KUNENE REGIONAL COUNCIL

Request for Quotations for Works

Request for Quotations for Electrical and Mechanical Installations

The Construction of a New Settlement Offices in Sesfontein in the Kunene Region

Procurement Reference No: W/RFQ/KRC-05/2020

Kunene Regional Council
Mbuumbiazo Muharukua Street
Private Bag 502
Opuwo, Namibia

Tel: +264 65 273 590
Fax: +264 65 273 077
Email: pmu.kunenerc@gmail.com

KUNENE REGIONAL COUNCIL

HEAD OFFICE

Letter of Invitation

To: _____

_____

_____

_____

W/RFQ/KRC-05/2020 **13 February 2020**

Dear Sirs,

Request for Quotations for Electrical and Mechanical Installations
The Construction of A New Settlement Office
in Sesfontein in the Kunene Region

The Kunene Regional Council invites you to submit your best quote for the works described in detail hereunder.

Any resulting contract shall be subject to the terms and conditions referred to in the document.

Queries, if any, should be addressed to Ms. Saara Nampala, Head of Procurement Management Unit, Private Bag 502, Opuwo.

Please prepare and submit your quotation in accordance with the instructions given or inform the undersigned if you will not be submitting a quotation.

Yours faithfully,

KM SINVULA

KUNENE REGIONAL COUNCIL
PRIVATE BAG 502
OPUWO
13 FEB 2020
TEL: 065 273 950
FAX: 065 273 077
CHIEF REGIONAL OFFICER

SECTION I: INSTRUCTIONS TO BIDDERS

1. Rights of Public Entity

The Kunene Regional Council reserves the right:

(a) to split the contract as per the lowest evaluated cost per lot; and

(b) to accept or reject any quotation or to cancel the quotation process and reject all quotations at any time prior to contract award.

2. Preparation of Quotations

You are requested to quote for the works mentioned in Section III, by completing, signing and returning:

(a) the Quotation Letter in Section II with its annex for Bid Securing Declaration, where applicable;

(b) the Priced Activity Schedule in Section IV;

(c) the Specifications and Compliance Sheet in Section V; and

(d) any other attachment as deemed appropriate

You are advised to carefully read the complete Request for Quotations document, including the Special Conditions of Contract in Section VII, before preparing your Quotation. The standard forms in this document may be retyped for completion but the Bidder is responsible for their accurate reproduction.

3. Validity of Quotations

The quotation validity period shall be 180 days from the date of bid submission deadline.

4. Eligibility Criteria

To be eligible to participate in this Quotation exercise, you should:

(a) have a valid certified copy (NAMPOL) company Registration Certificate;

(b) have an original or certified copy (NAMPOL) valid good Standing Tax Certificate;

(c) have an original or certified copy (NAMPOL)valid good Standing Social Security Certificate;

(d) have a valid certified copy (NAMPOL) of Affirmative Action Compliance Certificate, proof from Employment Equity Commissioner that bidder is not a relevant employer, or exemption issued in terms of Section 42 of the Affirmative Action Act, 1998;

(e) Have a certified copy (NAMPOL) certificate indicating SME Status (for Bids reserved for SMEs);

(f) Submit bid valid signed Bid-securing Declaration.

(g) Have original or certified copy of Bank confirmation letter from a Namibian Banking Institution.

(h) A valid Electrical wiremen license for the Electrician

(i) A valid trade certificate in air-conditioning and refrigeration office for the Air-conditioning technician

(j) Two reference letters/completion certificates of similar services successfully completed which are of the same complexity and not necessarily of the same size.

5. Bid Securing Declaration

Bidders are required to subscribe to a Bid Securing Declaration for this procurement process.

6. Works Completion Period

The completion period for works shall be 60 days after acceptance and issue of Purchase Order. Deviation in completion period shall not be accepted/shall be considered if such deviation is reasonable.

7. Sealing and Marking of Quotations

Quotations should be sealed in a single envelope, clearly marked with the Procurement Reference Number (W/RFQ/KRC-05/2020), addressed to the Procurement Management Unit, Kunene Regional Council, Private Bag 502, Opuwo with the Bidder's name at the back of the envelope.

8. Submission of Quotations

Quotations should be deposited in the Quotation/Bid Box located at Kunene Regional Council, Mbumbijazo Muharukua Street, Opuwo **not later than 26 February 2020 at 11H00 am.**

Quotations by post or hand delivered should reach Kunene Regional Council, by the same date and time at latest.

Late quotations will be rejected. Quotations received by e-mail will not be considered.

9. Opening of Quotations

Quotations will be opened internally by the Kunene Regional Council, immediately (11h00) after the closing time referred to in section 8 above. A record of the Quotation Opening stating the name of the bidders, the amount quoted, the presence or absence of a Bid Security/Bid Securing Declaration, will be posted on the website of the Public Entity and available to any bidder on request within three working days of the Opening.

10. Evaluation of Quotations

The Public Entity shall have the right to request for clarifications in writing during evaluation. Offers that are substantially responsive shall be compared on the basis of evaluated cost, subject to Margin of Preference where applicable, to determine the lowest evaluated quotation.

11. Technical Compliance

The Specifications and Compliance Sheet details the minimum specifications of the works to be carried out. The specifications have to be met, but no credit will be given for exceeding the specifications.

12. **Prices and Currency of Payment**

Prices for the execution of works shall be fixed in Namibian Dollars as quoted. Quotations shall cover all costs of labour, materials, equipment, overheads, profits and all associated costs for performing the works, and shall include all duties. The whole cost of performing the works shall be included in the items stated, and the cost of any incidental works shall be deemed to be included in the prices quoted.

13. Margin of Preference

N/A

14. Award of Contract

The Bidder having submitted the lowest evaluated responsive quotation that is 0% above and not less 15% below the engineers and qualified to perform the works shall be selected for award of contract. Award of contract shall be by issue of a Purchase Order/Letter of Acceptance in accordance with terms and conditions contained in Section VI: Contract Agreement and General Conditions of Contract.

15. Performance Security

N/A

16. Notification of Award and Debriefing

The Public Entity shall after award of contract promptly inform all unsuccessful bidders in writing of the name and address of the successful bidder and the contract amount and post a notice of award on its website within 7 days. Furthermore, the Public Entity shall attend to all requests for debriefing made in writing within 7 days of the unsuccessful bidders being informed of the award.

SECTION II: QUOTATION LETTER

(to be completed by Bidders)

. If your quotation is not authorised, it will be rejected

Quotation addressed to:	Kunene Regional Council
Procurement Reference Number:	W/RFQ/KRC-05/2020
Subject matter of Procurement:	

We offer to execute the Works detailed in the Statement of Requirements, in accordance with the terms and conditions stated in your Request for Sealed Quotations referenced above.

We confirm that we are eligible to participate in this Quotation exercise and meet the eligibility criteria specified in Section 1: Instructions to Bidders

We undertake to abide by the Conduct of Bidders and Suppliers as provided under the Public Procurement Act during the procurement process and the execution of any resulting contract.

We have read and understood the content of the Bid Securing Declaration (BSD) attached hereto and subscribe fully to the terms and conditions contained therein. We further understand that this subscription could lead disqualification on the grounds mentioned in the BDS.

The validity period of our Quotation is _____ [insert number] from the date of the bid submission deadline.

We confirm that the prices quoted in the Priced Activity Schedule are fixed and firm and will not be subject to revision or variation, if we are awarded the contract **prior to the expiry** date of the quotation validity.

Works will commence within _____ [insert number] days from date of issue of Purchase Order/ Letter of Acceptance.

Works will be completed within _____ [insert number] days from date of issue of Purchase Order/ Letter of acceptance.

Quotation Authorised by:

Name of Bidder		Company's Address and seal	
Contact Person			
Name of Person Authorising the Quotation:		Position:	Signature:
Date		Phone No./E-mail	

BID SECURING DECLARATION

(Section 45 of Act)

(Regulation 37(1) (b) and 37(5))

Date:..... [Day | month | year]

Procurement Ref No.: .....

To:

.....

[insert complete name of Public Entity and address] .....

I/We* understand that in terms of section 45 of the Act a public entity must include in the bidding document the requirement for a declaration as an alternative form of bid security.

I/We* accept that under section 45 of the Act, I/we* may be suspended or disqualified in the event of

(a) a modification or withdrawal of a bid after the deadline for submission of bids during the period of validity;

(b) refusal by a bidder to accept a correction of an error appearing on the face of a bid;

(c) failure to sign a procurement contract in accordance with the terms and conditions set forth in the bidding document, should I/We* be successful bidder; or

(d) failure to provide security for the performance of the procurement contract if required to do so by the bidding document.

I/We* understand this bid securing declaration ceases to be valid if I am/We are* not the successful Bidder

Signed: .....
[insert signature of person whose name and capacity are shown]

Capacity of:
[indicate legal capacity of person(s) signing the Bid Securing Declaration]

Name: .....
[insert complete name of person signing the Bid Securing Declaration]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____
[insert date of signing]

Corporate Seal (where appropriate)
[Note*: In case of a joint venture, the bid securing declaration must be in the name of all partners to the joint venture that submits the bid.]

delete if not applicable / appropriate

Republic Of Namibia

Ministry of Labour, Industrial Relations and Employment Creation

Witten undertaking in terms of section 138 of the Labour Act, 2015 and section 50(2)(D) of the Public Procurement Act, 2015

1. EMPLOYERS DETAILS

Company Trade Name:……

Registration Number :.....……...

Vat Number: ……

Industry/Sector: ……

Place of Business:……..

Physical Address:……..

Tell No.:……

Fax No.:……

Email Address:……..

Postal Address:……..

Full name of Owner/Accounting Officer:……..……...

……

Email Address:……..

2. PROCUREMENT DETAILS

Procurement Reference No.:……..

Procurement Description: .....

.....

.....

Anticipated Contract Duration: .....

Location where work will be done, good/services will be delivered: .....

.....

3. UNDERTAKING

I .....*[insert full name]*, owner/representative

of .....*[insert full name of company]*

hereby undertake in writing that my company will at all relevant times comply fully with the relevant provisions of the Labour Act and the Terms and Conditions of Collective Agreements as applicable.

I am fully aware that failure to abide to such shall lead to the action as stipulated in section 138 of the labour Act, 2007, which include but not limited to the cancellation of the contract/licence/grant/permit or concession.

Signature: .....

Date: .....

Seal:.....

Please take note:

1. *A labour inspector may conduct unannounced inspections to assess the level of compliance*
2. *This undertaking must be displayed at the workplace where it will be readily accessible and visible by the employees rendering service(s) in relations to the goods and services being procured under this contract.*

SECTION III: STATEMENT OF REQUIREMENTS

This text hereunder is a guidance for the preparation of the Specifications and Performance Requirements and should not form part of the final document

Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract.

A. SCOPE OF WORKS, SPECIFICATIONS AND PERFORMANCE REQUIREMENTS

See Volume 2: specifications and bills of quantities for HVAC installation & general electrical installation

B. DRAWINGS

See Volume 2: specifications and bills of quantities for HVAC installation & general electrical installation

Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section or annexed in a separate folder.

SECTION VI: GENERAL CONDITIONS OF CONTRACT AND CONTRACT AGREEMENT

Any resulting contract shall be placed by means of a Purchase Order/Letter of Acceptance and shall be subject to the General Conditions of Contract (GCC) for the Procurement of Goods (Ref. **W/RFQ-GCC**) available on the website of the Public Entity *(insert website address)* except where modified by the Special Conditions below

SECTION VIII SPECIAL CONDITIONS OF CONTRACT

Procurement Reference Number: W/RFQ/KRC-05/2020

The clause numbers given in the first column correspond to the relevant clause number of the General Conditions of Contract. *[This section is to be customised by the Public Entity to suit the requirements of the specific procurement]*.

