refurbish existing motor and pumps
			Motor 2	186 kW, Weg	Pump 2	Gorman Rupp	Inspect and refurbish existing motor and pumps
7	DAM ABSTRACTION POINT	RAW WATER P/ STATION	Motor 7	132 kw, Weg	Spare pump	Submersible pump	Inspect and refurbish existing motor and pumps
			Motor 1	133 kw, Weg	Pump 1	Submersible pump	Inspect and refurbish existing motor and pumps
			Motor 2	134 kw, Weg	Pump 2	Submersible pump	Inspect and refurbish existing motor and pumps
			Motor 3	135 kw, Weg	Pump 3	Submersible pump	Inspect and refurbish existing motor and pumps
			Motor 4	75 kw, Siemens	Pump 4	Submersible pump	Inspect and refurbish existing motor and pumps
			Motor 5	132 kw, Marathon	Pump 5	Submersible pump	Inspect and refurbish existing motor and pumps
8	SKIMMING RESERVOIR	WATER PUMP STATION	Motor 1	45kW	Pump 1	GR Pumps	Inspect and refurbish existing motor and pumps
			Motor 2	45kW	Pump 2	GR Pumps	Inspect and refurbish existing motor and pumps
9	V3 RESERVOIRS	WATER PUMP STATION	Motor 1	185 kW, Weg	Pump 1	Grundfos	nil
			Motor 2	186 kW, Weg	Pump 2	Grundfos	nil
10	WATERVAL RESERVOIR	WATER PUMP STATION	Motor 1	11kW	Pump 1	Ksb	Inspect and refurbish existing motor and pumps
			Motor 2	11kW	Pump 2	Ksb	Inspect and refurbish existing motor and pumps
11	WELTREVEDEN WTW	WATER TREATMENT WORKS	Motor for Walkraal x4	350kw	4XPump to Walkraal	APE	Inspect and refurbish existing motor and pumps
			Motor for Kameelriverx3	160kw	3xPump to Wakraal	APE	Inspect and refurbish existing motor and pumps
			Motor for Kameelriverx4	132kw	4xPump to Kameelriver	Sulzer	Inspect and refurbish existing motor and pumps
			Sump motor	TBA	Submersible pump	TBA	Supply ,install and commission
			Air blower motor x2	37kw	2xAir Blower compressor	Blower	Inspect, refurbish and commission
			Actuator for Kameelriver	TBA	4x actuator	Actuator	Inspect and refurbish actuator on all pumps

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- (c) Other works required include the following.
 - a. Recta grids
 - b. Guard rails
 - c. Pump station pipe manifold and associated valves
 - d. Lifting equipment
 - e. Pepper spray
 - f. Security cameras
- (d) Civil Engineering works
 - a. Reservoir refurbishment
 - b. Pump station buildings and guard rooms additions
 - c. Pipelines rust protection and painting
 - d. Valves and valve chambers
 - e. Security fencing

Correction of defects in the Works in accordance with the requirements specified in the Contract Documents.

The contractor's obligations shall also include strict compliance with any Environmental specifications and/or reports deemed to form part of this contract as well as Occupational Health and Safety requirements.

This description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract.

Approximate quantities of each type of work are given in the Schedule of Quantities.

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C3.1.4 LOCATION OF THE WORKS

The works are in the Siyabuswa and covers the following plants:

ELECTRICAL AND MECHANICAL INSTALLATIONS				
SUMMARY				
SECTION	DESCRIPTION	TYPE OF INSTALLATION	LOCATION	
1			Latitude	Longitude
2	WAALKRAAL RESERVOIR	BULK WATER PUMP STATIONS	-25,170643	29,050989
3	BLOODFONTEIN RESERVOIR	WATER PUMP STATION	-25,040959	28,95432
4	SPIUTSPUNT WATER PUMP STATION	WATER PUMP STATION	-25,006224	28,913906
	SPIUTSPUNT BOOSTER PUMP STATION	WATER BOOSTER PUMP STATION	-24,986868	28,905457
5	LEFISO RESERVOIR	WATER PUMP STATION	-24,946762	28,881623
6	KAMEELRIVER RESERVOIR 1	WATER PUMP STATION	-25,14359	28,993312
7	KAMEELRIVER RESERVOIR 2	WATER PUMP STATION	-25,14359	28,993312
8	DAM ABSTRACTION POINT	RAW WATER PUMP STATION	-25,114996	28,993867
9	SKIMMING RESERVOIR	WATER PUMP STATION	-25,192031	28,958321
10	V3 RESERVOIRS	WATER PUMP STATION	-25,220062	28,986061
11	WATERVAL RESERVOIR	WATER PUMP STATION	-25,196895	29,032346
12	WELTREVEDEN WATER WORKS	WATER TREATMENT WORKS	-25,116006	28,987691
13	SIYABUSWA SEWAGE WORKS	ACTIVATED SLUDGE SEWAGE TREATMENT WORKS	-25,099238	29,065349
14	SIYABUSWA D SUMP	WATER BOOSTER PUMP STATION	-25,126588	29,051892
15	DIKGALE B PUMP STATION	WATER PUMP STATION	-25,19951	28,9003
16	TOITSKRAAL PUMP STATION	WATER PUMP STATION	-25,10644	2,11704
17	VALSCHFONTEIN/SIYABUSWA	WATER PUMP STATION	-25,097388	29,060259
18	MAGANABUSWA RESERVOIR	WATER PUMP STATION	-25,124316	29,085387
19	KUILEN RESERVOIR	WATER PUMP STATION	-25,086541	29,010869

C3.1.5 TEMPORARY WORKS

The Contractor shall, as relevant,

- provide temporary drainage works, temporary pumps and other equipment as might be necessary for the protection, draining and dewatering of the works; and
- Construct and maintain haulage, temporary access and construction roads, subject to the approval of the Employer, and permit the Employer, other Contractors, statutory bodies or any other person who might require legitimate access to or through the site for the purpose of executing legitimate business, free and unhindered usage of such roads.
- Temporary water connections, Contractor's offices, storage sheds, latrines, barricading of works shall be located in an approved position and subject to the approval of all authorities concerned.
- Safety and Security of the Contractors' temporary works shall be at the Contractors' discretion.

C3.2 ENGINEERING

C3.2.1 STANDARDS AND CODES OF PRACTICE

The following design standards for civil engineering infrastructure will apply:

- Guidelines for the provision of engineering services and amenities in residential township development* by the National Housing Board (Red book).
- General Conditions of Contract for Construction Works (2015) (Third Edition)* by the South African Institution of Civil Engineers.

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- iii) Guideline for Human Settlement planning and design (2000) compiled under the patronage of the Department of Housing and published by the CSIR Building and Construction Technology (New Red Book).

- iv) *SABS 1200 Standardised specifications.*

C3.2.2 EMPLOYER'S DESIGN

The specifications incorporated in Volume 2 cover the following project components:

- TRANSFORMER POLE TOP
- TRANSFORMER PAD MOUNT
- START STOP STATION.
- EMERGENCY STOP STATION.
- MOTOR PROTECTION
- MOTOR PROTECTION RELAYS
- MV CABLES
- LV CABLES
- LIGHTING AND SMALL POWER
- LEVEL TRANSMITTER
- PLC'S

C3.2.3 CONTRACTOR'S DESIGN

Where contractor is to supply the design of designated parts of the permanent Works or temporary Works, he shall supply full working drawings supported by a professional engineer's design certificate.

C3.2.4 DRAWINGS

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, on the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates, or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Employer for the permanent Works are listed and bound in a separate volume/bound at the back of this volume(1). The Employer reserves the right to issue amended and/or additional drawings during the Contract.

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C3.3 PROCUREMENT

C3.3.1 PREFERENTIAL PROCUREMENT

C3.3.1.1 Requirements

The Employer will only appoint one Contractor as per the procurement procedures detailed elsewhere in this document.

C3.3.1.2 Resource standard pertaining to targeted procurement

The targeted procurement standards applicable to the contract and all data, variations and definitions are detailed elsewhere in this document.

C3.3.2 SUBCONTRACTING

C3.3.2.1 Scope of mandatory subcontract works.

- All sub-contractors used will be Black Economic Empowerment (BEE) compliant.
- Sub-contractors will preferably be from the village where the works are executed.
- Otherwise, Sub-Contractors will be from the Ward where the works are executed.
- Otherwise, sub-contractors will be from the Dr JS Moroka Municipality Regions in the proximity of the community where the Works are executed.
- Prior to site establishment, the successful tenderer will submit details of the sub-contractors to be used in the execution of the works.

C3.3.2.2 Preferred subcontractors/suppliers.

A list of available sub-contractors will be provided on request by the Dr JS Moroka Municipality.

C3.3.2.3 Subcontracting procedures

The procedures relating to the selection and appointment of subcontractors including requirements for subcontract documents will be issued on appointment of the successful tenderer.

C3.3.3 MINIMUM WAGE

C3.3.3.1 Requirements

The minimum requirements wage rate for an unskilled Labourer should be R22.50 /hour.

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JS MOROKA LOCAL DR MUNICIPALITY

CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT " .



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C3.4 CONSTRUCTION

C3.4.1 WORKS SPECIFICATIONS

C3.4.1.1 Applicable SABS 1200 Standardized Specifications

The following SABS 1200 Standardized Specifications for civil engineering construction are applicable:

SANS 1200 A	: GENERAL (1986)
SANS 1200 AB	: ENGINEER'S OFFICE (1986)
SANS 1200 C	: SITE CLEARANCE (1980)
SANS 1200 D	: EARTHWORKS (1988)
SANS 1200 DB	: EARTHWORKS (PIPE TRENCHES) (1989)
SANS 1200 L	: MEDIUM PRESSURE PIPELINES (1989)
SANS 1200 LB	: BEDDING (1981)
SANS 1200 AA	-1986 GENERAL (SMALL WORKS)
SANS 1200 LD	-1982 SEWERS
SANS 1200 GA	-1982 CONCRETE SMALL WORKS
PSS	PROJECT SPECIFICATIONS FOR SUBCONTRACT WORK
PSHS	GENERAL PROJECT SPECIFICATIONS FOR HEALTH & SAFETY

The term "project specification" must be replaced by "scope of works" wherever it appears in these standardized specifications.

C3.4.1.2 Particular Specifications

The following Particular Specifications for work not covered by the SABS 1200 Standardized Specifications are also included hereunder:

PLI	: Particular Specification for Generic Labour-intensive Specification
-----	---

C3.4.1.3 Variations and Additions to the SABS 1200 Standardized Specifications

Variations and additions to the following SABS 1200 Standardized Specifications listed in C3.4.1 are given in section C3.4.6.

C3.4.2 SITE ESTABLISHMENT

C3.4.2.1 Services and facilities provided by the Employer

(a) Water sources

Potable water supply available

A reticulated potable water supply is to be installed as part of the contract.

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The responsible water supply authority in the area of the Site is the Dr JS Moroka Local Municipality, P/Bag X4012, Siyabuswa, 0472. Tel : 013 973 9126/7/8/9.

Should the Contractor, in complying with his obligations in terms of subclause C3.4.2.2(b): Water, wish to utilise such water supply, he shall himself be responsible for making his own arrangements with the responsible water supply authority for the supply of all water that he may require from such reticulation network for construction purposes as well as for domestic consumption.

If so required by the responsible water supply authority, the Contractor shall further be responsible, at his own cost, for making or otherwise providing metered connections to the available services at the positions specified by the water authority, as well as for the removal of such connections on completion of the Contract.

No warranty is offered or given by the Employer that the existing available reticulated water supply will necessarily be adequate for the Contractor's purposes nor that such supply is in any way guaranteed.

All charges as may be levied by the responsible water supply authority in respect of water consumed by the Contractor shall be for the Contractor's account and payment to the Contractor in respect thereof shall, in accordance with the provisions of subclause C3.4.2.2(b), be deemed to be included in the sums bid by the Contractor for the various Preliminary and General items listed in the Schedule of Quantities, as well as in the rates bid by the Contractor for the various other items listed in the Schedule of Quantities which require the consumption of water.

The Contractor shall, when reasonably required by the Engineer, produce documentary proof that all amounts as may have become due and payable by the Contractor to the responsible water authority have been promptly paid in full.

(b) Electricity supply

Reticulated electrical supply is not available on site

The Contractor shall, in accordance with the provisions of subclause C3.4.2.2(c), and at his own cost, make all arrangements necessary for the supply and distribution of electrical power required for construction purposes as well as for use in and about his site establishment.

The Contractor shall comply with all prevailing legislation in respect of the generation and distribution of electricity and shall, when required by the Engineer, produce proof of such compliance.

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(c) Excrement disposal

No disposal systems available

No water-borne sewage or other off-site excrement disposal systems are available in the vicinity of the Site.

(d) Area for contractor's site establishment

Employer to make site available.

A specific area near or on the Site of the Works will be made available by the Employer to the Contractor for the Contractor's site establishment. The specific area for the Contractor's site establishment will be identified to the Contractor by the Engineer and the Contractor shall have sole use of such area, free of charge, for the duration of the Contract. The Contractor shall use this area only for the purposes of erecting his site offices, workshops, stores and other facilities required for the execution of the Contract. The Contractor shall not use the area nor allow it to be used for any purposes not directly associated with the execution of the Contract.

The Contractor shall be responsible for arranging, at his own cost, for the provision of all services he may require in the area, as well as elsewhere on the Site.

Should the Contractor deem the area made available by the Employer to be inadequate or unsuitable for the Contractor's particular needs, then the Contractor shall be at liberty to make his own arrangements with the owners of other sites which he considers are better suited to his needs; provided always that the use by the Contractor of any area other than that made available to him by the Employer shall be subject to the prior written approval of the Engineer, which approval shall not be unreasonably withheld; and provided further that the Contractor shall have no claim against the Employer in respect of any costs incurred by him, either directly or indirectly in consequence of utilising any area other than that made available to him by the Employer, and which costs exceed those costs allowed for by the Contractor in his Bid.

C3.4.2.2 Facilities provided by the Contractor

(a) Facilities for the Engineer

The Contractor shall provide on the Site, for the duration of the Contract and for the exclusive use of the Engineer and/or his Representative (as applicable), the various facilities described hereunder. All such facilities shall be provided promptly on the commencement of the Contract and failure on the part of the Contractor to provide any facility required in terms of this specification shall constitute grounds for the Engineer to withhold payment of the Contractor's bidden Preliminary and General items until the facility has been provided or restored as the case may be.

i). Office accommodation

The Contractor shall provide on the Site One office for the exclusive use of the Engineer. Such office shall comply with and be furnished in accordance with the requirements of subclause 3.2 of SABS 1200 AB. The Contractor shall maintain the office(s) in accordance with the requirements of subclause 5.2 of SABS 1200 AB.

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Such office accommodation shall be provided within the Contractor's site establishment facilities.

ii). Site meeting venue

The Contractor shall provide within his own site establishment facilities, a suitably furnished office or other venue capable of comfortably accommodating a minimum of **six (6)** persons at site meetings. The Engineer shall be allowed free use of such venue for conducting any other meetings concerning the Contract at all reasonable times.

iii). Contract nameboards

The Contractor shall provide, erect and maintain *two* contract nameboard at such positions and locations as are directed by the Engineer, in accordance with the requirements set out in SABS 1200 AB (as amended).

The Contractor shall before order or manufacturing any such contract nameboard, obtain the Engineer's written approval in respect of all names and wording to appear on the contract nameboard.

iv). Survey equipment and assistants

• Survey equipment

The Contractor shall, in accordance with the requirements of SABS 1200 AB (as amended) provide the following survey equipment for the exclusive use of the Engineer and his staff:

- 1 upright reading automatic level with tripod.
- 1 metric levelling staff with protective cover bag.
- 6 ranging rods.
- 1 100 metre Stilon tape measure.
- 1 ± 2 kg hammer.

Whenever reasonably required by the Engineer, the Contractor shall, in accordance with the requirements of SABS 1200 AB (as amended), make available to the Engineer or his representative, the following additional survey equipment:

• Survey assistants

The Contractor shall, in accordance with the requirements of subclause 5.5 of SABS 1200 AB, make available to the Engineer, two (2) survey assistants.

v). Telephone facilities

NOTE: *Where no telephones are required, or only Telkom or cell phones are required, the compiler should not delete this subclause nor should*

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he delete subclause PSAB 4.1, but rather insert the words "nil" or "not required" in the appropriate places below.

The Contractor shall, in accordance with the requirements of subclauses PSAB 4.1 and PSAB 5.4 of the Project Specifications, provide on Site for the duration of the Contract, the following telephone facilities for the use of the Engineer and his Representative:

- Cell phones

Number of cell phones required: One

The Contractor shall, for the duration of the Contract, provide the telephone facilities as specified hereunder for the exclusive use of the Engineer and his staff:

- Cell phones

The Contractor shall provide *one* cell phone and associated service contracts from a reputable cellular service provider. The Contractor shall further insure the cell phones against loss or damage from whatever cause arising and shall ensure that all cell phone accounts are promptly paid on the due dates for payment. The Contractor shall further, at his own cost, ensure the prompt repair of all cell phones provided under this clause, when reasonably required by the Engineer.

The Contractor shall, on production of an itemised statement, be reimbursed only the cost of the Engineer's cell phone calls.

- vi). All computer hardware shall be provided complete with the requisite connecting cables and all interfacing devices and software necessary for its efficient operation as an integral system.

The following software shall be properly installed on the computer, and the original licence agreements and disks shall be provided to the Engineer for safekeeping:

- (a) Microsoft Windows 10
- (b) MS-Office business/ Microsoft 365
- (c) Laptop -i7;16GB RAM; 500GB; SSD or 1TB HDD

All computer equipment provided shall be always kept fully serviceable by the Contractor. The Contractor shall have any defective equipment repaired or replaced at his own cost within 12 hours after notification by the Engineer's staff.

The Contractor shall further provide at his own cost, all paper and black ink cartridges and other consumables reasonably required by the Engineer.

At the end of the contract the equipment shall be retained by the Municipality.

- vii). Electricity supply for the Engineer

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All electricity supply to the Engineer's office(s) and laboratory (if applicable), whether provided by the Contractor by way of a reticulated supply from a local authority or other authorised electricity supply, or by way of on-site generators, shall be regulated by the Contractor to within limits such as to prevent damage due to fluctuations in the electrical current supply that may occur to any electrical plant and equipment provided by the Contractor or the Engineer.

The Contractor shall be liable for and pay to the Engineer on demand, all costs that the Engineer may incur in the repair or replacement of any electrical equipment provided by the Engineer on the Site. Reliance by the Contractor on the regulation of the electrical supply by the supplier or on current regulators fitted to generators shall not absolve the Contractor of his liabilities in terms of this Subclause and, where appropriate, the Contractor shall provide and install at his own cost, all such electrical current-regulating equipment as is necessary to prevent damage to the said equipment.

viii). Site instruction book

The Contractor shall keep a triplicate book for site instructions on the Site at all times.

ix). Housing for Engineer's Representative (Example only)

The Engineer will provide housing for the Engineer's Representative. The housing and the relevant services and local authority rates and charges shall be paid by the Contractor on the written instruction of the Engineer, from a Prime Cost Sum included in Section 1200 A of the Schedule of Quantities for this purpose.

The Contractor is entitled to a percentage of the value of each payment to the Engineer to cover his expenses in this regard. (See item PSA 8.6.)

(b) Water

The Contractor shall, at his own expense, be responsible for obtaining and distributing all water as may be required for the purposes of executing the Contract, including water for both construction purposes and domestic use, as well as for making all arrangements in connection therewith. The Contractor shall further, at his own expense, be responsible for providing all necessities for procuring, storing, transporting and applying water required for the execution of the Contract, including but not limited to all piping, valves, tanks, pumps, meters and other plant and equipment, as well as for all work and superintendence associated therewith.

The sources of all water utilised for the purposes of the Contract shall be subject to the prior approval of the Engineer, which approval shall not be unreasonably withheld.

The Contractor shall comply with all prevailing legislation in respect of drawing water from natural and other sources and shall, when required by the Engineer, produce proof of such compliance. The distribution of water shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

All water provided by the Contractor for construction purposes shall be clean, free from undesirable concentrations of deleterious salts and other materials and shall comply with any

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further relevant specifications of the Contract. The Contractor shall, whenever reasonably required by the Engineer, produce test results demonstrating such compliance. Water provided by the Contractor for human consumption shall be healthy and potable to the satisfaction of the health authorities in the area of the Site.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of water, the costs of which will be deemed to be included in the Contractor's bidded rates.

(c) Electricity

The Contractor shall, at his own expense, be responsible for obtaining and distributing all electricity as he may require for the purposes of executing the Contract, including electricity for both construction purposes and domestic use, as well as for making all arrangements in connection therewith.

The distribution of electricity shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of electricity, the costs of which will be deemed to be in the Contractor's bidded rates and prices.

(d) Excrement disposal

Disposal on site allowed

The Contractor shall, at his own expense, be responsible for safely and hygienically dealing with and disposing of all human excrement and similar matter generated on the Site during the course of the Contract, to the satisfaction of the Engineer and the responsible health authorities in the area of the Site.

The Contractor shall further comply with any other requirements in this regard as may be stated in the Contract.

No separate payment will be made to the Contractor in respect of discharging his obligations in terms of this subclause and the costs thereof shall be deemed to be included within the Contractor's bidded Preliminary and General Items.

C3.4.2.3 Permits and wayleaves

The Contractor shall be responsible to obtain all the wayleave required under this Contract. A separate payment item has been included under Section 1200 A of the Schedule of Quantities to compensate the Contractor for all his expenses to obtain the wayleave.

The wayleave to be obtained by the Contractor consists mainly of the following:

C3.4.2.4 Features requiring special attention.

(a) Site maintenance

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During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

(b) Testing and quality control

(i) CONTRACTOR TO ENGAGE SERVICES OF AN INDEPENDENT LABORATORY

Notwithstanding the requirements of the Specifications pertaining to testing and quality control, the Contractor shall engage the services of an approved independent laboratory to undertake all testing of materials, the results of which are specified in, or may reasonably be inferred from, the Contract. These results will be taken into consideration by the Engineer in deciding whether the quality of materials utilised, and workmanship achieved by the Contractor comply with the requirements of the Specifications. The foregoing shall apply irrespective of whether the specifications indicate that the said testing is to be carried out by the Engineer or by the Contractor.

The Contractor shall be responsible for arranging with the independent testing laboratory for the timeous carrying out of all such testing specified in the Contract, at not less than the frequencies and in the manner specified. The Contractor shall promptly provide the Engineer with copies of the results of all such testing carried out by the independent laboratory.

For the purposes of this clause, an "independent laboratory" shall mean an "approved laboratory" (as defined in subclause PSA 7.2) which is not under the management or control of the Contractor and in which the Contractor has no financial interest, nor which has any control or financial interest in the Contractor.

(ii) ADDITIONAL TESTING REQUIRED BY THE ENGINEER

In addition to the provisions of subclause C3.4.2.5(b)(i): Contractor to engage services of an independent laboratory, the Engineer shall be entitled at times during the Contract to require that the Contractor arrange with the independent laboratory to carry out any such tests, additional to those described in subclause C3.4.2.5(b)(i), at such times and at such locations in the Works as the Engineer shall prescribe. The Contractor shall promptly and without delay arrange with the independent laboratory for carrying out all such additional testing as required by the Engineer, and copies of the test results shall be promptly submitted to the Engineer.

(iii) COSTS OF TESTING

(a) Tests in terms of subclause C3.4.2.5(c)(i)

The costs of all testing carried out by the independent laboratory in accordance with the requirements of subclause C3.4.2.5(c)(i), above shall be borne by the Contractor and shall be deemed to be included in the bidden rates and prices for the respective items of work as listed in the Schedule of Quantities and which require testing in terms of the Specifications. No separate payments will be made

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by the Employer to the Contractor in respect of any testing carried out in terms of subclause C3.4.2.5(c)(i).

Where, as a result of the consistency of the materials varying or as a result of failure to meet the required specifications for the work, it becomes necessary to carry out additional tests (e.g. re-tests on rectified work and/or replacement materials), the costs of such additional testing shall be for the Contractor's account.

(b) Additional tests required by the Engineer

The costs of any additional tests required by the Engineer in terms of subclause C3.4.2.5(b)(i): Additional testing required by the Engineer, shall be reimbursed to the Contractor against substitution of the Provisional Sum allowed therefore in the Schedule of Quantities; provided always that the costs of any such additional tests ordered by the Engineer, the results of which indicate that the quality of the materials utilised and/or the standard of workmanship achieved are/is not in accordance with the specifications, shall not be reimbursable to the Contractor.

(c) **Subcontractors**

All matters pertaining to subcontractors (including Nominated Subcontractors) and the work executed by them shall be dealt with directly between the Engineer and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

The Engineer will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor.

All matters arising from the subcontract agreements shall be dealt with directly between the Contractor and the subcontractors and the Engineer will not become involved.

(d) **Opening up and closing down of designated borrow pits**

Measurement and payment for opening up and closing down designated borrow pits, including removing and stockpiling overburden and restoring the Site, shall be made under item 8.3.4 of SABS 1200 D. This item applies to all borrow material required under this Contract.

The requirements of subclause 5.2.2.2 of SABS 1200 D regarding the opening up, maintenance and closing down of borrow pits shall be adhered to.

(e) **Access to properties**

The Contractor shall organise the work to cause the least possible inconvenience to the public and to the property owners adjacent to or affected by the work, and except as hereunder provided, shall at all times provide and allow pedestrian and vehicular access to properties within or adjoining or affected by the area in which he is working. In this respect the Contractor's attention is drawn to Clause 17.1 of the Conditions of Contract.

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If, as a result of restricted road reserve widths and the nature of the work, the construction of bypasses is not feasible, construction shall be carried out under traffic conditions to provide access to erven and properties.

Notwithstanding the foregoing, the Contractor may, with the prior approval of the Engineer (which approval shall not be unreasonably withheld), make arrangements with and obtain the acceptance of the occupiers of erven and properties to close off part of a street, road, footpath or entrance temporarily, provided that the Contractor duly notifies the occupiers of the intended closure and its probable duration and reopens the route as punctually as possible. Where possible, such streets, roads, footpaths, and entrances shall be made safe and reopened to traffic overnight. Such closure shall not absolve the Contractor from his obligations under the Contract to provide access at all times. Barricades, traffic signs, drums and other safety measures appropriate to the circumstances shall be provided by the Contractor to suit the specific conditions.

(f) Existing residential areas

Electricity and water supply interruptions in existing residential areas shall be kept to a minimum. The Engineer's approval shall be obtained prior to such interruptions and residents shall be notified in writing at least 24 hours but not more than 48 hours in advance. Supplies shall be normalised by 16:00 on the same day.

(g) Labour-intensive competencies of supervisory and management staff

Contractor having a CIDB contractor grading designation of 6CE/PE and higher shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2015 to 30 June 2016, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a contractor grading designation of 1CE, 2CE, 3CE and 4CE shall have personally completed, or for the period 1 April 2015 to 30 June 2016 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such contractors must have completed, or for the period 1 April 2015 to 30 June 2016 be registered on a skills programme, for the NQF level 2-unit standards or NQF level 4-unit standards.

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**Table 1: Skills programme for supervisory and management staff**

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour-intensive Construction systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour-intensive Construction Methods to Construct and Maintain Drainage	one of these 3-unit standards be used
		Use Labour -intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour-intensive Construction methods to Construct, Repair and Maintain Structures	
Foreman / supervisor	4	Implement Labour-intensive Construction systems and Techniques	This unit standard must be completed, and
		Use Labour-intensive Construction Methods to Construct and Maintain Drainage	any one of these 3-unit standards be used
		Use Labour-intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour-Intensive Construction Methods to Construct, Repair and Maintain Structures	

Personnel	NQF level	Unit standard titles	Skills programme description
Site Agent / Manager (i.e. the contractor's most senior representative who is resident on the site)	5	Manage Labour-intensive Construction Processes	Skills Programme against this single unit standard

(h) Employment of unskilled and semi-skilled workers in labour-intensive works**BIDDER:****DR. JSMLM:****Initial:** Authorized signatory/ies:1.**Initial:** DR. JSM

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(i) REQUIREMENTS FOR THE SOURCING AND ENGAGEMENT OF LABOUR

- (1) Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.
- (2) The rate of pay set for the SPWP is R 116.00 per task or per day.

Note to Compiler: Insert value determined by public body in accordance with clause 2.2 of the Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP), which is repeated here for ease of use.

"In accordance with the Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes (clause 10.4), the public body must set a rate of pay (task-rate) for workers to be employed on the labour-intensive projects.

Clause 10.4 requires that the following should be considered when setting rates of pay for workers:

10.4.1 The rate set should take into account wages paid for comparable unskilled work in the local area per sector, if necessary.

10.4.2 The rate should be an appropriate wage to offer an incentive for work, to reward effort provided and to ensure a reasonable quality of work. It should not be more than the average local rate to ensure people are not recruited away from other employment and jobs with longer-term prospects.

10.4.3 Men, women, disabled persons and the aged must receive the same pay for work of equal value."

- (3) Tasks established by the contractor must be such that:
 - (aa) the average worker completes 5 tasks per week in 40 hours or less; and
 - (bb) the weakest worker completes 5 tasks per week in 55 hours or less.
- (4) The Contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3.
- (5) The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and/or who come from households:
 - (aa) where the head of the household has less than a primary school education;
 - (bb) that have less than one full-time person earning an income;
 - (cc) where subsistence agriculture is the source of income;
 - (dd) those who are not in receipt of any social security pension income.

(ii) SPECIFIC PROVISIONS PERTAINING TO SANS 1914-5

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(1) Definition

Targeted labour: Unemployed persons who are employed as local labour on the project.

(2) Contract participation goals

- (aa) There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.
- (bb) The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task-rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

(3) Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

(4) Variations to SANS 1914-5

- (aa) The definition for net amount shall be amended as follows:
Financial value of the contract upon completion, exclusive of any value-added tax or sales tax which the law requires the employer to pay the contractor.
- (bb) The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

(iii) TRAINING OF TARGETED LABOUR

- (1) The Contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.
- (2) The cost of the formal training of targeted labour, will be funded by the provincial office of the Department of Labour. This training will take place as close to the project site as practically possible. The Contractor must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The Employer must be furnished with a copy of this request.
- (3) A copy of this training request made by the contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of

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Public Works – Cinderella Makunike, Fax: 012 328 6820 or email cinderella.makunike@dpw.gov.za, Tel: 083 677 4026.

- (4) The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he/she is employed for 4 months or more.
- (5) The Contractor shall do nothing to dissuade targeted labour from participating in training programmes.
- (6) An allowance equal to 100% of the task rate or daily rate shall be paid by the Contractor to workers who attend formal training, in terms of 1.3.4 above.
- (7) Proof of compliance with the requirements of 1.3.2 to 1.3.6 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

(i) Local Labour and Training

The Bidder shall limit the utilisation of his permanently employed personnel to Key Personnel, such as Bids Managers, Site Agents, Foremen, Supervisors, Plant Operators, Materials and Survey Technicians, Trainers, Buyers, Storemen and the like should such expertise not be available out of the community. All other personnel and labourers shall be recruited locally (Duduza area).

The Bidder shall make maximum use of the human resources existing in the local community. The bidders shall apply to the employment labour desk, conveyed by the Steering Committee for details of those labourers who are available in the area of work and he shall provide preference to those labourers identified by the Steering Committee.

Formal structured skills training of labour in certain fields have been done. The bidder shall utilise trained labour in all instances. The employment of labour from outside the local area will only be considered and permitted by the Engineer in the event of:

- a) the unavailability of sufficient numbers of local labourers to execute the work;
- b) the unavailability within the local community of the required skills necessary for the execution of specific portion of work, and where the completion period does not permit the creation of the necessary skills through training.

In both cases the Bidder shall prove to the satisfaction of the Engineer that he has exercised his best endeavours and taken all reasonable actions to recruit local labour.