GCC Clause Reference	Special Conditions
Employer GCC 1.1(r)	Kunene Regional Council Directorate of Planning, Monitoring and Evaluation
Intended Completion Date GCC	The intended completion date is: _____
Project Manager GCC 1.1(y)	The Project Manager is: Directorate of Planning, Monitoring and Evaluation
Site GCC 1.1(aa)	The Site is located at Sesfontein, Namibia and is defined in Drawings Nos: P019001-E/010-E/013 & P019001-M/010-M/010-M/012
Start Date GCC 1.1(dd)	The Start Date shall be:_____
The Works GCC 1.1(hh)	The Works consist of: Mechanical and Electrical Installations
Interpretation GCC 2.2	The project will be completed in the following sections: once of within 60 days
Interpretation GCC2.3	The following additional documents shall form part of the contract: Vol 2 and Drawings

Language and Law **GCC 3.1**	The language of the contract is English The law that applies to the Contract is the law of Namibia.
Project Manager's Decisions 4.1	The Project Manager shall obtain specific approval from the Employer before carrying out any of his duties under the Contract which in the Project Manager's opinion will cause the amount finally due under the Contract to exceed the Contract Price or will give entitlement to extension of time. This requirement shall be waived in an emergency affecting safety of personnel or the Works or adjacent property.
Delegation **GCC 5.1**	The Project Manager *[may/may not]* delegate his/her duties.
Notices **GCC 6**	Any notice shall be sent to the following addresses: For the Employer, the address shall be as given on the page 4 of this Bidding Document and the contact name shall be Ms. Saara Nampala For the Contractor, the address shall be as given on the first page of the Purchase Order/Letter of Acceptance and the contact name shall be Ms. Saara Nampala
Insurance **GCC 13.1**	Except for the cover mentioned in (d)(i) hereunder, the other insurance covers shall be in the joint names of the Contractor and the Employer and the minimum insurance amounts shall be: (a) for the Works, Plant and Materials: (for *the full amount of the works including removal of debris, professional fee etc...)* (b) for loss or damage to Equipment: (*for the replacement value of the equipment that the contractor intends to use on site until the taking over by the Employer.* (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract *for an amount representing the value of the properties that are exposed to the action of the contractor in the execution of the works. It will extend to the property of the Procuring Entity as well).* (d) for personal injury or death: (i) of the Contractor's employees:*[The Contractor shall take an adequate insurance cover for its employees for any claim arising in the execution of the works].* (ii) of other people: *[This cover shall be for an adequate amount for Third Party extended to the Employer and its representatives].*

	(e) for loss or damage to materials on-site and for which payment have been included in the Interim Payment Certificate, where applicable. The Contractor shall choose to take the insurance covers indicated above as separate covers or a combination of the Contractor's All Risks coupled with the Employer's liability and First Loss Burglary, after approval of the Employer. All insurance covers shall be of nil or the minimum possible deductibles at sole expense of the contractor.
Site Date **GCC 14.1**	The site Data shall be: Drawings and Price schedule Vol:2
Possession of the Site **GCC 20.1**	The Site Possession Date shall be: 28 March 2020
Procedure for Disputes **GCC 24**	No Adjudicator shall be appointed under the contract and arbitration shall not apply. If any dispute arises between the Employer and the Contractor in connection with or arising out of the Contract, the parties shall seek to resolve any such dispute by amicable agreement. If the parties fail to resolve such dispute by amicable agreement, within 14 days after one party has notified the other in writing of the dispute, then the dispute shall be referred to court by either party.
Program **GCC 25.1**	The Contractor shall submit for approval a Program for the Works within 7 days from the date of the Letter of Acceptance or issue of Purchase Order Agreement.
GCC 25.3	Program updates insert shall be required..
Defects Liability Period **GCC 33.1**	The Defects Liability Period is: *365* days.
Payment Certificates **GCC 39.7**	*[* "Payment shall be made as per progress of works with * payment for materials on site".
Payments **GCC 40**	The amount certified by the Project Manager shall be paid in full within 30 days of receipt by the Employer of an invoice, supported by: (a) the payment certificate; and (b) a certificate of Completion of the Works.
Adverse weather Conditions **GCC 41.1 (l)**	Conditions under which normal project works cannot be executed i.e rain, heavy winds, floods and their associated adversaries
Price Adjustment **GCC 44.**	The Contract is not subject to price adjustment.

Retention **GCC 45.**	(ii) 10% of the amount shall be retained from any payment. Half of the retention money will be released after formal taking over of the Works and the remaining shall be released after the Defect Liability Period subject to the Contractor making good all defects. *
Liquidated Damages **GCC 46.1**	The liquidated damages for the whole of the Works are *5%* per day. The maximum amount of liquidated damages for the whole of the Works is *[amount based on a maximum number of days]*. *[Usually liquidated damages are set between 0.05 per cent and 0.10 per cent per day, and the total amount is not to exceed between 5 per cent and 10 per cent of the Contract Price. Alternatively, the daily rate could reflect the actual prejudice that the procuring entity may claim to suffer as direct cost, where applicable or a nominal value taking into consideration the size of the building, nature of construction and the incidence due to non-availability of the building as from the intended completion date. If Sectional Completion and Damages per Section have been agreed, the latter should be specified here.]*
Bonus **GCC 47.1**	The rate for the Bonus per calendar day is: _____
Advance Payment **GCC 48.1**	(i) No advance payment shall be made
Performance Security **GCC 49.1**	(i) A Performance Security in the form of a Bank Guarantee representing percentage 10% of the contract amount. N/A
GCC 56.1	"As built" drawings or operating and maintenance manuals insert are required.
GCC 59.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is: 15%

SCHEDULE 2
QUOTATION CHECKLIST SCHEDULE

Public Entity to update this Checklist to ensure that it contains the documents required from Bidders for the specific procurement

Procurement Reference No.:

Description	Attached	Not Attached
Quotation letter		
Priced Activity Schedules		
Specification and Compliance Sheet		
Bid Security(if applicable)		
[Public Entity to insert any other]		

Disclaimer: The list defined above is meant to assist the Bidder in submitting the relevant documents and shall not be a ground for the bidder to justify its non-submission of major documents for its quotation to be responsive. The onus remains on the Bidder to ascertain that it has submitted all the documents that have been requested and are needed for its submission to be complete and responsive.

REPUBLIC OF NAMIBIA

KUNENE REGIONAL COUNCIL

KUNENE REGIONAL COUNCIL

FOR THE PROCUREMENT OF

PROJECT: CONSTRUCTION OF NEW SESFONTEIN SETTLEMENT OFFICES IN THE KUNENE REGION

PROCUREMENT REFERENCE NO: W/RFQ/KRC-05/2020

VOLUME 2: SPECIFICATIONS AND BILLS OF QUANTITIES FOR MECHANICAL INSTALLATION & GENERAL ELECTRICAL INSTALLATION

BIDDER`S DETAILS

Bidder Name: _____

Bidder Representative: _____

Tel: _____

Bid Price_____

Section I: INSTRUCTIONS TO BIDDERS

RIGHTS OF PUBLIC ENTITY

Bidders should see the main bidding document

PREPARATION OF BIDS

Bidders should see the main bidding document

VALIDITY OF BIDS

Bidders should see the main bidding document

ELIGIBILITY CRITERIA

To be eligible to participate in this Quotation exercise, see the main bidding document.

BID SECURITY/BID SECURING DECLARATION

Bidders are required see the main bidding document.

WORKS COMPLETION PERIOD

Bidders should see the main bidding document

SEALING AND MARKING OF BIDS

Bidders should see the main bidding document.

SUBMISSION OF BIDS

Bids should see the main bidding document.

BID OPENING

Bidders should see the main bidding document.

EVALUATION OF BIDS

The Public Entity shall have the right to request for clarification during evaluation. Offers that are substantially responsive shall be compared on the basis of evaluated cost, subject to Margin of Preference where applicable, to determine the lowest evaluated bid.

QUALIFICATION CRITERIA

Bidders should see the main bidding document and in addition submit documents in respect of the following:

(a) experience in works of a similar nature and size, and details of work under way or contractually committed; and clients who may be contacted for further information on those contracts;

(b) Bidder must have a Valid Registration Certificate with a Namibian Electricity Service Provider authorising the bidder to operate up to 400V

(c) Schedule of Work executed by Bidder (Form A)

(d) Schedule of Work currently being executed by Bidder (Form B)
(e) Schedule of Construction Equipment (Form C)
(f) Schedule of Key Personnel (Form D)
(g) Curriculum Vitae of Contractor's Key Personnel (Form E)

TECHNICAL COMPLIANCE

The Specification and Compliance Sheet details the minimum specifications of the works to be carried out. The specifications have to be met, but no credit will be given for exceeding the specification.

PRICES AND CURRENCY OF PAYMENT

Prices for the execution of works shall be fixed in Namibian Dollars as quoted.

Bids shall cover all costs of labour, materials, equipment, overheads, profits and all associated costs for performing the works, and shall include all duties. The whole cost of performing the works shall be included in the items stated, and the cost of any incidental works shall be deemed to be included in the prices quoted.

MARGIN OF PREFERENCE

Bidders should see the main bidding document

AWARD OF CONTRACT

Bidders should see the main bidding document

PERFORMANCE SECURITY

Bidders should see the main bidding document

NOTIFICATION OF AWARD AND DEBRIEFING

Bidders should see the main bidding document

SECTION II: STATEMENT OF REQUIREMENTS

A. SCOPE OF WORKS, SPECIFICATIONS AND PERFORMANCE REQUIREMENTS CODES OF PRACTICE FOR INSTALLATION

1.1 STANDARDS AND CODES OF PRACTICE

The installation of material will be carried out in accordance with the following Codes of Practice:

- The Machinery and Occupational Safety Act No. 6 of 1983 and the relevant regulations as amended.
- The selection, handling and installation of electric power cables of rating not exceeding 33kV. SABS 0198: 1988.
- The Code of Practise for the Wiring of Premises - SANS 10142-1 of 2012 as amended.
- The Protection of Structures against Lightning - SANS 10313 of 2005 as amended.
- Protection of Structures against Lightning Part 1: General principles - SANS 61024-1 of 1990 as amended.
- Protection of Structures against Lightning Part 1: General principles Section 1: Guide A - Selection of protection levels for lightning protection systems - SANS 61024-1-1 of 1993 as amended.
- Protection of Structures against Lightning Part 1-2: General principles - Guide B - Design, installation, maintenance and inspection of lightning protection systems - SANS 61024-1-2 of 1998 as amended.
- The Design and Installation of earth electrodes - SANS 10199 of 2004 as amended.
- Labour Act: 2007 Regulation relating to the Health and Safety of Employees at Work, [newest edition].
- The relevant local by laws and regulations of the electricity supply authority

All material and equipment supplied and/or installed under this contract shall be new and shall also comply with the requirements laid down in the latest editions of the relevant NRS, SABS, BS or IEC and their amendments (if any).

The material specified is the preferred material. If alternative materials are offered, they shall be separately specified for approval of the engineer. Rates entered in the schedule of quantities shall be for the specified materials.

In the event of items bearing the SABS mark being available in respect of the materials and equipment required, only items bearing this mark will be acceptable.

PARTICULAR PROJECT SPECIFICATIONS

2.1 GENERAL DESCRIPTION OF THE WORKS

Supply and installation of Electrical & Mechanical infrastructure for New Office as outlined in Engineer's Drawings.

The contract covers all the work required for the detail design, supply, delivery to site, installation, testing, commissioning, preventative maintenance for a period of 12 calendar months and handing over in good working order of a complete Electrical and Mechanical Office. The Contractor shall install all equipment in accordance with the Manufacturer's instructions and recommendations.

The specification and drawings form part of and shall be read in conjunction with all contract documents and drawings, bills of quantities and the standard specifications. The project will be executed over an estimated period as suggested by the Contractor but shall not exceed the approved completion date of the Principal Contract at the Time of Bid. All work specified in this document form part of this contract unless specifically excluded. The components of supply shall include:

The Works Comprise of the following:

1. Setting out the works.
2. Locate and record existing services.
3. Installation/construction of Electrical Infrastructure in accordance with specifications and drawings.
4. Testing, commissioning in accordance to relevant SANS Specifications
5. Tie-in and hand-over of the completed installation, including provision of as-built drawings and spanning sheets.
6. Removal of camp establishment, and trim and finish-off site.
7. The maintenance of the works [Twelve (12) calendar months period] and compliance with all other requirements of the Contractor's defects liability.

2.2 DESCRIPTION OF SITE AND ACCESS

The site where the works will be executed is situated in Kunene Region, Namibia.

No official site inspection will be conducted prior to bid closing date and bidders must ensure that they familiarise themselves with local conditions. The boundaries of the site consist of the area associated with the works to be executed under this contract as per layout drawings including construction camps, any storage and work areas which the Contractor may require and which are approved by the Engineer.

2.3 SITE CONDITION

The site where the works will be executed is situated about 150 kilometers south of Opuwo in the Kunene Region, Namibia.

2.4 DETAILS OF CONTRACT

Special care must be taken not to damage or disturb any of the existing services such as existing water supply lines, roof sheets or any building works. The location and protection of all services however remains the responsibility of the Contractor.

The Sub-Contractor will not be allowed unrestricted use of the site but must agree with the Local Authorities and Main Contractor to the size and position of the areas required for the proper execution of the Works. All excess material excavated must be dumped and levelled in designated areas as approved

by the Local Authority. The Sub-Contractor will be allowed areas for the storage of materials, erection of camp etc. and must limit himself to these areas, which are to be approved.

2.5 CONSTRUCTION PROGRAMME

Within two weeks (14 days) of the acceptance of this Bid, the Sub-Contractor shall provide a detailed programme, providing information on labour and plant resources and an estimated cash flow. The critical path shall be clearly defined and the programme shall be drawn up in sufficient detail.
The Sub-Contractor is allowed to plan and programme the Works to suit himself/herself, but has to consider the request of the Employer as to which areas are to be provided with services as a matter of priority.

SITE FACILITIES AVAILABLE

Water Supply
The Sub-Contractor is to liaise with the Local Authorities and Main Contractor to the water take- off points. Arrangements for and payment of water used must be made with the Local Authorities and owner of the said property.

Power Supply
The Contractor is to liaise with the Local Authorities and Main Contractor. Arrangements for and payment of electricity used must be made with the Local Authorities.

Contractor's Camp
The Contractor is to liaise with the Local Authorities and the Main Contractor as to where to establish camp. This will be finalized at the Site hand-over. No housing is available for the Contractor's employees, and the Contractor shall make his own arrangements to house his employees. Take notethat very little accommodation is available in Sesfontein, and the Contractor will have to make provision of such for the entire team.

2.6 SITE FACILITIES REQUIRED

Laboratory Facilities
None Required.

Temporary Offices
None required.

Sanitary Facilities
Toilets must be supplied for the Contractor's employees. No open defecation will be allowed or tolerated.

Name Board
None Required.

Rain Gauge

None Required.

FEATURES REQUIRING SPECIAL ATTENTION

3.1 EXISTING SERVICES

No detail regarding existing services is available. The Sub-Contractor will be responsible to determine the position of all existing services with the cooperation of staff of the User Client / Department of Works. During site establishment and setting out, the position of existing lines shall be located prior to construction. Any damage to existing infrastructure shall be reported to the Engineer, and repaired at the Contractor's cost.

3.2 CARE, DAMAGE AND PROTECTION

When locating any services, the Sub-Contractor must take extreme care to avoid damage. The repair of all damaged existing services will be for the account of the Contractor.

3.3 REQUIREMENTS FOR TEMPORARY WORKS

Any excavation or spoiled material (dumps) that may, in the opinion of the Engineer, be a danger to the public or its property must be barricaded in such a way that no accidents or damages will occur to either. Two strategically placed warning lights must be placed at the barricaded site to warn the public during the night (if applicable).
The Sub-Contractor shall be responsible for his own access roads for construction and shall be expected to maintain these and make allowance for such under the Preliminary and General items.

3.4 SAFETY REQUIREMENTS

The Sub-Contractor's attention is drawn to the safety on the site. Although the construction area is unoccupied, public does have access to the site and movement of people through the site might occur from time to time.
The Sub-Contractor shall be responsible for the safety on the site at all times and he shall adhere to the laws and bylaws as well as the safety regulations. Works in progress shall be barricaded and warning signs erected as required by the law.

3.5 OCCUPATIONAL HEALTH AND SAFETY ACT

All Occupational Health and Safety Act regulations pertaining to the work being carried out must be adhered to. The Sub-Contractor's employees shall at all times be supervised by a competent supervisor appointed in writing in terms of Reg. 11.1 of the General Safety Regulations of the Occupational Health and Safety Act and made aware of his responsibilities.

SPECIFICATIONS AND BILLS OF QUANTITIES FOR GENERAL ELECTRICAL INSTALLATIONS

4.1 COORDINATION OF WORKS

Due to the nature of the installation, a fixed sequence of operation is required to properly install the complete Electrical infrastructure. The work shall be closely scheduled in order not to delay the entire project.

The Sub-Contractor shall familiarise himself with the requirements of the other trades and shall examine the plans and specifications covering each of these sections. The installation requirements shall be carefully checked with other trades to ensure that the equipment can be installed in the proper sequence in the space allotted.

COORDINATION SCHEDULE			
General	Mech Cont.	Main Cont.	Elect. Cont.
The supply and erection of all scaffolding necessary for the electrical Installation.		√	
All rigging, hoisting and associated tools required for installation/ erection electrical Equipment.	√		√
Removal from site of excess and waste material generated during the electrical Installation	√		√
Co-ordinate space conditions, pipe & cable routes and terminations of the various services with all trades involved for proper installation of the work.	√	√	√
Building			
Chasing of pipes & conduit into brick walls.	√		√
Cutting and core drilling required in structural members		√	
Casting / building in of sleeves in concrete members and walls		√	√
Sealing of all openings where piping or cabling goes through walls, slabs & shafts.			√
Marking/ Indication of holes & sleeves required			√
Painting & priming of material & equipment forming part of electrical Installation			√
Provision of pipe supports, trunking, cable trays and vibration eliminators as required for Electrical Installation			√
Supply and fitting of timber frames where necessary.		√	
Access panels in ceilings.		√	
Cutting of ceiling tiles & cut outs in doors		√	
Electrical			
Electrical power supplies (Isolator) to mechanical equipment.			√
The provision of all necessary controls, instrumentation and wiring from Distribution Boards and control panels to the equipment as specified herein.			√

4.2 MAIN SUPPLY NETWORK

All materials and equipment supplied and/or installed under this contract shall be suitable for satisfactory operation and shall have prescribed characteristics under the following conditions:

4.2.1 Ambient Operating Conditions

4.2.1.1 Altitude: 1067m above sea level

4.2.1.2 Minimum ambient temperature: -5 Degrees Celsius

4.2.1.3 Maximum ambient temperature: +35 Degrees Celsius

4.2.1.4 Humidity: up to saturation point

4.2.2 Electrical System Particulars

The LV system operating conditions are as follows:
220/230 +/- 10%, 1 phase, 1 wire, 50Hz AC with earthed neutral Operating Frequency 50Hz ± 5%

4.3 LOW VOLTAGE FEEDERS

Low voltage distribution to the various buildings shall be via armoured 600-1000Vac, PVC/SWA/PVC, stranded copper conductors together with a bare copper earth continuity conductor as specified in the Standard Specifications section. Equivalent, Low voltage cables shall comprise of 4C and 2C, copper conductors, PVC/SWA/PVC 1 000 Volt cable. No joints shall be allowed in new cables and no payment shall be made for left-over lengths of cable. The Sub-Contractor shall ensure that the exact lengths of cable are measured on site prior to placing his orders. Low voltage cables shall be installed in sleeves, power skirting, cable trays and / or channels. Cable location, routes, cable trays and channel details are shown on the relevant layout drawings.

4.4 EXCAVATIONS

LT cables are to be laid at a depth of 650mm. Sub-Contractors are to note that the ground conditions should be taken as rocky. However, the bidders shall be deemed to have visited the site and ascertained the exact soil conditions. It is foreseen that backfill material will have to be imported.

The Sub-Contractor shall, before he starts with any excavations, peg out the proposed cable route and confirm it with the Engineer.

All safety measures shall be taken to prevent damage to other services

4.5 DISTRIBUTION BOARDS AND KIOSKS

4.5.1 Distribution Boards

Circuit breakers must be rated at a minimum of 5kA rupturing capacity and shall be of the DIN type except if specified otherwise. Switchgear shall be type Heinemann or Merlin Gerlin/Schneider, ABB or CBI.

All LV switchgear, MCB's, MCCB's, contactors, timers, etc offered shall be of the same manufacturer and manufacturer's range. The make switchgear offered shall be clearly indicated in the Schedule of Quantities. Bidders **offering other makes (except as alternative on the provided sheet), mixing different makes of switch gear or not indicating the make offered may be disqualified.**

The distribution boards to be metal architrave type, flush mounted complete with metal doors unless specified otherwise.

4.5.1.1 All the board layouts and designs shall be submitted to the Engineers for approval prior to ordering and manufacturing.

4.5.1.2 Colour of distribution boards shall be white unless specified otherwise.

4.5.1.3 Top of distribution boards to be 1800mm A.F.F.L. and must have at least 30% spare ways per phase.

4.5.1.4 Any two or more circuit breakers may not be interconnected with wire or cable. All interconnections will be made with one-piece combed busbar where possible.

4.5.1.5 Telephone distribution boards shall be provided with wooden back boards.

4.5.1.6 All distribution boards exposed to weather shall be weather-proof.

Fault levels and schematics are as indicated on relevant schematic drawings.

4.6.1 Kiosk

Kiosk will have to be installed as indicated on the drawing. Kiosks shall be type Greenbro, colour sandstone complete with doors in front and back as well as busbars at the back.

4.6 BUILDING INSTALLATIONS

4.6.1 Lighting

4.6.1.1 General

All light switches shall be of Clipsal series or equal approved, colour white, and mounted 1200mm above finished floor level.

Where existing conduit work is in place, outlets shall be flush type, where new wiring is required, outlets shall be surface type using steel conduit.

All light circuits shall be wired using 2,5mm² conductors. All earth wire is to be bare copper earth wire. All light fittings shall be supplied with electronic control gear for energy efficiency. All ballasts shall be marked with the CELMA EEI classification. Only class A1, A2 and A3 electronic ballasts will be acceptable.