The bidder shall maintain accurate and comprehensive daily records of all labour engaged on the bid and shall submit to the Engineer at two weekly intervals detailed labour returns substantiating the actual numbers of labourers employed, the amounts actually paid in respect thereof, and details of the various activities undertaken by the labourers.

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Witness:



The employment of casual labour will be done in co-operation with community leaders and local structures. The minimum wage according to all people employed will be according to the requirements of the Department of Manpower.

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(j) Monthly statements and payment certificates

The statement to be submitted by the Contractor in terms of Clause 49 of the Conditions of Contract shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Engineer, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

For the purposes of the Engineer's payment certificate, the Contractor shall subsequently be responsible, at his own cost, for making such adjustments to his statement as may be required by the Engineer for the purposes of accurately reflecting the actual quantities and amounts which the Engineer deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Engineer within three (3) normal workings days from the date on which the Engineer communicated to the Contractor the adjustments required. The Contractor shall submit to the Engineer five (5) sets of A4 size paper copies of such adjusted statement, together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Engineer the requisite copies of the adjusted statement for the purposes of the Engineer's payment certificate will be added to the times allowed to the Engineer in terms of Subclause 49.4 of the Conditions of Contract to submit the signed payment certificate to the Employer and the Contractor. Any such delay will also be added to the period in which the Employer is required to make payment to the Contractor.

(k) Construction in restricted areas

Working space is sometimes restricted. The construction method used in these restricted areas largely depends on the Contractor's Plant. Notwithstanding, measurement and payment will be strictly according to the specified cross-sections and dimensions irrespective of the method used, and the rates and prices bidden will be deemed to include full compensation for any difficulties encountered by the Contractor while working in restricted areas. No extra payment nor any claim for payment due to these difficulties will be considered.

(l) Notices, signs, barricades and advertisements

All notices, signs and barricades, as well as advertisements, may be used only if approved by the Engineer. The Contractor shall be responsible for their supply, erection, maintenance, and ultimate removal and shall make provision for this in his bidden rates.

The Engineer shall have the right to instruct the Contractor to move any sign, notice or advertisement to another position, or to remove it from the Site of the Works if in his opinion it is unsatisfactory, inconvenient or dangerous.

(m) Workmanship and quality control

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality control system and provide suitably qualified and experienced

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Witness:



engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates bidden for the related items of work.

The Contractor's attention is drawn to the provisions of the various Standardized Specifications regarding the minimum frequency of testing required. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control.

On completion and submission of every part of the work to the Engineer for examination and measurement, the Contractor shall furnish the Engineer with the results of the relevant tests, measurements and levels to demonstrate the achievement of compliance with the Specifications.

C3.4.2.6 Extension of time due to abnormal rainfall

- (a) Extension of time in respect of delays resulting from wet climatic conditions on the Site will only be considered in respect of abnormally wet climatic conditions and shall be determined for each calendar month or part thereof, in accordance with the formula given below:

$$V = (Nw - Nn) + (Rw - Rn)/X$$

in which formula the symbols shall have the following meanings:

V = Potential extension of time in calendar days for the calendar month under consideration:
If V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn.
When the value of V for any month exceeds the number of days in the particular month, V will be the number of days in the month.

Nw = Actual number of days in the calendar month under consideration on which a rainfall of Y mm or more was recorded on the Site

Nn = Average number of days, derived from existing records of rainfall in the region of the Site, on which a rainfall of Y mm or more was recorded for the calendar month

Rw = Actual rainfall in mm recorded on the Site in an approved rain gauge for the calendar month under consideration

Rn = Average rainfall in mm for the calendar month, derived from existing records of rainfall in the region of the Site

The factor (Nw - Nn) shall be deemed to be a fair allowance for variations from the average number of days during which the rainfall exceeds Y mm.

The factor (Rw - Rn)/X shall be deemed to be a fair allowance for variations from the average number of days during which the rainfall did not exceed Y mm but wet conditions prevented or disrupted work.

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- (b) The annual rainfall in the area varies between 500mm and 650mm. A vast amount of land is covered by the savannah veld in the Marea. The Dr JS Moroka municipal area is characterized by flat to gently sloping Bushveld/ Savannah vegetation in the north and central parts, and a mountainous area to the south which forms the border of the Thembisile local municipality. Cultivated areas (permanent and temporary dry and irrigated land) cover less than 15% of the municipality. Urban areas cover 14% of the municipality.

The potential extension of time V has been calculated for each month and year of the period concerned to indicate the possible effect of the rainfall formula. The values of V were obtained by applying the rainfall formula and using the actual rainfall figures and the calculated values of Rn and Nn indicated in the table.

- (c) The Contractor shall, at his own cost, provide and erect on the Site at a location approved by the Engineer, an approved rain gauge, which shall be fenced off in a manner which will prevent any undue interference by workmen and others. The Contractor shall, at his own cost, arrange for the reading of the rain gauge on a daily basis for the duration of the Contract. The gauge readings, as well as the date and time at which the reading was taken shall be recorded in a separate record book provided by the Contractor for this purpose. All entries in the rainfall record books shall be signed by the person taking the reading and the gauge shall be properly emptied immediately after each reading has been taken. If required by the Engineer, the Engineer shall be entitled to witness the reading of the gauge.
- (d) The Contractor's claims in terms of Subclause 42.2 of the Conditions of Contract for extension of time in respect of delays resulting from wet climatic conditions on the Site during each month, shall be submitted in writing to the Engineer monthly;

provided always that

- (i) the period allowed to the Contractor in terms of Clause 48 of the Conditions of Contract in which to submit his claim for each month shall be reduced to seven (7) days, calculated from the last day of the month to which the claim applies; and
- (ii) the 28-day period allowed to the Engineer in terms of Subclause 42.2 of the Conditions of Contract in which to give his ruling on the claim, shall be reduced to fourteen (14) days.

The Contractor's monthly claim shall be accompanied by a copy of the signed daily rainfall readings for the applicable month.

- (e) The extent of any extension of time which may be granted to the Contractor in respect of wet climatic conditions (whether normal or abnormal) shall be determined as the algebraic sum of the "V" values for each month between the Commencement Date and the Due Completion Date of the Contract, calculated in accordance with subclause C3.4.2.6(a) above;
- provided always that
- (i) rainfall occurring within the period of the Contractor's Christmas shut-down period (referred to in Subclause 1.6 of the Conditions of Contract) shall not be taken into account in the calculation of the monthly "V" values;
- (ii) rainfall occurring during any period during which the Contractor was delayed due to reasons other than wet climatic conditions on the Site, and for which delay an extension of time is

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granted by the Engineer, shall not be taken into account in the calculation of the monthly "V" values;

(iii) if the algebraic sum of the "V" values for each month is negative, the time for completion will not be reduced on account of subnormal rainfall, and

(iv) where rainfall is recorded only for part of a month, the "V" value shall be calculated for that part of the month using pro rata values for Nn and Rn.

(f) The Engineer shall, simultaneous with granting any extension of time in terms of this clause, revise the Due Completion Date of the Contract to reflect an extension of time having been granted in respect of wet climatic conditions, to the extent of the algebraic sum of all the "V" values for all the preceding months of the Contract, less the aggregate of the "Nn" values for the remaining (unexpired) months of the Contract (viz less aggregate of the potential maximum negative "V" values for the remaining Contract Period). Thus, provided that where such period is negative, the Due Completion Date shall not be revised.

(g) Any extension of time in respect of wet climatic conditions granted in terms of this clause shall not be deemed to take into account delays experienced by the Contractor in repairing or reinstating damage to or physical loss of the Works arising from the occurrence of abnormal climatic conditions. Extension of time in respect of any such repairs or reinstatement regarding damage shall be the subject of a separate application for extension of time in accordance with the provisions of Clause 42 and Clause 48 of the Conditions of Contract.

ALTERNATIVE 2 (Critical path method)

(a) A claim for extension of time in respect of delays suffered by the Contractor in consequence of wet climatic conditions will be considered by the Engineer in terms of Clause 42 of the Conditions of Contract and in accordance with provisions set out hereunder.

(b) For the purposes of extension of time, a delay caused by wet climatic conditions will be regarded as a delay only if, in the opinion of the Engineer, all progress on an item or items of work on the critical path of the Contractor's working programme as approved in terms of Clause 12 of the Conditions of Contract has been brought to a halt.

(c) Unless it is customary to carry out the work, in respect of which a delay was suffered, by rotary shifts or by day and by night, only delays to critical path items experienced as a result of wet climatic conditions during normal working hours (as defined in Clause 38 of the Conditions of Contract) will be taken into account for extension of time. This will apply notwithstanding the fact that a delay may have occurred on a portion of the Works on the critical path due to wet climatic conditions, which work was being executed outside the said normal hours with the permission of the Engineer, granted in terms of Subclause 31.1 of the Conditions of Contract.

RAINFALL TABLE

(d) The Contractor shall make due allowance within his programme submitted in terms of Clause 12 of the Conditions of Contract, for a total anticipated delay to items on the critical path resulting from wet climatic conditions, of Fifteen (15) normal working days (as defined in Clause 38 of the Conditions of Contract) during the Contract.

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- (e) Extension of time, if granted by the Engineer, will be determined as the aggregate number of normal working hours for which all progress on the item or items on the critical path was brought to a halt as a result of wet climatic conditions, less the number of normal working days specified in subclause (d) above.
- (f) In determining the revised Due Completion Date of the Contract, the Engineer shall add the equivalent number of normal working days delay determined in accordance with subclause (e) and all intervening normal non-working days to the prevailing Due Completion Date.

C3.4.3 PLANT AND MATERIALS

C3.4.3.1 Plant and materials supplied by the employer

The Employer shall not supply any plant or material.

C3.4.3.2 Materials, samples, and shop drawings

Materials or work that do not conform to the approved samples submitted in terms of Subclause 23.4 of the Conditions of Contract, will be rejected. The Engineer reserves the right to submit samples to tests to ensure that the material represented by the sample meets the specification requirements.

The costs of any such tests conducted by or on behalf of the Engineer, the results of which indicate that the samples provided by the Contractor do not conform to the requirements of the Contract, shall, in accordance with the provisions of Subclause 23.7 of the Conditions of Contract, be for the Contractor's account.

C3.4.4 CONSTRUCTION EQUIPMENT

C3.4.4.1 Requirements for equipment

Equipment hired from the local community where possible is encouraged.

C3.4.4.2 Equipment provided by the employer

Equipment hired from the Local Authority to be negotiated between the Contractor and the Employer.

C3.4.5 EXISTING SERVICES

C3.4.5.1 Known services

The existing services are shown on the drawings.

C3.4.5.2 Treatment of existing services

The Contractor will assume full responsibility for maintaining existing services in good running order. It shall be understood that the production of the existing plant shall in no way be impaired during the contract.

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C3.4.5.3 Use of detection equipment for the location of underground services

The Contractor to detect all existing underground services at its own cost

C3.4.5.4 Damage to services

The Contractor shall be responsible to repair damage to services at its own cost.

C3.4.5.5 Reinstatement of services and structures damaged during construction

The Contractor to reinstate services and structures damaged at its own cost.

C3.4.6 VARIATIONS AND ADDITIONS TO SABS 1200 STANDARDIZED SPECIFICATIONS AND PARTICULAR SPECIFICATIONS

SABS 1200 A	:	General (1986)
SABS 1200 AB	:	Engineer's office (1986)
SABS 1200 C	:	Site clearance (1980)
SABS 1200 DB	:	Earthworks (pipe trenches) (1989)
SABS 1200L	:	Medium-pressure pipelines (1983)
SABS 1200LB	:	Bedding (pipes) (1983)
SABS 1200LF	:	House Connections
PB	:	Building Works
PSE	:	Electrical

The following variations and additions to the SABS 1200 Standardized Specifications referred to above apply to this Contract. The prefix PS indicates an amendment to SABS 1200. The letters and numbers following these prefixes respectively indicate the relevant Standardized Specification and clause numbers in SABS 1200 to which the variation or addition thereto applies.

PSA GENERAL (SANS 1200 A)

PSA 1 MATERIAL (Subclause 3.1)

PSA 1.1 SUPPLYING OF MATERIALS

All material required for this contract shall bear the official standardisation mark.

DEFINITIONS

Add the following:

Task: a quantified activity or operation

Daily task: the amount of work an average worker can complete in one day of 9 hours.

Daily rate: the remuneration of a day's work, regardless of output

Daily wage: see daily rate.

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Witness:



Task rate: the remuneration for a completed task

Daily task rate: the remuneration for a completed daily task.

Labour intensive construction the economically efficient employment of as great a portion of labour as is technically feasible to produce as high a standard of construction as demanded by the specifications and allowed by the funding available, thus the effective substitution of labour for equipment.

Interpretations

Definitions

(a) General

Add the following definitions :-

"General Conditions : The General Conditions of Contract specified for use with this Contract and the Special Conditions of Contract as applicable.

Specified : As specified in the Standardised Specifications, the Drawings or the Project Specifications. Specifications shall have the corresponding meaning, as provided for in sub-clause 1(1)(u) of the General Conditions of Contract".

(c) Measurement and Payment

Replace the definitions for fixed charge, time-related charge and value-related charge with the following :-

"Fixed Charge : A charge that is not subject to adjustment on account of variation in the value of the Contract amount or the Contract time for completion.

Time-related Charge : A charge, the amount of which is varied in accordance with the time for completion of the work as adjusted in accordance with the provisions of the Contract.

Value-related Charge : A charge, the amount of which is varied pro rata the final value of the measured work executed and valued in accordance with the provisions of the Contract.

PSA 2 PLANT

PSA 2.1 CONTRACTOR'S OFFICES, STORES AND SERVICES (Subclause 4.2)

Add the following to this subclause:

PSA 2.1.1 Storage

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Witness:



The Contractor shall supply sufficient protection for perishable materials to the satisfaction of the Engineer, and all materials shall be used in the order in which it was delivered. Cement older than three months shall be removed from the site and shall not be used in the Works.

PSA 2.1.2 Restrictions on Employee Accommodation

No housing is available for the Contractor's employees, and the Contractor shall make his own arrangements to house his employees and transport them to site.

The Employer will place at the disposal of the Contractor an area to enable him to erect his site offices, workshops, stores, and any temporary housing the Contractor may wish to erect for his personnel. The temporary housing and ablution facilities shall comply with the requirements of the local Authority.

PSA 2.2 CAPACITY OF PLANT AND EQUIPMENT (Clause 4)

Add as Clause 4.3:

The Contractor shall supply plant and equipment in sound working condition and of adequate capacity to complete the Works well within the period or periods specified or stated in the appendix to the tender.

In addition, he shall have available on the Site adequate standby plant to ensure that operations designed to be executed continuously are not disrupted because of breakdown of any plant provided for such operations.

PSA 3 CONSTRUCTION

PSA 3.1 DETAILED SETTING OUT (Subclause 5.1.1)

The Contractor shall be solely responsible for the execution of the works to the correct line and level.

The Contractor shall carefully set out the works, employing a capable surveyor to the lines and levels gleaned from information provided.

The tolerance allowed in setting out shall be 10mm either way.

Work set out by the Contractor shall be checked by the Engineer whereafter any errors be rectified by the Contractor.

The Contractor shall provide at least three days' notice of such a check to the Engineer. The Contractor shall supply any material and labour required for the control survey work by the Engineer including the supply of and placing the necessary pegs, sight rails, etc.

Any assistance, including checking, rendered to the Contractor by the Engineer shall not be held as relieving the Contractor of his responsibility in this respect. Should any portion of these works be constructed incorrectly, the Contractor shall at his own expense rectify the work to the satisfaction of the Engineer.

The Contractor shall be held solely responsible for the protection of all bench marks, reference pegs and level pegs.

The Contractor shall establish at least three benchmarks at selected points.

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Witness:



PSA 3.2 WATCHING, BARRICADING, LIGHTING AND TRAFFIC CROSSINGS

(Subclause 5.2)

Add the following to this subclause:

The Contractor shall ensure that he complies with all the requirements of the authorities concerned with respect to the safety of the works and labourers, including the provision and wearing of protective clothing. Any negligence or non-compliance of any of these requirements shall be viewed in a serious light and shall be sufficient reason for the Engineer to order the immediate suspension of the total extent of the Works.

The Contractor shall provide for artificial lighting for any part of the Works that may be required for the proper execution of the work.

PSA 3.3 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES (Subclause 5.4)

Add the following to the subclause:

Before commencing any excavation, the Contractor shall verify the position of all known or suspected obstacles by inspection of the site, examination of drawings or, where necessary by the excavation of trial holes. Any damage caused to existing services and works shall be repaired as expeditiously as possible by the Contractor at his own expense and shall be reported immediately to the Engineer.

Where permanent protective works are ordered by the Engineer, such works shall be valued as a variation. The Engineer will supply the Contractor with such information as may be available concerning obstructions and services, but whilst such information is given in good faith, it shall not relieve the Contractor of any of his liabilities, obligations and risks under the Contract.

The Contractor shall be responsible for any damage to such public services and existing works in the execution of this Contract and shall reimburse the Public Authority or the Owner concerned for any repairs required or compensation for damage awarded.

Any alteration to public services shall be carried out by the Authority concerned.

The Contractor shall provide the necessary assistance during any operations necessary in connection with the removal, alteration or safeguarding of any public service.

The relevant authority and Engineer shall be informed of any damages without delay.

PSA 3.4 DEALING WITH WATER ON WORKS (Subclause 5.5)

Add the following to the subclause:

The Contractor shall be responsible for the dewatering of excavations and the full and adequate protection of the works against damage by storm or water from any source whatever. He shall construct all necessary diversion works and drains to deal adequately with and bypass all water and carry out any necessary pumping of water and supply all tarpaulins or other covers which may be required to protect any section of the work during heavy rain or storm together with any other labour work and material which, in the opinion of the Engineer is necessary to keep the work dry and safe at all times.

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Witness:



Full risk and cost of dealing with water shall be borne by the Contractor.

PSA 3.5 POLLUTION (Subclause 5.6)

Add the following to the subclause:

The Contractor shall maintain all access roads and the area where the offices, stores and workshops are situated to the satisfaction of the Engineer. It shall be kept damp to limit dust and inconvenience or disturbance to the residents in the neighbourhood of the Works to a minimum.

PSA 3.6 DEGREE OF ACCURACY (Subclause 6.2)

Delete this subclause and replace with the following:

The Contractor shall construct each of the various parts of the Works to the degree of accuracy specified in the relevant standardized specification.

PSA 4 TESTING

PSA 4.1 APPROVED LABORATORIES (Subclause 7.2)

Add the following to this subclause:

No laboratory facilities are required on site. The Contractor shall use an independent laboratory for the necessary tests. Unless otherwise stated in the Bill of Quantities, the cost of all tests shall be for the account of the Contractor and no additional payment will be made for them.

PSA 5 MEASUREMENT AND PAYMENT

PSA 5.1 MEASUREMENT (Subclause 8.1.1)

Add the following to this subclause:

In no case will any dimensions be allowed or any quantities be included in the measurement for payment which shall exceed the dimensions required by the contract, or as ordered in writing by the Engineer in the case of extra work.

PSA 5.2 PAYMENT (Subclause 8.2)

Add the following to this subclause:

The quantities as shown in the Bill of Quantities, are estimated quantities and are used for comparing tenders and awarding of the contract. It shall be noted that only the actual work executed, or materials supplied will be measured and paid for, therefore billed quantities may be increased or decreased as allowed for in the General Conditions of Contract.

The entire works shall be measured on completion by the Engineer and paid for at the relevant rates, according to the actual quantity of each item of work executed.

The Contractor shall have no claim for loss of profit on unexecuted works.

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Witness:



PSA 5.3 MEASUREMENT AND PAYMENT FOR SCHEDULED FIXED-CHARGE AND VALUE RELATED ITEMS (Subclause 8.3)

Replace the item with the following:-

Unit

"PSA 8.3.1 : Fixed Preliminary and General Charges.....Sum

PSA 8.3.2 : Value-Related Preliminary and General ChargesSum

The sums tendered shall include full compensation for all fixed and value-related preliminary and general charges as described in sub-clause PSA 8.1.2.2. Payment will be made as described in sub-clause PSA 8.2.1.".

The tendered amount shall include the costs for the premiums of the surety for unused materials on site.

PSAB : ENGINEER'S OFFICE

PSAB 1 MATERIALS

PSAB 1.1 NAMEBOARDS (Subclause 3.1)

Add the following to the subclause:

Notwithstanding the provisions of Subclause 3.1 of SABS 1200 AB, the standard nameboards complying with the recommendations of the South African Association of Consulting Engineers shall be provided. Details of the nameboard will be available from the Engineers.

PSAB 1.2 OFFICE BUILDINGS (Subclause 3.2)

Delete this subclause and replace with the following:

The Contractor shall provide the following furnished offices for the use of the Engineer and the Client. Each office shall consist of one room with the following floor area:

- i) Engineers office : 12 m²

The clear height of all offices between floor and ceiling shall be 2,5m minimum. All windows shall be of the type than can be open over the full window area.

Each office shall be weatherproof, shall have a concrete floor and shall be provided with a ceiling and a lining to the walls, or equivalent insulation, with an acceptable type of door with a secure lock, and two opening windows of glazed area at least 3m². Each office shall be well ventilated and shall be so insulated as to provide comfortable working conditions. The internal furnishings of each office shall include:

- a) one trestle table, 2m long x 1m wide x 0,9m high, with a smooth top;
- b) one table or desk having a top of size at least 1,5m x 0,9m and at least one lockable drawer;
- c) one high stool;
- d) two chairs;
- e) a lockable upright steel cabinet with three shelves or a steel filing cabinet with four drawers;
- f) shelving of total length 3m and of nominal width 300mm;
- g) an acceptable blind on each window,
- h) a wash-hand basin;

BIDDER:

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Witness:



- i) acceptable lighting;
- j) provision for heating in winter and cooling in summer;
- k) one conference type steel table with folding legs of size at least 4,0m x 0,9m.

The Contractor shall also supply a toilet for the exclusive use of the Engineer.

PSAB 1.2 CAR PORTS (New Subclause 3.2 (k))

The Contractor shall provide two permanent car ports for the use of the Engineer. The car ports shall be so constructed that the vehicles parked under them will at all times be shaded from direct sunlight. The car ports shall be at least 20m² in area and shall have a hard stand of crushed stone.

PSAB 2 CONSTRUCTION

PSAB 2.1 SURVEY EQUIPMENT (Subclause 5.5)

Add the following:

The Contractor shall provide the following survey equipment on the site from the commencement to the completion of the Works:

1. 1 Tachometer capable of reading 20 seconds of arc;
2. 1 Engineer's level and level staff;
3. 2 Tachometer staffs graduated metrically;
4. 1 Steel tape of length 30m.

The tachometer may be shared by arrangement between the Contractor and the Engineer's Representative, but the remaining instruments shall be provided for the exclusive use of the Engineer's Representative. The Contractor shall keep the equipment continuously insured against any loss, damage, or breakage and he shall indemnify the Engineer and the Employer against any claims in this regard. Upon completion of the whole of the Works, the ownership of the equipment shall revert to the Contractor.

The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period.

PSAB 2.2 CELLULAR PHONE (New Subclause 4.2)

The Contractor shall supply the Engineer with a cellular phone for the Engineer's sole use. The Contractor shall be responsible for the supply, maintenance, payment of accounts, etc. of the cellular phone. Ownership of the equipment shall revert to the Contractor at the end of the Contract.

PSAB 2.3 MEASUREMENT AND PAYMENT OF SURVEY EQUIPMENT

Provide and maintain survey equipment.....SUM

The rate shall cover the charges for the provision, insurance and maintenance of the equipment.

PSAB 3 SURVEY ASSISTANTS (Subclause 5.5)

Add the following:

The Contractor shall make available to the Engineer two suitably trained survey assistants for use on and about the SITE at all reasonable times for the duration of the Contract.

PSC : SITE CLEARANCE

PSC 1 MATERIALS (Clause 3)

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

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Witness:



PSC 1.1 DISPOSAL OF MATERIAL (Subclause 3.1)

Add to this subclause :

Material obtained from clearing and grubbing and from the demolition of structures shall be disposed of in a borrow pit indicated by the Engineer and shall be finished to the satisfaction of the Engineer.

PSC 2 CONSTRUCTION (Clause 5)

PSC 2.1 INDIVIDUAL TREES (Subclause 5.2.3.2)

Add to this subclause :

Should the Contractor remove or damage any tree marked to be preserved, a penalty of R200,00 per tree shall be payable.

PSDB : EARTHWORKS (Pipe Trenches)

PSDB 1 MATERIALS (Subclause 3)

PSDB 1.1 CLASSIFICATION OF EXCAVATED MATERIAL (Subclause 3.1)

Delete this subclause and replace with the following:

Distinction shall be drawn, for payment purposes, between excavation in hard and soft material. All excavation for pipe trenches shall be classified in accordance with the following classification.

PSDB 1.1.1 Soft excavation

Soft excavation shall be excavation in all existing fill material as well as excavation in material which can be efficiently removed by any of the following plant.

A bulldozer having a mass, including the mass of the ripper if fitted of 35 ton and having a flywheel power of approximately 220 kW or a backactor having 0,15 kW per millimetre bucket width.

PSDB 1.1.2 Hard excavation

Hard excavation shall be excavation in material which cannot be efficiently ripped by plant as described in PSDB 1.1.1. This excavation generally includes material such as formation of weathered rock which can only be removed after blasting or boulders of 0,5 m³ or larger in volume.

The Contractor shall be at liberty to use any method he wishes to excavate any class of material, but the method of excavation shall, however, not dictate the classification of the excavation.

The Engineer shall decide under which one of the above classes any excavation shall be classified and paid for. In the first instance the classification shall be based on inspection of the material to be excavated and the method of excavation proposed by the Contractor. In the event of disagreement between the Contractor and the Engineer, the Contractor shall, if required, make available such mechanical equipment as specified in order to test the reasonable removability or otherwise of the material. The decision of the Engineer as to the classification shall thereafter be final and binding.

The Contractor shall immediately inform the Engineer as and when the nature of the material being excavated changes to the extent that a new classification for further excavation is warranted. Failure on the part of the Contractor to timeously advise the Engineer shall entitle the Engineer to classify, in his sole discretion, such excavation as may have been executed in material of a different nature.

PSDB 1.2 FREEHAUL (Subclause 5.6.8)

Delete this subclause and replace with the following:

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The free haul distance within which the Contractor will be required to move material without separate compensation shall be 2,0km. Overhaul will be paid for the moving of material beyond that distance.

PSDB 2 CONSTRUCTION (Clause 5)

PSDB 2.1 REMOVAL OF HARD MATERIAL (Subclause 5.6.4)

Add the following:

All unused and surplus hard material shall be removed to the designated spoil site.

PSDB 2.2 PROGRAMMING OF PIPE TRENCHES (Clause 5.11)

The Contractor shall programme his work to finish all excavations and backfilling of the pipe trenches before the subbase of any street is built.

PSDB 3 MEASUREMENT AND PAYMENT (Subclause 9)

PSDB 3.1 BASIC PRINCIPLES (Subclause 8.1.1)

Change the following in this subclause:

The free haul distance will be 2,0km and not 0,5km.

PSDB 3.2 CALCULATION OF QUANTITIES (Subclause 8.2.3)

Change the first sentence of the subclause to read as follows:

Where volumetrically measurement is necessary, the volume will be computed from the difference in level between natural ground level and 100mm below pipe invert level as shown on the drawings.

PSDB 3.3 SOILCRETE

The unit of measurement is a cubic meter soilcrete as constructed, computed according to prescribed dimensions of the excavation and the depth of the soilcrete. The volume of any pipes and structures in or crossing the soilcrete must be subtracted from the computed quantity.

The tendered rate shall include payment for the construction of the soilcrete complete and according to specifications, including Portland cement used at a rate of 7% of the dry density of the soil used and the placing of rocks to support the soilcrete and the end of the trenches.

PSL MEDIUM PRESSURE PIPELINES

PSL 1 MATERIALS

PSL 1.1 VALVES (Subclause 3.10)

Delete this clause and replace with the following:

Valves shall comply with the requirements of SABS 664. All valves shall be tested hydraulically to the specified pressure. During testing the valves shall meet two conditions: firstly, with the pressure applied with the valve completely open and thereafter to either side of the gate with the valve completely closed.

All valves shall be coated with a protective layer of paint or solution applied in an approved manner.

All valves shall close in an anticlockwise direction when viewed from above on the spindle. All cap

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tops supplied on the range of valves, shall be of the same size in order that ne size valve key may be used.

PSL 2 CONSTRUCTION

PSL 2.1 DEPTH AND COVERING (Subclause 5.1.4)

Delete this clause and replace with the following:

PSL 2.1.1 Except where permitted in PSL 2.1.2 hereafter, water pipes shall be positioned in such a way as to maintain a minimum cover of 1 000mm from the finished surface to the top of the pipe.

Where stormwater pipes and/or sewer pipes cross the water pipe, the minimum free distance between the outside of any of the pipes and the outside of the coupling of the water pipe shall be 150mm. Should, at the specified minimum cover, the free distance be less than 150mm, the water pipe will be lowered to the required level ensuring the free distance for a minimum distance of 1,0m, either side of the centre line of the stormwater- or sewer pipe, beyond which the pipe will be sloped back to the required level according to PSL 2.1.1 as detailed in subclause 5.1.4.2 of SABS 1200 L.

PSL 2.2 CONNECTION AT EXISTING PIPES

Add the following to this clause as subclause 5.11:

All the consumers concerned as well as the Engineer and the Statutory Authority shall be notified in writing at least one week before the existing water supply is interrupted. Arrangements for the interruption of the water supply shall be made in advance with the Statutory Authority and the Contractor shall not be entitled to lodge any claims as a result of problems caused by non-compliance. Under no circumstances shall employees of the Contractor be allowed to interrupt the water supply at any time.

All activities during the interruption of the water supply shall be planned and co-ordinated beforehand and all the preparations possible shall be completed before the interruption to minimise the inconvenience to the consumers. The Engineer has the authority to stop or to postpone the interruption and the Contractor will not be entitled to any claims in this regard, should the Engineer be of the opinion that the interruption was prolonged more than necessary as a result of bad planning by the Contractor.

PSL 3 STANDARD HYDRAULIC PIPE PRESSURES

PSL 3.1 TEST PRESSURES AND TIME OF TESTING (Subclause 7.3.1)

Add the following to subclause 7.3.1.2:

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Test pressures on all pipes shall be 1,5 times it's working pressure and the following test pressure shall be applied:

Class 9 : 1 350 kPa.

Class 6 : 1 000 kPa.

PSL 4 MEASUREMENT AND PAYMENT

PSL 4.1 SUPPLY, LAY AND BED PIPES COMPLETE WITH JOINTS (Subclause 8.2.1)

Add the following to this subclause :

Rates for pipes and fittings shall include all joints and couplings that may be required. Additional payment will be made for class to class joints.

PSLB BEDDING (Pipes)

PSLB 1 MATERIALS (Clause 3)

PSLB 1.1 BEDDING (Subclause 3.3)

Delete this subclause and replace with the following :

Bedding for rigid pipes shall be as for Class C (see Drawing LB-1) and bedding for flexible pipes shall be selected granular material and selected fill material (see Drawing LB-2) except where shown otherwise on the drawings.

Bedding cradle for Class C bedding shall be of selected granular material (see 3.1)

The material for the selected fill blanket shall in all cases comply with the requirements of 3.2.

PSLB 1.2 SUITABLE MATERIAL NOT AVAILABLE FROM TRENCH EXCAVATIONS (Subclause 3.4.2)

Change the free haul distance in this subclause from 0,5 km to 3,0 km.

PSLB 2 MEASUREMENT AND PAYMENT

PSLB 2.1 FREEHAUL (Subclause 8.1.6)

Change this subclause to the following :

The free haul distance is 3,0 km.

PSLF ERF CONNECTIONS (WATER)

Meters shall comply to the Commercial Metrology Act, Act 77 of 1973, in particular Regulation 80 of Part II of Government Gazette 5806 of 18 November 1977.