Schedule and mounting of luminaires:

TYPE	DESCRIPTION (OR EQUAL APPROVED)
E1	Ceiling mounted open channel fluorescent luminaire with 2 x36W "Cool White" fluorescent lamps, complete with control gear
E2	600x600 Ceiling Recessed mounted led decorative luminaire with 3m cabtyre and 5amp plug top, integrated clips and gasket to ensure sealing.
A	Rectangular bulkhead with opal polycarbonate diffuser, 9W compact fluorescent lamp with associated control gear complete. IP64
B	Ceiling mounted decorative downlight with shallow body and lens, 50W compact fluorescent lamp with associated control gear complete. IP54
C	Ceiling mounted decorative downlight with shallow body and lens, 2x12W compact fluorescent lamp with associated control gear complete. IP54

All photo switches shall be fitted in a bulkhead fitting for protection.

4.6.1.2 Light Switches

All light switches shall be rated to carry 16A. All light switches shall be flush-mounted and of the same approved manufacturer and shall be fitted with suitable, approved cover plates. Mounting heights for switches shall be 1200mm AFFL. Unless otherwise indicated on the drawings. The "Clipsal" range of light switches is commercially available and will be an acceptable standard.

All alternative types of sensors must be approved by the Engineer prior to placing orders / installation.

4.6.2 Socket Outlets

Mounting heights for outlets sockets and clusters shall be either 300 mm AFFL. or 1200 mm AFFL. unless otherwise indicated on drawings. All socket outlets shall be flush-mounted and of the same approved manufacturer, fitted with suitable, approved cover plates. Power outlets installations shall be in accordance with Part 4 - standard specifications herein.

20A, switched socket outlets shall be wired from the sub distribution board via conduit recessed in brickwork or power skirting where necessary. The socket outlets shall be of the German Standard type with 2 poles and an earth, 20A -230V.

4.7 FINAL CONNECTIONS TO OUTDOOR AIRCON UNITS

The Bidder must make provision for the installation of air-con compressor unit feeder cables from the distribution boards to the outdoor isolators / maintenance switches. The feeders shall terminate onto a local, wall mounted, isolator adjacent to each compressor. These isolators will be of the rotary, lockable type with ratings as indicated on the drawings. The air-conditioning installation Contractor will be responsible for the connecting up his plant to this isolator. The "Gewiss" range of isolators is commercially available and will be an acceptable standard. Samples of the Isolators to be installed shall be submitted to the Engineer for approval prior to placing order / installing.

4.8 EARTHING AND BONDING

4.8.1 Bonding

All exposed metal parts including roofs, gutters, down pipes, waist pipes etc. shall be bonded in accordance with SANS 10142 as amended.

4.8.2 Building Earths

One earth rod 1,8m long of solid drawn copper with minimum diameter 16mm shall be driven into the ground at each building such that the top of the rod shall be 600mm below ground level. The rods shall be

connected to the roof steel structure using a minimum of 10 mm² for the houses and 35mm² BCEW for the rest of the buildings.

Where necessary, the Bidder shall be requested to appoint a specialist contractor for the design and installation of a complete lightning protection system to comply with SANS 10313 - Protection of Structures against Lightning and SANS 10199 of 2004 as amended - The design and installation of Earth Electrodes.

4.9 TELECOMUNICATION SYSTEM

The Bidder shall supply and install a Telecom distribution board in the position as indicated on the relevant layout Board sizes shall be 300x300x160mm with a draw tray and wooden backboard

From the distribution board as shown on the relevant drawings, the Bid shall supplyand install 25mm diameter conduits unless otherwise indicated, to the telephone outlets and draw boxes as shown. All conduits shall be PVC (in concrete) and a rust free, steel draw wire shall be installed in each conduit.

Draw boxes and cover plates shall be supplied by the Electrical Contractor. The telephone installation (wiring) shall be done by others. Provision, however, for telephone wireways and boards forms part of this contract.

All Telecoms cabling shall be of grey colour.

4.10 ELECTRONIC SYSTEMS

The Bidder shall supply and Install all draw boxes for electronic equipment in the positions as indicated on the relevant layout drawings

The Bidder shall also supply and install 25mm diameter conduits unless otherwise indicated, to the electronic receptacles and draw boxes as shown. All conduits shall be PVC (in concrete) and a rust free, steel draw wire shall be installed in each conduit. Draw boxes and cover plates shall be supplied by the Bidder. The electronics installation (wiring and receptacles) shall be done by others. However, provision for electronic wire ways forms part of this contract.

4.11 INFORMATION, DIAGRAMS, DRAWINGS AND MANUALS TO BE SUBMITTED

As part of his bid and subsequent contract, it will be required from the Bidder/Sub-Contractor to submit certain documents, in accordance with the following programme:

WITH THE BID (AT CLOSING DATE):

- Marked-up copies of all drawings indicating in red all required alterations to the concrete, brickwork or whatever other aspect falling outside the scope of his contract;
- Manufacturer's pamphlets and/or brochures illustrating all equipment offered;
- Sketches/rough drawings showing the principle of the design in general and specifically

where it deviates from the proposed layout and details given by the Engineer. Attention should be given to space requirements, ease of maintenance, practical problems during installation, etc. in drawing up sketches. If no such sketches are submitted or if any aspect of the design is not specifically detailed or highlighted, it will be assumed that the Engineer's proposal is acceptable, practical and economical;

- Any other information that the Bidder regards necessary to clarify his offer.

WITHIN 30 DAYS AFTER AWARD OF THE CONTRACT:

- Working drawings of all electrical boards showing layouts, equipment used and dimensions of boards for approval;
- A work programme as specified herein.

ON COMPLETION:

- Two sets of paper prints of all the drawings showing all "as built" features of the installation.
- Final resistance test certificates;
- Continuity measurement results to be conducted on the completed sections of the installation;
- Cable schedule indicating sizes, lengths of all LV cables installed;
- A certificate of acceptance by the Employer;
- Three complete sets of operating and maintenance manuals containing all drawings, test certificates, settings of equipment as commissioned, installation, commissioning and maintenance details, operating instructions, as well as a complete list of spare parts with reference numbers and technical description to enable the client's technical personnel to maintain service and repair the installation.

All certificates shall be completed in an orderly and logical manner, and shall be bound in booklet form with a protective cover. The text of instructions, diagrams and drawings shall be "English".

4.12 TEST CERTIFICATES AND TESTS

4.12.1 Where test certificates are required for individual pieces of equipment, these shall be submitted to the Engineer for approval immediately on receipt of such certificates.

4.12.2 Where witnessing of tests are required by the Engineer, arrangements shall be made by the Sub-Contractor for the Engineer to witness such tests.

4.13 APPROVED MATERIAL

In the Bill of Quantities, the material is set out in detail to assist the contractor. The preferred manufacturer and code/type are indicated in the relevant parts of this section. If the materials of other manufacturers are offered, these materials have to be approved by the engineer.

All inferior work or work containing inferior material, shall be rejected by the Engineer at his discretion, where upon the Electrical Contractor shall immediately remove and rectify the works as required and bear all costs in connection therewith.

4.14 COMPLETENESS OF BID

The Bidder shall allow in his Bid price for all material, labour, supervision, transport, tests and all other items necessary to complete the contract in its entirety and to the satisfaction of the Engineer.

In the event where the supply and/or installation of any item, material or equipment does not form part of this Contract, it will be specifically indicated as such in this specification and/or on the accompanying drawings.

4.15 BUILDER'S WORK

The Electrical Sub-Contractor shall be responsible for ensuring that all builder's work connected with conduits, outlet boxes, distribution boards, cable entry sleeves etc is made good by the Builder., i.e. conduits installed in chases shall be covered by a layer of coarse sand and cement and backfilling around cable entry sleeves shall be compacted to 93% Mod AASHTO density.

4.16 VALUE ADDED TAX, IMPORT TAXES AND DUTIES

Bidders shall allow in their bid for all VAT, Import Taxes and Duties, to be paid in respect of all items of material, labour and equipment to be supplied in terms of this Contract where relevant. The successful Bidder will be liable and responsible for paying any and all VAT, Import Taxes and Duties.

4.17 EQUIVALENCY OF STANDARDS AND CODES

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract

5. DRAWINGS

The following Electrical Engineer's Drawings will be applicable,

namely: Drawing No. Title

P019001-E/010	SITE PLAN: LV RETICULATION LAYOUT & KIOSK WIRING DIAGRAM WITH DETAIL
P019001-E/011	KIOSK INSTALLATION DETAILS
P019001-E/012	FLOOR PLAN: ELECTRICAL SMALL POWER LAYOUT, WIRING DIAGRAM & EARTHING DETAIL
P019001-E/013	FLOOR PLAN: ELECTRICAL LIGHTING LAYOUT

SECTION III: SPECIFICATIONS AND COMPLIANCE SHEET

Procurement Reference Number: W/RFQ/KRC-05/2020

Bidders should complete columns C and D with the specification and performance of the Works offered. Also state "comply" or "not comply" and give details of any non-compliance/deviation to the specification required. Attach detailed technical literature if required. Authorise the specification offered in the signature block below

Item No	Specifications and Performance Required	Compliance of Specifications and Performance Offered	Details of Non-Compliance/ Deviation (if applicable)
*A**	*B**	*C*	*D*
1	**Kiosks**		
2	**Distribution Boards**		
3	**Armoured LV Cables**		
4	**Switchgear**		
5	**Light Fittings** **TypeE1** **TypeE2** **Type A** **Type B** **Type C**		
6	**Light Switches and Sensors**		
7	**Earth Rods**		
7	**Socket Outlets and Building Receptacles**		

* *Columns A and B to be completed by Public Entity.*

Specification and Compliance Sheet Authorised By:

Name:		Signature:	
Position:		Date:	
Authorised for and on behalf of:		Company	

SECTION IV: PRICED ACTIVITY SCHEDULE

Procurement Reference Number: **W/RFQ/KRC-05/2020**

Item	Brief Description of Works	Quantity	Unit of Measure	Unit Price	Unit Price N$
				Subtotal	
				VAT @	

% Total

Priced Activity Schedule Authorised By:

Name: Signature:

Position: Date:

Authorised for and on behalf of:

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT: CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART A : PRELIMINARY AND GENERALS							
	SECTION 1 : PRELIMINARY AND GENERAL						

	Tenderers shall allow for the following items whatever cost they may consider necessary for carrying out and observance of the item:						
1.1	**FIXED CHARGES**						
1.1.1	Contractural Requirements	Sum	1				
1.1.2	Facilities required by Contractor	Sum	1				
1.1.3	General responsibilities and other fixed-charge obligations	Sum	1				
1.1.4	Removal of site establishment on completion	Sum	1				
	Other fixed expenses: (specify)						
1.1.5	a)	Sum	1				
1.1.6	b)	Sum	1				
1.2	**TIME RELATED CHARGES**						
	(for duration of contract)						
1.2.1	Contractual requirements	Sum	1				
1.2.2	Facilities required for Contractor	Sum	1				
1.2.3	General responsibilities and other time related obligations	Sum	1				
	Other time related expenses: (specify)						
1.2.4	a)	Sum	1				
1.2.5	b)	Sum	1				
1.3	**PERMITS & NOTICES**						
1.3.1	Obtain all Work Permits and issue of all notices required	Sum	1				
1.3.2	Co-ordination with other disciplines	Sum	1				
1.4	**EXISTING SERVICES**						
1.4.1	Location and safeguarding of existing services along route	Sum	1				
1.5	**CALCULATIONS, DRAWINGS & MANUALS (FC)**						
1.5.1	Provision of all calculations, working drawings, manuals and as-built drawings as called for	Sum	1				
TOTAL CARRIED FORWARD TO SUMMARY PAGE							