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PSE.11. MANUALS

PSE.11.1 Three complete sets of maintenance and operator manuals shall be supplied at first handover.

PSE.11.2 The manual shall include at least the following for all the equipment:

- Sales pamphlets
- Full technical information
- Connection diagrams
- As built drawings
- Calibration and commissioning information.

PSE.12. DRAWINGS

PSE.12.1 Workshop drawings shall be submitted to the engineer for approval before any manufacturing commences.

PARTICULAR SPECIFICATIONS

PSE.13. QUALITY OF MATERIAL

PSE.13.1 Only new material and equipment of the highest quality will be accepted.

C3.4.1.2 Particular Specifications

The following Particular Specifications for work not covered by the SABS 1200 Standardized Specifications are also included hereunder:

PLI : Particular Specification for Generic Labour-intensive Specification

PLI: PARTICULAR SPECIFICATION FOR GENERIC LABOUR-INTENSIVE SPECIFICATION

B 1231 LABOUR BASED CONSTRUCTION METHODS

Bidders must take into consideration that the following works may only be constructed using labour-based construction methods:

- a) Excavation to expose existing services.
- b) Preparation of bedding material for water pipes.

Where Bidders propose to use additional labour-based methods, the methods must be stated as well as the activities. It will reflect positively on the Bidder's bid if he should use more labour-based methods.

PLI 1 Scope

This specification establishes general requirements for activities which are to be executed by hand involving the following:

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- (a) trenches having a depth of less than 1,5 metres

PLI 2 Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail.

PLI 3 Hand excavatable material

Hand excavatable material is material:

(a) Granular materials:

- (i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or
- (ii) where the material is a gravel having a maximum particle size of 10 mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100 mm.

(b) Cohesive materials:

- (i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
- (ii) where the material is a gravel having a maximum particle size of 10 mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100 mm;

Note: (1) A boulder, a cobble and gravel is material with a particle size greater than 200 mm, between 60 and 200 mm.

(2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400 mm and drives a cone having a maximum diameter of 20 mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 1: Consistency of materials when profiled

Granular materials		Cohesive materials	
Consistency	Description	Consistency	Description
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end	Soft	Easily dented by thumb; sharp end of a geological

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	of a geological pick.		pick can be pushed in 30 - 40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in upto 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation.	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

PLI 4 Trench excavation

All hand excavateable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

PLI 5 Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100 mm. Each layer shall be compacted using hand stampers

- (a) to 90% Proctor density;
- (b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10 mm and contains no isolated boulders, or
- (c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

PLI 6 Excavation

All hand excavateable material including topsoil classified as hand excavateable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

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PLI 7 Clearing and grubbing

Grass and small bushes shall be cleared by hand.

PLI 8 Shaping

All shaping shall be undertaken by hand.

PLI 9 Loading

All loading shall be done by hand, regardless of the method of haulage.

PLI 10 Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150 m.

PLI 11 Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilised for haulage.

PLI 12 Spreading

All material shall be spread by hand.

PLI 13 Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved.

PLI 16 Manufactured elements

Elements manufactured or designed by the contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320 kg. In addition, the items shall be large enough so that four workers can conveniently and simultaneously acquire a proper handhold on them.

SCHEDULES OF QUANTITIES

Note: *Labour-intensive works must be highlighted in the schedules/bills of quantities for the payment items relating to labour-intensive works.*

The following wording, as appropriate, may be included in the preamble or pricing instructions to the schedules/bills of quantities in the contract with the contractor:

- 1 Those parts of the contract to be constructed using labour-intensive methods have been marked in the bill of quantities with the letters LI in a separate column filled in against every item so designated. The works,

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or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

- 2 Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

The following payment items should be included in the bill of quantities:

Training allowance paid to targeted labour in terms of formal training

Extra over for the administration of payment of training allowances to targeted labour

Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site.
(Provisional sum)

Person days

Person days

Sum
(insert quantity)

(as above)

(insert provisional sum)
(insert specified day rate)

C3.5 MANAGEMENT OF THE WORKS

C3.5.1 GENERIC SPECIFICATIONS

The SABS 1200 Standardized Specifications listed in 4.1.1 are applicable.

C3.6 HEALTH AND SAFETY

C3.7 REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE ENVIRONMENTAL MANAGEMENT PLAN

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HEALTH AND SAFETY SPECIFICATION

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Occupational health and safety specification for the FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANTS .

1. Definitions

In this document the following expressions shall bear the meanings assigned to them below:

- 1.1 **Client** means any person for whom construction work is being performed and/or undertaken [i.e. JS Moroka Local Municipality for purposes of this specification];
- 1.2 **Construction Regulations** means the Occupational Health and Safety Act's, No 85 of 1993, Construction Regulations that came into effect on 18 July 2003;
- 1.3 **Occupational health and safety plan** means a documented plan which addresses hazards identified and includes safe working procedures to mitigate, reduce or control the hazards identified;
- 1.4 **Occupational health and safety specification** means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons working and/or visiting the site;
- 1.5 **OHSACT** means the Occupational Health and Safety Act, No 85 of 1993, as amended; and
- 1.6 **Principal Contractor** means an employer, as defined by section 1 of the OHSACT who performs construction work and is appointed by the Client to be in overall control and management of the construction works.

2. Introduction

In terms of Construction Regulation 4 (1) (a) of the OHSACT, the Client is required to compile an occupational health and safety specification for any intended project and provide such specification to prospective tenderers.

This specification has as objective to ensure that the principle contractor entering into a contract with the Client achieves and maintain an acceptable level of occupational health and safety

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performance. This document forms an integral part of the contract and the principle- and other contractors should make it part of any contract/s that they may have with other contractors and/or suppliers as far as this project is concerned.

Compliance with this document does not absolve the principle contractor from complying with any other minimum legal requirements and the principle contractor remains responsible for the health and safety of his employees, those of his mandataries as well as any persons on adjacent properties.

3. Scope

To develop a project specific occupational health and safety specification that addresses the reasonable and foreseeable risks, exposures and aspects of occupational health and safety as affected by the abovementioned contract work.

The specification will provide the requirements that the principle contractors and other contractors will have to comply with in order to reduce the risks associated with the abovementioned contract work and that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable and possible.

Any contractor interested in submitting a tender in response to the Client's formal tender for any construction project, has to prepare and include a draft occupational health and safety plan based on this specification and the OHSACT in its tender submission. The Client will evaluate this plan as part of its formal tender adjudication processes to ensure compliance with Construction Regulation 4 that stipulates that the Client may only appoint a contractor who has the necessary competencies and resources to carry of the work appointed for safely.

4. General occupational health and safety provisions

4.1 Hazard identification and risk assessment (Construction Regulation 7)

4.1.1 Risk assessments

Annexure 7 of this specification contains a list of risk assessment headings that have been identified by the Client as possibly applicable to the abovementioned contract work. It is, by no means, exhaustive and is only offered as assistance to the contractors intending to tender for the applicable works.

4.1.2 Development of risk assessments

Every principle contractor performing construction work shall, before the commencement of any construction work or work associated with the aforesaid construction work and during such work, ensure that risk assessments are undertaken by a competent person, appointed in writing, and the risk assessments shall form part of the occupational health and safety plan and be implemented and maintained as contemplated in Construction Regulation 5 (1).

The risk assessments shall include, at least:

- The identification of the current as well as emerging risks and hazards to which persons may be exposed to;
- The analysis and evaluation of the risks and hazards identified;

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- A documented plan of safe working procedures (SWP) and any method statements to mitigate, reduce or control the risks and hazards that have been identified;
- A plan to monitor the application of the SWPs; and
- A plan to review the risk assessments as the work progresses and changes are introduced.

Based on the risk assessments, the principal contractor must develop a set of site-specific occupational health and safety rules that will be applied to regulate the occupational health and safety aspects of the construction.

The risk assessments, together with the site-specific occupational health and safety rules, must be submitted to the Client before mobilisation on site commences.

Despite the risk assessments listed in Annexure 7, the principal contractor is required to conduct a baseline risk assessment and the aforesaid risk assessments must be incorporated into the baseline risk assessment. The baseline risk assessment must further include the SWPs and the applicable method statements based on the risk assessments.

Hazard identification and risk assessments must be undertaken whilst SWPs must be developed for all out-of-scope work.

4.1.3 Review of risk assessments

The principal contractor is to review the hazards identified, the risk assessments and the SWPs at each production planning and progress report meeting as the contract work develops and progresses and each time changes are made to the designs, plans and construction methods and/or processes.

The principal contractor must provide the Client, other contractors and all other concerned or affected parties with copies of any changes, alterations or amendments as soon as possible but within 14 days of such changes.

4.2 Legal Requirements

All Contractors entering into a contract with the Client shall, as a minimum, comply with the -

- OHSACT and a current, up-to-date copy of the OHSACT and its Regulations must be available on site at all times;
- Compensation for Occupational Injuries and Diseases Act, No 130 of 1993 (COIDA). The principle contractor will be required to submit a letter of registration and "good-standing" from the Compensation Commissioner or compensation insurer before being awarded the contract. A current, up-to-date copy of the COIDA must be available on site at all times; and
- Where work is being carried out on mine premises, the contractor will comply with the Mine Health and Safety Act and Regulations (Act. 29 of 1996), the Minerals Act and Regulations (Act 50 of 1991) and any other occupational health and safety requirements that the mine may specify. Current, up-to-date copies of the last two mentioned Acts must be available on site at all times.

4.3 Structure and responsibilities

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4.3.1 Overall supervision and responsibility for occupational health and safety

- a. The principal contractor [appointed in terms of Construction Regulation 4(1) (c)] is responsible to implement and maintain the occupational health and safety plan approved by the Client.
- b. The Chief Executive Officer (in terms of Section 16(1) of the OHSACT) of the principal contractor is to ensure that the Employer (as defined in the OHSACT) complies with the OHSACT. Annexure 2 "Legal Compliance Checklist" may be used for this purpose.
- c. The principal contractor's Chief Executive Officer may appoint any person reporting to him/her as Designated Person in terms of Section 16(2) of the OHSACT. Such Designated Person is responsible to assist the Chief Executive Officer to ensure that the Employer complies with the requirements of the OHSACT.
- d. The construction supervisor and assistant construction supervisor(s) appointed in terms of Construction Regulation 6 are responsible for supervising the construction work and in specific to ensure that all work undertaken comply with the requirements of the OHSACT, its Regulations and the Client's specifications.

4.3.2 Operational responsibilities for occupational health and safety

The principal contractor shall appoint designated competent employees and/or other competent persons as outlined in the following list to assist with the operational responsibilities for occupational health and safety: This list is only the minimum requirement and is therefore in no way exhaustive.

Appointment description	Appointment required in terms of
Blasting supervisor	Explosives Regulation 12
Construction vehicle, mobile plant and machinery supervisor	Construction Regulation 21
Construction supervisor	Construction Regulation 6(1)
Drivers of construction vehicles and operators or plant	Construction Regulation 21
Electrical installation and appliances inspector	Construction Regulation 22
Emergency, security and fire coordinator	Construction Regulation 27
Excavation supervisor (including piling)	Construction Regulation 11
First-aiders	General Safety Regulation 3
Fire fighting equipment inspector	Construction Regulation 27
Formwork and support work supervisor	Construction Regulation 10
Hazardous chemical substances supervisor	Hazardous Chemicals Substances Regulations 10
Incident investigator	General Administrative Regulation 9
Ladder inspector	General Safety Regulation 13(a)
Lifting machines and equipment inspector	Construction Regulation 20
Occupational health and safety committee	OHSACT Section 19
Occupational health and safety officer	Construction Regulation 6(6)
Occupational health and safety representatives	OHSACT Section 17
Person responsible for machinery	General Machinery Regulation 2
Risk assessor	Construction Regulation 7(1)

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Appointment description	Appointment required in terms of
Scaffolding supervisor	Construction Regulation 14
Stacking and storage supervisor	Construction Regulation 26
Structures supervisor	Construction Regulation 9
Traffic management supervisor	OHSACT Section 9(1)
Traffic safety officer	OHSACT Section 9(1)
Tunnelling supervisor	Construction Regulation 13
Vessels under pressure supervisor	Vessels under Pressure Regulations
Working on, over or next to water supervisor	Construction Regulation 24
Welding supervisor	General Safety Regulation 9

These appointments must be in writing and the responsibilities clearly stated together with the period for which each appointment is made. This information must be communicated to and agreed with the appointees.

Copies of appointments must be submitted to the Client together with concise CV's of the appointees as part of the principal contractor's health and safety plan and if appointed copies of the appointments included in the occupational health and safety file. All appointments must be approved by the Client and any changes in appointees or appointments must be communicated to the Client and agreed upon before being implemented.

The principle contractor must, furthermore provide the Client with an organogram of all contractors that he/she has appointed or intends to appoint and keep this list updated on a weekly basis.

4.3.3 Designation of occupational health and safety representatives (Section 18 of the OHSACT)

Where the principal contractor employs more that 20 persons [including the employees of other contractors (sub-contractors)] he has to appoint one occupational health and safety representative for every 50 employees or part thereof. General Administrative Regulation 6 requires that the election, appointment and subsequent designation of the occupational health and safety representatives be executed in consultation with employee representatives or employees. (Section 17 of the OHSACT as well as General Administrative Regulation 6 and 7).

Occupational health and safety representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

4.3.4 Duties and functions of the occupational health and safety representatives (Section 19 of the OHSACT)

- a. The principal contractor must ensure that the designated occupational health and safety representatives conduct a weekly inspection of their respective areas of responsibility, using a checklist, and report thereon to the principal contractor.
- b. Occupational health and safety representatives must be included in accident and/or incident investigations.

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- c. Occupational health and safety representatives must attend all occupational health and safety committee meetings.

4.3.5 Appointment of occupational health and safety committee (Section 20 of the OHSACT)

The principal contractor must establish an occupational health and safety committee consisting of all the designated occupational health and safety representatives together with a number of management representatives that are not allowed to exceed the number of occupational health and safety representatives on the committee and a representative of the Client who shall act as the chairperson without voting rights. The members of the occupational health and safety committee must be appointed in writing and copies of the appointments included in the occupational health and safety file.

The occupational health and safety committee must meet as a minimum on a monthly basis and consider, at least, the following agenda items:

1. Opening and welcome.
2. Members present, apologies and absent.
3. Minutes of previous meeting.
4. Matters arising from the previous meeting.
5. Occupational health and safety representatives' reports.
6. Incident and/or accident reports and investigations.
7. Incident, accident and/or injury statistics.
8. Other matters.
9. Endorsement of registers and other statutory documents by a duly authorised representative of the principal contractor.
10. Close and next meeting.

4.4 Mandataries

It is a requirement that the principal contractor, when he appoints contractors or sub-contractors in terms of Construction Regulations 5(3), 5(5), 5(9), 5(10) and 5(12), includes an OHSACT Section 37(2) agreement (i.e. Agreement with Mandatary) in his agreement with such contractor.

4.5 Administration controls and the occupational health and safety file

4.5.1 The occupational health and safety file [Construction Regulation 5(7)]

As required by Construction Regulation 5(7), the principle contractor and other contractors will each keep an occupational health and safety file on site containing the following documents as a minimum:

1. Notification of construction work (Construction Regulation 3.).
2. Updated copy of the OHSACT and its Regulations (General Administrative Regulation 4.).
3. Proof of registration and good standing with the Compensation Commissioner or a COID Insurer [Construction Regulation 4(g)].
4. Occupational health and safety plan agreed with the Client including the underpinning risk assessment(s) and method statements [Construction regulation 5(1)].
5. Copies of occupational health and safety committee meetings and other relevant minutes.
6. Designs and/or drawings [Construction Regulation 5(8)].

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7. A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work being done by each contractor (Construction Regulation 9).
8. Appointment and designation forms as per paragraphs 4.3.1 and 4.3.2 above.
9. The following registers:
 - Accident and/or incident register (Annexure 1 of the General Administrative Regulations);
 - Occupational health and safety representative's inspection register;
 - Construction vehicles and mobile plant inspections by controller;
 - Daily inspections of vehicles, plant and other equipment by the operator, driver and/or user;
 - Designer's inspections and structures record;
 - Inspection and maintenance of explosive powered tools;
 - Inspection of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances);
 - Fall protection inspections.
 - First-aid box content;
 - Record of first aid treatment;
 - Fire equipment inspections and maintenance.
 - Record of hazardous chemical substances kept and used on site.
 - Ladder inspections.
 - Machine safety inspections (including machine guards, lockouts etcetera);
 - Inspection registers and logbooks for lifting machines and –tackle (including daily inspections by drivers/operators);
 - Inspection of scaffolding;
 - Inspection of stacking and storage;
 - Inspections of structures;
 - Vessels under pressure inspections; and
 - Inspection of welding equipment.
10. All other applicable records.
The Client will conduct and evaluation of the principal contractor's occupational health and safety file from time to time.

4.6 Occupational health and safety goals and objectives and arrangements for monitoring and review of occupational health and safety performance

The principal contractor is required to maintain a casualty incident frequency rate (CIFR) of not more that four (See Annexure 3 to this document: "Measuring Injury Experience") and report on this to the Client on a monthly basis.

4.7 Notification of construction work (Construction Regulation 3)

The principle contractor must, where the contract meets the requirements laid down in Construction Regulation 3, within 5 working days, notify the Department of Labour of the intention to carry out construction work and use the form (Annexure A in the Construction Regulations) for this purpose. A copy of the notification must be held on the occupational health and safety file and a copy must also be forwarded to the Client for record purposes.

4.8 Training, awareness, and competence

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The contents and syllabi of all training required by the OHSACT and Regulations must be included in the principal contractor's occupational health and safety plan.

4.8.1 General induction training

All members of the contractor's site management as well as all the persons appointed as responsible for occupational health and safety in terms of the Construction and other Regulations will be required to attend a general induction session.

All employees of the principal and other contractors must be in possession of proof of general induction training.

4.8.2 Site-specific induction training

The principle contractor will be required to develop a contract work project specific induction training course based on the risk assessments for the contract work and train all employees and other contractors and their employees in this.

All employees of the principal and other contractors must always be in possession of proof that they have attended a site-specific occupational health and safety induction training.

4.8.3 Other training

1. All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training and where applicable licenses.
2. All employees in jobs requiring training in terms of the OHSACT and Regulations must be in possession of valid proof of training.
3. Occupational health and safety training requirements [as required by the Construction Regulations and as indicated by the occupational health and safety specification and the risk assessment(s)] i.e. –
 - a. General induction (Section 8 of the OHSACT);
 - b. Site and job specific induction, including visitors (Sections 8 and 9 of the Act);
 - c. Site and project manager;
 - d. Construction supervisor;
 - e. Occupational health and safety representatives [Section 18 (3) of the Act];
 - f. Training of the appointees indicated in paragraphs 4.3.1 and 4.3.2;
 - g. Operators and drivers of construction vehicles and mobile plant (Construction Regulation 21);
 - h. Basic fire prevention and protection (Environmental Regulations 9 and Construction Regulation 27);
 - i. Basic first-aid (General Safety Regulations 3);
 - j. Storekeeping methods and safe stacking (Construction Regulation 26); and
 - k. Emergency, security and fire coordinator.

4.8.4 Awareness and promotion

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The principle contractor is required to have a promotion and awareness programme in place to create an occupational health and safety culture within employees. The following are some of the methods that may be used:

- Toolbox talks
- Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as employee "occupational health and safety circles".

4.8.5 Notices and signs

The following notices and signs are, where applicable, compulsory on the construction site as well as the contractors' yards:

Area and/or activity where notice or sign is required	Notice or sign required in terms of
Display of notices and signs	General Safety Regulation 2B and SABS Code 1186
Entry	General Safety Regulation 2C(2)
First-aid	General Safety Regulation 3(6)
Toilets and change rooms	Facilities Regulation 2 (5) 4(2)(f)
Storage of flammable materials	General Safety Regulation 4(8)(a)(i) and (ii) [10(e) only applicable to contractor's yards]
Grinding wheels	Driven Machinery Regulation 8(1)(7)
Machinery	General Machinery Regulation 9 (Schedule D)
Explosive powered tools	Construction Regulation 19(2)(f)
Prohibition on smoking and eating or drinking at the workplaces where high risk substances [FR5 (1)] are stored or handled	Facilities Regulation 6(b)
Non-potable water	Facilities Regulation 7(B)

4.8.6 Competence

The principle contractor shall ensure that his and other contractors' employees appointed are competent and that all training required to do the work safely and without risk to health of their or other persons, has been successfully completed before work commences.

The principle contractor shall ensure that follow-up and refresher training is conducted on a regular basis as well as the contract work progresses, and the work situation changes.

Records of all training must be kept on the occupational health and safety file for auditing purposes.

4.9 Consultation, communication, and liaison

The following arrangements will apply-

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- 4.9.1 Occupational health and safety liaison between the Client, the principal contractor, the other contractors, the designer and other concerned parties will be through the occupational health and safety committee. In the absence of a health and safety committee, the Client and principal contractor will agree on an alternative communication forum to be implemented.
- 4.9.2 In addition to the above, communication may be directly to the Client or his appointed Agent, verbally (followed up in writing within 14 days) or in writing, as and when the need arises.
- 4.9.3 Consultation with the workforce on occupational health and safety matters will be through their supervisors, occupational health and safety representatives, the occupational health and safety committee and their elected trade union representatives, if any.
- 4.9.4 The principal contractor will be responsible for the dissemination of all relevant occupational health and safety information to the other contractors, for example design changes agreed with the Client and the designer, instructions by the Client and/or his agent, exchange of information between contractors, the reporting of hazardous and/or dangerous conditions and/or situations etc.
- 4.9.5 The principle contractor will be required to do site safety walks with the Client and/or his agent on a basis to be determined and agreed between the parties.
- 4.9.6 The principle and other contractors will be required to conduct toolbox talks with their employees on a weekly basis and records of these must be kept on the occupational health and safety file. Employees must acknowledge the receipt of toolbox talks which record must, likewise be kept on the occupational health and safety file..7 The principle contractor's most senior manager on site will be required to attend all the Client's occupational health and safety meetings.

The Client or his agent and the principle contractor will agree of the dates, times and venues of the occupational health and safety meetings.

4.10 Checking, reporting and corrective actions

4.10.1 Monthly compliance assessment by Client [Construction Regulation 4(1)(d)]

The Client will be conducting a monthly assessment to comply with Construction Regulation 4(1)(d) and to confirm that the principal contractor has implemented and is maintaining the agreed and approved occupational health and safety plan.

4.10.2 Other assessments and inspections by the client

The Client reserves the right to conduct other ad-hoc assessments and inspections as deemed necessary. This could include among others site safety walks.

4.10.3 Conducting an assessment

A representative of the principal contractor must accompany the Client on all assessments and inspections and may conduct his/her own inspection at the same time. Each party will, however, take responsibility for the results of his/her own assessment and/or inspection.

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4.10.4 Contractor's assessments and inspections

The principle contractor is to conduct his own internal assessments and inspections to verify compliance with his own occupational health and safety plan and management system as well as the requirements of this specification and the compliance of other contractors under his/her control.

4.10.5 Inspections by occupational health and safety representatives and other appointees

Occupational health and safety representatives must conduct weekly inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments for example vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

4.10.6 Recording and review of inspection results

All the results of the abovementioned inspections must be in writing, reviewed at occupational health and safety committee meetings, endorsed by the chairperson of the meeting and placed on the occupational health and safety file.

4.10.7 Reporting of inspection results

The principal contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 4: "Safety, Health and Environment Risk Management Report".

4.11 Incident reporting and investigation

4.11.1 Reporting of accidents and incidents (Section 24 and General Administrative Regulation 8 of the OHSACT)

The principal contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious
- loses a limb or part of a limb
- is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

or where -

- a major incident occurred
- the health or safety of any person was endangered
- where a dangerous substance was spilled
- the uncontrolled release of any substance under pressure took place
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- machinery ran out of control

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to the Client within two days and to the Provincial Director of the Department of Labour within seven days from date of incident (Section 24 of the OHSACT and General Administrative Regulation 8), except that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both the Client and the Provincial Director of the Department of Labour forthwith by telephone, telefax or e-mail. All other reports should still be completed and provided as required.

The principal contractor is required to provide the Client with copies of all statutory reports required in terms of the OHSACT within 7 days of the incident occurring.

The principal contractor is required to provide the Client with copies of all internal and external accident/incident investigation reports, including the reports contemplated in 4.11.2 (3) and (4) below, within 7 days of the incident occurring.

4.11.2 Accident and incident investigation (General Administrative Regulation 9)

1. The principal contractor is responsible for the investigation of all accidents and/or incidents where employees and non-employees were injured to the extent that he, she and/or they had to be referred for medical treatment by a doctor, hospital or clinic.
2. The results of the investigation to be entered into the accident and/or incident register.
3. The principal contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24 (1) (b) and (c) of the OHSACT and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.
4. The principal contractor is responsible for the investigation of all road traffic accidents, related to the construction activities, and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.
5. The Client reserves the right to hold its own investigation into an incident or call for an independent external investigation.

5. Operational control

5.1 Emergency preparedness, contingency planning and response

- 5.1.1 The Contractor must appoint a competent person to act as emergency controller and/or coordinator.
- 5.1.2 The principle contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that the Client may have in place.

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- 5.1.3 The principle contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

5.2 First aid (General Safety Regulation 3)

- 5.2.1 The principle contractor must provide first-aid equipment (including a stretcher) and have qualified first-aiders on site as required by General Safety Regulation 3 of the OHSACT.
- 5.2.2 The contingency plan of the principle contractor must include arrangements for the speedily and timeously transportation of injured and/or ill person(s) to a medical facility or of getting emergency medical aid to person(s) that may require it.
- 5.2.3 The principle contractor must have firm arrangements with his other contractors in place regarding the responsibility of the other contractors injured and/or ill employees.

5.3 Security

- 5.3.1 The principal contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must, amongst other, include among others the rule that non-employees will not be allowed on site unaccompanied.
- 5.3.2 The principal contractor must develop a set of project applicable security rules and procedures and maintain these throughout the construction period.

5.4 Structures (Construction Regulation 9)

The principle contractor must ensure that:

- 5.4.1 Only skilled employees are allowed to erect structures and that the skills of these employees are being verified at regular intervals.
- 5.4.2 Steps are taken to ensure that no structure becomes unstable or collapses due to construction work being performed on it or in the vicinity of it.
- 5.4.3 No structure is overloaded to the extent where it becomes unsafe.
- 5.4.4 He or she has received from the designer the following information:
- Information on known or anticipated hazards relating to the construction work and the relevant information required for the safe execution of the construction work.
 - A geo-scientific report (where applicable).
 - The loading the structure is designed to bear.
 - The methods and sequence of the construction process.
 - Any other applicable information.
- 5.4.5 All drawings pertaining to the design are on site and available for inspection.

5.5 Access scaffolding (Construction Regulation 14)

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Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulation 14 and SA Bureau of Standards Code of Practice, SABS 085 entitled, "The Design, Erection, Use and Inspection of Access Scaffolding".

Detailed consideration must be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. It must also be ensured that there is sufficient material available to erect the scaffolding properly.

Scaffolding must be erected, altered or dismantled by person(s) who has/have adequate training and experience in this type of work or under the continuous supervision of such a person.

5.6 Lifting equipment (Construction Regulation 20)

Lifting equipment must be designed and constructed in accordance with the manufactures/designer's specifications as well as generally accepted technical standards and operated, used, inspected and maintained in accordance with the manufactures requirements as well as that of the Driven Machinery Regulation 18 of the OHSACT:

The Driven Machinery Regulation requires that:

- a. Lifting equipment be clearly and conspicuously marked with the maximum mass load (MML) that it is designed to carry safely. When the MML varies with the conditions of use, the table of maximum loads should be used by the driver/operator.
- b. Each winch on a lifting machine must at all time have, at least, three full turns of rope on the drum when the winch has been run to its lowest limit.
- c. Lifting equipment be fitted with a brake or other applicable device capable of holding the MML. This brake or device must automatically prevent the downward movement of the load when the lifting power is interrupted.
- d. Lifting equipment fitted with a load limiting device that automatically arrest the lift when the load reaches its highest safe position or when the mass of the load is greater than the MML.
- e. Every chain or rope on a lifting machine that forms an integral part of the machine must have a factor of safety as prescribed by the manufacturer of the machine and where no standard is available the factor of safety must be:
 - chains – 4 (four)
 - steel wire ropes - 5 (five)
 - fibre ropes- 10 (ten)
- f. Every hook or load attaching device must be designed such or fitted with a device that will prevent the load from slipping off or disconnecting;
- g. Every lifting machine must be inspected and load tested by a competent person every time it has been dismantled and re-erected and every 12 months after that. The load test must be in accordance with the manufacturer's prescription or to 110% of the MML in addition all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine must be inspected every 6 months by a competent person;
- h. All maintenance, repairs, alterations and inspection results must be recorded in a log book and each lifting machine must have its own log book; and
- i. No person may be lifted by a lifting machine not designed for lifting persons unless in a cradle approved by an inspector of the Department of Labour.

5.7 Lifting tackle

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The following requirements will apply to lifting tackle:

- a. Manufactured of sound material, well constructed and free from patent defects;
- b. Clearly and conspicuously marked with an identity number;
- c. Maximum mass load factor of safety:
 - Natural fibre ropes - 10(ten)
 - Man-made fibre ropes and woven webbing - 06(six)
 - Steel wire ropes – single rope - 06(six)
 - Steel wire ropes – combination slings - 08(eight)
 - Mild Steel chains - 05(five)
 - High tensile/alloy steel chains - 04(four)
- d. Steel wire ropes must be discarded (not used any further for lifting purposes) when wear and corrosion is evident and must be examined by a competent person every three months for this purpose and the results recorded in a designated log book.

5.8 Machine operators

The following requirements will apply to machine operators:

- a. Only certified and/or competent employees may be allowed to operate any machinery.
- b. Every lifting machine operator must be trained specifically for the type of lifting machine that he or she is operating.
- c. Operators of Jib cranes with a maximum mass load of 500 kg or more must be in possession of a certificate of training issued by an accredited (by the Department of Labour) training provider.

5.9 Construction vehicles and mobile plant (Construction Regulation 21)

Construction vehicles and mobile plant will initially during the competency evaluation process be inspected by the Client prior to being allowed on a project site and suppliers of hired vehicles, plant and equipment will be required to comply with this specification as well as the OHSACT and Regulations.

Construction vehicles and mobile plant must be:

- a. Of acceptable design and construction;
- b. Maintained in good working order;
- c. Used in accordance with their design and intention for which they were designed;
- d. Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons to be allowed to drive construction vehicles and mobile plant;
- e. Provided with safe and suitable means of access;
- f. Fitted with adequate signalling devices to make movement safe including reversing;
- g. Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into same;
- h. Provided with roll-over protection;
- i. Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book;
- j. Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions; and

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- k. Used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

Operators and drivers of construction vehicles and mobile plant must be in possession of a valid medical certificate declaring the operator and/or driver physically and psychologically fit to operate or drive construction vehicles and mobile plant.

No loose tools, material etc. is allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported.

No person may ride on construction vehicles and mobile plant except for in a safe place designed and provided for this purpose.

The construction site must be organised to facilitate the movement of construction vehicles and mobile plant in such a manner that pedestrians and other vehicles are not endangered. Traffic routes to be suitable, sufficient in number and adequately demarcated.

Construction vehicles and mobile plant left unattended after hours adjacent to roads and areas where there is traffic movement must be fitted with lights, reflectors or barricades to prevent moving traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant.

In addition, construction vehicles and mobile plant left unattended after hours must be parked with all buckets, booms etc. full lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely.

Employees employed adjacent or on public roads must wear reflective safety vests.

All construction vehicles and mobile plant daily inspection records must be kept in the occupational health and safety file.

5.10 Electrical installations (Construction Regulation 22)

The installation of temporary electricity for construction use shall be in accordance with Construction Regulation 22 and the Electrical Installation Regulations.

The principle contractor must ensure that:

- Existing services are be located and marked before construction commences and during the progress thereof;
- Where the abovementioned is not possible, employees with jackhammers etc. will be protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etc;
- Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site;
- Temporary electrical installations must be inspected at least once per week by a competent person and a record of the inspections kept on the occupational health and safety file;
- Electrical machinery used on a construction site must be inspected daily before start-up by the competent driver/operator or any other competent person and a record of the inspections kept on the occupational health and safety file; and
- A competent person appointed in writing must control all temporary electrical installations.

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5.11 Electrical and mechanical lockout

An electrical and mechanical lockout procedure must be developed by the principle contractor and submitted to the Client for approval before construction commences. All contractors on site must adhere to this lockout procedure.

5.12 Use and storage of flammables (Construction Regulation 23)

The principle contractor must ensure that:

- a. No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions is taken;
- b. No flammables is used or applied e.g. in spay painting, unless in a room or cabinet or other enclosure specially designed and constructed for the purpose unless there is no danger of fire or explosion due to the application of adequate ventilation;
- c. The workplace is effectively ventilated. Where this cannot be achieved:
 - Employees must wear suitable respiratory equipment
 - No smoking or other sources of ignition is allowed in the area
 - The area is conspicuously demarcated as "flammable"
- d. Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with access control measures in place and sufficient fire fighting equipment installed and fire prevention methods practiced for example proper housekeeping;
- e. Flammables stored in a permanent flammable store are stored so that no fire or explosion is caused i.e.:
 - Stored in a locked and well-ventilated reasonably fire-resistant container, cage or room conspicuously demarcated as "Flammable Store – No Smoking or Naked Lights"
 - The flammables store to be constructed of two-hour fire-retardant walls, door and roof and separated from adjoining rooms or workplaces by means of a two-hour fire-retardant fire wall
 - Adequate and suitable fire fighting equipment installed around the flammables store and marked with the prescribed signs
 - All electrical switches and fittings to be of a flameproof design
 - Any work done with tools in a flammable store or work areas to be of a non-sparking nature
 - No Class A combustibles such as paper, cardboard, wood, plastic, straw etcetera to be stored together with flammables
 - The flammable store to be designed and constructed to, in the event of spillage of liquids in the store, to contain the full quantity + 10% of the liquids stored
 - A sign indicating the capacity of the store to be displayed on the door
- f. Only one day's quantity of flammable is to be kept in the workplace;
- g. Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas;
- h. Metal containers to be bonded to earth whilst decanting to prevent build-up of static forces; and
- i. Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.

5.13 Housekeeping (Construction Regulation 25)

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The principle contractor must ensure that:

- a. Housekeeping is continuously implemented and maintained;
- b. Materials and equipment is properly stored;
- c. Scrap, waste and debris is removed regularly;
- d. Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- e. Waste and debris not to be removed by throwing from heights but by chute or crane;
- f. Where practicable, construction sites are fenced off to prevent entry of unauthorised persons;
- g. Catch platforms or -nets are erected over entry and exit ways or over places where persons are working to prevent them being struck by falling objects;
- h. An unimpeded work space is maintained for every employee;
- i. Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done;
- j. As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials;
- k. The walls and roof of every indoor workplace be sound and leak-free; and
- l. Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fences, boarded over or provided with protection to prevent persons from falling.

5.14 Stacking and storage (Construction Regulation 27)

The principle contractor must ensure that:

- a. A competent person is appointed in writing to supervise all stacking and storage on a construction site;
- b. Adequate storage areas are provided and demarcated;
- c. The storage areas are kept neat and under control;
- d. The base of any stack is level and capable of sustaining the weight exerted on it by the stack;
- e. The items in the lower layers can support the weight exerted by the top layers;
- f. Cartons and other containers that may become unstable due to wet conditions are kept dry;
- g. Pallets and containers are in good condition and no material is allowed to spill out;
- h. The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector of the Department of Labour has been obtained to build the stacks higher with the aid of a machine. (The operator of the machine must be protected against items falling from overhead or off the stack and no items may overhang);
- i. The articles that make up a single tier are consistently of the same size, shape and mass;
- j. Structures for supporting stacks are structurally sound and able to support the mass of the stack;
- k. No articles are removed from the bottom of the stack first but from the top tier first;
- l. Anybody climbing onto a stack can and does do it safely and that the stack is sufficiently stable to support him or her;
- m. Stacks that are in danger of collapsing are broken down and restacked;
- n. Stability of stacks are not threatened by vehicles or other moving plant and machinery;
- o. Stacks are built in a header and stretcher fashion and that corners are securely bonded;
- p. Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.

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5.15 Storage of flammable and hazardous chemicals (Hazardous Chemical Substances Regulations)

See paragraphs 5.16 and 5.21 below.

5.16 Fire prevention and protection

The principle contractor must ensure that:

- a. The risk of fire is avoided;
- b. Sufficient and suitable storage of flammables is provided;
- c. Sources of ignition is obviated wherever flammable or highly combustible material is present in the workplace, for example:
 - Notices prohibiting smoking is displayed and enforced
 - Welding and flame cutting is only allowed under controlled conditions that includes written hot work permits
 - Only spark-free hand and power tools are used
 - No grinding, cutting and shaping of ferrous metals are allowed using electrically driven power tools that produces sparks
 - Flameproof switches and fittings are to be used in the flammable atmosphere
 - Good housekeeping is maintained to prevent the accumulation of unnecessary combustibles
 - Adequate ventilation is maintained
 - Adequate and suitable fixed and portable fire fighting equipment are provided and maintained in good working order.
- d. Maintenance must include:
 - Regular inspections by a competent person appointed in writing and records of such inspections should be kept in the occupational health and safety file
 - Annual inspection and service by an accredited service provider
- e. All employees are instructed in the use of the fire fighting equipment and know how to attempt to extinguish a fire;
- f. A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;

- a. Employees are informed regarding emergency evacuation procedures and escape routes;
- b. Emergency escape routes are kept clear at all times and clearly marked;
- c. Evacuation assembly points are demarcated and made known to employees;
- d. Evacuation is practiced to ensure that all persons are evacuated timeously;
- e. Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors have been left behind; and
- f. A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.

5.17 Eating, changing, washing and toilet facilities (Construction Regulation 28)

5.17.1 Toilets

- a. The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 28.
- b. Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of at least 1 toilet per 30 employees.

5.17.2 Showers

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At least cold-water showers of some sort for each sex have to be provided at a ratio of at least 1 shower per 15 employees.

5.17.3 Change rooms

Some form of screened off changing facility must be provided separately for each sex.

5.17.4 Eating facility

Some form of eating facility sheltered from the sun, wind and rain must be provided.

5.17.5 Living accommodation

Where the site is in a remote location and transport to home is not readily available, reasonable and suitable living accommodation must be provided.

5.18 Personal and other protective equipment (Sections 8, 15 and 23 of the OHSACT)

The principal contractor is required to proactively identify the hazards in the workplace and deal with them on an ongoing basis. He/she must either remove them or, where impracticable take steps to protect employees and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.

Where it is not possible to create an absolutely safe and healthy workplace the principal contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the principal contractor maintain the said equipment, that he/she instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other valid reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed but an alternative solution has to be found that may include relocating the employee.

The principal contractor may **not charge any fee** for protective equipment prescribed by him or her **but may charge for equipment under the following conditions:**

- Where the employee requests additional issue in excess of what is prescribed;
- Where the employee has patently abused or neglected the equipment leading to early failure; and
- Where the employee has lost the equipment.

5.19 Portable electrical tools and equipment (Electrical Machinery Regulation 9)

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Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace i.e. drills, saws, grindstones, portable lights, etcetera. In addition, electrical appliances such as fridges, hotplates, heaters, etcetera must be inspected and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following:

- Regular inspections by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorised persons are allowed to use portable electrical tools and equipment; and
- The correct protective equipment is worn/used whilst operating portable electrical tools and equipment.

This equipment -

- Must be maintained in good condition at all times to prevent an electrical shock to the user;
- The main source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and
- All equipment must be fitted with a switch to allow for safe and easy starting and stopping.

5.20 Public health and safety (Section 9 of the OHSACT)

The principle contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes:

- a. Non- employees entering the site for whatever reason;
- b. The surrounding community; and
- c. Passers by the site.

Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.

All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these.

5.21 Hazardous chemical substances

The principal contractor must ensure that:

- a. Employees receive the necessary information and training to be able to use and store hazardous chemical substances safely;
- b. Employees obey lawful instructions regarding:
 - The wearing and use of protective equipment
 - The use and storage of hazardous chemical substances
 - The prevention of the release of hazardous chemical substances
 - The wearing of exposure monitoring and measuring equipment
 - The cleaning up and disposal of materials containing hazardous chemical substances

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- Housekeeping, personal hygiene and the protection of the environment
- c. The risk assessments required in terms of Construction Regulation 7 include employee exposure to hazardous chemical substances and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical substances present or used in the workplace;
- d. Suppliers provide the necessary information in the form of a material safety data sheet regarding hazardous chemical substances required to ensure the safe use and storage of that substances;
- e. An up-to-date list is kept on site of hazardous chemical substances stored and used together with the material safety data sheet of the said hazardous chemical substances;
- f. Hazardous chemical substances containers be clearly marked as to the contents and main hazardous category e.g. "Flammable" or "Corrosive" and the reference number of the hazardous chemical substances on the list indicated above;
- g. Hazardous chemical substances for example asbestos dust is not cleared by using compressed air but should be vacuumed;
- h. No person eats or drinks in a hazardous chemical substances' workplace; and
- i. Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements.

5.22 Excavations (Construction Regulation 11)

Where excavations or any part thereof will exceed 1,5 m in depth the principal contractor will be required to submit a method statement to the Client for approval before commencing with the excavation and the Client will issue a permit to proceed once the risk assessment and method statement is approved.

Regardless of the above, all excavation work has to comply with the following:

- 5.22.1 Excavation work must be carried out under the supervision of a competent person with at least two years practical experience in excavation work who has been appointed in writing.
- 5.22.2 Before excavation work begins the stability of the ground must be evaluated.
- 5.22.3 Whilst excavation work is being performed, the principal contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material.
- 5.22.4 No person may be required or permitted to work in an excavation that has not been adequately shored or braced.
- 5.22.5 Where the excavation is in stable material or where the sides of the excavation are sloped back to at least the maximum angle of repose measured relative to the horizontal plane, shoring or bracing may be left out **but only after** written permission has been obtained from the appointed competent person.
- 5.22.6 Shoring and bracing must be designed and constructed to safely support the sides of the excavation and prevent it from collapsing.
- 5.22.7 Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed excavator.

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- 5.22.8 No load or material may be placed near the edge of an excavation if it is likely to cause a collapse of the excavation, unless suitable shoring has been installed to be able to carry the additional load.
- 5.22.9 Neighbouring/adjoining buildings, structures or roads that may be affected or endangered by the excavation must be suitably protected.
- 5.22.10 Every excavation must be provided with means of access that must be within 6 metres of any employee within the excavation at any time.
- 5.22.11 The location and nature of any existing services such as water, electricity, gas, telecommunication etcetera must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for employees working in or near in the excavation.
- 5.22.12 Every excavation, including the shoring and bracing or any other method to prevent collapse, must be inspected by the appointed competent person as follows:
- Daily before work commences
 - After every blasting operation
 - After an unexpected collapse of the excavation or part thereof
 - After substantial damage to any support
 - After rain
- 5.22.13 The results of any inspections must be recorded in a register kept on site.
- 5.22.14 Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced off to at least one meter high and as close to the excavation perimeter as practicable.
- 5.22.15 Provided with warning lights or visible boundary indicators after dark or when visibility is poor.
- 5.22.16 Upon entering an excavation the requirements of General Safety Regulation 5 must be observed:
- Any confined space may only be entered after the air quality has been tested to ensure that it is safe to breathe and does not contain any flammable or noxious air mixture.
 - The confined space must be purged and ventilated of any hazardous or flammable gas, vapour, dust or fumes.
 - The safe atmosphere must be maintained.
 - Employees are to be provided with breathing apparatus and wearing a safety harness with a rope with the free end of the rope being continuously attended to by a person outside the confined space.
 - Furthermore, an additional person, trained in resuscitation, to be in full-time attendance immediately outside the confined space.
 - Additional serviceable breathing and rescue apparatus is kept immediately outside the confined space for rescue purposes.
 - All pipes, ducts etcetera that may leak into the confined space to be blanked off sufficiently to prevent any leakage or seepage.
 - The employer must ensure that all employees have left the confined space after the completion of work.

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- Where flammable gas is present on or in a confined space no work may be performed in close proximity to the flammable atmosphere that may ignite the flammable gas or vapour.

5.23 Tunneling activities

The principal contractor must ensure that:

- a. Tunneling activities are carried out under the supervision of a competent person with at least ten years practical experience in tunneling work who has been appointed in writing.
- b. All tunneling activities comply with the Tunneling Regulations as published under the Mine Health and Safety Act (No 29 of 1996), as amended.
- c. No person is allowed to enter a tunnel which has a height dimension of less than 800 mm.

5.24 Blasting

The principal contractor must ensure that:

- a. Blasting activities are carried out under the supervision of a competent person with at least five years practical experience in blasting who has been appointed in writing.
- b. A method statement is developed in accordance with all applicable explosives' legislation, by an appointed person who is competent in the use of explosives.
- c. The necessary permits are in place for the transportation of explosives to be used.
- d. Access to the blasting area is strictly restricted.
- e. No smoking or hot work is allowed close to explosives or the blasting areas.
- f. Reasonable steps are taken to prevent damage to structures in the vicinity of the blasting area.
- g. Any other industry required safety measures are considered and implemented specifically taking the construction site's specific requirements into account.

5.25 Working in confined spaces (such as manholes)

5.25.1 Ventilation

The confined space or manhole cover and two adjacent covers must be opened (i.e. a total of three manholes) and the confined space or manhole be allowed to ventilate for at least 15 minutes before entering the manhole. All open manholes must be barricaded and manned at all times.

A gas monitor must be lowered to the bottom of the confined space or manhole with a rope to test the presence of any toxic/flammable gas. If any gas is detected, the space or line must be force ventilated by means of a blower for at least 15 minutes where after the air must be tested again. Under no circumstances may any space or manhole be entered while there is a toxic/flammable gas present.

After the undertaking of the necessary work, the person in charge of the activities must confirm that all the employees are accounted for and ensure that all the manholes are properly closed and barricading removed.

5.25.2 Entering a manhole

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When entering a confined space or manhole, the person entering the space or manhole must wear a safety harness, fully operational gas detector as well as a self-rescuer. A lifeline must be attached to the safety harness and a person on the surface must be in continuous contact with the person in the manhole. At least one person on the surface must be trained in basic first-aid (level 1). No person shall remain within a confined space or manhole for a period of more than one hour at a time. A minimum of 5-minute rest periods on the surface must be taken after this period before re-entering.

Should the alarm sound on the gas monitor, the employees must exit the confined space or manhole and the immediate area must also be evacuated immediately. The area must be properly ventilated and re-tested before re-entering the confined space or manhole. Professional support should be called for if necessary.

Employees must be provided with flameproof lighting when entering deep manholes or manholes with flammable gases. No naked lights, smoking or unprotected electrical apparatus which may cause sparks, shall be permitted in any manhole or confined space or in their vicinity.

5.25.3 General

All employees working in confined spaces or manholes must be issued with fully functioning gas monitoring equipment and safety harnesses as well as self-rescuers where applicable. All these employees must be trained (including refresher training on a continuous basis) in the use thereof.

Where over-pumping between manholes is involved, only leak free pumping machines and conveyance tubes must be used and allowed.

5.25.4 Safety equipment

All teams must be issued with fully functional gas monitoring equipment and safety harnesses and self-rescuers where applicable. All employees must be trained (including refresher training on a continuous basis) in the use thereof.

5.25.5 General records

The following records shall be implemented and maintained by the principal contractor:

- a. Confined space entry permits
- b. Confined space entry registers
- c. Safety harness registers

5.25.6 Training

- a. All employees that have to enter a confined space or manholes must be formally trained before being required to enter such areas (new employees to complete this training before working in a confined space).
- b. Refresher courses must be attended by employees at least every 2 years or immediately if new methodologies or equipment are adopted or acquired.
- c. Continuous on-site training and support by supervisory staff should be undertaken.

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5.26 Working over or close to water

Where construction or other support work is undertaken over or in close proximity to water or similar liquids such as sludge, the principal contractor shall –

- a. Appoint a competent person in writing to supervise, control and inspect any work on or over or in close proximity of the water as well as the construction, installation, and dismantling of caissons and/or cofferdams and/or other support or safety structures;
- b. Ensure that written proof of the competence of above appointee is available on site;
- c. Ensure that risk assessments are carried out by the competent person on a daily basis;
- d. Ensure that measures for the timeous warning of flooding are in place;
- e. Ensure that provision is made to prevent employees from falling into the water and the rescuing of employees in danger of drowning;
- f. Ensure that where an employee is exposed to the risk of drowning by falling into the water, a lifejacket is provided to and worn by the employee; and
- g. Provide applicable personal protective equipment such as safety harnesses etcetera and enforce the utilisation thereof.

5.27 Form and support work

- a. Form and support work must be carried out under the supervision of competent person designated in writing.
- b. Form and support work structures must be so designed, erected, supported, braced and maintained that it will be able to support any vertical or lateral loads that may be applied.
- c. No load may be imposed onto the structure that the structure is not designed to carry.
- d. Form and support work must be erected in accordance with the structural design drawings for such form and support work and if there is any uncertainty, the designer must be consulted before proceeding with the erection/use of the form and support work.
- e. All drawings pertaining to the form and support work must be kept available on site.
- f. All equipment used in the erection of form and support work must be checked by a competent person before use.
- g. The foundation or base upon which the form and support work is erected must be able to bear the weight and keep the structure stable.
- h. Employees erecting form and support work must be trained in the safe work procedures for the erection, moving and dismantling of the form and support work.
- i. Safe access and emergency escape must be provided for employees.
- j. A competent person must inspect the form and support work structures that have been erected before, during and after pouring of concrete or the placing of any other load and thereafter daily until the form and support work is stripped. The results of all inspections must be recorded in a register kept on site.
- k. The form and support work must be left in place until the designated competent person has authorised its stripping in writing.
- l. Any damaged form and support work must be repaired and/or rectified without delay.
- m. Deck panels must be secured against displacement.
- n. The slipping of employees and other persons on release agents on deck panels must be prevented at all times.
- o. Employees' health must be protected against the use of solvents, oils or other similar substances.

5.28 Welding, flame cutting or similar operations

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- 5.28.1 A competent person will be appointed to supervise welding, flame cutting or similar operations on site.
- 5.28.2 The following rules will govern all welding and flame cutting or similar operations:
- The welder will be trained regarding the safe use/operation of the equipment.
 - The welder and his assistant will be provided with effective and appropriate personal protective equipment and/or clothing.
 - Cables and electrode holders will be effectively insulated.
 - The workplace will be effectively screened off to prevent bystanders from being affected by the welding rays or they will be provided with protective equipment.
 - Special precautions will be taken where welding is undertaken in confined spaces e.g. proper and sufficient ventilation will be provided.
 - In wet or damp conditions, the welding equipment and the welder will be properly insulated and someone will be on standby to assist in the event of any emergency.
 - A qualified person will certify in writing that it is safe to enter and work in a specific confined space before welding or flame cutting is undertaken.
 - No welding, flame cutting, grinding, soldering or similar work shall be undertaken in respect of any drum, vessels or similar object or container where such object or container-
 - is completely closed, unless the rise in internal pressure cannot render in dangerous; or
 - contains any substance which, under the action of heat may explode or react to form dangerous or poisonous substances.
 - Where pressure vessels/welding cylinders containing oxygen or acetylene are transported or used, the proper precautionary measures will be taken against bumping, falling, rolling etcetera.
 - Gas welding hoses may only be joined with approved connectors and clamps.
 - No oil or grease may be applied to oxygen valves and fittings.
 - It is a sound practice to store pressure vessels and/or welding cylinders vertically and to secure them by means of a chain
 - Acetylene cylinders may never be inclined in excess of 45°
 - Proper and adequate fire prevention measures will be instituted and maintained for as long as the welding continues.
 - Where explosive and/or flammable vapours are present welding will be done under "hot work" permits.

5.29 Transportation of employees

- 5.29.1 Any vehicle used to transport employees must have seats firmly secured and adequate for the number of employees to be carried.
- 5.29.2 The principal contractor shall not allow employees to be transported in a goods vehicle unless the portion of the vehicle in which the employees are being conveyed is enclosed to a height of –
- at least 350 mm above the surface on which employees are seated; or
 - at least 900 mm above the surface on which employees are standing,

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in a manner and with a material of sufficient strength to prevent employees from falling from such vehicle when it is in motion.

6. Health and safety policy

The principal contractor has to provide the Client, as an annexure to the health and safety plan, with a detailed health and safety policy outlining the principal contractor's stance on and principles adopted for health and safety.

7. Cost for health and safety measures during the construction process

To enable the Client to comply with Construction Regulation 4 (1) (h), all potential principal contractors submitting tenders have to demonstrate to the Client that sufficient provision has been for the cost to implement the health and safety plan proposed by the principal contractor to meet the requirements of this health and safety specification as well as that of the OHSACT and its Regulations.

A detailed schedule of costs has to be included in the health and safety plan submitted as part of the potential principal contractor's tender document. Failure by the principal contractor to adhere to this requirement will force the Client to reject the tender in terms of Construction Regulation 4 (4).

8. Project specific risk assessment requirements

See Annexure 7.

9. Overview of annexures

- Annexure 1: Specified framework for the principal contractor's occupational health and safety plan.
- Annexure 2: Legal compliance assessment.
- Annexure 3: Measuring injury experience.
- Annexure 4: SHE risk management report.
- Annexure 5: Guide to risk assessments.
- Annexure 6: The Construction Regulations.
- Annexure 7: List of risk assessments.

10. Enquiries

For any enquiries regarding this occupational health and safety specification, please contact –

Name: Godwin Ncube
Pawacons Pty Ltd
Tel: +27 34 317 1118
E-mail: godwin@pawacons.co.za

ANNEXURE 1

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SPECIFIED FRAMEWORK FOR THE PRINCIPAL CONTRACTOR'S OCCUPATIONAL HEALTH AND SAFETY PLAN

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Specified framework for the principal contractor's occupational health and safety plan

1. Definitions

In this document the following expressions shall bear the meanings assigned to them below:

- 1.1 **Client** means any person for whom construction work is being performed and/or undertaken [i.e. JS Moroka Local Municipality for purposes of this specification];
- 1.2 **Construction Regulations** means the Occupational Health and Safety Act's, No 85 of 1993, Construction Regulations that came into effect on 18 July 2003;
- 1.3 **Occupational health and safety plan** means a documented plan which addresses hazards identified and includes safe working procedures to mitigate, reduce or control the hazards identified;
- 1.4 **Occupational health and safety specification** means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons working and/or visiting the site;
- 1.5 **OHSACT** means the Occupational Health and Safety Act, No 85 of 1993, as amended; and
- 1.6 **Principal Contractor** means an employer, as defined by section 1 of the OHSACT who performs construction work and is appointed by the Client to be in overall control and management of the construction works.

2. Introduction

In terms of the Construction Regulations [Regulation 4 (1) (a)] of the OHSACT, the Client is required to compile an occupational health and safety specification for each of its projects and the principle contractor, appointed by the Client in terms of Regulation 4 (1) (c), is required to prepare an occupational health and safety plan.

This plan has to be prepared in terms of Regulation 5 (1) as well as the Client's occupational health and safety specification. In terms of Regulation 4 (2), the Client and the principle contractor are required to agree on the occupational health and safety plan before any work may commence.

The principal contractor's health and safety plan has to follow the framework specified in this annexure a minimum guideline.

3. Specified framework for the Occupational Health and Safety Plan

3.1 Introduction

The principal contractor has to demonstrate to the Client that it has developed a suitable and sufficiently documented occupational health and safety plan for the specific project appointed as well as the necessary competencies, experience and resources to perform the construction work safely. The principle contractor should submit the following documentation for perusal and verification by the client:

- a. Management structure.
- b. Quality plan.
- c. Human resources plan.
- d. Registered workplace skills plan.
- e. "Letter of good standing" from the Compensation Commissioner or licensed compensation insurer.

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- f. Proof of induction and other training of employees.
- g. Copy of minutes as an example of other project's occupational health and safety committee meetings and copies of incident investigation reports.

3.2 Contents of the occupational health and safety plan

3.2.1 Occupational health and safety management programme

The occupational health and safety management programme should at least provide a detailed overview of the following matters:

- a. Management of occupational health and safety risks.
- b. Occupational health and safety structures and appointments.
- c. Programme of occupational health and safety inspections.
- d. Occupational health and safety representatives.
- e. Occupational health and safety committee.

3.2.2 Communication principles and management of work

The communication and management principles to be applied should at least cover the following:

- a. Management structure and responsibilities.
- b. Occupational health and safety goals for the project and arrangements for monitoring and reviewing occupational health and safety performance.
- c. Arrangements for:
 - Regular liaison between parties on site; and
 - Consultation with the workforce.
- d. The exchange of design information between the client, designers, supervisors and contractors on site.
- e. Handling of design changes during the project.
- f. Selection and control of contractors.
- g. The exchange of occupational health and safety information between all contractors on matter such as:
 - Security;
 - Site induction and onsite training;
 - Facilities and first-aid;
 - The reporting and investigation of accidents and incidents;
 - The production and approval of risk assessments and method statements;
 - OHSACT site rules; and
 - Fire and emergency procedures.
- h. Reporting to the client i.e. results of occupational health and safety inspections, incidents, incident investigations and committee meetings.
- i. Reporting of incidents to the Department of Labour and compensation insurer where appropriate

3.2.3 Arrangements for controlling significant site risks and exposures

The following are some examples of the arrangements for controlling the most significant site risks/exposures:

3.2.3.1 Safety risks

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- a. Services, including temporary electrical installations.
- b. Preventing employees from falling into excavations, from trucks etcetera.
- c. Work with, on or near fragile materials.
- d. Control of lifting operations.
- e. The maintenance of plant and equipment.
- f. Poor ground conditions.
- g. Traffic routes and segregation of vehicles and pedestrians.
- h. Storage of hazardous materials.
- i. Dealing with existing unstable structures and/or land.
- j. Accommodating adjacent land use.
- k. Other significant safety risks as and when identified.

3.2.3.2 Health risks

- a. Storage and use of hazardous chemical substances.
- b. Dealing with contaminated land or material.
- c. Manual handling.
- d. Reducing noise and vibration.
- e. Provision of adequate lighting.
- f. Ventilation considerations.
- g. Extreme heat and cold temperature considerations.
- h. Dealing with HIV/Aids and other illnesses.
- i. Provision of and maintaining ablution and eating facilities.
- j. Other significant health risks as and when identified.

3.3 Preparation of an occupational health and safety operational reference file and/or manual

The following are some of the minimum requirements to be addressed:

- a. Layout, format and content requirements.
- b. Arrangement for the collection and gathering of information.
- c. Storage and archiving of all the information.
- d. Copy to the client at completion of project.

3.3.1 Minimum contents of an occupational health and safety file and/or manual

- a. Occupational health and safety policy.
- b. Notice of new projects.
- c. Relevant site start-up documentation.
- d. Security measures.
- e. Copies of written designations and appointments.
- f. Arrangements with contractors and/or mandataries.
- g. Occupational health and safety rules and procedures.
- h. Induction training details.
- i. Occupational health and safety training.
- j. Occupational health and safety promotion.
- k. Occupational health and safety representatives.
- l. Occupational health and safety committees.
- m. Workplace facilities, for example ablution, sheltered eating areas etcetera.
- n. Personal protective equipment.
- o. Workplace inspections and assessments.
- p. Investigation and reporting of incidents and/or accidents.
- q. Mechanical safeguarding.

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- r. Electrical safeguarding.
 - s. Safeguarding against hazardous substances.
 - t. Lifting machinery and equipment.
 - u. Construction vehicles and mobile plant.
 - v. Welding, heating and flame cutting.
 - w. Excavations.
 - x. Protection of the environment affected by construction activities.
 - y. Keeping of records in terms of the OHSACT.

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3.4 Risk assessments

Every principle contractor performing construction work shall, before the commencement of any construction work or work associated with the aforesaid construction work and during such work, ensure that a risk assessment is undertaken by a competent person, appointed in writing, and the risk assessment shall form part of the occupational health and safety plan and be implemented and maintained as contemplated in Construction Regulation 5 (1).

The risk assessment shall include, at least:

- a. The identification of the risks and hazards to which persons may be exposed to;
- b. The analysis and evaluation of the risks and hazards identified;
- c. A documented plan of safe working procedures (SWP) and any method statements to mitigate, reduce or control the risks and hazards that have been identified;
- d. A plan to monitor the application of the SWPs; and
- e. A plan to review the risk assessments as the work progresses and changes are introduced.

In order to ensure compliance with the Construction Regulations, the principal contractor will be required to carry out the following three forms of risk assessment:

3.4.1 Baseline or datum risk assessments

The principal contractor will be required carry out a risk assessment before the commencement of construction activities. This "baseline" or 'datum" risk assessment will form part of the principal contractor's health and safety plan. The risks and hazards to which persons, plant, vehicles and facilities may be exposed during the construction should be identified and evaluated. Measures to reduce or control these risks or hazards should be defined during this assessment. The effectiveness of the measures defined and the baseline risk assessment prepared shall be monitored and reviewed from time to time to ensure that it remains relevant and accurate.

3.4.2 Issue based risk assessments.

The Contractor will be required to carry out separate risk assessments during construction of the Works when methods and procedures are varied, for example when:

- a. Designs are amended,
- b. New machines are introduced,
- c. Plant is periodically cleaned and maintained,
- d. Plant is started-up or shut-down,
- e. Systems of work change, or operations alter,
- f. Indents or near-misses occur, or
- g. Technological developments invalidate prior risk assessments.

3.4.3 Continuous risk assessments

The OHSACT specifically requires that employers shall provide and maintain working environments that are safe and without risk to health. The general awareness of hazards needs to be raised as work ethic to maintain a safe and risk-free environment on an ongoing basis. This is achieved by continuous risk assessments, the most important form of risk assessment that takes place as an

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integral part of day-to-day management. Examples of continuous risk assessments include:

- a. Regular audits,
- b. Maintaining general hazard awareness, and
- c. Pre-work risk assessment

The principal contractor's health and safety plan should include a comprehensive list (based on Annexure 7 of the client's occupational health and safety specification) to be carried out as well as the methodology to be followed. The plan should also include detailed site-specific occupational health and safety rules to be applied during the project.

3.5 Cost for health and safety measures during the construction process

To enable the Client to comply with Construction Regulation 4 (1) (h), all potential contractors submitting tenders have to demonstrate to the Client that sufficient provision has been for the cost to implement the health and health and safety plan proposed by the principal contractor to meet the requirements of this health and safety specification as well as that of the OHSACT and its Regulations.

A detailed schedule of costs has to be included in the health and safety plan submitted as part of the potential principal contractor's tender document. Failure by the principal contractor to adhere to this requirement will force the Client to reject the tender in terms of Construction Regulation 4 (4).