CLIENT : KUNENE REGIONAL COUNCOIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART B : TIE-IN TO EXISTING POWERLINE RETICULATION							
	SECTION 2 : MAIN SUPPLY						
2,1	**ARRANGEMENTS**						
2.1.1	Cost of arranging the completion and handing in of all forms and inspections required by the local supply authority, CENORED	Sum					
2,2	**KIOSK**						
2.2.1	12 Way Kiosk by "Greenbro" Double Door Polythylene Kiosk with access to front and back. Busbar is 630A, Z Type and Touch Safe with Fuse Pillars as indicated on drawing - P019001-E/010.The price will include complete supply and installation. Earthing of the Kiosk will be done by others.	No	1				
2.2.2	Aluminium plate with engraved Name- Kiosk-1	No	1				
2,3	**EXCAVATION**						
2.3.4	1800mm Deep Hole for 11m Pole - By hand	No	1				
2,4	**WOODEN POLES** *TO SABS 754 AND CREOSOTE TREATED*						
2.4.1	11m Wooden Pole with 160 - 180mm Top Diameter	No	1				
2,5	**STAYS AND STRUTS**	No					
2.5.1	Pole stay assembly for 11/12/13m Pole	No	4				
2.5.1	16mm² 4 Core indoor heatshrink termination	No	2				
2.2.5	16mm² 4 Core joint No						
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCOIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE		MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART B : TIE-IN TO EXISTING POWERLINE RETICULATION								
	SECTION 3 : SUPPLY AND INSTALLATION OF LOW VOLTAGE CABLE							
3	**CABLES** Rates shall allow for supply, delivery, handling, transporting, inspecting and laying the cable in prepared trenches, threading through sleeves, drawing-in, saddling,cutting, laying on cable trays, but shall exclude trench excavations, preparation of trenches and backfilling, cable trays, sleeves and terminations which are measured elsewhere. Allow also for fixing of cable onto cable ladders with cable ties at 500mm intervals and saddling of surface mounted cable at 500mm centres. Cables shall be measured linearly over all lengths as laid or built-in from gland to gland. All cables shall be PVC PVC SWA PVC copper conductors manufactured to SABS 150.							
3.1.5	16mm² x 4 core cable	m	50					

TOTAL CARRIED FORWARD

CLIENT : KUNENE REGIONAL COUNCOIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART B : TIE-IN TO EXISTING POWERLINE RETICULATION							
BROUGHT FORWARD							
3,2	**EARTH CONTINUITY CONDUCTORS**						
	Bare Stranded copper earth continuity conductor laid and buried in trenches and wireways to run with all cable distribution routes.						
3.2.5	10mm² bare earth conductor	m	50				
3,3	**EXCAVATION**						
3.3.1	Excavate in all materials for trenches, backfill, compact and dispose of surplus material	m^3					
3.3.2	Install plastic warning tape	m	45				
3,4	**SUPPLY CABLE MARKERS FOR FEEDER CABLE**						
3.4.1	Concrete type	No	0				Rate Only
3,5	**SUPPLY AND DELIVER CABLE SLEEVES**						
3.5.1	110mmφ	m	0				Rate Only
3.5.2	90mmφ	m	0				Rate Only
TOTAL CARRIED FORWARD							

CLIENT : KUNENE REGIONAL COUNCOIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART B : TIE-IN TO EXISTING POWERLINE RETICULATION							
BROUGHT FORWARD							
	Cable termination for copper conductor PVC PVC SWA PVC cables including termination lugs, CCG or equal armour glands, shrouds, making off, bonding and connections.						
3.6.5	16mm² x 4 core terminations	No	8				
3,8	**EXCAVATIONS**						
3.8.1	Excavate, prepare and back- fill cable and sleeve trenches in ground, minimum dimension 300mm wide by 700mm	m					
3.8.2	Ditto 2.8.1 but for soft rock	m	0				
3.8.3	Ditto 2.8.1 but for hard rock	m	45				
3,9	**PLASTIC WARNING TAPE**						
3.9.1	150mm wide to SABS standards installed in all cable trenches above cables.	m	45				Rate Only
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCOIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTYLABOUR RATE		MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART B : TIE-IN TO EXISTING POWERLINE RETICULATION							
	SECTION 4 : POLE MOUNTED DISTRIBUTION BOARDS AND SWITCHGEAR NOTES: a) All distribution boards shall be as specified and shall be of sufficient size to accommodate all equipment specified and provide at least 30% spare ways. Note that Lighting Control Panels must also allow for installation of DIN equipment such as relays, network bridges etc. b)The price for distribution boards must include for all sheet metal frames, subframes, panels, cut-outs, busbars, fittings, architraves, trays and doors with latch type locks. c)All boards shall be complete with all connections, control wiring, installed in position with all earthing, terminations, bonding, name plates, legends and labels. d) All boards shall be modular switchboards of approved quality and shall be provided with separate sections, as applicable. e) All labels shall be manufactured from embossed plastic and rivetted in place or inserted into label holders as applicable, size and colour as specified below. Circuits to be labelled as indicated on the single line diagrams. DB labels must be rivetted above the DB. A laminated wiring diagram of each DB shall be attached by means of screws to the inside of the door. f) All switchgear shall be DIN type. Switchgear measured elsewhere. g) All distribution boards shall be labelled with the supply cable source and cable size.						
4,1	DBS	No	1				
4.1.1	SDB, Flush mounted with 30% spare capacity (please refere to the single line diagram for the size)						

TOTAL CARRIED FORWARD

CLIENT : KUNENE REGIONAL COUNCOIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART B : TIE-IN TO EXISTING POWERLINE RETICULATION							
BROUGHT FORWARD							
4,2	**KIOSK SWITCHGEAR**						
	MOLDED CASE CIRCUIT BREAKERS						
4.2.1	32A, 5kA, TP MCCB as MG NS200N or similar and approved.	No	2				
4,3	**MINIATURE CIRCUIT BREAKERS**						
4.2.1	63A,10kA,SP MCB	No	1				
4.2.2	32A,10kA,SP MCB (SPARE)	No	3				
4,3	**SWITCHGEAR ACCESSORIES**						
4.3.1	Surge Arrestors 10kVA with indication installed complete 3 phase + neutral or single phase + neutral	No	1				
TOTAL CARRIED FORWARD							

CLIENT : KUNENE REGIONAL COUNCOIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

TEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART B : TIE-IN TO EXISTING POWERLINE RETICULATION							
BROUGHT FORWARD							
4,4	**LABELLING**						
4.4.1	Labels with 15mm high black letters on a white background as "SDB XX/X", "NE NON-ESSENTIAL", "ES ESSENTIAL"	No	0				Rate Only
4.4.2	Labels with 15mm high black letters on a white background as "SUPPLY FROM ..... WITH ..... CABLE", etc.	No	0				Rate Only
4.4.3	Labels with 5mm high red letters on a white background as "LOCAL MAIN - SWITCH OFF IN CASE OF EMERGENCY".	No	0				Rate Only
4.4.4	Labelling as number strip below switchgear with neatly typed legend cards in door holders, per distribution board	No	3				
4,5	**EARTHING AND BONDING**						
	EARTHING AND BONDING						
4.5.1	This item shall include the earthing and bonding of all metal and equipment to be earthed according to SANS 10142 throughout the entire installation.	Sum	1				
4,6	**LIGHTNING PROTECTION**						
4.6.1	A separate specialist sub-contractor will supply the building earth, and lighting protection system earthing	Prov				N$	50 000,00
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT: CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (DOLLARS)	
PART B : TIE-IN TO EXISTING POWERLINE RETICULATION			
1	SECTION 2 : MAIN SUPPLY		
2	SECTION 3 : SUPPLY AND INSTALLATION OF LOW VOLTAGE CABLE		
3	SECTION 4 : POLE MOUNTED DISTRIBUTION BOARDS AND SWITCHGEAR		
TOTAL AMOUNT TO SUMMARY PAGE			

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
SECTION 2 : SUPPLY AND INSTALLATION OF LOW VOLTAGE CABLE							
2,1	**CABLES** Rates shall allow for supply, delivery, handling, transporting, inspecting and laying the cable in prepared trenches, threading through sleeves, drawing-in, saddling,cutting, laying on cable trays, but shall exclude trench excavations, preparation of trenches and backfilling, cable trays, sleeves and terminations which are measured elsewhere. Allow also for fixing of cable onto cable ladders with cable ties at 500mm intervals and saddling of surface mounted cable at 500mm centres. Cables shall be measured linearly over all lengths as laid or built-in from gland to gland. All cables shall be PVC PVC SWA PVC copper conductors manufactured to SABS 150.						
2.1.1	10mm² x 2 core cable	m	65				
2,2	**EARTH CONDUCTORS FOR AMOURED CABLE** (Stranded Bare Copper Earth Continuity Conductors installed with cables)						
2.2.1	6mm² - SBCEW	m	65				
2,3	**CABLE TERMINATIONS** Cable termination for copper conductor PVC PVC SWA PVC cables including termination lugs, CCG or equal armour glands, shrouds, making off, bonding and connections						
2.3.1	10mm² x 2 core terminations	No	2				
2,4	**LOW VOLTAGE DISTRIBUTION BOARDS** Supply, deliver, off load, store on site, install and connect up: Distribution Boards as detailed in the relevant wiring diagram drawings. Epoxy coated sheet metal frames, sub-frames, busbars, fixtures & fittings as specified with all the equipment fitted in the factory. Price should include wiring of boards and accessories to make a complete installation. UPS Section to be painted RED & NON-Essential Section Green. Note: Switchgear & DB Equipment measured below.						
2.4.1	Sub Distribution Board- SDB-1 (Office)	No	1				
2,5	**UNINTERRUPTED POWER SUPPLY**						
2.5.1	UPS: 2kVA Schneider Electric APC Galaxy, 220v, 3 Phase in 1 Phase out, 10 min battery backup. Installed by specialist.	No	1				
TOTAL CARRIED FORWARD							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
BROUGHT FORWARD							
2,6	**SUPPLY AND DELIVER CABLE SLEEVES**						
2.6.1	110mm	m	20				
2.6.2	35mm	m	0				Rate Only
2,7	**EXCAVATIONS**						
	Excavate, prepare and back- fill cable and sleeve trenches in ground, minimum dimension 300mm wide by 700mm deep. Include for the bedding of the cable, re-filling of the trench with removed ground and compacting of the ground.						
2.7.2	Ditto 2.8.1 but for soft rock	m	0				Rate Only
2.7.3	Ditto 2.8.1 but for hard rock	m	65				
2,8	**PLASTIC WARNING TAPE**						
2.8.1	150mm wide to SABS standards installed in all cable trenches above	m	65				
TOTAL CARRIED FORWARD							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
SECTION 3 : DISTRIBUTION BOARDS AND SWITCHGEAR							
	NOTES: a) All distribution boards shall be as specified and shall be of sufficient size to accommodate all equipment specified and provide at east 30% spare ways. b) The price for distribution boards must include for all sheet metal frames, subframes, panels, cut-outs, busbars, fixtures, fittings, architraves, trays and doors with latch type locks. c) All boards shall be complete with all connections, control wiring, installed in position with all earthing, terminations, bonding, name plates, legends and labels. d) All labels shall be manufactured from embossed plastic and rivetted in place or inserted into label holders as applicable, size and colour as specified below. Circuits to be labelled as indicated on the single line diagrams. DB labels must be rivetted above the DB. A laminated wiring diagram of each DB shall be attached by means of screws to the inside of the door. e) All switchgear shall be DIN type. Switchgear measured elsewhere. f) All distribution boards shall be labelled with the supply cable source						
3.1	**SDBs**						
3.1.2	SDB, Flush mounted with 30% spare capacity (please refere to the	No	1				
TOTAL CARRIED FORWARD							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
BROUGHT FORWARD							
3.2	**SDB-1 SWITCHGEAR**						
	MINIATURE CIRCUIT BREAKERS						
3.2.1	63A,5kA, DP MCB (MAIN BREAKER)	No	1				
3.2.2	20A,5kA, SP MCB (UPS SUPPLY)	No	1				
3.2.3	10A,5kA, SP MCB (LIGHTS)	No	5				
3.2.4	20A,5kA, SP MCB (UCG)	No	2				
3.2.5	20A,5kA, SP MCB (AC UNITS)	No	9				
3,3	**UPS SWITCHGEAR**						
	MINIATURE CIRCUIT BREAKERS						
3.3.1	20A,5kA, SP MCB (MAIN BREAKER)	No	1				
3.3.2	20A,5kA, SP MCB	No	2				
3.4	**SWITCHGEAR ACCESSORIES**						
3.4.1	60A, 30mA, DP Earth Leakage Disconnector (ELD)	No	2				
3.4.2	60A, 30mA, DP Earth Leakage Disconnector (ELD) (UPS SOCKET OUTLETS)	No	2				
3.4.3	20A, SP Contactor (MAIN DB)	No	2				
3.4.5	20A, SP Contactor (UPS SOCKET OUTLETS)	No	2				
3.4.6	Surge Arrestors 5kVA with indication installed complete 1 phase +	No	1				
3.4.7	Surge Arrestors 5kVA with indication installed complete 1 phase +	No	1				
3.3.5	SP MCB 20A under counter geyser supply with neutral isolator, type	No	1				
3.3.6	Daylight switch	No	1				
TOTAL CARRIED FORWARD							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION

PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
BROUGHT FORWARD							
3.4	**LABELLING**						
3.4.1	Labels with 15mm high black letters on a white background as "SDB-1"	No	0				Rate Only
3.4.2	Labels with 15mm high black letters on a white background as "SUPPLY FROM ..... WITH ..... CABLE", etc.	No	0				Rate Only
3.4.3	Labels with 5mm high red letters on a white background as "LOCAL MAIN - SWITCH OFF IN CASE OF EMERGENCY".	No	0				Rate Only
3.4.4	Labelling as number strip below switchgear with neatly typed legend	No	0				Rate Only
3.5	**EARTHING AND BONDING**						
	EARTHING AND BONDING						
3.5.1	This item shall include the earthing and bonding of all pipes, cold and hot water pipes, sinks, Wire Mesh Baskets, Cable Trays, Trunking etc. and all metal and equipment to be earthed according to SANS 10142 throughout the entire installation.	Sum	0				Rate Only
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
	SECTION 4 : SWITCHED SOCKET OUTLETS						
4.1	FLUSH MOUNTED SSO Single phase, 230V, chased-in wall mounted socket outlets. Price to include the connections, wiring and conduit all to SANS 10142 from the distribution board to the 15A flush mounted SSO, Clipsal S2000or equal, mounted inside a 100x100x50mm outlet box with white cover plate. The outlet shall be chased into brick and 20mm diameter PVC conduit chased into brick and installed in the floor between outlet point and distribution board, other outlet point or trunking. All live and neutral wiring shall be 4mm² PVC insulated copper conductors and the earth conductor shall be 2,5mm² bare copper earth conductor. All outlet pointa shall be clearly labeled. Allow for wiring according to the plans.						
4.1.1	Single SSO (UPS SSO)	No	12				
4.1.2	Single SSO for TV points	No	1				
4.1.3	Double SSO	No	21				
4.1.4	Double SSO mounted at 1200mm AFFL	No	1				
4.1.5	Weatherproof SSO	No	0				
TOTAL CARRIED FORWARD							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
SECTION 5 : LIGHT POINTS							
5.1	**LIGHT POINTS**						
	Price shall include the connections, wiring, outlet boxes and conduit all to SANS 10142 from the lighting control panel to and between light outlet boxes. All live and neutral wiring shall be 2,5mm² PVC insulated copper conductors and the earth conductor shall be 1,5mm² green PVC insulated copper conductor. All conduit shall be chased into walls and installed in the slab or roof space. Allow for saddling of exposed PVC conduit. The outlet shall consist of a 5A unswitched socket outlet mounted in a 50mm round PVC drawbox.						
5.1.1	Light points	No	74				
5.1.2	Ditto, but for Emergency Light Point with fire retardant conductors.	No	0		Rate Only		
5.4	**LIGHT SWITCHES**						
	Clipsal S2000 or equal light switch with single or two-way switching mounted inside a 100x50x50mm outlet box with cover plate. The outlet box shall be mounted at 1200mm above floor level and 150mm from door frame to centre of box as indicated on the plans.						
5.4.1	One lever one-way switch	No	21				
5.4.2	One lever two-way switch	No	4				
5.4.3	Two lever two-way switch	No	0		Rate Only		
5.4.4	Two lever one-way switch	No	0		Rate Only		
5.4.5	Two lever three-way switch	No	0		Rate Only		
5.4.6	Weather proof switch	No	0		Rate Only		
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
BROUGHT FORWARD							
	SECTION 6: LIGHT FITTINGS						
6.1	LUMINAIRES Rates shall allow for complete supply, delivery and installation of all luminaires as specified. 1) All fluorescent lamps shall be provided with electronic control gear (ECG) as Osram Quicktronic, unless stated otherwise. 2) All T8 fluorescent lamps shall be cool white supplied from Osram Quicktronic Short electronic control gear (ECG). 3) All compact fluorescent lamps shall be cool white lamps rated for electronic control gear with matching Osram Quicktronic ECG. 4) All ballasts shall allow one choke per lamp.						
6.1.1	TYPE E1: Ceiling mounted open channel fluorescent luminaire with 2 x36W "Cool White" fluorescent lamps, complete with control gear	No	1				
6.1.2	TYPE E2: 600x600 Ceiling Recessed mounted led decorative Luminaire with 3m cabtyre and 5amp plug top, integrated clips and gasket to ensure sealing.	No	25				
6.1.3	TYPE A: Rectangular bulkhead with opal polycarbonate diffuser, 9W compact fluorescent lamp with associated control gear complete. IP64	No	9				
6.1.4	TYPE B: Ceiling mounted decorative downlight with shallow body and Lens, 50W compact fluorescent lamp with associated control gear complete. IP54	No	20				
6.1.5	TYPE C: Ceiling mounted decorative downlight with shallow body and lens, 2x12W compact fluorescent lamp with associated control gear complete. IP54.	No	19				

TOTAL CARRIED FORWARD TO SUMMARY

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
SECTION 7 : POWER POINTS							
7.1	SINGLE PHASE POWER POINTS Prices shall include the connections, wiring and conduit from the distribution board to a double pole isolator installed inside a 100x100x50mm outlet box. Conduit shall be 20mm PVC. Allow for saddling of all surface mounted conduit at 900mm intervals. All live and neutral wiring shall be PVC insulated copper conductors and the earth conductor shall be bare copper earth conductor. Allow for average conduit and wiring per point according to the plans.						
7.1.1	20A single pole cord-grip flush isolator point for geyser with 4,0mm² conductors and 2.5mm² earth.	No	1				
7.1.2	20A - single pole, AC isolator, complete with 25mm diameter PVC conduit in ceiling to units as per drawwing, draw & boxes, 4,0mm² conductors and 2.5mm² earth to DB, lugs & adaptors included	No	9				
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
BROUGHT FORWARD							
SECTION 8: CABLE TRAYS AND WIREWAYS							
8,1	**WIREWAYS**						
8.1.1	Allow for 1.2mm GMS draw-in wire in all conduit for low voltage						
8.1.2	Cable Entry Wireways for services comprising PVC conduit installed	No	0				
8.1.4	Aircon control point consisting of flush round drawbox at MH 1,600mm AFFL with 25mmø PVC conduit to air conditioning indoor unit.	No	9				
8.1.5	TV Point. Allow for 25mm conduit from cable tray to 100x50mm drawbox.	No	1				
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART C : GENERAL ELECTRICAL INSTALLATION							
SECTION 9: DATA AND COMMUNICATION							
9.1	TELECOMMUNICATION DB						
9.1.1	Supply and install 300 x 300 mm x 150mm (HxWxD) Flush Mounted Telephone/Data Distribution Draw Box in Server Room complete with hardwood back and cover.	No	1				
9.1.2	Telephone RJ11 flush-mounted wall outlet with ivory cover plate and 20mm pvc conduit and draw wire to telephone distribution board	No	12				
9.1.3	Telephone drawbox, 150 x 150 x 75 mm with cover plate and entry sleeve mm below finished ground level, installed 1.2.3 mm above ground level on outside of building wall	No	1				
9.2	DATA						
9.2.1 DB:	Data outlets, RJ45 with ivory cover plate and draw-wire to data hub	No	12				
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (DOLLARS)
PART C : GENERAL ELECTRICAL INSTALLATION		
1	SECTION 2 : SUPPLY AND INSTALLATION OF LOW VOLTAGE CABLE	
2	SECTION 3 : DISTRIBUTION BOARDS AND SWITCHGEAR	
3	SECTION 4 : SWITCHED SOCKET OUTLETS	
4	SECTION 5 : LIGHT POINTS	
5	SECTION 6: LIGHT FITTINGS	
6	SECTION 7 : POWER POINTS	
7	SECTION 8 : CABLE TRAYS AND WIREWAYS	
8	SECTION 9: DATA AND COMMUNICATION	
TOTAL AMOUNT TO SUMMARY PAGE		

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : GENERAL ELECTRICAL INSTALLATION
PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
PART D : SUMMARY OF PARTS							
SECTION	DESCRIPTION						AMOUNT (DOLLARS)
1	PART A: PRELIMINARY AND GENERAL						
2	PART B : TIE-IN TO EXISTING POWERLINE RETICULATION						
3	PART C : GENERAL ELECTRICAL INSTALLATION						
SUB-TOTAL							
TOTAL CARRIED FORWARD TO SUMMARY OF SCHEDULES							

CLIENT : KUNENE REGIONAL COUNCIL
TENDER : M - MECHANICAL INSTALLATION
: CONSTRUCTION OF NEW SETTLEME SETTLEMENT OFFICES IN SESFONTEIN NT
OFFICES IN SESFONTEIN NT

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
4	**SECTION 1 : PRELIMINARY AND GENERAL**						
1,1	**FIXED CHARGES**						
1.1.1	Contractural Requirements	Sum	1				
1.1.2	Facilities required by Contractor	Sum	1				
1.1.3	General responsibilities and other fixed-charge obligations	Sum	1				
1.1.4	Removal of site establishment on completion	Sum	1				
	Other fixed expenses: (specify)						
1.1.5	a).	Sum	1				
1.1.6	b).	Sum	1				
1,2	**TIME RELATED CHARGES**						
	(for duration of contract)						
1.2.1	Contractual requirements	Sum	1				
1.2.2	Facilities required for Contractor	Sum	1				
1.2.3	General responsibilities and other time related obligations	Sum	1				
	Other time related expenses: (specify)						
1.2.4	a).	Sum	1				
1.2.5	b).	Sum	1				
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL

TENDER : M - MECHANICAL INSTALLATION

PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
2	**SECTION 2 : AIR CONDITIONING**						
2,1	**SPLIT AIR CONDITIONERS** All split air conditioners shall be installed complete with all interconnecting insulated pipework and cabling installed on cable trays of suitable size. Condensate drainagepipes shall be installed with a minimum 1:2% fall. All Single Split Heat Pump units shall be Midea, Daikin, LG, Carrier or Equal and Approved.						
2.1.1	**SINGLE SPLIT HIGH WALL HEAT PUMP UNITS**						
	INVERTER TYPE						
	2.5 kW Nominal Cooling	No	4				
	3.5 kW Nominal Cooling	No	1				
	3.5 kW Nominal Cooling (Cooling Only)	No	1				
2.1.2	**SINGLE SPLIT CEILING CASSETE HEAT PUMP UNITS**						
	3.5 kW Nominal Cooling	No	1				
	8.5 kW Nominal Cooling	No	2				
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL

TENDER : M - MECHANICAL INSTALLATION

PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
3	**SECTION 3: AIR DIFFUSION EQUIPMENT**						
3.1	**FANS**						
	Fan Type "F1" Supply, delivery, installation and commissioning of a Fresh Air Fan as AMS Silent Series TD 160/100, including ducting and bag filter	Sum	1				
3.2	**GRILLES AND LOUVRES**						
3.2.1	**Type "W1"** supply, delivery and installation of a Weather Louvre as Europair Type WL 200x200mm Natural Anodised Alluminium.	No	1				
3.2.2	Supply, delivery and installation of dia 160mm air valve as Europair DVk dia 1600mm Baked Enamel White.	No	1				
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL

TENDER : M - MECHANICAL INSTALLATION

PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

ITEM	DESCRIPTION	UNIT	QTY	LABOUR RATE	MATERIAL RATE	TOTAL RATE	AMOUNT N$
b)	**SECTION 4 : SUNDRY ITEMS**						
4.1	**OPERATION AND MAINTANACE MANUALS**						
4.1.1	Preparation and supply of complete operating and maintenance manuals as well as as built plans for all systems as specified.	Item	1				
4.2	**TRAINING**						
5.2.4.2.11	Training of personnel in operation and functions of the various systems.	Item	1				
4.3	**SUPPORT**						
4.3.1	Allow for maintenance of the complete HVAC installation and associated equipment for four three monthly services over a full year after practical completion	Item	1				
TOTAL CARRIED FORWARD TO SUMMARY							

CLIENT : KUNENE REGIONAL COUNCIL

TENDER : M - MECHANICAL INSTALLATION

PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

SUMMARY OF SECTIONS		
SECTION	**DESCRIPTION**	**AMOUNT N$**
1	SECTION 1 : PRELIMINARY AND GENERAL	
2	SECTION 2 : AIR CONDITIONING INSTALLATION	
3	SECTION 3 : AIR DIFFUSION EQUIPMENT	
4	SECTION 4 : SUNDRY ITEMS	
TOTAL CARRIED FORWARD TO SUMMARY OF SCHEDULES		

CLIENT : KUNENE REGIONAL COUNCIL

TENDER : MECHANICAL & ELECTRICAL INSTALLATION

PROJECT : CONSTRUCTION OF NEW SETTLEMENT OFFICES IN SESFONTEIN

SUMMARY OF SCHEDULES		
SECTION	**DESCRIPTION**	**AMOUNT N$**
1)	ELECTRICAL INSTALLATION	
2)	MECHANICAL INSTALLATION	
	Sub-total	
	Add 10% contingency Sub-total	
	Add 15% VAT	
	TOTAL OF SCHEDULES (CONTRACT AMOUNT)	

SCHEDULE OF QUANTITIES

SPECIFICATIONS AND BILLS OF QUANTITIES FOR MECHANICAL INSTALLATION - AIR CONDITIONING

SECTION II: STATEMENT OF REQUIREMENTS

B. SCOPE OF WORKS, SPECIFICATIONS AND PERFORMANCE REQUIREMENTS CODES OF PRACTICE FOR INSTALLATION

1.2 STANDARDS AND CODES OF PRACTICE

The installation of material will be carried out in accordance with the following Codes of Practice:

- SABS 400: National Building Regulations
- SANS 10147: Refrigeration system including plants associated with air-conditioning systems
- SANS 10173: The installation, testing, and balancing of air-conditioning duct work
- SANS 1238: Air-conditioning ductwork
- SANS 1424: Filters for use in air-conditioning and general ventilation
- SANS 10252: Water supply and drainage for buildings
- OSHACT: Occupational Health and Safety Act (85 of 1993)
- Labour Act: 1992 Regulation relating to the Health and Safety of Employees at Work.
- SANS 0142: Code of Practice for the Wiring of Premises.
- The relevant local by-laws and regulations of the supply authority.

EQUIPMENT

1 DUCTING SPECIFICATIONS

The manufacture of the ducting shall comply fully with SABS 1238-1979 (Standard specification for air-conditioning ductwork), and shall be installed, tested and commissioned strictly in compliance with SABS 0173-1980 (Code of practice for the installation, testing, and balancing of air conditioning ductwork), and as specified below. Any ducting found not to comply with the specifications will be condemned by the Engineer.

1.1 Duct material and construction requirements

Ducts shall be manufactured from 1mm thick galvanised mild steel as for low pressure rectangular and circular ductwork. The transverse joints, spacing between joints or stiffeners, angle sections used for joints or stiffeners, shall all comply with the requirements of SABS 1238, Table 4 for low pressure ductwork.

Galvanising shall be commercial class according to SABS 934.

Flexible joints shall be provided between all units containing fans and main duct, and in all duct runs where they cross building expansion joints.

All contractions in the ducting shall have an approach angle of 22.5° and all expansions in the ducting shall have an approach angle of 15°.

1.2 Duct insulation

Ducting shall be externally insulated with flexible fabric faced fibreglass blanket insulation only where specified. The insulation shall have the following specifications:

Thickness	:	15mm
Maximum thermal conductivity	:	0,4 W/mK
Minimum Density	:	24 kg/m^3
Sound Absorption coefficient	:	NRC 0,65
Surface Fire Index (SABS 963)	:	Less than 0.1

1.3 Inspection of ducting

The Sub-Contractor shall inform the Engineer when suitable sample sections of ducting and duct fittings have been manufactured, in order that the Engineer may inspect these at the premises of the manufacturer.

1.4 Installation of ductwork

Duct hangers shall be installed according to sizes and at intervals according to SABS 0173 Tables 1 and 10 for low pressure ductwork. Hangers shall be of the rod and angle type (SABS 0173 Figure 2) for rectangular ducting, and of the single hanger type (SABS 0173 Figure 3) for circular ducting.

Attachment to the underside of the concrete slab shall be by Chemset bolts or similar approved system.

No colour coding or marking of the ductwork is required.

Where ducting passes through concrete or brickwork it shall be isolated from the walls by means of a wooden collar at least 20mm thick.

1.5 Balancing and adjustment of the outlets

The Sub-contractor shall allow for balancing of the flow and pressure to ensure design distribution of the supply air. The balancing shall be inspected by the Engineer upon completion. The Sub-contractor shall supply all equipment necessary for setting and checking of balancing.

1.6 Branch ducts

Branch ducts shall be rectangular or round ducting as specified with connections from a spigot on the main duct.

1.7 Flexible ducting

Uninsulated aluminium flexible ducting shall be Euroflex AP or equal. Insulated alumiunium flexible ducting shall be Euroflex AI or equal. Accoustic flexible ducting shall be Euroflex AIP or equal.

Flexible ducting shall conform with SABS 0177 part 3 with a Class 1 fire index rating and shall in general not be longer than 2m in length.

2 AIR DIFFUSION EQUIPMENT AND DAMPERS

2.1 General

Abbreviations quoted within brackets, eg. 'A', refer to abbreviations as indicated on the plans and in this document for purposes of cross-referencing.

Air diffusion equipment shall be installed in the ducting, in suspended ceilings or in walls. When installed in walls the air conditioning Sub-contractor shall supply a suitably braced timber wood sub-frame at least 20mm thick which shall be installed in the brickwork.

All rates shall include complete installation of all air distribution equipment and dampers.

2.2 Air Valve

Air Valves shall be: EUROPAIR Type DVK with volume adjustment disk in Baked Epoxy White, diameter 160mm or approved equal.

2.3 Weather louvres – Type W

Weather louvres shall be:	Type W	EUROPAIR Type WL with standard SF frame in Natural Anodised aluminium or approved equal. W1 – 200x200mm

Where installed for duct connection the louvres shall be fitted with a spigot plate and adaptor to suit and fit the respective ducting.

Where installed in walls the louvres shall be installed into a wooden sub-frame in the wall provided by the air conditioning contractor.

3 AIR COOLED SPLIT SYSTEM HEAT PUMP DX AIR CONDITIONERS

3.1 General Specifications

Air cooled split system heat pump air conditioners shall be installed, and shall be of Midea Daikin, LG, Carrier, Inverter Type.

indoor temperature of 27°C DB and 19.5°C WB. The units shall provide their stated heating capacity at ambient temperatures of 7°C DB and 6°C WB, and indoor temperature of 21°C DB. The units shall be able to deliver their stated capacities continuously.

The Sub-Contractor shall include in his price for the complete installation of the split units, including all condensate pipework, supports, drainage pipes, control wiring, and all equipment required for a complete and operational system.

The condensing units are to be installed on to wall mounted brackets where indicated on the drawings.

The air conditioning Sub-Contractor shall determine for himself the average run of refrigeration pipework required, which shall be included in his rates. Where manufacturers recommended length of refrigeration pipework is exceeded, the pipework shall be oversized as applicable.

All refrigerant pipework shall be insulated and shall be installed on neat cable trays in the roof space and in trunking. Pipe insulation shall not be exposed to solar irradiation.

The compressor shall be a hermetically sealed rotary or scroll compressor fixed with anti-vibration mountings. At least the following safeties must be provided: crankcase heater, overcurrent protection and compressor thermal protection.

The coils shall be a multipass copper coil with copper or aluminium fins.

Outdoor fans shall be direct drive propeller fans.

Fans and motors shall be rated for continuous duty with non-lubrication sealed long life bearings. Motors shall be of the totally enclosed induction type.

Indoor air conditioning units installed in offices shall not exceed an RC (room criteria) level of NC35 at high speed setting and a noise level of 43 dB(A) measured at a distance of 3m from the unit and an octave band centre frequency of 250Hz.

Air conditioning Condenser units installed shall not exceed an NC (noise criteria) level of NC40 at high speed setting and a noise level of 43 dB(A) measured at a distance of 3m from the unit and an octave band centre frequency of 250Hz.

Control shall be by a wired remote controller unless specified otherwise. The control unit shall provide automatic selection of cooling, heating or re-circulation according to the setpoint and return air temperature.

Power supply will be Single / Three Phase, 240V / 380V AC, 50 Hz. The Electrical contractor will install one isolator in the indicated plant space for each split unit.

3.2 Indoor Units

The indoor units shall have a nominal cooling capacity matching or exceeding that specified in the schedule of quantities. Heating capacity of heat pump units shall be similar to cooling capacities but are not critical.

Indoor units of the following type shall be supplied where specified:

- High Wall Units
- Ceiling Suspended Units

3.3 Refrigerant Piping

Refrigerant pipes shall be suitable for the use of R410A refrigerant and to manufacturer's specification. The Sub-Contractor shall perform refrigerant pipe sizing according to manufacturer's specifications. Pipe sizing information shall be provided to the Engineer prior to commencement of work on site.