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ANNEXURE 2

OCCUPATIONAL HEALTH, -SAFETY AND ENVIRONMENT: RISK ASSESSMENT CHECKLIST

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Occupational health, -safety and environment: Risk assessment checklist

(Based on the Construction Regulations of the Occupational Health and Safety Act)

* Denotes items applicable to both construction sites, contractor plant and storage yards

ELEMENT	REMARKS
1. Administrative and legal requirements	
2. Education, training and promotion	
3. Public safety, security measures and emergency preparedness	
4. Personal protective equipment	
5. Housekeeping	
6. Working at heights (including roof work)	
7. Scaffolding, formwork and support work	
8. Ladders	
9. Electrical safeguarding	
10. Emergency, fire prevention and protection	
11. Excavations and demolition	
12. Tools	
13. Cranes	
14. Builder's hoist hoists	
15. Transport and materials handling equipment	
16. Site plant and machinery	
17. Plant and storage yard or site workshop specifics	
18. Workplace environment, health and hygiene	

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1.Administrative and Legal Requirements

<i>OHSACT Section or Regulation</i>	Subject	Requirements	Yes/No
Construction Regulation 3	Notice of carrying out Construction work	Department of Labour notified. Copy of notice available on site.	
General Admin. Regulation 4	*Copy of OHSACT	Updated copy of the OHSACT and Regulations on site. Readily available for perusal by all employees.	
COID Act Section 80	*Registration with Compensation Commissioner or other approved compensation insurer	Written proof of registration/Letter of good standing available on site.	
Construction Regulation 4 & 5(1)	OHSACT specification, plans and programme	OHSACT spec received from JW. OHSACT plan developed. OHSACT programme implemented. Plans and programme updated regularly.	
Section 8(2)(d) Construction Regulation 7	*Hazard identification and risk assessment	Hazard identification carried out and recorded. Risk assessment and –plan drawn up and updated. Employees and sub-contractors informed and trained.	
Section 16(2)	*Assigned duties (Managers)	Responsibility of complying with the OHSACT assigned to other person/s by CEO.	
Construction Regulation 6(1)	Designation of person responsible on site	Competent person appointed in writing as construction supervisor.	
Construction Regulation 6(2)	Designation of assistant for responsible person	Competent person appointed in writing as assistant construction supervisor.	
Section 17 & 18 and General Administrative Regulations 6 & 7	*Election and designation of occupational health and safety representatives	More than 20 employees - one representative and one additional representative for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified. Meaningful reports. Reports actioned by management.	
Section 19 & 20 and General Administrative Regulations 5	*Occupational health and safety committee/s	Committee/s established. Members appointed in writing. Meetings held monthly. Minutes kept. Actioned by management.	
Section 37(1) & (2)	*Agreement with mandataries, contractors and sub-contractors	Written agreement with contractors and sub-contractors. List of contractors and sub-contractors displayed. Proof of Registration with Compensation Commissioner or Compensation Insurer as well as Letter of Good Standing. Construction Supervisor designated.	

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<i>OHSACT Section or Regulation</i>	Subject	Requirements	Yes/No
		Written arrangements regarding representatives and committee. Written arrangements regarding first-aid.	
Section 24 and General Administrative Regulation 8 COID Act Section 38, 39 and 41	*Reporting of incidents (Department of Labour)	Incident reporting procedure displayed. All incidents in terms of section 24 reported to the Provincial Director, Department of Labour, within 3 days (Annexure 1 and/or WCL 1 or 2). Cases of occupational disease reported. Copies of reports available on site. Record of first-aid injuries kept.	
General Administrative Regulation 9	*Investigation and recording of incidents	All injuries which resulted in the person receiving medical treatment other than first aid, recorded and investigated by investigator designated in writing. Copies of reports (Annexure 1) available on site. Tabled at committee meeting. Actioned taken by site management.	
Construction Regulation 8	Fall prevention and protection	Competent person appointed to draw up and supervise the fall protection plan. Proof of appointees' competence available on site. Risk assessment carried out for work at heights. Fall protection plan drawn up and updated. Plan available on site.	
Construction Regulation 8(5)	Roof work	Competent person appointed to plan & supervise roof work. Proof of appointees' competence available on site. Risk assessment carried out. Roof work plan drawn up and updated. Roof work inspect before each shift and inspection register kept. Employees medically examined for physical and psychological fitness and written proof on site.	
Construction Regulation 9	Structures	Information regarding the structure being erected received from the designer including: • geo-science technical report where relevant; • the design loading of the structure; • the methods and sequence of construction; and • anticipated dangers, hazards and/or special measures to construct safely. Risk assessment carried out. Method statement drawn up. All above available on site.	

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OHSACT Section or Regulation	Subject	Requirements	Yes/No
		Structures inspected before each shift. Inspections register kept.	
Construction Regulation 10	Formwork and support work	Competent person appointed in writing to supervise erection, maintenance, use and dismantling of support and formwork. Design drawings available on site. Risk assessment carried out. Support and formwork inspected: • before use and inspection; • before pouring of concrete; • weekly whilst in place; and • before stripping or dismantling and inspection register kept.	
Construction Regulation 14	Scaffolding	Competent persons appointed in writing to: • erect scaffolding (scaffold erector/s); • act as scaffold team leaders; and • inspect scaffolding weekly and after inclement weather (scaffold inspector/s). Written proof of competence of above appointees. Appointees available on site. Copy of SABS 085 available on site. Risk assessment carried out. Inspected weekly and/or after bad weather. Inspection register/s kept.	
Construction Regulation 15	Suspended platforms	Competent persons appointed in writing to: • control the erection of suspended platforms; • act as suspended platform team leaders; and • inspect suspended scaffolding weekly and after inclement weather. Risk assessment conducted. Certificate of authorisation issued by a registered professional engineer available on site and copy forwarded to the Department of Labour. The following inspections of the whole installation carried out by a competent person • after erection and before use; • daily prior to use; and • inspection register kept. The following tests to be conducted by a competent person: • load test of whole installation and working parts every 12 months; and • hoisting ropes, hooks and load attaching devices quarterly; and • tests log book kept.	

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<i>OHSACT Section or Regulation</i>	Subject	Requirements	Yes/No
		Employees working on suspended platforms should be medically examined for physical and psychological fitness. Written proof available.	
Construction Regulation 11	Excavations	Competent person/s appointed in writing to supervise and inspect excavation work. Written proof of competence of above appointee/s available on site. Risk assessment carried out. Excavations inspected: • before every shift; • after any blasting; • after an unexpected fall of ground; • after any substantial damage to the shoring; and • after rain. Inspections register kept. Method statement developed where explosives will be and/or are used.	
Construction Regulation 12	Demolition work	Competent person/s appointed in writing to supervise and control demolition work. Written proof of competence of above appointee/s available on site. Risk assessment carried out. Engineering survey and method statement available on site. Inspections to prevent premature collapse carried out by competent person before each shift. Inspection register kept.	
Construction Regulation 17	Materials hoist	Competent person appointed in writing to inspect the material hoist. Written proof of competence of above appointee available on site. Materials hoist to be inspected weekly by a competent person. Inspection register kept.	
Construction Regulation 24	Water environments (including caissons and cofferdams)	Competent person appointed in writing to supervise, control and inspect work on or over water and the construction, installation, and dismantling of caissons and/or cofferdams. Written proof of competence of above appointee available on site. Risk assessment carried by a competent person on a daily basis. Inspection register kept.	
Construction Regulation 19	Explosive powered tools	Competent person appointed to control the issue of the explosive powered tools and cartridges as well as the service,	

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<i>OHSACT Section or Regulation</i>	Subject	Requirements	Yes/No
		maintenance and cleaning. Register kept of above. Empty cartridge cases, nails and fixing bolts returns recorded. Cleaned daily after use.	
Construction Regulation 18	Batch plants	Competent person appointed to control the operation of the batch plant as well as the service, maintenance and cleaning of this plant. Register kept of above. Risk assessment carried out. Batch plant to be inspected weekly by a competent person and inspections register kept.	
Construction Regulation 13 and Mine Health and Safety Act	Tunneling	Complying with Mines Health and Safety Act (29 of 1996). Risk Assessment carried out.	
Construction Regulation 20 Driven Machinery Regulations 18 and 19	Cranes and lifting machines equipment	Competent person appointed in writing to inspect cranes, lifting machines and equipment. Written proof of competence of above appointee available on site. Cranes and lifting tackle identified and numbered. Register kept for lifting tackle. Logbook kept for each individual crane. Inspection: • All cranes: Daily by operator. • Tower cranes: After erection and thereafter 6 monthly. • Other cranes: Annually by competent person. • Lifting tackle (slings, ropes, chain slings etcetera): Three monthly.	
Construction Regulation 22 Electrical Machinery Regulations 9 and 10 Electrical Installation Regulations	*Inspection and maintenance of electrical installation and equipment (including portable electrical tools)	Competent person appointed in writing to inspect/test the installation and equipment. Written proof of competence of above appointee available on site. Inspections: • Electrical installation and equipment inspected after installation, alterations and quarterly thereafter. Inspection registers kept. • Portable electric tools and -lights and extension leads identified/numbered. • Monthly visual inspection by user, issuer or storeman. Register kept.	

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<i>OHSACT Section or Regulation</i>	Subject	Requirements	Yes/No
Diving Regulations	Diving operations	Competent person appointed in writing to supervise diving operations and ensure maintenance, statutory inspection and testing by an approved inspection authority of equipment used. Written proof of competence of above appointee available on site. Proof of registration of all divers present on site available. Risk assessment carried out. Diving manual produced and available on site. Record of voice communications kept. Diving operations record kept. Each diver keeps a personal logbook and entries countersigned by the diving supervisor. Decompression tables available on site. Records of any decompression illness kept. Certificate of manufacture of any compression chamber or diving bell in use available on site.	
Construction Regulation 26 General Safety Regulation 8(1)(a)	*Designation of stacking and storage supervisor	Competent persons with specific knowledge and experience designated to supervise all stacking and storage. Written proof of competence of above appointee available on site.	
Construction Regulation 27 Environmental Regulation 9	*Designation of a person to coordinate emergency planning and fire protection	Person/s with specific knowledge and experience designated to coordinate emergency contingency planning and execution and fire prevention measures. Emergency evacuation plan: • Developed and available on site; • Drilled and practiced; and • Records of drills and practices available on site. Fire risk assessment carried out. All fire extinguishing equipment: • Identified and on register; • Inspected weekly and inspection registers kept; • Replaced after use; and • Serviced annually.	
General Safety Regulation 3	*First-aid	Every workplace provided with sufficient number of first-aid boxes (required where 5 persons or more are employed). First-aid boxes freely available. Content of boxes as per the minimum requirements of the OHSACT. One qualified First-aider appointed for every	

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OHSACT Section or Regulation	Subject	Requirements	Yes/No
		50 employees (required where more than 10 persons are employed). List of First-aiders and competency certificates available on site. Name and contact details of person in charge of first-aid box clearly displayed. Location of first-aid boxes clearly demarcated. Signs instructing employees to report all injuries and/or illness including first-aid injuries.	
General Safety Regulation 2	Personal protective equipment (PPE)	PPE risk assessment carried out. Items of PPE prescribed and use enforced. Records of issue kept. Undertaking by employee to use and/or wear PPE.	
General Safety Regulation 9	*Inspection and use of welding and/or flame cutting equipment	Competent person/s with specific knowledge and experience designated to inspect electric arc, gas welding and flame cutting equipment. Written proof of competence of above appointee available on site. Equipment identified/numbered and entered into a register. Equipment inspected monthly. Inspection register kept.	
Hazardous Chemical Substances (HCS) Regulations Construction Regulation 23	*Control of storage and usage of HCS and other flammables	Competent person/s with specific knowledge and experience designated to control the storage and usage of HCS (including flammables). Written proof of competence of above appointee available on site. Risk assessment carried out. Register of HCS kept and/or used on site.	
Vessels under Pressure Regulations	Vessels under pressure (VUP)	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections and testing of VUPs. Written proof of competence of above appointee available on site. Risk assessment carried out. Certificates of manufacture available on site. Register of VUPs on site. Inspections and testing by approved inspection authority (AIA): • after installation, re-erection or repairs; • every 36 months; and • register or log kept of inspections, tests, modifications and repair on site.	
Construction	Construction vehicles	Operators or drivers appointed to:	

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<i>OHSACT Section or Regulation</i>	Subject	Requirements	Yes/No
Regulation 21	and earth moving equipment	- Carry out a daily inspection prior to use; and - Drive the vehicle or plant that he/she is competent to drive or operate. Written proof of competence of above appointee available on site. Record of daily inspections kept on site.	
General Safety Regulation 13A	*Inspection of Ladders	Competent person appointed in writing to inspect ladders. Ladders inspected at arrival on site and monthly thereafter. Inspections register kept on site.	
General Safety regulation 13B	Ramps	Competent person appointed in writing to supervise the erection and inspection of ramps. Inspection register kept on site.	

2. Education, training and promotion

Subject	Requirement	Yes/No
*Occupational Health and Safety Policy as per OHSACT Section 7(1) *Company and site health and safety rules as per OHSACT Section 13(a) *Induction and task safety training as per OHSACT Section 13(a) *General health and safety training as per OHSACT Section 13(a) *Occupational health and safety promotion	Policy signed by CEO and published and communicated to employees. Policy displayed on employee notice boards. Management and employees committed. Rules published. Rules displayed on employee notice boards. Rules issued and explained to employees with written proof hereof. Follow-up to ensure employees understand and adhere to the rules. All new employees receive health and safety induction training. Training includes task safety instructions. Employees acknowledge receipt of training. Follow-up to ensure employees understand and adhere to instructions. All employees receive basic health and safety training. Written proof kept. Operators of plant and equipment receive specialised training. Follow-up to ensure employees understand and adhere to instructions. Incident experience board indicating among others - - Number of hours worked without an injury; and - Number of days worked without an injury. Safety grading - Board kept up to date. Relevant safety posters displayed and changed regularly.	

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JS MOROKA LOCAL DR MUNICIPALITYCONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT " .



Subject	Requirement	Yes/No
	Employee notice board for health and safety notices. Site health and safety competitions. Company health and safety competition. Participation in regional health and safety competitions. Suggestion scheme.	

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3. Public safety, security measures and emergency preparedness

Subject	Requirement	Yes/No
*Notices and signs	Notices and signs at entrances along perimeters indicating "No unauthorised entry" and "Entry at own risk" . Notices and signs at entrance instructing visitors and non-employees what to do, where to go and where to report on entering the site or yard with directional signs for example "Visitors to report to office" . Notices and signs posted to warn of overhead work and other hazardous activities for example General Warning Signs .	
Site safeguarding	Nets, canopies, stills, fans etcetera to protect members of the public passing and/or entering the site.	
*Security measures	Access control measures and register in operation. Security patrols after hours and weekends. Sufficient lighting after dark. Guard has access to telephone or other means of emergency communication.	
*Emergency preparedness	Emergency contact numbers displayed near telephone. Emergency evacuation instructions posted up on all notice boards (including employees' notice boards). Emergency contingency plan available on site or in yard. Doors open outwards and unobstructed. Emergency alarm audible all over (including in toilets).	
*Emergency drill and evacuation	Adequate number of employees trained to use fire equipment. Emergency evacuation plan available, displayed and practiced. (See Section 1 for designation and register).	

4. Personal protective equipment (PPE)

Subject	Requirement	Yes/No
*PPE needs analysis	Need for PPE identified and prescribed in writing.	
*Head protection	It is compulsory for all persons on site to wear safety helmets including sub-contractors and visitors (where prescribed).	
*Foot protection	All persons on site have to wear safety footwear including gumboots for concrete or wet work and non-slip shoes for roof work.	
*Eye and face protection	Eye and face protection (such as goggles, face shields, welding helmets) to be used when operating the following: • Jack or kango hammers; • Angle or bench grinders; • Electric drills (overhead work into concrete, cement and bricks); • Explosive powered tools; • Concrete vibrators or pokers; • Hammers and chisels; • Cutting or welding torches; • Arc welding equipment; • Skill or bench saws; and • Spray-painting equipment etcetera.	
*Hearing protection	Hearing Protectors (such as muffs, plugs) used when operating the	

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Subject	Requirement	Yes/No
	following: • Jack or kango hammers; • Explosive powered tools; and • Wood or aluminium working machines such as saws, planers, routers.	
*Hand protection	Protective gloves to be worn by employees handling or using: • Cement, bricks, steel or chemicals; • Welding equipment; • Hammers and chisels; and • Jack or kango hammers etcetera.	
*Respiratory protection	Suitable and efficient respirators to be worn correctly by employees handling or using: • Dry cement; • Dusty areas; • Hazardous chemicals; • Angle grinders; and • Spray-painting etcetera.	
*Fall Prevention Equipment	Suitable safety belts or fall arrest equipment correctly used by persons working on or in unguarded, elevated positions such as: • Scaffolding; • Riggers; • Lift shafts; • Edge work; and • Ring beam edges etcetera. Other applicable methods of fall prevention should al be applied such as catch nets.	
*Protective clothing	All jobs requiring protective clothing (such as overalls, rain wear, welding aprons etcetera) to be identified and clothing worn.	
*PPE issue and control	Identified equipment to be issued free of charge. All PPE should be maintained in good condition (i.e. regular checks). Workers instructed in the proper use and maintenance of PPE. Commitment obtained from wearer accepting conditions and to wear the PPE. Record of PPE issued kept on file.	

5. Housekeeping

Subject	Requirement	Yes/No
*Scrap removal system	All items of scrap, unusable off cuts, rubble and redundant material removed from working areas on a regular basis. Scrap and/or waste removal from heights by chute, hoist or crane (i.e. nothing thrown or swept over sides). Scrap disposed of in designated containers or areas. Removal from site or yard on a regular basis.	
Stacking and storage (See Section 1 for designation and	Stacking: • Stable; • On firm level surface or base; • Not leaning and/or collapsing;	

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Subject	Requirement	Yes/No
register)	- Irregular shapes bonded; - Not exceeding 3 times the base; - Stacks accessible; and - Removal from top only. Storage: - Adequate storage areas provided; - Functional for example demarcated storage areas, racks, bins etcetera; - Special areas identified and demarcated for example flammable gas, cement etcetera; - Neat, safe, stable and square; - Store and storage areas clear of superfluous material; - Storage behind sheds etcetera should be neat and under control; and - Storage areas free from weeds, litter etcetera.	
*Waste control or reclamation	Re-usable off cuts and other re-useable material removed daily and kept to a minimum in the work areas. All re-useable materials neatly stacked or stored in designated areas (i.e. nails removed or bent over in re-useable timber). Issue of hardware, nails, screws and cartridges etcetera should be controlled and return of unused items monitored.	
Sub-contractors	Sub-contractors required to comply with the site or yard's housekeeping requirements.	

6. Working at heights

Subject	Requirement	Yes/No
Openings	Unprotected openings adequately guarded, fenced and barricaded with catch nets installed where necessary.	
General requirements	Work discontinued when bad or hazardous weather prevails. Fall protection measures (including warning notices) when working close to edges or on fragile roofing material.	

7. Scaffolding, formwork and support work

Subject	Requirement	Yes/No
Access and system scaffolding (See Section 1 for designation and register)	Foundation firm and stable. Sufficient bracing. Tied to structure and secured from side or cross movement. Platform boards in good condition and secured. Sufficient platform boards to be used. Handrails and toe boards provided. Access ladders or stairs provided. Area/s under scaffolding tidy. Safe and unsafe for use signs to be used.	

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Subject	Requirement	Yes/No
	Complying with OHSACT and SABS 085.	
Free Standing Scaffolding	Foundation firm and stable. Sufficient bracing. Platform boards in good condition and secured. Sufficient platform boards to be used. Handrails and toe boards provided. Access ladders or stairs provided. Area/s under scaffolding tidy. Safe or unsafe for use signs to be used. Height and base ratio correct. Outriggers used and tied to structure where necessary. Complying with OHSACT and SABS 085.	
*Mobile scaffolding	Foundation firm and stable. Sufficient bracing. Platform boards in good condition and secured. Sufficient platform boards to be used. Handrails and toe boards provided. Access ladders or stairs provided. Area/s under scaffolding tidy. Safe and unsafe for use signs to be used. Wheels and swivels in good condition Brakes working and applied. Height to base ratio correct. Outriggers used where necessary. Complying with OHSACT and SABS 085.	
Suspended scaffolding	Outriggers securely supported and anchored. Correct number of steel wire ropes used. Platform as close as possible to the structure. Handrails on all sides. All winches, ropes, cables and brakes inspected regularly. Inspection registers kept on site. Scaffolding complies with OHSACT. Winches maintained by competent person.	
Formwork and support work	All components in good condition. Foundation firm and stable. Adequate bracing and stability ensured. Good workmanship, uprights straight and plum. Good cantilever construction. Safe access provided. Areas under support work tidy. Same standards as for system scaffolding.	
Special scaffolding	Special scaffolding for example cantilever, jib and truss-out scaffolds erected to an acceptable standard and inspected by specialists. Inspection registers to be kept on site.	
Edges and openings	Edges barricaded to acceptable standards. Manhole openings covered and/or barricaded. Openings in floor and other openings covered, barricaded or fenced. Stairs provided with handrails. Lift shafts barricaded or fenced off.	

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**8. Ladders**

Subject	Requirement	Yes/No
*Physical condition, use and storage (See Section 1 for designation and register)	Stepladders – hinges, stays, braces and stiles in order. Extension ladders – ropes, rungs, stiles, safety latch and hook in order. Extension or straight ladders secured or tied at the bottom or top. No joined ladders used. All ladders stored on hooks or racks and not on ground. Ladders protrude 900 mm above landings, platforms or roof. Fixed ladders higher than 5 m have cages or fall arrest system.	

9. Electrical safeguarding

Subject	Requirement	Yes/No
*Electrical distribution boards and earth leakage	Colour coded, numbered and symbolic sign displayed. Area in front kept clear and unobstructed. Fitted with inside cover plate, openings blanked off and no exposed "live" conductors or terminals. Door kept close. Switches and/or circuit breakers identified. Earth leakage protection unit fitted and operating. Tested with instrument - test results within 15 – 30 milli-amps. Aperture openings provided for the plugging in and removal of extension leads without the need to open the door.	
*Electrical installations and wiring	Temporary wiring or extension leads in good condition with no bare or exposed wires. Earthing continuity and polarity correct: "Brown is live, Blue is neutral, Green and Yellow earth the lot" Cables protected from mechanical damage and moisture. Correct loading observed for example no heating appliance used from lighting circuit etcetera. Light fittings and lamps protected from mechanical damage/moisture.	
*Physical condition of electrical appliances and tools	Electrical Equipment and Tools (includes all items plugging in to a 15 Amp supply socket): - Insulation and casing in good condition. - Earth wire connected or intact where not of double insulated design. - Double insulation mark where no earth wire. - Cord in good condition/no bare wires/secured to machine & plug. - Plug in good condition, connected correctly and correct polarity.	

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**10. Emergency, fire prevention and protection**

Subject	Requirement	Yes/No
*Fire extinguishing equipment (See Section 1 for designation and register)	Fire Risks Identified and on record. Fire Extinguishing Equipment available for: • Offices; • General stores; • Flammable store; • Fuel storage tanks; • Gas welding or cutting operations; and • Where flammable substances are being used or applied.	
*Maintenance	Fire equipment serviced minimum annually, but preferably 6 monthly.	
*Location & Signs	Fire Extinguishing Equipment: • Clearly visible; • Unobstructed; and • Sign posted including "No Smoking" and "No Naked Lights" where required i.e. (flammable store, gas store, fuel tanks etc.).	
* Storage issue and control of flammables (incl. gas cylinders)	Storage area provided for flammables with suitable doors, ventilation, bund etcetera. Flammable store neat and tidy with no Class A combustibles. Decanting of flammable substances carried out in ignition free and adequately ventilated area. Container bonding principles applied. Only sufficient quantities issued for one day's use. Special gas cylinder store or storage area. Gas cylinders stored, used and transported upright and secured in trolley, cradle or structure that is well ventilated. Types of gas cylinders identified and stored separately. Full cylinders stored separately from empty cylinders.	
*Storage, issue and control of Hazardous Chemical Substances (HCS) (See Section 1 for designation and register)	HCS storage principles applied i.e. products segregated. Provision made for leakage and spillage containment. Emergency (serviceable) showers and eye wash facilities provided. HCS under lock and key as well as controlled by designated person. Decanted or issued in containers with information and warning labels. Disposal of unwanted HCS by recognised disposal agent.	

11. Excavations and demolition

Subject	Requirement	Yes/No
Excavations deeper than 1.5 m. (See Section 1 for designation and register)	Shored or braced to prevent caving or falling in. Provided with an access ladder. Excavations guarded, barricaded or lighted after dark in public areas. Soil dumped at least 1 m away from edge of excavation. On sloping ground soil dumped on lower side of excavation.	

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2

Witness:

**12. Tools**

Subject	Requirement	Yes/No
*Hand tools	Shovels, Spades and Picks: • Handles free from cracks and splinters; • Handles fit securely; and • Working end sharp and true. Hammers: • Good quality handles, no pipe or reinforcing steel handles; • Handles free from cracks and splinters; and • Handles fit securely. Chisels: • No mushroomed heads or heads chamfered; • Not hardened; and • Cutting edge sharp and square. Saws: • Teeth sharp and set correctly; and • Correct saw used for the job.	
*Explosive powered tools (See Section 1 for designation and register)	Only used by trained and authorised personnel. Prescribed warning signs placed or displayed where tool is in use. Inspected at least monthly by competent person and results recorded in on site register. Issue and return recorded including cartridges or nails and unused cartridges, nails, empty shells recorded. Cleaned daily after use in on site register.	

13. Cranes

Subject	Requirement	Yes/No
Tower crane (See Section 1 for designation and register)	Only operated by trained authorised operator with valid certificate of training. Certificate available on site. Structure - no visible defects. Electrical installation good and safe. Crane hook - throat pop marked, safety latch fitted and functional. SWL/MML displayed. Limit switches fitted and operational. Access ladder fitted with backrests or fall arrest system installed. Lifting tackle in good condition and inspection colour coding current.	
*Mobile crane (See Section 1 for designation and register)	Only operated by trained authorised operator with valid certificate of training. Certificate available on site. Rear view mirrors and windscreen visibility good. Windscreen wipers operating effectively. Indicators operational. Hooter working. Tyres safe with sufficient tread and pressure visibly sufficient.	

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Subject	Requirement	Yes/No
	No missing wheel nuts. Headlights, taillights operational. Grease nipples and grease on all joints. No visible oil leaks. Hydraulic pipes visibly sound with no leaks. No undue corrosion on battery terminals. Boom visibly in good condition with no apparent damage. Cable and sheaves greased with no visible damage, split wires or corrosion. Brakes working properly. Crane hook - throat pop marked, safety latch fitted and functional. SWL/MML displayed. By-pass valves operational. Deflection chart displayed and visible to operator or driver. Outriggers functional used.	
*Gantry crane	Only operated by trained authorised persons. Correct slinging techniques used. Recognised displayed on chart signals used. Log book kept up to date. Prescribed inspections conducted on crane and lifting tackle. "Crane overhead" signage, where applicable. Crane hook - throat pop marked, safety latch fitted and functional. SWL/MML displayed and load limiting switches fitted and operational.	

14. Builder's hoist

Subject	Requirement	Yes/No
Builder's hoist (See Section 1 for designation and register)	"Hoist in operation" - sign displayed. General construction strong and free from latent defects. Tower: - Adequately secured and braced. - At least 900 mm available for over travel. - Barricaded at least 2 100 mm high at ground level and floors. - Landing place provided with gate at least 1 800 high. Platform: - No persons conveyed on platform. - Steel wire ropes with breaking strain of six times maximum weight. - Signal systems used. - Goods prevented from moving/falling off. - Effective brake capable of holding maximum weight.	

15. Transport and materials handling equipment

Subject	Requirement	Yes/No
*Site vehicles	All site vehicles, dumpers, bobcats, loaders etcetera checked daily before used by driver or operator. Inventory of vehicles used/operated on site.	

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Witness:



Subject	Requirement	Yes/No
	Inspection by means of a checklist and results recorded. No persons riding on equipment not designed for passengers. Site speed limit posted and not exceeded. Drivers and operators trained and licensed. Licenses available on site. No unauthorised persons allowed to drive or operate equipment.	
Conveyors	Conveyor belt nip points and drive guarded. Emergency stop and lever brake fitted, clearly marked and accessible.	

16. Site plant and machinery

Subject	Requirement	Yes/No
Brick cutting machine	Operator trained and only authorised persons use the machine. Emergency stop switch clearly marked and accessible. Area around the machine dry and slip or trip free as well as clear of off cuts. All moving drive parts guarded. Electrical supply cable protected. Operator using correct PPE i.e. eye, face, hearing, foot, hands and body.	
*Electric arc welder	Welder trained. Only authorised and trained persons use welder. Adequately earthed. Electrode holder in good condition and safe. Cables, clamps, lugs and connectors in good condition. Area in which welding machine is used is dry and protected from wet. Welder using correct PPE i.e. eye, face, foot, body and respiratory. Screens and warning signs placed.	
*Woodworking machines	Operator's trained and only authorised persons use machines. Provided with guards and guards used. Operators using correct PPE i.e. eye, face, foot and hearing.	
*Compressors	Relief valves set, locked and sealed. Maximum safe working pressure (MSWP) indicated on face of pressure gauge face and not on glass cover. All drives adequately guarded. Receiver and lines drained daily. Hoses good condition and clamped, not wired.	
Concrete mixer and batch plant	Top platform provided with guardrails. Dust abatement methods in use. Operators using correct PPE i.e. eye, hands and respiratory. All moving drive parts guarded. Emergency stops identified, indicated and accessible. Area kept clean, dry and free from tripping and slipping hazards. Banksman identified and crane signals displayed and used.	
*Gas welding and flame cutting equipment	Only authorised and trained persons use the equipment. Torches and gauges in good condition. Flashback arrestors fitted at cylinders and gauges. Hoses in good condition, correct type and all connections with clamps. Cylinders stored, used and transported in upright position, secured in	

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JS MOROKA LOCAL DR MUNICIPALITYCONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT " .



Subject	Requirement	Yes/No
	trolley or cradle. Fire prevention control methods applied. Hot work permits.	

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**17. Plant and storage yard or site workshop specifics**

Subject	Requirement	Yes/No
OHSACT, Section 8(2)(1) General Machinery Regulation 2(1) Supervision of the use and maintenance of machinery	Persons with specific knowledge and experience designated to supervise the use and maintenance of machinery. Critical items of machinery identified, numbered and placed on register or inventory. Inspection or maintenance schedules for abovementioned. Inspections or maintenance carried out to above schedules. Results recorded.	
General Machinery Regulation 9(2) Notices regarding operation of machinery	Schedule D notice posted in work areas.	
Vessels under Pressure Regulation 13(1)(b) Supervision of the use and maintenance of vessels under pressure (VUP)	Persons with specific knowledge and experience designated to Supervise the use and maintenance of VUPs. VUPs identified, numbered and placed on register. Manufacturers plate intact. Inspection or maintenance schedules for abovementioned. Inspections or maintenance carried out to above schedules. Results recorded and test certificates available.	
Lock-out procedure	Lock-out procedure in operation.	
Ergonomics	Ergonomics survey conducted. Results on record. Survey results applied.	
Demarcation and colour coding	Demarcation principles applied. All services, pipes, electrical installation, stop-start controls, emergency controls etcetera colour coded to own published or SABS standard. Employees trained to identify colour coding.	
Portable and bench grinders	Area around grinder clear and trip/slip free. Bench grinders mounted securely and grinder generally in good condition. No excessive vibration. On and off switch or button clearly demarcated and accessible. Adequate guards in place. Tool rest – secure, square and maximum 2 mm gap. Stone or disk - correct type and size, mounted correctly and dressed. Use of eye protection enforced.	
Ancillary lifting equipment	Chain blocks, tirlors, jacks and mobile gantries etcetera identified and numbered on register. Chains in good condition and links no excessive wear. Lifting hooks – throat pop marked and safety latch fitted. SWL/MML marked or displayed.	
Presses, guillotines and shears	Only operated by trained and authorised persons. PPE used by operators Interlocks or lockouts fitted.	

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Witness:

**18. Workplace environment, health and hygiene**

Subject	Requirement	Yes/No
*Lighting	Adequate lighting in places where work is being executed for example stairwells and basements or after sunset. Light fittings placed and installed causing no irritating or blinding glare.	
*Ventilation	Adequate ventilation, extraction and exhausting in hazardous areas for example where chemicals and adhesives are stored, welding takes place and where petrol or diesel motors are running in confined spaces or basements.	
*Noise	Tasks identified where noise exceeds 85 dBa. All reasonable steps taken to reduce noise levels at the source. Hearing protection used where noise levels could not be reduced to below 85 dBa.	
*Heat stress	Measures in place to prevent heat exhaustion in heat stress problem areas e.g. steel decks, when the WBGT index reaches 30 (see Environmental Regulation 4). Cold drinking water readily available when extreme temperatures are experienced.	
*Ablution facilities	Sufficient toilets provided for men and women separately i.e. 1 per 30 employees (National Building Regulations prescribe chemical toilets for Construction sites). Toilet paper available. Sufficient showers provided for men and women separately. Facilities for washing hands provided. Soap available for washing hands. Means of drying hands available. Changing facilities or area provided for men and women separately. Ablution facilities hygienic and clean.	
*Eating and cooking facilities	Adequate storage facilities provided. Weather protected eating area provided, separate from changing area. Refuse bins with lids provided. Facilities clean and hygienic.	
*Pollution of environment	Measures in place to minimize dust generation. Accumulation of empty cement pockets, plastic wrapping or bags, packing materials etcetera prevented. Spillage or discarding of oil, chemicals and diesel into storm water and other drains prevented.	
*Hazardous chemical	All substances identified and list available e.g.	

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Witness:



Subject	Requirement	Yes/No
substances (See Section 1 for designation and register)	acids, flammables, poisons etc. Material Safety Data Sheets (MSDS) indicating hazardous properties and emergency procedures in case of incident on file and readily available. Substances stored safely.	

Name of person who have undertaken the assessment
Signature

Date

Received by

Designation

Date

Tabled at health and safety committee

BIDDER:

DR. JSMLM:

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Initial: DR. JSM

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Witness:



ANNEXURE 3

MEASURING INJURY EXPERIENCE

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1.

Initial: DR. JSM

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Witness:



Measuring injury experience

1. Background

Injury experience has traditionally been measured by the use of a disabling injury frequency rate, the so-called "DIFR". The DIFR is calculated by multiplying the number of disabling injuries by 1 million and dividing by the number of person-hours worked.

The DIFR has recently been replaced internationally with a disabling injury incidence rate (DIIR). The only difference between the two rates are that the 1 million in the calculation is replaced with 200 000 (200 000 purported to be the number of hours and average person works in a lifetime).

The use of the two rates above has proved to be somewhat problematical as they are open to manipulation and disabling injuries are often "hidden" by returning the injured employee to the workplace so as not to lose a shift and therefore having to register a disabling injury.

The construction industry recently decided to promote the use of a new frequency rate based on the number of compensation injury claims, as these are more difficult to hide or manipulate because the reporting of compensationable injuries is a legal requirement.

The industry is hoping that adoption of this new measurement of injury experience will enable the industry to monitor itself as far as work related injuries are concerned.

2. Compensation Incidence Frequency Rate (CIFR)

2.1 Formula

$$\frac{\text{No of compensation claims} \times 200\,000}{220 \text{ person hours} \times \text{No of employees}}$$

2.2 Definitions

.1 No of compensation claims:	The number of claims lodged with the Commissioner or COID insurer for the period under review.
200 000:	The fixed factor to align the rate with other rates used internationally.
Person hours worked Include:	Hourly paid employees Sub-contactors (No of employees X *220 each) Staff (No of employees X *220 hours each)
220 person-hours:	The *average number of hours worked by one employee in one month in the construction industry.
	Note: * Overtime, absence on leave or sick leave, unrecorded after-hours time worked by senior and middle management factored into this average.

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No of employees:

The actual or average number of employees employed for the period under review.

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Witness:



ANNEXURE 4

SAFETY, HEALTH AND ENVIRONMENT (SHE): EXAMPLE OF RISK MANAGEMENT REPORT

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1.

Initial: DR. JSM

2

Witness:



Safety, Health and Environment (SHE): Example of risk management report

.1.1.1 Please note that this is an example only and all information is fictitious.

XYZ Construction

SHE risk management report for the period January 2004 to March 2004

1. Introduction

We trust that this quarterly SHE Risk Management report will provide a clear picture of the company's performance as far as occupational health, safety and environment is concerned.

The first quarter of 2004 generally reflected an improvement in injury experience and indicates a decline in the number of injuries. Although Building was the only division where there was an increase in compensation claims, figures are still well down from the average 2003 figures. A sub-contractor experienced one fatality.

All divisions are eagerly awaiting the final implementation during May 2004 of the new electronic SHE Management system that will provide the tools to implement the SHE programme and make it available to all management and supervisory staff.

2. Incident statistics

2.1 Compensation Incident Frequency Rate (CIFR)

$$\text{CIFR} = \frac{\text{No of compensation claims} \times 200\,000}{220 \text{ person hours} \times \text{No of employees}}$$

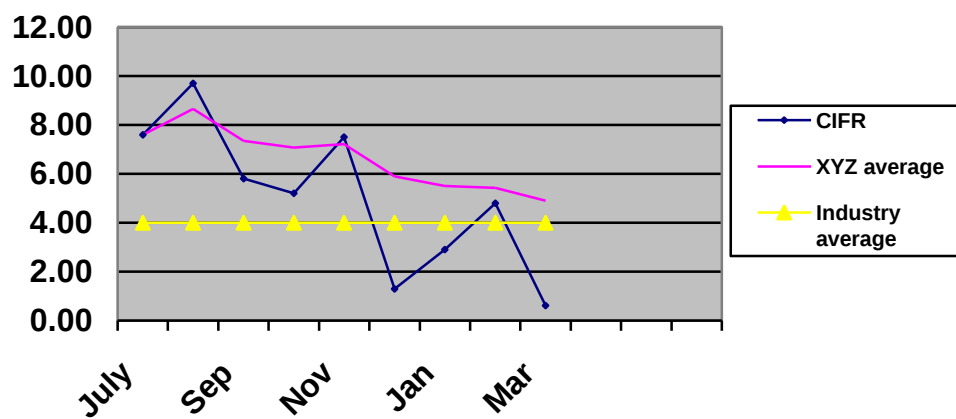
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Witness:



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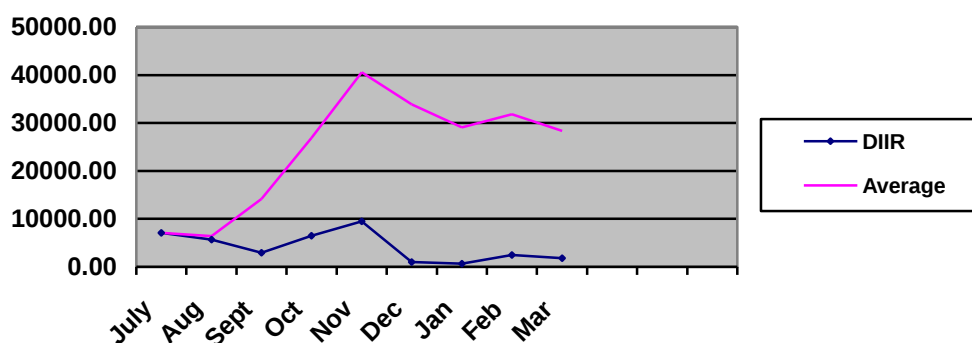
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Witness:



2.2 Disabling Injury Incidence Rate (DIIR)

$$DIIR = \frac{\text{No disabling injuries} \times 200\,000}{\text{Person hours worked}}$$



2.3. Other major incidents

Three other major incidents were experienced in the period under review:

- 2.3.1. A major trench collapsed at Job. 00123: XYZ Head Office, Braamfontein: No personnel injured, extensive damage to foundations: 3 days delay.
- 2.3.2. A concrete dumper ran away when its brakes failed. It smashed into the glass façade of the building on Job 00332: McDonalds, Randburg. The driver jumped off and was not injured. Cost of damage to façade: R45 000.
- 2.3.3. A storage hut on Job 00567: BP Petrol Station, Swartruggens was demolished by fire when the night watchman made a fire inside the storage hut which contained concrete vibrators and leveling machines. Cost of replacing the hut and machines: R30 000.

3. Risk areas

The following items of concern need priority consideration by management:

- 3.1. New employees must undergo pre-employment medical examinations to:
 - protect XYZ from possible claims at a later stage
 - ensure that only capable persons are employed
 - prevent injuries and illness in the workplace
 - enhance XYZ image
- 3.2. Vehicle drivers and plant operators must be instructed to inspect their vehicles daily before start-up using the prescribed checklists to ensure that these are safe to operate and in good condition.

4. Risk assessments

Three SHE risk assessments were conducted in February and March:

Job 00432: Gillooly's Mall Compliance: 56%
 Job 00786: Cullinan Head Office Compliance: 83%

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DR. JSMLM:

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Witness:

JS MOROKA LOCAL DR MUNICIPALITY

CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT " .



Job 00589: Cleveland Station

Compliance: 76%

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5. Training

One hundred and forty-two employees, representing 7% of employees, attended nine training courses. *Our objective is to train 5,5% of employees on a quarterly basis.

Month	No. of Employees Trained	Course	Source
January	26 15 3	Induction OH&S Reps Crane Drivers	Internal Consultant External
February	23 17	Induction OH&S Reps	Internal Consultant
March	43 9 3 3	Induction OH&S Reps Bomag Rollers First Aiders	Internal Consultant Supplier St. John's

6. Legal matters

- 6.1. An inspector of the Department of Labour issued an improvement notice on Job 00987: Gilooly's Mall. The notice requires that all scaffolding comply with the SABS standards for the Erection and Maintenance of Access Scaffolding (SANS 085). This is currently being attended to and the inspector will return on 15 April 2004 to ascertain if the notice has been complied with.

7. Occupational health matters

7.1 HIV Aids

The proposed clinic will soon be operational and we will then be able to send our employees who have tested positive for HIV/Aids to the clinic for counselling and eventual treatment when necessary.

The mobile clinic attended to and tested fifty employees on a voluntary basis at 3 sites this month. Eighteen of them tested positive.

7.2 Tuberculosis (TB)

The mobile clinic will be calling at Gilooly's Mall and Cleveland Station on 15 and 16 April 2004 respectively to screen employees for TB.

7.3 Noise

All suspected noise pollution areas have been identified and tested and the results are awaited. Employees working in areas testing over 85dBa will be issued with suitable hearing protectors.

8. Environmental measures

Inspectors from the Botswana Department of Environment visited Djwaneng and inspected the site and yard. They gave it a "clean bill of health" and advised that we should increase the dust control measures by spraying roads three times per day with water instead of the present twice per day.

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9. Achievements and awards

- 9.1 The client at Djwaneng (Job 00786) awarded the XYZ site first position in the housekeeping competition conducted bi-monthly by the client's SHE managers. The project manager and his team are to be congratulated for this sterling effort.
- 9.2 Job 0987: Refurbishment of Pretoria Main Railway Station has just completed 1 million compensation claim free days. This was no easy achievement if we consider the conditions being worked under after the extensive fire that caused major damage.

SHE Risk Manager

2004-03-31

Source: SAFCEC Occupational Health and Safety Committee

BIDDER:

DR. JSMLM:

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Witness:



ANNEXURE 5

GUIDE TO RISK ASSESSMENTS

BIDDER:

DR. JSMLM:

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Initial: DR. JSM

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Witness:



Guide to risk assessments

.1 Nine steps to effective risk assessments

- Step 1 : Identifying the current as well as emerging hazard, risks or exposures.
 Step 2 : Aim to identify major hazards, don't waste time on the minor and detail except if such hazard has the potential be repeat itself on a frequent basis.
 Step 3 : Involve as many people as possible in the ongoing risk assessment process especially those at risk.
 Step 4 : Gather all the information and analyse it.
 Step 5 : Look at what actually could or has occurred including non-routine operations.
 Step 6 : Use a systematic approach to ensure all hazards are adequately addressed.
 Step 7 : Assess the risks identified or the risk has occurred by taking into account the effectiveness of current as well as controls under consideration.
 Step 8 : Ensure the process is practical, realistic, cost and business effective.
 Step 9 : Always record the assessment in writing including i.e. assumptions, date and why a particular decision has been made.

2. How serious is it?

Probability	1	Consequences
A Common	1	Fatality or permanent disability.
B Has Happened	2	Major injury.
C Could Happen	3	Average Lost Time Injury.
D Not Likely	4	Minor Injury.
E Practically impossible	5	Medical Treatment or less.

		Probability				
		A	B	C	D	E
Consequence	1	1	2	3	4	5
	2	2	3	4	5	6
	3	3	4	5	6	7
	4	4	5	6	7	8
	5	5	6	7	8	9

Risk rating	Action	
1 - 3 = Serious	Immediate (within 1 week).	
4 - 5 = High	Within 1 month.	
6 - 7 = Moderate	> 4 weeks.	
8 - 9 = Acceptable	No action but will consider from time to time.	

BIDDER:

DR. JSMLM:

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2

Witness:



.1 C7.2 GUIDE TO RISK ASSESSMENT

.2 HOW TO DO IT

.3 9 Steps to Effective Risk Assessment

- Step 1 : Identifying the hazards
 Step 2 : Aim to identify major hazards, don't waste time on the minor & detail
 Step 3 : Involve as many people as possible in the process especially those at risk
 Step 4 : Gather all the information and analyse it
 Step 5 : Look at what actually occurs including non-routine operations
 Step 6 : Use a systematic approach to ensure all hazards are adequately addressed
 Step 7 : Assess the risks arising taking into account the effectiveness of controls
 Step 8 : Ensure the process is practical and realistic
 Step 9 : Always record the assessment in writing including assumptions and why

How serious is it?

PROBABILITY

- A Common
 B Has Happened
 C Could Happen
 D Not Likely
 E Practically impossible

.1 CONSEQUENCES

- 1 Fatality or permanent disability
 2 Major injury
 3 Average Lost Time Injury
 4 Minor Injury
 5 Medical Treatment or less

PROBABILITY

C O N S E Q U E N C E	<u>A B C D E</u>					
	1	1	2	3	4	5
	2	2	3	4	5	6
	3	3	4	5	6	7
	4	4	5	6	7	8
	5	5	6	7	8	9

ACTION

Risk Rating:	1 – 3 =	Serious	Immediate (within 1 week)
	4 - 5 =	High	Within 1 month
	6 – 7 =	Moderate	> 4 weeks

BIDDER:

DR. JSMLM:

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Witness:

JS MOROKA LOCAL DR MUNICIPALITY

CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT " .



8 – 9 =

Acceptable

No action

BIDDER:

DR. JSMLM:

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Witness:



SAFCEC – SA Federation of Civil Engineering Contractors

LIST OF RISK ASSESMENTS AVAILABLE (as at 2003.07.07)

BIDDER:

DR. JSMLM:

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**JS MOROKA LOCAL DR MUNICIPALITY**CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES),KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT "

Access Towers	Kerb Laying
Acid Washing	Landscaping
Aggregate/Sand Delivery	Lathe
Angle Grinder	Layering of (Road work) Materials
Arc Welding	Layering Process
Armco Barriers - installation	Laying Kerbs
Assem. of elements by boilermaker	Laying of stormwater drains
Backfilling	Levelling – of materials
Bag Filling	Lifting Concr. Beams on to trailers
BandSaw	Loading supervisor
Banksman	Loading/Unloading - of Trucks
Batch Plant	Loffels – placing/laying
Bench Grinder	Machine operator
Bin Scraper	Making of steel items
Block Feeder	Material delivery
Block Machine	Materials Handling
BoomScraper	Mixer operator
Bricks – Laying of	Mobile Cranes
Brickwork	Pedestal Drill
Bulk Earthworks	Pedestal Grinder
Cement Spray Truck	Placing Concrete
Clearing & Grubbing of Area/Site	Plastering
Compr. Gas Cylinders-handling	Portable Electric Drill
Compressors – Air	Portable Electric Tools
Concrete – placing of (1)	Portable Ladders
Concrete – placing of (2)	Post Tensioning
Confined Spaces – Working in	Radial Arm Drill
Conveyors	Refuelling Vehicles/Plant
Cutting – of Earthworks	Reinforcing Steel – placement (1)
David Arm	Reinforcing Steel – placement (2)
Deck Panels – placing	Road Traffic Signs – placement of
Depalletor Operator	Roadworks - Deviations
Diss. Assembly Rejects	Roof Truss erection
Distribution Boards – Electrical	SandBlasting
Drivers – of Vehicles	Scaffolding
Dry Tile Deracking	Shuttering – Erection
Dumpers - Concrete	Shuttering – Stripping
Electrical Installation – Maintenance of	Site Establishment (1)
Elevated Positions	Site Establishment (2)
Erecting – Instal/ Shutters	SkillSaw
Excavations (1)	Spray Painting
Excavations (2)	Stormwater pieps - laying
Explosive Powered Tools	Structural Steel – Erection
Finger Car	Structural Steel – Laydown
Fire Fighting Prevention	Surveying
Fire Prevention & Protection	Suspended Scaffolds
Formwork	Termite Proofing
Friction Saw	Tile Machine
Front End Loader	Tile stacking
Fuel Supply	Timber Feeder
Gas Cylinders – Handling of	Tower Cranes
Gas Welding-cutting oper.	Traffic Accommodation
Gas Welding-cutting operations	Traffic Control/Regulation
Guillotine	Trench Excavation
Hand & Spray Painting	Use of angle grinder
Hand ToolsJacking – with Hydraulic Pump	Use of Port. Elec. Tools.
Hanging scaffolding	Wet tile racking
Hauling	Work confined spaces
High cut operations	Work in Elevated Positions
Jacking Hydraulic Pump (1)	Working Platforms
Jacking Hydraulic Pump (2)	Workshops

BIDDER:**DR. JSMLM:**

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Initial: Authorized signatory/ies:1. **Initial:** DR. JSM**2****Witness:**

**OH&S – RISK ASSESSMENT****RISK ASSESSMENT: SITE ESTABLISHMENT**

TYPE OF WORK PERFORMED: _____

DATE COMPLETED: _____

ASSESSMENT PERFORMED BY: _____

Step No.	Activity Rules	What can cause injury/damage?	Result of cause (injury/damage)	Preventative Measures (tools, PPE, equipment)	Controls (test, check list)	Weights		
1.	Access to be a main consideration when positioning offices, stores and parking areas on site during planning stage. Possible one way traffic to be introduced	Restricted access to parking and delivery areas to storage areas.	Damage to transport and plant	Proper layout of site by Construction Manager and Site Agent taking into consideration all transport plant and material movements and storage on site.	Site Agent to check layout Drg. To compare with OHS Act requirements and whether they are to Concor's standards.			
2.	Oxygen and acetylene store to be a minimum distance of five metres away from other buildings. It needs to be well ventilated and have a roof to keep direct exposure to the sun.	Fire explosion leaking gas may spread if to close to other buildings.	Damage to property and plant. Health of employees.	See item 1.	See item 1.			
3.	Diesel tanks to be a distance of 10 metres away from any building and parking areas. A slab with a bund wall capable of carrying 110% of the tank capacities must be constructed for the tanks to stand in.	Fire may spread to adjacent buildings and plant if is too close.	Burns on all parts of body. Damage to plant and property.	See item 1. Persons in charge of tanks should be inducted regarding all the hazards involved and how to control them	See item 1. Supervisor to monitor on an ongoing basis if rules are complied with			

BIDDER:**DR. JSMLM:**

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Witness:



Step No.	Activity Rules	What can cause injury/damage?	Result of cause (injury/damage)	Preventative Measures (tools, PPE, equipment)	Controls (test, check list) During erection & ongoing	Weights		
						Safety	Health	R/R
4.	All cables from distribution board to offices, store and for security to be underground. The distribution board is to stand on a firm level base and should be locked at all times.	Damaged cables loose wires exposed.			.1.1			
5.	Security fencing minimum height of 1.8 metre around site area together with two double gates.	Theft of property. Access to unauthorised persons.	Loss of property. Injury to persons.	Security guards to be appointed to keep watch.	Supervisor to put system of control in place			
6.	Services to be available during site establishment.	Not having the essential services at hand.	Health of employees. Loss of property through fire.	6.1 to 6.5 are to be included on first order placed for contract. Dry chemical powder ABCDE fire extinguishers to be ordered 4 off for start.	Site Agent to see that these requirements are on site from start of site establishment.			
6.1	Fire fighting equipment.							
6.2	First aid boxes.							
6.3	First aider.							
6.4	Drinking water.							
6.5	Toilets.							
7.	Water tank tower to consist of very well cross braced pipe structure standing on concrete base.	Badly constructed water tower under designed structurally could cause tower to collapse.	Injury to persons. Damage to property.	Supervisor to erect as per design office specifications.				

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Witness:



Step No.	Activity Rules	What can cause injury/damage?	Result of cause (injury/damage)	Preventative Measures (tools, PPE, equipment)	Controls (test, check list) During erection & ongoing	Weights		
8.	Safety sign & notice board to be placed close to entrance of main gate	Not informing employees and public what the site rules are.	Injury to persons. Damage to property.	Concor standard notices/ Posters to be displayed. Available from Head Office.	Site manager to check that board has been erected.			
9.	Laydown areas to be sufficient in size. timber poles to be available to stack materials on.	With inadequate space various materials will be stacked on top of each other causing unstable stacks.	Injury to persons loading, unloading materials.	Allow sufficient space for laydown area during planning stage of site layout. Access to be considered important.	Site agent to discuss with Foreman regarding his requirement at planning stage.			
10.	Toilets are to be well ventilated.	No ventilation in toilets may cause germs to propagate.	Possible health problems due to germs.	Extraction fans to be fitted if required.	Supervisor to check if he is satisfied with ventilation.			

ASSESSMENT: 1 – 10 (HIGH)**11 – 16 (MEDIUM)****17 – 25 (LOW)****BIDDER:****DR. JSMLM:****Initial:** Authorized signatory/ies:1. **Initial:** DR. JSM**2****Witness:**



FORM 7.2 RISK ASSESSMENT: EXCAVATIONS (PLANT & MANUAL)

TYPE OF WORK PERFORMED: _____

DATE COMPLETED: _____

ASSESSMENT PERFORMED BY: _____

.1

Step No	Activity Rules	What can cause injury/damage	Result of cause (injury/damage)	Preventative measures (tools, PPE, equipment)	Controls (test, checks)			
	When using a machine to excavate, observe the following:					Safety	Health	Finan.
1	Operator must ensure there are no employees working in this area.	Employees not visible to operate or moving machine.	An injury to all parts of the body and as well as more serious fatal injuries.	Operator must work under close supervision. He must inspect the work area prior to commencing work.	Supervisor to ensure employees are informed and operator works under his supervision.			
2	Machine not to operate while employees are working in same excavations.	Danger of injury of employee by machine.	Bruises, scratches, fractures and fatal.	Supervisor must instruct operator when to commence work.	Supervisor to control and enforce procedure.			
3	All excavated materials must be discharged not closer that 2m from the edge of	Materials can fall onto employees and the excavation may need extra work.	Injuries to employees and the excavation may need extra work.	Supervisor must instruct operator where to place discharged soil and gravel.	Supervisor to control.			

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Witness: _____



	<i>the excavation. When excavating manually, observe the following. See original</i>							
4	<i>Using a pick and a shovel.</i>	<i>Unsafe use of a pick or a shovel.</i>	<i>Injury to employees.</i>	<i>Induct employees on safe working procedures.</i>	<i>Supervisor and charge hand to control.</i>			
5	<i>Check sides of excavations.</i>	<i>Unstable / loose material causes unsafe condition.</i>	<i>Injury to employees and damage to excavations.</i>	<i>Supervisor to inspect sides on a regular basis.</i>	<i>Supervisor / charge hand to control.</i>			
6	<i>Excavated material to be placed away from side of excavation.</i>	<i>Materials can fall onto employees when working inside the excavation.</i>	<i>Bruises, scratches, fractures and fatal.</i>	<i>Employees to be instructed not to place loose soil on edge of the excavation.</i>	<i>Supervisor to control.</i>			

BIDDER:**DR. JSMLM:****Initial:** Authorized signatory/ies:1.**Initial:** DR. JSM**2****Witness:**



Step No	Activity Rules	What can cause injury/damage	Result of cause (injury/damage)	Preventative measures (tools, PPE, equipment)	Controls (test, checks)			
7	All excavations deeper than 1,5 m must have an access ladder available for employees to get into and out of the excavation safely.	Employees not able to enter or exit the excavation safely.	In case of an emergency too many employees may be buried as a result of inadequate access. Employees may also strain muscles to get into or out of an excavation without safe and convenient access.	Providing a ladder makes access into and out of the excavation area easy and safe.	Supervisors to ensure employees are given safe and convenient access to excavations.			
8	Sides of excavation to be shored (if necessary) and barricaded immediately.	Sides may collapse. Employees may NOT BE AWARE OF THE EXCAVATION AND FALL INTO IT.	Damage to the excavation. Injury to employees,	Put adequate shoring and strong physical barricades in place immediately.	Supervisor and chargehand to control.			
9	Excavations must be backfilled as soon as possible after excavation.	Excavations could collapse. Employees could trip and fall in. Vehicles and machinery could damage excavations.	Damage to excavations. Injury to employees. Damage to plant and machinery.	Keep area barricaded with a strong physical barricade and backfill as soon as possible.	Supervisor and chargehand to control.			

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Witness:



ANNEXURE 6

CONSTRUCTION REGULATIONS

BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1.

Initial: DR. JSM

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Witness:



Construction Regulations

Database: Government Gazettes
Gazette No: 25207
Notice No: 1010
Regulation Gazette No: 7721
Gazette: GOV
Date: 2003-07-18

GOVERNMENT NOTICES

DEPARTMENT OF LABOUR

No. R. 1010
18 July 2003

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

CONSTRUCTION REGULATIONS, 2003

The Minister of Labour has, in terms of section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

Definitions

1. In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates-

"agent" means any 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;

"batch 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 performed;

"competent person" means any person having the knowledge, training, experience and qualifications specific to the work or task being performed: Provided that where appropriate qualifications and training are registered in terms of the provisions of the South African

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Witness:



Qualifications Authority Act, 1995 (Act No. 58 of 1995), these qualifications and training shall be deemed to be the required qualifications and training;

"construction work" means any work in connection with-

- (a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- (b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;
- (c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- (d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

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

"contractor" means an employer, as defined in section 1 of the Act, who performs construction work and includes principal contractors;

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

"designer" means any of the following persons-

- (a) a person who prepares a design;
- (b) a person who checks and approves a design;
- (c) a person who arranges for any person at work under his control (including an employee of his, where he is the employer) to prepare a design, as well as;
- (d) an architect or engineer contributing to, or having overall responsibility for the design;
- (e) building services engineer designing details for fixed plant;
- (f) surveyor specifying articles or drawing up specifications;
- (g) contractor carrying out design work as part of a design and build project;
- (h) temporary works engineer designing formwork and false work; and
- (i) interior designer, shop-fitter and landscape architect.

"ergonomics" means the application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimize human well-being and overall system performance;

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

"explosive powered tool" 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 prevention equipment" means equipment used to prevent persons from falling from an elevated position, including personal equipment, body harness, body belts, lanyards, lifelines or physical equipment, guardrails, screens, barricades, anchorages or similar equipment;

"fall arrest equipment" means equipment used to arrest the person in a fall from an elevated position, including personal equipment, body harness, lanyards, deceleration devices, lifelines or similar equipment, but excludes body belts;

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Witness:



"fall protection plan" means a documented plan, of all risks relating to working from an elevated position, considering the nature of work undertaken, and setting out the procedures and methods to be applied in order to eliminate the risk;

"hazard identification" means the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed;

"health and safety file" means a file, or other record in permanent form, containing the information required as contemplated in these regulations;

"health and safety plan" means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified;

"health and safety specification" means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons;

"material hoist" means a hoist used to lower or raise material and equipment, and includes cantilevered platform hoists, mobile hoists, friction drive hoists, scaffold hoists, rack and pinion hoists and combination hoists;

"medical certificate of fitness" means a certificate valid for one year issued by an occupational health practitioner, issued in terms of these regulations, whom shall be registered with the Health Professions Council of South Africa;

"method statement" means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment;

"mobile plant" means machinery, appliances or other similar devices that is able to move independently, for the purpose of performing construction work on the construction site;

"National Building Regulations" means the National Building Regulations made under section 17(1) of the National Building Regulations and Building Standards Act, 1977 (Act No.103 of 1977), and published under Government Notice No. R.1081 of 10 June 1988, as amended;

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

"principal contractor" means an employer, as defined in section 1 of the Act who performs construction work and is appointed by the client to be in overall control and management of a part of or the whole of a construction site;

"professional engineer or professional certificated engineer" means any person holding registration as either a Professional Engineer or Professional Certificated Engineer under the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"professional technologist" means any person holding registration as a Professional Technologist under the Engineering Profession Act, 2000;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations under the Act;

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"risk assessment" means a program to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard;

"roof apex height" means the dimensional height in meters measured from the lowest ground level abutting any part of a building to the highest point of the roof;

"SAGS 085" means the South African Bureau of Standards' Code of Practice entitled "The Design, Erection, Use and Inspection of Access Scaffolding";

"SABS 0400" means the South African Bureau of Standards, Code of Practice for the application of the National Building Regulations;

"SABS EN 1808" means the South African Bureau of Standards' Standard Specification entitled: "Safety requirements on suspended access equipment - Design calculations, stability criteria, construction-tests";

"SABS 1903" means the South African Bureau of Standards' Standard Front-end Specification entitled: "Safety requirements on suspended access equipment - Design calculations, stability criteria, construction- tests";

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

"shoring" means a structure such as a hydraulic, mechanical or timber/steel shoring system that supports the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation, and "shoring system" has a corresponding meaning;

"structure" mean-

- (a) 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, batching plants, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- (b) any formwork, false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
- (c) any fixed plant in respect of work which includes the installation, commissioning, decommissioning or dismantling and where any such work involves a risk of a person falling two meters or more;

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

"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;

Scope of application

2.(1) These Regulations, shall apply to any persons involved in construction work.

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Witness:



- (2) The provisions of regulation 4.(1)(a) shall not be applicable where the construction work carried out is in relation to a single storey domestic building for a client who is going to reside in such building upon completion thereof.
- (3) The provisions of regulations 4(1)(a) and 5(1), 5(3)(a) and 5(4) shall not be applicable where the construction work is in progress and more than fifty percent thereof has been completed at the date of promulgation of these regulations: Provided that an inspector may instruct accordingly that these Regulations shall be applicable.

Notification of construction work

- 3.(1) A principal contractor who intends to carry out any construction work shall-
 - (a) before carrying out that work, notify the provincial director in writing of the construction work if it includes-
 - (i) the demolition of a structure exceeding a height of 3 meters; or
 - (ii) the use of explosives to perform construction work; or
 - (iii) the dismantling of fixed plant at a height greater than 3 meters.
 - (b) before carrying out that work, notify the provincial director in writing when the construction work-
 - (i) exceeds 30 days or will involve more than 300 person days of construction work; and
 - (ii) includes excavation work deeper than 1 meter; or
 - (iii) includes working at a height greater than 3 meters above ground or a landing.
- (2) The notification to the provincial director contemplated in sub regulation (1) must be done on the form similar to Annexure A to these Regulations.
- (3) A principal contractor shall ensure that a copy of the completed form contemplated in sub regulation (2) is kept on site for inspection by an inspector, client, client's agent or employee.
- 4.(1) A client shall be responsible for the following in order to ensure compliance with the provisions of the Act:
 - (a) to prepare a health and safety specifications for the construction work, and provide any principal contractor who is making a tender or appointed to perform construction work for the client with the same;
 - (b) to promptly provide the principal contractor and his or her agent with any information which might affect the health and safety of any person at work carrying out construction work;
 - (c) to appoint each principal contractor in writing for the project or part thereof on a construction site;
 - (d) to take reasonable steps to ensure that each principal contractor's health and safety plan as determined in regulation 5(1) is implemented and maintained on the construction site: Provided that the steps taken, shall include periodic audits at intervals mutually agreed upon between the client and principal contractor, but at least once every month;
 - (e) to stop any contractor from executing construction work, which is not in accordance with, the principal contractor's health and safety plan contemplated in regulation 5(1) for the site or which poses a threat to the health and safety of persons;
 - (f) to ensure that where changes are brought about to the design or construction, sufficient health and safety information and appropriate resources are made available to the principal contractor to execute the work safely;
 - (g) to ensure that every principal contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site; and

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Witness:



- (h) to ensure that potential principal contractors submitting tenders, have made provision for the cost of health and safety measures during the construction process.
- (2) A client shall discuss and negotiate with the principal contractor the contents of the health and safety plan contemplated in regulation 5(1) and thereafter finally approve the health and safety plan for implementation.
- (3) A client shall ensure that a copy of the principal contractor's health and safety plan is available on request to an employee, inspector or contractor.
- (4) No client shall appoint a principal contractor to perform construction work, unless the client is reasonably satisfied that the principal contractor which he or she intends to appoint has the necessary competencies and resources to carry out the work safely.
- (5) A client may appoint an agent in writing to act as his or her representative and where such an appointment is made, the responsibilities as are imposed by these regulations upon a client, shall as far as reasonably practicable apply to the agent so appointed.
- (6) No client shall appoint any person as an agent, unless the client is reasonably satisfied that the person he or she intends to appoint has the necessary competencies and resources to perform the duties imposed on a client by these regulations.