All refrigerant pipe work shall be insulated and shall be installed on neat cable trays in the ceiling space and in trunking. Insulation shall not be exposed to direct solar irradiation, but shall be protected by suitable trunking with covers.

All refrigerant piping shall be fully flushed and pressure tested to manufacturer's guidelines prior to taking into service. The pressure tests shall be witnessed and confirmed as acceptable by the Engineer.

Indoor air conditioning units installed in offices shall not exceed an RC (room criteria) noise level of NC35 at high speed setting and a noise level of 43 dB(A) measured at a distance of 3m from the unit and an octave band centre frequency of 250Hz.

Condensate Drainage Piping

The condensate piping for the units shall run at a continuous minimum 2° slope towards the nearest riser drainage point as indicated on the plans. The piping shall be supported in ceilings at appropriate centres to ensure a smooth and constant fall without sagging. The indoor unit connection to the drainage pipe shall be through a viegener waste connection by means of flexible hose fastened with hose clamps.

4 AIR CONDITIONING CONTROLS

4.1 General

The air conditioning system will be centrally and locally controlled using a proprietary networked control system as outlined below. The control system is based on the Suppliers control system.

4.2 Local Control

Local controllers shall be provided to control either individual indoor units or groups of indoor units as specified. The local controllers shall be wired controllers with the following features and functionality:

- Large LCD display to show operating status.
- Unit to allow setting of temperature setpoint in 1°C increments
- Local controller to incorporate a thermostat sensor, which can optionally be used for control as an alternative to the sensor in the return air stream of the indoor unit.
- Enable selection of cool/heat/fan operation mode.
- Shall monitor the local system operation and provide fault diagnosis information.
- Shall provide an open dry contact for switching the unit on/off via the room occupancy sensor.

5 FANS

5.1 General

Fans shall be of the capacity and quantity specified or required according to the equipment offered and shall be installed in the positions shown on the drawings.

All fans shall be selected to operate at or as near as possible to the point of maximum efficiency.
All fans shall have indication plates fitted on the outside displaying the following information where applicable:

- Impeller rotation
- Make and Model No
- Fan size; Pitch angle;
- Motor size and ratings
- Grease used
- Bearing type and size

5.2 Inline Duct Fans (F1)

The Inline Duct Fans shall be installed complete with all mounting accessories. The fan shall be suitable for single phase 230V 50Hz operation. Thermal overload protection shall be provided for the motor.

The casing shall be manufactured from heavy gauge galvanized sheet steel, complete with inspection cover that can be removed to access the motor / impeller without having to removed the complete fan casing from the ducting.

The fans shall be continuous rated with long life ball bearings guaranteed for 30,000 hours trouble free operation.

Fan shall be as follows or approved equal:
F1 Air flow at free discharge 160m^3/h S&P Silent Series TD 160/100

6 NOISE CONTROL

6.1 Sound attenuators

Rectangular / Cylindrical attenuators shall be installed in the ducts where specified. The attenuators shall be sized to suit and fit the ducting as specified. The casings shall be of galvanised mild steel.

Rectangular / Cylindrical attenuator splitter frames shall be of galvanised mild steel with absorbent materials of resin-bonded mineral fibre with an erosion resistant facing. Attenuator splitters shall be fitted with inlet and outlet fairings to reduce pressure loss.

7 VIBRATION CONTROL

7.1 Maximum vibration

A maximum vibration transfer of not more than 2,5% from equipment will be tolerated. All rotating equipment must be statically and dynamically balanced with no critical speeds within 30% of the working speed. Balancing must be to BS 5265:1979, Grade G6.3 or better. The following guide is to be taken as indicative of the vibration dampers required.

Fan Coil Units, Condensing units Mason HS or similar

If the Engineer requires it, the Sub-contractor must execute sound and/or vibration and deflection tests to ensure compliance to the above standard.

8 PAINTING

8.1 Ductwork

Ducting shall be left galvanised and shall not be painted, except where otherwise specified.

8.2 Equipment

Items which do not require on site painting such as diffusers, grilles and louvres shall be installed after the

paintwork on the plant, ceilings or walls have been completed by the main contractor.

Painted surfaces on proprietary manufactured items shall be adquately protected. Equipment on which the paintwork has been damaged during installation shall be re-painted first before acceptance of the plant will be considered.

9 ADDITIONAL SPECIFICATIONS

9.1 Nuts and Bolts

Where nuts and bolts are used, the following shall apply:

- For similar applications all bolts shall be of the same length.
- Not more than 5 threads and not less than 2 threads shall extend through nuts.
- All bolts, nuts and washers shall be galvanized. Where applicable tapered washers shall be used.

9.2 Omissions

Not all equipment for the successful completion of the project is described in the specification. Where this is the case, the Sub-Contractor must follow accepted practice of a reasonable standard to the satisfaction of the Engineer.

9.3 Maintenance

The air conditioning Sub-Contractor shall price for three monthly services of all equipment installed under this contract, for the first twelve months after Practical Completion.

9.4 Operation Manuals

The Sub-Contractor shall supply one manual per air conditioning unit to the Engineer at the time of the Practical Completion inspection.

10. DRAWINGS

The following Mechanical Engineer's Drawings will be applicable, namely:

Drawing No.	Title
P019001-M/010	FLOOR PLAN: INTERNAL WATER RETICULATION LAYOUT
P019001-M/011	FLOOR PLAN: HVAC LAYOUT

SCHEDULE OF QUANTITIES

SECTION III: PRICED ACTIVITY SCHEDULE

Procurement Reference Number: _____

Item	Brief Description of Works	Quantity	Unit of Measure	Unit Price N$	Unit Price N$
			Subtotal		
			VAT @		
			% Total		

** Columns A, B, C and D to be completed by Public Entity.*

Priced Activity Schedule Authorised By:

Name: Signature:

Position: Date:

Authorised for and on behalf of:

SECTION V: FORMS TO BE COMPLETED BY BIDDERS

FORM A: SCHEDULE OF WORK EXECUTED BY BIDDER

The bidder shall insert in the spaces provided below, a list of work completed by his firm during the past five (5) years under construction by his firm. Contact names at the various Employers and Consultants must be provided. Additional project sheets with the required information may be inserted.

EMPLOYER (NAME, TEL. NO)	CONSULTING ENGINEER (NAME, TEL. NO)	DESCRIPTION OF WORK	VALUE OF WORK	YEAR OF COM-PLETION

Signed on behalf of the Bidder _____

FORM B: SCHEDULE OF WORK CURRENTLY BEING EXECUTED BY BIDDER

The bidder shall insert in the spaces provided below work at present under construction by his firm. Contact names at the various Employers and Consultants must be provided. Additional project sheets with the required information may be inserted.

EMPLOYER (NAME, TEL. NO)	CONSULTING ENGINEER (NAME, TEL. NO)	DESCRIPTION OF WORK	VALUE OF WORK	YEAR OF COM-PLETION

Signed on behalf of the Bidder

FORM B: SCHEDULE OF CONSTRUCTION EQUIPMENT

The Bidder must state below which construction equipment will immediately be available for this contract, which construction equipment will be available from outstanding orders and which additional construction equipment will be acquired or hired for the work if the contract is awarded to him.

After the award of the Contract, the contractor must satisfy the Engineer that all equipment listed hereunder is available on the site when required. The Sub-Contractor must maintain the equipment in good working order for the duration of the Contract.

(a) CONSTRUCTION EQUIPMENT WHICH IS IMMEDIATELY AVAILABLE

DESCRIPTION	TYPE/ MODEL	POWER	MASS	CAPACITY	QUAN-TITY

FORM C: SCHEDULE OF CONSTRUCTION EQUIPMENT - CONTINUED

(b) CONSTRUCTION EQUIPMENT ON ORDER THAT WILL BE AVAILABLE FOR THE CONTRACT

(The statement must reflect particulars of arrangements made and delivery dates)

DESCRIPTION	DELIVERY DATE	TYPE/ MODEL	POWER	MASS	CAPACITY	QUAN - TITY

(c) CONSTRUCTION EQUIPMENT WHICH WILL BE BOUGHT OR HIRED FOR THE CONTRACT

(Statements must reflect particulars of delivery arrangements)

DESCRIPTION	DELIVERY DATE	TYPE/ MODEL	POWER	MASS	CAPACITY	QUAN - TITY

Signed on behalf of the Bidder: _____

FORM D: SCHEDULE OF KEY PERSONNEL

The Bidder shall list the names of each key person essential to the execution of the contract, such persons being suitably qualified for the relevant position. Alternative candidates may also be nominated if so desired.

The Bidder shall submit with his Bid an abbreviated curriculum vitae for each candidate and alternative (if offered).

It is an explicit condition of this Contract that prior approval shall be obtained from the Employer in cases where alternative personnel, who are not included in this Schedule, are to be established on Site by the Sub-Contractor. Such approval may be withheld if, in the opinion of the Employer, less qualified alternative personnel are proposed during the Contract Period.

Name	**Function / Position**	**Years of Relevant Experience**		**Nationality**
		In Proposed Position	**In Construction**	

Signed on behalf of the Bidder:

FORM E: CURRICULUM VITAE OF SUB-CONTRACTOR'S KEY PERSONNEL

NAME OF BIDDER

POSITION		**CANDIDATE** **PRIME** ☐ **ALTERNATE**
CANDIDATE INFORMATION	**1. NAME OF CANDIDATE**	**2. DATE OF BIRTH** **3. CITIZENSHIP**
	4. PROFESSIONAL QUALIFICATIONS AND YEAR	
PRESENT EMPLOYMENT	**5. NAME OF EMPLOYER**	
	6. ADDRESS OF EMPLOYER	
JOB TITLE OF CANDIDATE		**CONTACT(MANAGER/ PERSONNEL OFFICER)**
TELEPHONE		**E-MAIL**
FAX		**YEARS WITH PRESENT EMPLOYER**

SUMMARISED PROFESSIONAL EXPERIENCE OVER THE PAST 5 YEARS, IN REVERSE CHRONOLOGICAL ORDER					
FROM	**UNTIL**	**COMPANY**	**PROJECT**	**POSITION**	**SPECIFIC TASKS**

FORM E CONTINUED: CURRICULUM VITAE OF SUB-CONTRACTOR'S KEY PERSONNEL

SUMMARISED PROFESSIONAL EXPERIENCE OVER THE PAST 5 YEARS, IN REVERSE CHRONOLOGICAL ORDER					
FROM	**UNTIL**	**COMPANY**	**PROJECT**	**POSITION**	**SPECIFIC TASKS**

SCHEDULE 1: BID CHECKLIST SCHEDULE

[Public Entity to update this Checklist to ensure that it contains the documents required from Bidders for the specific procurement]

PROCUREMENT REFERENCE NO.:

Description	**Attached (please tick if submitted and cross if not)**
Priced Activity Schedules	
Specification and Compliance Sheet	
Eligible or have a valid Registration Certificate with Electricity Service Provider authorizing the bidder to operate up to 400 V	
Form A: Schedule of Work executed by Bidder	
Form B: Schedule of Work currently being executed by Bidder	
Form C: Schedule of Construction Equipment	
Form D: Schedule of Key Personnel	
Form E: Curriculum vitae of Sub-Contractor's Key Personnel	

Disclaimer: ***The list defined above is meant to assist the Bidder in submitting the relevant documents and shall not be a ground for the bidder to justify its non-submission of major documents for its bid to be responsive. The onus remains on the Bidder to ascertain that it has submitted all the documents that have been requested and are needed for its submission to be complete and responsive***