Principal Contractor and Contractor

- 5. (1) A principal contractor shall provide and demonstrate to the client a suitable and sufficiently documented health and safety plan, based on the client's documented health and safety specifications contemplated in regulation 4(1)(a), which shall be applied from the date of commencement of and for the duration of the construction work.
- (2) A principal contractor shall take reasonable steps as are necessary to ensure co-operation between all contractors to enable each of those contractors to comply with the provisions of these regulations.
- (3) A principal contractor shall be responsible for the following in order to ensure compliance with the provisions of the Act -
 - (a) to provide any contractor who is making a tender or appointed to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications contemplated in regulation 4(1)(a) pertaining to the construction work which has to be performed;
 - (b) to appoint each contractor contemplated in paragraph (a) in writing for the part of the project on a construction site;
 - (c) to take reasonable steps to ensure that each contractor's health and safety plan contemplated in sub regulation (4) is implemented and maintained on the construction site: Provided that the steps taken shall include periodic audits at intervals mutually agreed upon between the principal contractor and contractor(s), but at least once every month;
 - (d) to stop any contractor from executing construction work, which is not in accordance with, the principal contractor's and/or contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;
 - (e) to ensure that where changes are brought about to the design and construction, sufficient health and safety information and appropriate resources are made available to the contractor to execute the work safely;
 - (f) to ensure that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site; and

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Witness:



- (g) to ensure that potential contractors submitting tenders have made provision for the cost of health and safety measures during construction process.
- (4) A contractor shall provide and demonstrate to the principal contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the principal contractor's health and safety specification contemplated in regulation 5(3)(a) provided by the principal contractor, which plan shall be applied from the date of commencement of and for the duration of the construction work.
- (5) A principal contractor shall discuss and negotiate with the contractor the contents of the health and safety plan contemplated in sub regulation (4), and shall finally approve that plan for implementation.
- (6) A principal contractor shall ensure that a copy of his or her health and safety plan contemplated in sub regulation (1), as well as the contractor's health and safety plan contemplated in sub regulation (4), is available on request to an employee, inspector, contractor, client or client's agent.
- (7) Every contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of the Act and these Regulations, is opened and kept on site and made available to an inspector, client, client's agent or principal contractor upon request.
- (8) A principal contractor shall hand over a consolidated health and safety file to the client upon completion of the construction work and shall, in addition to the documentation referred to in sub regulation (7), include a record of all drawings, designs, materials used and other similar information concerning the completed structure.
- (9) A principal contractor shall ensure that in addition to the documentation required in the health and safety file as determined in sub regulations (7) and (8), a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done are included and available.
- (10) No principal contractor shall appoint a contractor to perform construction work unless the principal contractor is reasonably satisfied that the contractor he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely.
- (11) Where a contractor appoints another contractor to perform construction work, the responsibilities as determined in sub regulations (2) to (6) that apply to the principal contractor shall apply to the contractor as if he or she were the principal contractor.
- (12) No contractor shall appoint another contractor to perform construction work unless he or she is reasonably satisfied that the contractor he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely.
- (13) Contractors shall co-operate with the principal contractor as far as is necessary to enable each of them to comply with the provisions of the Act.
- (14) Every contractor shall 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 or 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.

Supervision of construction work

6. (1) The contractor shall appoint a full-time competent employee in writing as the construction supervisor, with the duty of supervising the construction work.

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- (2) The contractor may in writing appoint one or more competent employees to assist the appointed construction supervisor contemplated in sub regulation (1), and every such employee shall, to the extent clearly defined by the contractor in the letter of appointment, have the same duties as the construction supervisor: Provided that the designation of any such employee shall not relieve the construction supervisor contemplated in sub regulation (1) of any personal accountability for failing in his supervisory duties referred to in terms of this regulation.
- (3) Where the contractor has not appointed an employee as referred to sub regulation (2), or, in the opinion of an inspector, not a sufficient number of such employees, that inspector may require the employer to appoint the number of employees indicated by the inspector, and the provisions of sub regulation (2) shall apply in respect of those employees as if they had in the first instance been appointed under sub regulation (2).
- (4) No construction supervisor appointed in terms of sub regulation (1) shall 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 a sufficient number of competent employees have been appropriately designated under sub regulation (2) on all the construction sites, the appointed construction supervisor may supervise more than one site.
- (5) If, however, the construction supervisor appointed in terms of sub regulation (1) for more than one construction site will not, in the opinion of an inspector, be able to supervise the works favourably, an inspector may require the contractor to appoint the required number of employees as contemplated in sub regulation (2) to assist the appointed construction supervisor or instruct the contractor to appoint the construction supervisor who had been appointed in terms of sub regulation (1) more appropriately.
- (6) A contractor shall upon having considered the size of the project, the degree of dangers likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction safety officer in writing to assist in the control of all safety related aspects on the site: Provided that, where the question arises as to whether a construction safety officer is necessary, the decision of an inspector shall be decisive.
- (7) The appointed construction safety officer as contemplated in sub regulation (6) shall as far as is reasonably practicable be utilized to give input at the early design stage and where not appointed at this stage, he or she shall be given the opportunity to input into the health and safety plan when wanting to do so, and a record of such shall be kept in the health and safety file contemplated in regulation 5(7)
- (8) No contractor shall appoint a construction safety officer to assist in the control of safety related aspects on the site unless he or she is reasonably satisfied that the construction safety officer he or she intends to appoint, has the necessary competencies and resources to assist the contractor.

Risk assessment

- 7.(1) Every contractor performing construction work shall before the commencement of any construction work and during construction work, cause a risk assessment to be performed by a competent person appointed in writing and the risk assessment shall form part of the health and safety plan to be applied on the site and shall include at least-
 - (a) the identification of the risks and hazards to which persons may be exposed to;
 - (b) the analysis and evaluation of the risks and hazards identified;
 - (c) a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;
 - (d) a monitoring plan; and

BIDDER:

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- (e) a review plan.
- (2) A contractor shall ensure that a copy of the risk assessment is available on site for inspection by an inspector, client, client's agent, contractor, employee, representative trade union, health and safety representative or any member of the health and safety committee.
- (3) Every contractor shall consult with the health and safety committee or, if no health and safety committee exists, with a representative group of employees, on the development, monitoring and review of the risk assessment.
- (4) A contractor shall ensure that all employees under the his or her control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.
- (5) A principal contractor shall ensure that all contractors are informed regarding any hazard as stipulated in the risk assessment before any work commences, and thereafter at such times as may be determined in the risk assessment.
- (6) A contractor shall ensure that as far as is reasonably practicable, ergonomic related hazards are analyzed, evaluated and addressed in the risk assessment.
- (7) Notwithstanding the requirements laid down in sub regulation (4), no contractor shall allow or permit any employee or person to enter any site, unless such employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.
- (8) A contractor shall ensure that all visitors to a construction site undergoes health and safety induction pertaining to the hazards prevalent on the site and shall be provided with the necessary personal protective equipment.

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Witness:



- (9) Every employee on site shall-
- (a) be in possession of proof of the health and safety induction training as determined in sub regulation (7), issued by a competent person prior to the commencement of construction work; and
 - (b) carry the proof contemplated in paragraph (a) for the duration of that project or for the period that the employee will be on the construction site.

Fall protection

- 8.(1) A contractor shall cause-
- (a) the designation of a competent person, responsible for the preparation of a fall protection plan;
 - (b) the fall protection plan contemplated in (a) to be implemented, amended where and when necessary and maintained as required;
 - (c) steps to be taken in order to ensure the continued adherence to the fall protection plan.
- (2) The fall protection plan contemplated in sub regulation (1), shall include-
- (a) risk assessment of all work carried out from an elevated position which shall include the procedures and methods used to address all the risks identified per location;
 - (b) the processes for evaluation of the employees' physical and psychological fitness necessary to work at elevated positions and the records thereof;
 - (c) the programme for the training of employees working from elevated positions and records thereof; and
 - (d) the procedure addressing the inspection, testing and maintenance of all fall protection equipment.
- (3) A contractor shall ensure that the construction supervisor appointed in terms of regulation 6(1), is in possession of the most recently updated version of the fall protection plan.
- (4) Notwithstanding the provisions of sub regulations (1) and (2), the contractor shall ensure that-
- (a) 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;
 - (b) no person works in an elevated position, unless such work is performed safely as if working from a scaffold or ladder;
 - (c) notices are conspicuously placed at all openings where the possibility exists that a person might fall through such openings;
 - (d) fall prevention and fall arrest equipment is-
 - (i) suitable and of sufficient strength for the purpose or purposes for which it is being used having regard to the work being carried out and the load, including any person, it is intended to bear; and
 - (ii) securely attached to a structure or plant and the structure or plant and the means of attachment thereto is suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who is liable to fall;
 - (e) fall arrest equipment shall only be used where it is not reasonably practicable to use fall prevention equipment; and
 - (f) suitable and sufficient steps shall be taken to ensure, as far as is reasonably practicable, that in the event of a fall by any person, the fall arrest equipment or the surrounding environment does not cause injury to the person.
- (5) Where roof work is being performed on a construction site, the contractor shall ensure that in addition to the requirements set out in sub regulations (2) and (4), it is furthermore indicated in the fall protection plan-
- (a) that the roof work has been properly planned;
 - (b) that the roof erectors are competent to carry out the work;

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- (c) that no employees are permitted to work on roofs during inclement weather conditions or if weather conditions are a hazard to the health and safety of the employees;
- (d) that prominent warning notices are to be placed where all covers to openings are not of sufficient strength to withstand any imposed loads and where fragile material exists;
- (e) that the areas mentioned in paragraph (d) are to be barricaded off to prevent persons from entering;
- (f) that suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and
- (g) that there is suitable and sufficient guard-rails or barriers and toe-boards or other similar means of protection to prevent, so far as is reasonably practicable, the fall of any person, material or equipment.

Structures

- 9.(1) A contractor shall ensure that
 - (a) 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; and
 - (b) no structure or part of a structure is loaded in a manner which would render it unsafe.
- (2) The designer of a structure shall-
 - (a) before the contract is put out to tender, make available to the client all relevant information about the design of the relevant structure that may affect the pricing of the construction work;
 - (b) inform the contractor in writing of any known or anticipated dangers or hazards relating to the construction work, and make available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered;
 - (c) subject to the provisions of paragraph (a) and (b) ensure that the following information is included in a report and made available to the contractor-
 - (i) a geo-science technical report where appropriate;
 - (ii) the loading the structure is designed to withstand; and
 - (iii) the methods and sequence of construction process.
 - (d) not include anything in the design of the structure necessitating the use of dangerous procedures or materials hazardous to the health and safety of persons, which could be avoided by modifying the design or by substituting materials;
 - (e) take into account the hazards relating to any subsequent maintenance of the relevant structure and should make provision in the design for that work to be performed to minimize the risk;
 - (f) carry out sufficient inspections at appropriate times of the construction work involving the design of the relevant structure in order to ensure compliance with the design and a record of those inspections is to be kept on site;
 - (g) stop any contractor from executing any construction work which is not in accordance with the relevant design;
 - (h) conduct a final inspection of the completed structure prior to its commissioning to render it safe for commissioning and issue a completion certificate to the contractor; and
 - (i) ensure that during commissioning, cognisance is taken of ergonomic design principles in order to minimize ergonomic related hazards in all phases of the life cycle of a structure.
- (3) A contractor shall ensure that all drawings pertaining to the design of the relevant structure are kept on site and are available on request by an inspector, contractors, client, client's agent or employee.
- (4) Any owner of a structure shall ensure that inspections of that structure upon completion are carried out periodically by competent persons in order to render the structure safe for continued

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use: Provided that the inspections are carried out at least once every six months for the first two years and thereafter yearly and records of such inspections are kept and made available to an inspector upon request.

- (5) Any owner of a structure shall ensure that the structure upon completion is maintained in such a manner that the structure remains safe for continued use and such maintenance records shall be kept and made available to an inspector upon request.

Formwork and support work

10. A contractor shall ensure that
- all formwork and support work operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose;
 - all formwork and support work structures are adequately designed, erected, supported, braced and maintained so that they will be capable of supporting all anticipated vertical and lateral loads that may be applied to them and also that no loads are imposed onto the structure that the structure is not designed to withstand;
 - the designs of formwork and support work structures are done with close reference to the structural design drawings and where any uncertainty exists, the structural designer should be consulted;
 - all drawings pertaining to the design of formwork or support work structures are kept on the site and are available on request by an inspector, contractor, client, client's agent or employee;
 - all equipment used in the formwork or support work structure are carefully examined and checked for suitability by a competent person, before being used;
 - all formwork and support work structures are inspected by a competent person immediately before, during and after the placement of concrete or any other imposed load and thereafter on a daily basis until the formwork and support work structure has been removed and the results have been recorded in a register and made available on site;
 - if, after erection, any formwork and support work structure is found to be damaged or weakened to such a degree that its integrity is affected, it shall be safely removed or reinforced immediately;
 - adequate precautionary measures are taken in order to-
 - secure any deck panels against displacement; and
 - prevent any person from slipping on support work or formwork due to the application of formwork or support work release agents;
 - as far as is reasonably practicable, the health of any person is not affected through the use of solvents or oils or any other similar substances;
 - upon casting concrete, the support work or formwork structure should be left in place until the concrete has acquired sufficient strength to support safely, not only its own weight, but also any imposed loads and not removed until authorization has been given by the competent person contemplated in paragraph (a);
 - 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;
 - all employees required to erect, move or dismantle formwork and support work structures are provided with adequate training and instruction to perform these operations safely; and
 - the foundation conditions are suitable to withstand the weight caused by the formwork and support work structure and any imposed loads such that the formwork and support work structure is stable.

Excavation work

- 11.(1) A contractor shall ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing.

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- (2) A contractor shall evaluate, as far as is reasonably practicable, the stability of the ground before excavation work begins.
- (3) Every contractor who performs excavation work shall-
 - (a) take suitable 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;
 - (b) 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-
 - (i) the sides of the excavation are sloped to at least the maximum angle of repose measured relative to the horizontal plane; or
 - (ii) such an excavation is in stable material: Provided that-
 - (a) permission being given in writing by the appointed competent person contemplated in sub regulation (1) upon evaluation by him or her of the site conditions; and
 - (b) 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 shall be decisive and such a decision shall be noted in writing and signed by both the competent person contemplated in sub regulation (1) and the professional engineer or technologist, as the case may be;
 - (c) take steps to ensure that the shoring or bracing contemplated in paragraph (b) is designed and constructed in such a manner rendering it strong enough to support the sides of the excavation in question;
 - (d) ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it is likely to cause its collapse and thereby endangering 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;
 - (e) ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, the steps are taken that may be necessary to ensure the stability of such building, structure or road and the safety of persons;
 - (f) cause convenient and safe means of access to be provided to every excavation in which persons are required to work and such access shall not be further than 6m from the point where any worker within the excavation is working;
 - (g) 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 shall before the commencement of excavation work that may affect any such service, take the steps that may be necessary to render the circumstances safe for all persons involved;
 - (h) cause every excavation, including all bracing and shoring, to be inspected-
 - (i) daily, prior to each shift;
 - (ii) after every blasting operation;
 - (iii) after an unexpected fall of ground;
 - (iv) after substantial damage to supports; and
 - (v) after rain, by the competent person contemplated in sub regulation (1), in order to pronounce the safety of the excavation to ensure the safety of persons, and those results are to be recorded in a register kept on site and made available to an inspector, client, client's agent, contractor or employee upon request;
 - (i) 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-
 - (i) adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
 - (ii) provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor;

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- (j) ensure that all precautionary measures as stipulated for confined spaces as determined in the General Safety Regulations promulgated by Government Notice No.R.1031 of 30 May 1986, as amended, are complied with when entering any excavation;
- (k) ensure that, where the excavation work involves the use of explosives, a method statement is developed in accordance with the applicable explosives legislation, by an appointed person who is competent in the use of explosives for excavation work and that the procedures therein are followed; and
- (l) cause warning signs to be positioned next to an excavation within which persons are working or carrying out inspections or tests.

Demolition work

- 12.(1) A contractor shall appoint a competent person in writing to supervise and control all demolition work on site.
- (2) A contractor shall ensure that prior to any demolition work being carried out, and in order also 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.
- (3) During the demolition, a competent person shall 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.
- (4) Every contractor who performs demolition work shall-
 - (a) with regard to a structure being demolished, take steps to ensure that-
 - (i) no floor, roof or other part of the structure is overloaded with debris or material in a manner which would render it unsafe;
 - (ii) 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
 - (iii) precautions are taken in the form of adequate shoring or such other means as may be necessary to prevent the accidental collapse of any part of the structure or adjoining structure;
 - (b) not require or permit any person to work under overhanging material or structure, which has not been adequately supported, shored or braced;
 - (c) take steps to 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;
 - (d) where the stability of an adjoining building, structure or road is likely to be affected by demolition work on a structure, take such steps as may be necessary to ensure the stability of such structure or road and the safety of persons;
 - (e) ascertain as far as is reasonably practicable the location and nature of electricity, water, gas or other similar services which may in anyway, be affected by the work to be performed, and shall before the commencement of demolition work that may affect any such service, take the steps that may be necessary to render circumstances safe for all persons involved;
 - (f) 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;
 - (g) 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
 - (h) 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.

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- (5) A contractor shall ensure that no material is dropped to any point, which falls outside the exterior walls of the structure, unless the area is effectively protected.
- (6) Waste and debris shall not be disposed from a high place by a chute unless the chute-
 - (a) is adequately constructed and rigidly fastened;
 - (b) if inclined at an angle of more than 45 degrees to the horizontal, is enclosed on its four sides;
 - (c) if of the open type, is inclined at an angle of less than 45 degrees to the horizontal;
 - (d) where necessary, is fitted with a gate at the bottom end to control the flow of material; and
 - (e) is discharged into a container or an enclosed area surrounded by barriers.
- (7) A contractor shall 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 traveling along the chute.
- (8) A contractor shall ensure that equipment is not used on floors or working surfaces, unless such floors or surfaces are of sufficient strength to support the imposed loads.
- (9) Where the risk assessment indicates the presence of asbestos, a contractor shall ensure that all asbestos related work is conducted in accordance with the provisions of the Asbestos Regulations promulgated by Government Notice No R.155 of 10 February 2002, as amended.
- (10) Where the risk assessment indicates the presence of lead, a contractor shall ensure that all lead related work is conducted in accordance with the provisions of the, Lead Regulations promulgated by Government Notice No. R.236 of 28 February 2002, as amended.
- (11) Where the demolition work involves the use of explosives, a method statement is to 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 the procedures therein are adhered to.
- (12) A contractor shall ensure that all waste and debris is as soon as reasonably practicable removed and disposed of from the site in accordance with the applicable legislation.

Tunneling

- 13.(1) Any contractor performing tunneling activities shall comply with the Tunneling Regulations as published under the Mine Health and Safety Act, 1996 (Act No.29 of 1996), as amended.
- (2) Notwithstanding the provisions of sub regulation (1), no person shall enter a tunnel, which has a height dimension less than 800 mm.

Scaffolding

- 14.(1) Every contractor using access scaffolding, shall ensure that such scaffolding, when used, complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act.
- (2) A contractor shall ensure that all scaffolding work operations are carried out under the supervision of a competent person who has been appointed in writing and that all scaffold erectors, team leaders and inspectors are competent to carry out their work.

Suspended platforms

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- 15.(1) A contractor shall ensure that all suspended platform work operations are carried out under the supervision of a competent person who has been appointed in writing, and that all suspended platform erectors, operators and inspectors are competent to carry out their work.
- (2) No contractor shall use or permit the use of a suspended platform, unless-
- (a) the design, stability and construction thereof comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act;
 - (b) 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
 - (c) he or she is, prior to 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 paragraph (b) and applicable to the environment in which the system is being used, this must include proof of the-
 - (i) competent person who has been appointed for supervision;
 - (ii) competency of erectors, operators and inspectors;
 - (iii) operational design calculations which should 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:
- Provided that sub regulation (2) shall only become applicable six months from the date of promulgation of these regulations.
- (3) A contractor making use of a suspended platform system shall forward a copy of the certificate of system design issued by a professional engineer, certificated engineer or professional technologist including a copy of the design calculations, 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 the system would be used for.
- (4) A contractor need not re-submit a copy of the certificate of system design contemplated in sub regulation (3) for every new project: Provided that the environment in which the system is being used does not change to such an extent that the system design certificate is no longer applicable and, should uncertainty exist of the applicability of the system design certificate, the decision of a professional engineer, certificated engineer or professional technologist shall be decisive.
- (5) A contractor shall ensure that the outriggers of each suspended platform-
- (a) are constructed of steel or any other material of similar 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.
- (6) A contractor shall ensure that-
- (a) the parts of the building or structure on which the outriggers 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;
 - (b) the suspension wire rope and the safety wire rope are separately connected to the outrigger;
 - (c) each person on a suspended platform is provided with and wears a safety harness as a fall prevention device which must at all times, be attached to the suspended platform or to the anchorage points on the structure whilst on the suspended platform;

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- (d) 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;
 - (e) the machinery referred to in paragraph (d) is so situated that it is easily accessible for inspection;
 - (f) the rope connections to the outriggers are vertically above the connections to the working platform; and
 - (g) where the working platform is suspended by two ropes only, the connections of the ropes to the working platform are of such height above the level of the working platform as to ensure the stability of the working platform.
- (7) A contractor shall ensure that the suspended platform-
- (a) is suspended as near as possible to the structure to which work is being done and, except when light work is being done, is secured at every working position to prevent horizontal movement between the suspended platform and the structure;
 - (b) is fitted with anchorage points to which workers shall attach the lanyard of the safety harness worn and used by the worker and such anchorage connections shall have sufficient strength to withstand any potential load applied to it; and
 - (c) is fitted with a conspicuous notice easily understandable by all workers working with the suspended platform, showing the maximum mass load which the suspended platform can carry.
- (8) A contractor shall cause-
- (a) the whole installation and all working parts of the suspended platform to be thoroughly examined in accordance with the manufacturer's specification;
 - (b) the whole installation to be subjected to a performance test as determined by the standard to which the suspended platform was manufactured;
 - (c) 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 shall determine the serviceability of the structures, ropes, machinery and safety devices before they are used, every time suspended platforms are erected;
 - (d) 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.
- (9) Notwithstanding the provisions of sub regulation (8), the contractor shall 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 following every time they are assembled, and, in cases of continuous use, at intervals not exceeding three months.
- (10) A contractor shall ensure that the suspended platform supervisor appointed in terms of the provisions of sub regulation (1), or the suspended platform inspector mentioned in sub regulation (1), carries out a daily inspection of all the equipment prior to use, including establishing whether-
- (a) all connection bolts are secure;
 - (b) all safety devices are functioning;
 - (c) all safety devices are not tampered with or vandalized;
 - (d) the maximum mass load of the platform is not exceeded;
 - (e) the occupants in the suspended platform are using safety harnesses which have been properly attached;
 - (f) there are no visible signs of damage to the equipment; and
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- (g) all reported operating problems have been attended to.
- (11) A contractor shall ensure that all inspection and performance test records are kept on the construction site at all times and made available to an inspector, client, client's agent or employee upon request.
- (12) A contractor shall ensure that all employees required to work or to be supported on a suspended platform are-
- (a) physically and psychologically fit to work safely in such an environment by being in possession of a medical certificate of fitness;
 - (b) competent in conducting work related to suspended platforms safely;
 - (c) trained or had received training which include 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;
 - (cc) the discovery of a suspected defect in the equipment; and
 - (v) instructions on the proper use of safety harnesses.
- (13) Where the outrigger is to be moved, the contractor shall ensure that only persons trained and competent to effect such move, perform this task and that an inspection be carried out and the results thereof be recorded by the competent person prior to re-use of the suspended platform.
- (14) A contractor shall ensure that the suspended platform is properly isolated after use at the end of each working day such that no part of the suspended platform will present a danger to any person thereafter.

Boatswain's chairs

- 16.(1) A contractor shall ensure that every boatswain's chair or similar device is securely suspended and is constructed in such a manner so as to prevent any occupant from falling there from.
- (2) The contractor shall ensure that an inspection is carried out prior and a performance test immediately after, the boatswain chair has been erected and thereafter a visual inspection should be carried out on a daily basis prior to use.

Material hoists

- 17.(1) A contractor shall ensure that every material hoist and its tower have been constructed of sound material in accordance with the generally accepted technical standards and are strong enough and free from defects.
- (2) A contractor shall cause the tower of every material hoist to be-
- (a) erected on firm foundations and secured to the structure or braced by steel wire guy ropes and to extend to such a distance above the highest landing as to allow a clear and unobstructed space of at least 900 mm for overtravel;
 - (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 mm from the ground or floor level; and
 - (c) provided with a door or gate at least 2100 mm in height at each landing and such door or gate shall be kept closed, except when the platform is at rest at such a landing.

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- (3) A contractor shall cause-
 - (a) the platform of every material hoist to be designed in such a manner that it shall safely contain the loads being conveyed and that the combined weight of the platform and the load does not exceed the designed lifting capacity of the hoist;
 - (b) 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
 - (c) every material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when the power is not being supplied to the hoisting machinery.
- (4) No contractor shall require or permit trucks, barrows or material to be conveyed on the platform of a material hoist and no person shall so convey trucks, barrows or material unless such articles are so secured or contained in such a manner that displacement thereof cannot take place during movement.
- (5) A contractor shall cause 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.
- (6) A contractor of a material hoist shall not require or permit any person to operate such a hoist, unless the person is competent in the operation thereof.
- (7) No contractor shall require or permit any person to ride on a material hoist.
- (8) A contractor shall cause every material hoist-
 - (a) to be inspected on a daily basis by a competent person who has been appointed in writing and has the experience pertaining to the erection and maintenance of material hoists or similar machinery;
 - (b) inspection contemplated in paragraph (a), to include 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 to be entered and signed in a record book, which shall be kept on the premises for that purpose;
 - (d) to be properly maintained and that the maintenance records in this regard are kept on site.

Batch plants

- 18.(1) A contractor shall ensure that all batch plants are operated and supervised by a competent person who has been appointed in writing.
- (2) A contractor shall ensure that the placement and erection of a batch plant complies with the requirements set out by the manufacturer and that such plant is erected as designed.
- (3) A contractor shall ensure that all devices to start and stop a batch plant are provided and that these devices are-
 - (a) placed in an easily accessible position; and
 - (b) constructed in such a manner as to prevent accidental starting.
- (4) The contractor shall ensure that the machinery and plant selected is suitable for the 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.

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- (5) No person shall be permitted to remove or modify any guard or safety equipment relating to a batch plant, unless authorized to do so by the appointed person as contemplated in sub regulation (1).
- (6) A contractor shall ensure that all persons authorized to operate the batch plant are fully-
 - (a) aware of all the dangers involved in the operation thereof; and
 - (b) conversant with the precautionary measures to be taken in the interest of health and safety.
- (7) No person supervising or operating a batch plant shall authorize any other person to operate the plant, unless such person is competent to operate such machinery.
- (8) A contractor shall ensure that all precautionary measures as stipulated for confined spaces in the General Safety Regulations promulgated by Government Notice No.R.1031 dated 30 May 1986, as amended, are adhered to when entering any silo.
- (9) A contractor shall ensure that a record is kept of any repairs or maintenance to a batch plant and that it is made available, on site, to an inspector, client, client's agent or employee upon request.
- (10) A contractor shall ensure that all lifting machines and lifting tackle used in the operation of a batch plant complies with the requirements of the Driven Machinery Regulations promulgated by Government Notice No.R.295 dated 26 February 1988, as amended.
- (11) A contractor shall ensure that all precautionary measures are adhered to regarding the usage of electrical equipment in explosive atmospheres, when entering a silo, as contemplated in the Electrical Installation Regulations promulgated by Government Notice No. R. 2271 dated 11 October 1995, as amended.

Explosive powered tools

- 19.(1) No contractor shall use or permit any person to use an explosive powered tool, unless-
 - (a) it is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles; and
 - (b) the firing mechanism is so designed that the explosive powered tool will not function unless-
 - (i) it is held against the surface with a force of at least twice its weight; and
 - (ii) the angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle:

Provided that the provisions of this sub regulation shall not apply to explosive powered tools in which the energy of the cartridge is transmitted to the bolts, nails or similar relevant objects by means of an intermediate piston which has a limited distance of travel.
- (2) A contractor shall ensure that-
 - (a) only cartridges suited for the explosive powered tool and the work to be performed are used;
 - (b) the explosive powered tool 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;
 - (c) that the safety devices are in proper working order prior to use;
 - (d) when not in use, the explosive powered tool and the cartridges are locked up in a safe place, which is inaccessible to unauthorised persons;
 - (e) the explosive powered tool is not stored in a loaded condition;
 - (f) a warning notice is displayed in a conspicuous manner wherever the explosive powered tool is used;
 - (g) the issuing and collection of cartridges and nails or studs is-

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- (i) controlled and done in writing by a person having been appointed in writing; and
 - (ii) recorded in a register and that the recipient has accordingly signed for the receipt thereof as well as the returning of any spent and unspent cartridges;
- (3) No contractor shall permit or require any person to use an explosive powered tool unless such person has been-
- (a) provided with and uses suitable protective equipment; and
 - (b) trained in the operation, maintenance and use of such a tool.

Cranes

20. Notwithstanding the provisions of the Driven Machinery Regulations promulgated by Government Notice No.R.533 of 16 March 1990, as amended, a contractor shall ensure that where tower cranes are used-
- (a) account is taken of the effects of wind forces on the structure;
 - (b) account is taken of the bearing capacity of the ground on which the tower crane is to stand;
 - (c) the bases for the tower cranes and tracks for rail-mounted tower cranes are firm and level;
 - (d) the tower cranes are erected at a safe distance from excavations;
 - (e) there is sufficient clear space available for erection, operation and dismantling;
 - (f) the tower crane operators are competent to carry out the work safely; and
 - (g) the tower crane operators are physically and psychologically fit to work in such an environment by being in possession of a medical certificate of fitness.

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Construction vehicles and mobile plant

- 21.(1) A contractor shall ensure that all construction vehicles and mobile plants-
- (a) are of an acceptable design and construction;
 - (b) are maintained in a good working order;
 - (c) are used in accordance with their design and the intention for which they where designed, having due regard to safety and health;
 - (d) are operated by workers who-
 - (i) have received appropriate training and been certified competent and been authorised to operate such machinery; and
 - (ii) are physically and psychologically fit to operate such construction vehicles and mobile plant by being in possession of a medical certificate of fitness;
 - (e) have safe and suitable means of access;
 - (f) are properly organised 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;
 - (g) 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;
 - (h) where appropriate, are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
 - (i) are equipped with an electrically operated acoustic signalling device and a reversing alarm; and
 - (j) are on a daily basis inspected prior to use, by a competent person who has been appointed in writing and the findings of such inspection is recorded in a register.
- (2) A contractor shall furthermore ensure that
- (a) no person rides or be required or permitted to ride on any construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
 - (b) every construction site is organised in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;
 - (c) the traffic routes are suitable for the persons using them, sufficient in number, in suitable positions and of sufficient size;
 - (d) every traffic route is, where necessary indicated by suitable signs for reasons of health or safety;
 - (e) all construction vehicles and mobile plant left unattended at night, adjacent to a freeway in normal use or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant;
 - (f) bulldozers, scrapers, loaders, and other similar mobile plant are, when being repaired or when not in use, fully lowered or blocked with controls in a neutral position, motors stopped and brakes set;
 - (g) whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
 - (h) tools and material are secured in order to prevent movement when transported in the same compartment with employees;
 - (i) vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and
 - (j) when workers are working on or adjacent to public roads, reflective indicators are provided and worn by the workers.

Electrical installations and machinery on construction sites

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22. Notwithstanding the provisions contained in the Electrical Installation Regulations promulgated by Government Notice No.R.2920 of 23 October 1992 and the Electrical Machinery Regulations promulgated by Government Notice No. R.1953 of 12 August 1988, respectively, as amended, a contractor shall ensure that-
- (a) 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;
 - (b) all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;
 - (c) in working areas where the exact location of underground electric power lines is unknown, employees using jackhammers, shovels or other hand tools which may make contact with a power line, are provided with insulated protective gloves or otherwise that the handle of the tool being used is insulated;
 - (d) all temporary electrical installations are inspected at least once a week and electrical machinery on a daily basis before use on a construction site by competent persons and the records of these inspections are recorded in a register to be kept on site; and
 - (e) the control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing.

Use and temporary storage of flammable liquids on construction sites

23. Notwithstanding the provisions for the use and storage of flammable liquids as determined in the General Safety Regulations promulgated by Government Notice No.R1031 dated 30 May 1986, as amended, a contractor shall ensure that-
- (a) where flammable liquids are being used, applied or stored at the workplace concerned, this is done in such a manner which would cause no fire or explosion hazard, and that the workplace is effectively ventilated: Provided that where the workplace cannot effectively be ventilated-
 - (i) every employee involved is provided with a respirator, mask or breathing apparatus of a type approved by the chief inspector, and
 - (ii) steps are taken to ensure that every such employee, while using or applying flammable liquid, uses the apparatus supplied to him or her;
 - (b) no person smokes in any place in which flammable liquid is used or stored, and such contractor shall affix a suitable and conspicuous notice at all entrances to any such areas prohibiting such smoking;
 - (c) flammable liquids on a construction site is stored in a well-ventilated reasonably fire resistant container, cage or room and kept locked with proper access control measures in place;
 - (d) an adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids tore with the recognized symbolic signs;
 - (e) only the quantity of flammable liquid needed for work on one day is to be taken out of the store for use;
 - (f) all containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, to be removed from the construction site and safely disposed of;
 - (g) where flammable liquids are decanted, the metal containers are bonded or earthed; and
 - (h) no flammable material such as cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids.

Water environments

- 24.(1) A contractor shall ensure that where construction work is done over or in close proximity to water, provision is made for-
- (a) preventing workers from falling into water; and
 - (b) the rescuing of workers in danger of drowning.

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- (2) A contractor shall ensure that where a worker is exposed to the risk of drowning by falling into the water, a lifejacket is provided to and worn by the worker.

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Housekeeping on construction sites

25. Notwithstanding the provisions of the Environmental Regulations for Workplaces promulgated by Government Notice No. R2281 dated 16 October 1987, as amended, a contractor shall ensure that-
- (a) suitable housekeeping is continuously implemented on each construction site, including provisions for the-
 - (i) proper storage of materials and equipment, and
 - (ii) removal of scrap, waste and debris at appropriate intervals;
 - (b) loose materials required for use, are not placed or allowed to accumulate on the site so as to obstruct means of access to and egress from workplaces and passageways;
 - (c) waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements set out regulation 12(6);
 - (d) 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.
 - (e) a catch platform or net is erected 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 in the case of danger or possibility of persons being struck by falling objects.

Stacking and storage on construction sites

26. Notwithstanding the provisions for the stacking of articles contained in the General Safety Regulations promulgated by Government Notice No.R1031 dated 30 May 1986, as amended, a contractor shall ensure that-
- (a) a competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site;
 - (b) adequate storage areas are provided;
 - (c) there are demarcated storage areas; and
 - (d) storage areas are kept neat and under control.

Fire precautions on construction sites

27. Subject to the provisions of the Environmental Regulations for Workplaces promulgated by Government Notice No.R.2281 of 16 October 1987, as amended, every contractor shall ensure that-
- (a) all appropriate measures are taken to avoid the risk of fire;
 - (b) sufficient and suitable storage is provided for flammable liquids, solids and gases;
 - (c) smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;
 - (d) in confined spaces and other places in which flammable gases, vapours or dust can cause danger-
 - (i) only suitably protected electrical installations and equipment, including portable lights, are used;
 - (ii) there are no flames or similar means of ignition;
 - (iii) there are conspicuous notices prohibiting smoking;
 - (iv) oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and
 - (v) adequate ventilation is provided;
 - (e) combustible materials do not accumulate on the construction site;
 - (f) welding, flame cutting and other hot work are done only after the appropriate precautions as required have been taken to reduce the risk of fire;

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- (g) 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;
- (h) the fire equipment contemplated in paragraph (g) is inspected by a competent person, who has been appointed in writing, in the manner indicated by the manufacturer thereof;
- (i) a sufficient number of workers are trained in the use of fire-extinguishing equipment;
- (j) where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;
- (k) the means of escape is kept clear at all times;
- (l) there is an effective evacuation plan providing for all
 - (i) persons to be evacuated speedily without panic;
 - (ii) persons to be accounted for, and
 - (iii) plant and processes to be shut down; and
- (m) a siren is installed and sounded in the event of a fire.

Construction welfare facilities

- 28.(1) Notwithstanding the construction site provisions contained in the Facilities Regulations promulgated by Government Notice No. R. 1593 of 12 August 1988, as amended, a contractor shall, depending on the number of workers and the duration of the work, provide at or within reasonable access of every construction site, the following clean and maintained facilities:
- (a) at least one shower facility for every 15 workers;
 - (b) at least one sanitary facility for every 30 workers;
 - (c) changing facilities for each sex; and
 - (d) sheltered eating areas.
- (2) A contractor shall provide reasonable and suitable living accommodation for the workers at construction sites which are remote from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

Approved Inspection Authorities

29. (1) The Chief Inspector may approve as an Inspection Authority any organization that has been accredited in terms of the provision of the Act and these regulations.
- (2) The Chief Inspector may at any time withdraw any approval of an approved inspection authority, subject to section 35 of the Act.

Offences and penalties

30. Any person who contravenes or fails to comply with any of the provisions of regulations 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28, shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum of 12 months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

Repeal of regulations

31. The following regulations are herewith repealed:
- (a) regulations 11, 12, 13, 13C, 13D, 13E, 13F and 13G of the, General Safety Regulations promulgated by Government Notice No. R.1031 of 30 May 1986;
 - (b) regulations 19 and 20 of the, Driven Machinery Regulations promulgated by Government Notice No.R.295 of 26 February 1988; and

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- (c) regulations 14 of the, General Administrative Regulations promulgated by Government Notice No. R.1449 of 6 September 1996.

Short title

32. These regulations shall be known as the Construction Regulations, 2003.

ANNEXURE 1

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

Regulation 3(1) of the Draft Construction Regulations

NOTIFICATION OF CONSTRUCTION WORK

1(a) Name and postal address of principal contractor:

(b) Name and tel no of principal contractor's contact person:

2. Principal contractor's compensation registration number:

3(a) Name and postal address of client:

(b) Name and tel no of client's contact person:

4(a) Name and postal address of architect/consulting engineer(s) for the project:

(b) Name and tel no of architect's or consulting engineer's contact person:

5. Name and telephone number of the site contact person:

6. Exact physical address of the construction site or site office:

7. Nature of the construction work:

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Witness:



-
8. Expected commencement date: _____
9. Expected completion date: _____
10. Estimated maximum number of persons on the construction site:

11. Planned number of subcontractors on the construction site:

-

Principal Contractor

Date

Client

Date

- ***THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR PRIOR TO COMMENCEMENT OF WORK ON SITE***
 - ***ALL PRINCIPAL CONTRACTORS THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER PRINCIPAL CONTRACTOR ON THE SAME SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK.***
-

BIDDER:

DR. JSMLM:

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Witness:



Database: Government Gazettes

Gazette No: 25207

Notice No: 1020

Regulation Gazette No: 7721

Gazette: GOV

Date: 20030718

Full text:

Text:

DEPARTMENT OF LABOUR

No. R. 1020
18 July 2003

Occupational Health and Safety Act, 1993

Incorporation of Safety Standards in the Construction Regulations, 2003

Under section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Membathisi Mphumzi Sheroard Mdladlana, Minister of Labour, after consultation with the Advisory Council for Occupational Health and Safety, hereby incorporate in the Construction Regulations, 2003 the health and safety standards specified in the Schedule.

M S Mdladlana
Minister of Labour.

SCHEDULE

1. Regulation 14(1)

The South African Bureau of Standards' Code of Practice SABS 085, as amended, entitled "The Design, Erection, Use and Inspection of Access Scaffolding".

2. Regulation 15(2)(a)

The South African Bureau of Standards' Standard Specification SABS EN 1808, as amended, entitled "Safety Requirements on Suspended Access Equipment - Design calculations, stability criteria, construction-tests".

The South African Bureau of Standards' Standard Front-end Specification SABS 1903, as amended, entitled "Safety Requirements on Suspended Access Equipment - Design calculations, stability criteria, construction-tests".

BIDDER:

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ANNEXURE 7

LIST OF RISK ASSESSMENTS

BIDDER:

DR. JSMLM:

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Witness:



List of risk assessments

Working close to water
 Aggregate/Sand Delivery
 Arc welding
 Bench grinder
 Brickwork
 Compressed gas cylinders-handling
 Compressors – Air
 Cutting of pipes
 Distribution boards – Electrical
 Drivers – of vehicles
 Electrical installation – Maintenance of
 Excavator
 Fire prevention and protection
 Form and support work
 Front end loader
 Gas welding-cutting operations
 Hand and spray painting
 Hand tools
 Kerb laying
 Laying of pipes
 Levelling – of materials
 Loading supervisor
 Loading/unloading - of trucks
 Machine operator
 Making of steel items
 Material delivery
 Material handling
 Mixer operator
 Placing concrete
 Portable ladders
 Refuelling vehicles/plant
 Scaffolding
 Site establishment
 Trenches – Digging of
 Trees – Bracing/removing if roots are damaged during excavations
 Use of portable electrical tools
 Work in confined spaces
 Working close to existing services i.e. electrical, waste water etc
 Working close to traffic
 Working close to water
 Workshops

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C3.6.1 HEALTH AND SAFETY REQUIREMENTS AND PROCEDURES

(a) Construction Regulations, 2003

The Contractor shall be required to comply with the Occupational Health and Safety Act, 1993: Construction Regulations, 2003 (the regulations) as promulgated in Government Gazette No 25207 and Regulation Gazette No 7721 of 18 July 2003. (A copy of the Construction Regulations is included as an Annexure in this Volume). Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and potential hazards likely to be encountered on this Contract are detailed in the Project Specifications, Schedule of Quantity and Drawings, as well as in the Employers' health and safety specifications (regulation 4(1)) of the Construction Regulations 2003, which are bound in the Contract document/will be issued separately by the Employer.

The Contractor shall in terms of regulation 5(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

A payment item is/Payment items are included in the Schedule of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned regulations.

C3.7 REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE ENVIRONMENTAL MANAGEMENT PLAN

1. INTRODUCTION

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 road 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 Engineer will monitor the implementation of the procedures.

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2. POLICY STATEMENT

The construction will be to the best management practices as identified to minimize the environmental impact of activities associated with the development.

3. 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.

4. DESIGNATED ENVIRONMENTAL OFFICER

For the purpose of the EMP, a nominated representative of the Contractor should be the designated environmental officer for the project. The nominated representative of the Contractor will therefore be responsible for ensuring that the provisions of the EMP are complied with. The Engineer will be responsible for issuing instructions to the Contractor where environmental considerations call for action to be taken. The environmental officer will submit monthly reports to the Engineer on site who will verify the information.

5. LEGAL REQUIREMENTS

Under normal circumstances and EMP would be the end result or the final stage in the EIA procedure. However, a working agreement was negotiated between the National Department of Environmental Affairs and Tourism (DEAT) and the JS Moroka Local Municipality Metropolitan Municipality. The agreement stipulates the project types the JS Moroka Local Municipality Metropolitan Municipality need to submit to DEAT for approval and those project types the JS Moroka Local Municipality Metropolitan Municipality do not need to submit for approval. For those actions that do not need approval, the JS Moroka Local Municipality Metropolitan Municipality undertook to compile generic EMP's to assist to minimising degradation to the area. The following project types fall in this non-approval category: periodic maintenance, special maintenance, rehabilitation and specific upgrades.

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6. MITIGATION MEASURES

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.

6.1 Establishment of site offices

6.1.1 Site plan

The Contractor shall provide the Engineer on site with a plan detailing the layout of site offices facilities, such as chemical toilets, areas for stockpiling of material, storage of hazardous materials and provision of containers. The site offices should not be sited in close proximity to steep areas as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the site, and in particular the ablution facilities, aggregate stockpiles and hazardous material stockpiles are located as far away as possible from any water course as possible.

The site plan shall be submitted before the site hand over meeting. Read with Standard Specifications for Municipal Civil Engineering Works: Section 001 and 002.

6.1.2 Vegetation

The vegetation surrounding the site offices is to be left as intact as possible and vegetation planted at the site should be indigenous. Only trees directly affected by the works and such others as may be indicated by the Engineer in writing may be sawn off/removed.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien invader plant shall be cleared by hand before seeding. Read with Specifications: 104 – Landscaping and grassing.

6.1.3 Rehabilitation

The site offices will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas are to be removed from the site on completion of the contract. Read with Specifications Sections 001, 002 and 104.

6.1.4 Water for human consumption

Water for human consumption must be tested and treated in accordance with recommendations.

6.2 Sewage treatment

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Adequate toilet facilities are to be provided. Use of the veld for this purpose shall not, under any circumstances, be allowed. The Contractor shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the Engineer. Latrines shall be positioned within walking distance from wherever employees are employed on the works.

Save and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak always, dry composting toilets such as "enviro loos", or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets is to be done in consultation with the Site Engineer.

Read with Specifications 104.

6.3 Waste management

Waste management and waste minimisation must be implemented at the outset of the contract.

6.3.1 Litter

No littering by construction workers are allowed. 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. Read with Specifications Sections 001 and 002.

6.3.2 Removal of solid waste

Solid waste is to be stored in an appointed area for collection and disposal. A refuse control system must be established for the collection and removal of refuse to the satisfaction of the Engineer. Disposal of solid waste will be in a Department of Water Affairs and Forestry (DWAF) licensed landfill site.

6.3.3 Hazardous waste

Hazardous waste such as bitumen, tar, oils, etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care must be taken when using tar products such as tar prime or pre-coating fluid to avoid water-soluble phenols form entering the ground or contaminating water.

6.4 Soil management

6.4.1 Topsoil

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The contract provides for the stripping and stockpiling of topsoil from the site for later reuse. Topsoil is considered to be of a minimum thickness of ± 300 mm of the natural soil, including all the vegetation and organic matter. The areas to be cleared of topsoil shall include the storage areas. Weeds appearing on the stockpiled topsoil shall be removed by hand before seeding. Soils contaminated by hazardous substances shall be disposed of in an approved Department of Water Affairs and Forestry waste disposal site.

6.4.2 Borrow material.

The Contractor's attention is drawn to the requirements set forth by the Department of Mineral and Energy Affairs in terms of the submission of EMPR's for establishment, operation and rehabilitation of borrow pits and quarries. The cost of complying with the requirements shall be deemed to be included in existing rates in the schedule of quantities. Read with the Specification Section 203.

6.5 Discovery of archaeological sites, artifacts or graves

6.5.1 Archaeological site

If an artefact on site is uncovered, work in the immediate vicinity must 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 Engineer of such discovery. The National Monuments Council must be contacted who will appoint and archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. Read with General Conditions of Contract.

6.5.2 Graves

If a grave on site is uncovered, work in the immediate vicinity must be stopped and an undertaker as well as the National Monuments Council should be contacted. The undertaker will place advertisements in the newspapers concerning the grave. He will also provide for the relocation of bones, should it be necessary. Read with General Conditions of Contract.

6.6 Stockpiled material

The Contractor shall so plan his activities that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material must be indicated and demarcated on the site plan and approved in writing by the engineer.

The area chosen shall be devoid of indigenous trees and shrubs. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. After the stockpiled material has been removed, the site shall be reinstated as closely as possible to its original

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condition. All areas affected by stockpiling shall be landscaped, top soiled and grassed to the Engineer's approval and at the Contractor's cost.

Material milled out of the existing road surface that is temporarily stockpiled within the road reserve shall:

- be stockpiled so as to be as inconspicuous as possible.
- be prevented from contaminating water courses,
- be cleared of weeds.

In all cases, the areas for stockpiling and disposal of construction rubble shall be approved by the Engineer before such operation commences.

Read with Series 2: Earthworks – Section 203.

6.7 Fuel, diesel and other hazardous materials

6.7.1 Hazardous materials

All hazardous materials i.e. bitumen binders shall be stored in an appointed area that is fenced and has restricted entry. Storage of bituminous products shall only take place using suitable containers to the approval of the Engineer.

Under no circumstances shall the spoiling of bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected bituminous products shall be taken to the supplier's production plant. No spillage of bituminous products shall be allowed on site. Affected areas shall be promptly reinstated to the satisfaction of the Engineer.

6.7.2 Fuel

Should any fuel storage tank be required on site, the Contractor shall ensure that he has complied with the necessary legal requirements for the erection of such tanks. Leakage must be avoided. The fuel and diesel must be stored in a bunded area with adequate containment (at least 1,5 times the volume of the fuel) for potential spills and leaks.

6.7.3 Oil, grease

Oil, grease and cleaning materials from the maintenance of vehicles and machinery shall be collected in a sump and sent back to the supplier or, otherwise disposed of at a registered site.

6.7.4 Cooking oil

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The Contractor should ensure that sufficient fuel is available for heating and cooking purposes should this be necessary.

6.7.5 Spillages

Streams, rivers and dams must be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous products. In the event of a spillage, prompt action must be taken by competent instances to clear the affected area.

6.8 General considerations

Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a designated register and the response noted with the date and action taken. This record must be submitted with the monthly reports.

Any avoidable non-compliance with the above-mentioned measures may be considered sufficient ground for withholding payment of part or all amounts to be paid for the said item.

7. MEASUREMENT AND PAYMENT

The Contractor shall not be separately reimbursed or compensated in respect of his compliance with the provisions of this part of the Scope of Works. All costs so incurred shall, save and except to the extent provided for the schedule of quantities under SECTION 001: GENERAL REQUIREMENTS AND CHARGES, be deemed to be included in the rates tendered for the various items of work listed in the schedule of quantities.

TABLE 1 SUMMARY OF MITIGATION MEASURES

<i>ENVIRONMENTAL COMPONENT</i>	<i>ACTIVITY</i>	<i>MITIGATION</i>	<i>RELEVANT SECTION IN SPECIFICATIONS</i>
<i>Establishment of site offices</i>	<i>Siting of offices</i>	<i>Preferred areas would be flat areas along the route. Avoid steep areas as soil erosion could increase. Avoid water courses</i>	<i>001 002.02.01</i>

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ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
	Site Plan	Contractor will provide engineer detail of layout of site facilities within two weeks of moving to the site i.e. chemical toilets, the demarcation of areas for stockpiling of materials, storage of hazardous materials and the provision of containers. The offices shall be fenced. The site plan will be submitted before the site hand over meeting.	001 002
Site rehabilitation	Clean-up	All construction material is to be removed from the site on completion of the contract.	001 002 104
Vegetation	On site	Vegetation planted on the site should be indigenous. Only trees directly affected by works as indicated in writing by Engineer, shall be sawn off/removed	104
	Weeds	Clearance of weeds must be done by hand before seeding.	104
	Grass cover	The grass cover surrounding the construction site is to be left as intact as possible or restored to its original condition.	104
Water	Available for human consumption	Water for human consumption must be tested and treated in accordance with recommendations.	
Soil management	Topsoil	The topsoil ($\pm$ 300 mm) of any excavation shall be removed and stockpiled separately from underlying material in an appointment area	203 104

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ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
	Borrow material	EMPR's for borrow pits to be submitted to the Department of Mineral and Energy Affairs for approval	201 203
Archaeological & Cultural sites	Discover of archaeological sites of artefacts	If an artefact on site is uncovered, work in the immediate vicinity must be stopped immediately and an archaeological consultant must be contacted. Work may only resume once clearance is given in writing by the archaeologist.	GCC
Graves	Discovery of graves	If a grave on site is uncovered, work in the immediate vicinity must be stopped and an undertaker should be contacted	GCC
Waste management	Solid & Construction waste	Solid waste is to be stored in an appointment area for collection and disposal. Disposal of waste will be in a DWAF licensed landfill, and no waste may be burnt on site.	
	Litter	The site is to be kept free of litter	001
Sewage treatment	Toilet facilities	Adequate toilet facilities are to be provided, and the siting of chemical toilets is to be done in consultation with the site engineer. Use of the veld for this purpose shall not be allowed.	001 002

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ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
Fuel, diesel & hazardous materials	Hazardous Materials	All hazardous materials i.e. bitumen binders will be stored in an appointed area that is fenced and has restricted entry. No spoiling of bituminous products on site, over embankments, in borrow pits or any burning. No spillage of bituminous products shall be allowed on site.	
	Fuels	All fuel tanks will be stored in an appointed area. Leakage will be avoided.	
	Cooking fuel	The Contractor should ensure that sufficient fuel is available for heating and cooking purposes should this be necessary.	
	Oil, grease	Oil, grease and cleaning materials from maintenance of vehicles shall be collected in a sump and sent back to supplier.	
	Spillages	Streams, rivers or dams must be protected against spillages of pollutants mentioned in 6.7 (e). In the event of a spillage, prompt action must be taken to clear the affected area.	
General considerations	Lines of authority	A nominated representative of the contractor will be the designated environmental officer for the site.	RELEVANT SECTION IN SPECIFICATIONS
	Reports	The environmental officer will submit monthly reports to the Engineer who will verify the information	

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ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
	Complaints	Complaints received regarding activities on the construction site pertaining to the environment should be recorded in a designated register, and the response noted with the date and action taken. This record must be submitted with the monthly report	

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Witness:



DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: *TECHNICAL SERVICES*

CONTRACT NO: JSM/W/20/20-21/W00

FOR THE

**FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN
WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3
AND WATER TREATMENT PLANTS .**

PART C4 SITE INFORMATION

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BIDDER:

DR. JSMLM:

Initial: Authorized signatory/ies:1. **Initial:** DR. JSM

2

Witness:

JS MOROKA LOCAL DR MUNICIPALITY

CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES).KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT " .



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SITE INFORMATION

1. NATURE OF GROUND AND SUBSOIL CONDITIONS

For the purposes of the Contract it will be deemed that, prior to submitting his Bid, the Contractor acquainted himself fully with the information and data provided within the geotechnical report made available for inspection by bidders during the bidding period and, subject to the provisions of the Conditions of Contract, the Contractor shall have no claim against the Employer in respect of geotechnical or subsurface conditions encountered during the course of the Contract.

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Witness:



DR. JS MOROKA LOCAL MUNICIPALITY

DEPARTMENT NAME: *TECHNICAL SERVICES*

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Witness:



JS MOROKA LOCAL DR MUNICIPALITY

CONTRACT NUMBER: **BID NO: JSM/20/20-21/W00**

FIXING AND MAINTAINING ALL THE PUMPS STATIONS AND ELECTRICAL PANNELS IN WAALKRAAL (SCHEMES),BLOEDFONTEIN (SCHEMES),KAMEELRIVIER (SCHEME),V3 AND WATER TREATMENT PLANT "

DRAWING NO LIST

Table 1

Installation		Kameelrivier 1	Kameelrivier 2	Skimming p/station	Waterval	Lefiso	Bloedfontein	Spitspunt	V3
item	Description	Drawing No	Drawing No	Drawing No	Drawing No	Drawing No	Drawing No	Drawing No	Drawing No
1	Site layout	JS/MG/04-KAM1-ELE-001	JS/MG/04-KAM2-ELE-001	JS/MG/04-SIK-ELE-001	JS/MG/04-WVL-ELE-001	JS/MG/04-LEF-ELE-001	JS/MG/04-BLD-ELE-001	JS/MG/04-SST-ELE-001	JS/MG/04-V3-ELE-001
2	Main schematic	JS/MG/04-KAM1-ELE-002	JS/MG/04-KAM2-ELE-002	JS/MG/04-SIK-ELE-002	JS/MG/04-WVL-ELE-002			JS/MG/04-SST-ELE-002	JS/MG/04-V3-ELE-002
3	DB Office	JS/MG/04-KAM1-ELE-003	JS/MG/04-KAM2-ELE-003	JS/MG/04-SIK-ELE-003		JS/MG/04-LEF-ELE-003	JS/MG/04-BLD-ELE-003		JS/MG/04-V3-ELE-003
4	MCC Schematic	JS/MG/04-KAM1-ELE-004	JS/MG/04-KAM2-ELE-004	JS/MG/04-SIK-ELE-004	JS/MG/04-WVL-ELE-004	JS/MG/04-LEF-ELE-004	JS/MG/04-BLD-ELE-004	JS/MG/04-SST-ELE-004	JS/MG/04-V3-ELE-004
5	Typical schematics - Softstarter	JS/MG/04-KAM1-ELE-005	JS/MG/04-KAM2-ELE-005	JS/MG/04-SIK-ELE-005		JS/MG/04-LEF-ELE-005	JS/MG/04-BLD-ELE-005	JS/MG/04-SST-ELE-005	JS/MG/04-V3-ELE-005
6	Typical schematics - DOL				JS/MG/04-WVL-ELE-006				
7	Typical schematics - ASD		JS/MG/04-KAM2-ELE-007		JS/MG/04-WVL-ELE-007				
8	Instrumentation drawings	JS/MG/04-KAM1-ELE-008	JS/MG/04-KAM2-ELE-008	JS/MG/04-SIK-ELE-008	JS/MG/04-WVL-ELE-008	JS/MG/04-LEF-ELE-008	JS/MG/04-BLD-ELE-008	JS/MG/04-SST-ELE-008	JS/MG/04-V3-ELE-008
9	Control drawings	JS/MG/04-KAM1-ELE-009	JS/MG/04-KAM2-ELE-009	JS/MG/04-SIK-ELE-009	JS/MG/04-WVL-ELE-009	JS/MG/04-LEF-ELE-009	JS/MG/04-BLD-ELE-009	JS/MG/04-SST-ELE-009	JS/MG/04-V3-ELE-009
10	Start/stop station	JS/MG/04-KAM1-ELE-010	JS/MG/04-KAM2-ELE-010	JS/MG/04-SIK-ELE-010	JS/MG/04-WVL-ELE-010	JS/MG/04-LEF-ELE-010	JS/MG/04-BLD-ELE-010	JS/MG/04-SST-ELE-010	JS/MG/04-V3-ELE-010
11	MCC GA	JS/MG/04-KAM1-ELE-011	JS/MG/04-KAM2-ELE-011	JS/MG/04-SIK-ELE-011	JS/MG/04-WVL-ELE-011	JS/MG/04-LEF-ELE-011	JS/MG/04-BLD-ELE-011	JS/MG/04-SST-ELE-011	JS/MG/04-V3-ELE-011
12	Security - CCTV	JS/MG/04-KAM1-ELE-012	JS/MG/04-KAM2-ELE-012	JS/MG/04-SIK-ELE-012	JS/MG/04-WVL-ELE-012	JS/MG/04-LEF-ELE-012	JS/MG/04-BLD-ELE-012	JS/MG/04-SST-ELE-012	JS/MG/04-V3-ELE-012
13	Security - Pepper spray	JS/MG/04-KAM1-ELE-013	JS/MG/04-KAM2-ELE-013	JS/MG/04-SIK-ELE-013	JS/MG/04-WVL-ELE-013	JS/MG/04-LEF-ELE-013	JS/MG/04-BLD-ELE-013	JS/MG/04-SST-ELE-013	JS/MG/04-V3-ELE-013

Table 2 : Purification

Installation		Water treatment works
item	Description	Drawing No
1	Site layout	JS/MG/04-PUR-ELE-001
2	Main schematic	JS/MG/04-PUR-ELE-002
3	MCC 1 Schematic	JS/MG/04-PUR-ELE-003
4	MCC 2 Schematic	JS/MG/04-PUR-ELE-004
5	MCC 3 Schematic	JS/MG/04-PUR-ELE-005
6	Typical schematics - softstarter	JS/MG/04-PUR-ELE-006
7	Instrumentation drawings	JS/MG/04-PUR-ELE-007
8	Control drawings	JS/MG/04-PUR-ELE-008
9	Start/stop station	JS/MG/04-PUR-ELE-009
10	MCC 1 GA	JS/MG/04-PUR-ELE-010
11	MCC 2 GA	JS/MG/04-PUR-ELE-011
12	MCC 3 GA	JS/MG/04-PUR-ELE-012
13	MV Schematics	JS/MG/04-PUR-ELE-013
14	MV protection	JS/MG/04-PUR-ELE-014
15	Security - CCTV	JS/MG/04-PUR-ELE-015
16	Security - Pepper spray	JS/MG/04-PUR-ELE-016

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Table 3

Installation		Waalkraal
item	Description	Drawing No
1	Site layout	JS/MG/04-WKL-ELE-001
2	Main schematic	JS/MG/04-WKL-ELE-002
3	MV Panel schematic	JS/MG/04-WKL-ELE-003
4	MV panel protection	JS/MG/04-WKL-ELE-004
5	Pumpstation small power and Lighting	JS/MG/04-WKL-ELE-005
6	Typical schematics -Sofstarter	JS/MG/04-WKL-ELE-006
7	Instrumentation drawings	JS/MG/04-WKL-ELE-007
8	Control drawings	JS/MG/04-WKL-ELE-008
9	Start/stop station	JS/MG/04-WKL-ELE-009
10	MV MCC GA	JS/MG/04-WKL-ELE-010
11	Security - CCTV	JS/MG/04-WKL-ELE-011
12	Security - Pepper spray	JS/MG/04-WKL-ELE-012

Table 4

Installation		Raw water Abstraction
item	Description	Drawing No
1	Site layout	JS/MG/04-ABS-ELE-001
2	Main schematic	JS/MG/04-ABS-ELE-002
3	MCC 1 Schematic	JS/MG/04-ABS-ELE-003
4	MCC 2 Schematic	JS/MG/04-ABS-ELE-004
5	Typical schematics -Sofstarter	JS/MG/04-ABS-ELE-005
6	Instrumentation drawings	JS/MG/04-ABS-ELE-006
7	Control drawings	JS/MG/04-ABS-ELE-007
8	Start/stop station	JS/MG/04-ABS-ELE-008
9	MCC GA	JS/MG/04-ABS-ELE-009
10	Security - CCTV	JS/MG/04-ABS-ELE-010
11	Security - Pepper spray	JS/MG/04-ABS-ELE-011

BIDDER:

DR. JSMLM:

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Witness:



DRAWING BOOKLET

BIDDER:

DR. JSMLM:

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Witness: