



Municipality of Henties Bay

BIDDING DOCUMENTS

Issued on: 29 August 2024

FOR THE

**CONSTRUCTION OF ELECTRICAL SERVICES IN OMDEL
EXTENSION 7, HENTIES BAY – PHASE 2**

Procurement Reference No: W/ONB/HBM-02/2024

Cost: NAD 300.00

CONTRACT AMOUNT (ALL-INCLUSIVE): N\$.....

BIDDER'S DETAILS

Company
Name:

Representative
Name:

Tel:

Cell:

Fax:

Email:

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PART 1 – BIDDING PROCEDURES

Section I – Instructions to Bidders

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A. GENERAL

1. SCOPE OF BID

- 1.1** The Public Entity as defined in Section II “Bidding Data Sheet” (**BDS**) also referred to herein as Employer invites bids for the construction of Works, as **described in the BDS** and Section VII, “Special Conditions of Contract” (SCC).

The name and identification number of the Contract are **provided in the BDS and the SCC**.

- 1.2** The successful Bidder shall be expected to complete the Works by the Intended Completion Period **specified in the BDS**.

- 1.3** Throughout these bidding documents, the terms:

- (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax,) with proof of receipt;
- (b) if the context so requires, “singular” means “plural” and vice versa;
- (c) “day” means calendar day unless otherwise stated;

2. SOURCE OF FUND

- 2.1** The Works shall be financed by the Public Entity’s own budgetary allocation, **unless otherwise stated in the BDS**.

3. PUBLIC ENTITIES RELATED TO BIDDING DOCUMENTS & TO APPLICATION FOR REVIEW

- 3.1** The public entities related to these bidding documents are the Public Entity, acting as procurement entity (Purchaser), the Procurement Policy Unit, in charge of issuing standard bidding documents and responsible for any amendment these may require, the Central Procurement Board in charge of vetting Bidding document, receiving and evaluation of bids in respect of major contracts and the Review Panel, set up under the Public Procurement Act, 2015 (hereinafter referred to as the Act.)

**The Chairperson
Review Panel
Ministry of Finance
Private Bag 13295
Windhoek, Namibia**

4. FRAUD AND CORRUPTION

- 4.1** The Government of the Republic of Namibia requires that bidders/suppliers/contractors, participating in procurement in Namibia, observe the highest standard of ethics during the procurement process and execution of contracts.

- 4.2** The Employer will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;

For the purposes of this Sub-Clause:

- (i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- (v) “obstructive practice” is deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation.

4.3 Bidders, suppliers and public officials shall also be aware of the provisions stated in section 67 and 68 of the Public Procurement Act, 2015 which can be consulted on the website of the Procurement Policy Unit (PPU) : www.mof.gov.na/procurement-policy-unit

5. ELIGIBLE BIDDERS

- 5.1 A Bidder may be a natural person, private entity, or government-owned entity or any combination of them in the form of a joint venture, under an existing agreement, or with the intent to constitute a legally-enforceable joint venture. All partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms.
- 5.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if :
- (a) they have a controlling partner in common; or
 - (b) they receive or have received any direct or indirect subsidy from any of them; or
 - (c) they have the same legal representative for purposes of this bid; or
 - (d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
 - (e) a Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which the party is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or

- (f) a Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; or
- (g) a Bidder, or any of its affiliates has been hired (or is proposed to be hired) by the Employer as Engineer for the contract.

5.3

- (a) A bidder that is under a declaration of ineligibility by the Government of Namibia in accordance with applicable laws at the date of the deadline for bid submission and thereafter shall be disqualified.
- (b) Bids from contractors appearing on the ineligibility lists of African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank Group and World Bank Group shall be rejected.

5.4 Government-owned enterprises in the Republic of Namibia shall be eligible only if they can establish that they are legally and financially autonomous and operate under commercial law, and that they are not a dependent agency of the Government.

6. QUALIFICATIONS OF BIDDERS

6.1 All bidders shall provide in Section III, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

6.2 Bidders shall include the information and documents listed hereunder with their bids, unless otherwise **stated in the BDS**. The non-submission of the documents by the Bidder within the prescribed period may lead to the rejection of its bid.

- (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business of the Bidder;
 - (1) total monetary value of construction works performed for each of the last five years;
 - (2) experience in works of a similar nature and size for each of the last five years or as otherwise **stated in the BDS**; and clients who may be contacted for further information on those contracts;
 - (3) major items of construction equipment proposed to carry out the Contract;
 - (4) qualifications and experience of key site personnel and technical personnel proposed for the contract;
 - (5) report on the financial standing of the Bidder for the last three years, such as certified copies of Financial Statements/Audited Accounts as filed at the Registrar of Companies;
 - (6) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
 - (7) authority to seek references from the Bidder's bankers; and

- (8) information regarding any litigation, current or during the last five years, in which the Bidder was/is involved, the parties concerned, the issues involved, the disputed amounts, and awards;
 - (9) proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.
- 6.3 To qualify for award of the Contract, bidders shall meet the following minimum qualifying criteria:
- (a) a minimum average annual financial amount of construction work over the period **specified in the BDS**.
 - (b) experience as prime contractor in the construction of a minimum number of works of a nature and complexity equivalent to the Works over a period as **specified in the BDS** (To comply with this requirement, works cited should be at least 70 percent complete);
 - (c) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment **listed in the BDS**;
 - (d) a Contract Manager/Supervisor with five years' experience in works of an equivalent nature and volume, including no less than three years as Manager or as otherwise **specified in the BDS**; and
 - (e) liquid assets and/or credit facilities, excluding other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount **specified in the BDS**.

A consistent history of litigation or arbitration awards against the Applicant or any partner of a Joint Venture may result in disqualification.

B. CONTENTS OF BIDDING DOCUMENT

7. SECTIONS OF BIDDING DOCUMENT

- 7.1 The Bidding Document consists of all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 10.

Section I - Instructions to Bidders (ITB)
Section II- Bidding Data Sheet
Section III - Evaluation Criteria
Section IV - Bidding Forms
Section V - Employer's Requirements
Section VI – General Conditions of Contract
Section VII- Special Conditions of Contract
Section VIII - Contract Forms

- 7.2 The Invitation for Bids issued by the Employer is not part of the Bidding Document.

8. CLARIFICATION OF BIDDING DOCUMENT

- 8.1 A prospective Bidder requiring any clarification of the Bidding Document shall contact the Employer in writing at the Employer's address **indicated in the BDS**.

The Employer will respond in writing to any request for clarification, provided that such request is received 14 days prior to the deadline for submission of bids.

Should the Employer deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under ITB 10.

9. SITE VISIT / PRE-BID MEETING

- 9.1 Bidders, at the Bidders' own responsibility and risk, are encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing their Bids and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidders' own expense.
- 9.2 The Bidder or its designated representative is invited to attend a pre-bid meeting, as **provided for in the BDS**. The purpose of the pre-bid meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. AMENDMENT OF BIDDING DOCUMENT

- 10.1 At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Document by issuing addenda and extend the deadline for submission of bids, if needed.

C. PREPARATION OF BIDS

11. COST OF BIDDING

- 11.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs irrespective of the outcome of the bidding process.

12. LANGUAGE OF BID

- 12.1 The Bid, supporting documents as well as all correspondence relating to the bid exchanged by the Bidder and the Employer shall be in English Language.

13. DOCUMENTS COMPRISING THE BID

- 13.1 The Bid shall comprise the following:

- (a) Bid submission Form (in the format indicated in Section IV);
- (b) Qualification information and documentary evidence establishing the Bidder's qualifications to perform the contract;
- (c) Completed Bill of Quantities;
- (d) The following documentary evidence is required
 - 1. have a valid company Registration Certificate;
 - 2. have an original valid good Standing Tax Certificate;
 - 3. have an original valid good Standing Social Security Certificate;
 - 4. have a valid certified copy 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;
 - 5. have a certificate indicating SME Status (for Bids reserved for SMEs);

6. An undertaking on the part of the Bidder that the salaries and wages payable to its personnel in respect of this proposal are compliant to the relevant laws, Remuneration Order, and Award, where applicable and that it will abide to sub-clause 4.6 of the General conditions of Contract if it is awarded the contract or part thereof; and;

(e) Additional material as **specified in the BDS**.

14. BID SUBMISSION FORM AND SCHEDULES

- 14.1 The Bid Submission Form, Schedules, and all documents listed under ITB 13.1 shall be prepared using the relevant forms, if so provided.

15. ALTERNATIVE PROPOSAL

- 15.1 Alternative Technical Proposals and completion dates if allowed shall be indicated in Section V - Specifications. The evaluation methodologies for their consideration shall be given in Section III.

16. BID PRICES AND DISCOUNTS

- 16.1 The Contract shall be for the whole Works, as described in ITB Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.

16.2 Bidders shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by Bidders, shall not be paid for by the Public Entity when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. Corrections, if any, shall be made by crossing out, initialling, dating and rewriting.

16.3 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 14 days prior to the deadline for submission of bids, shall be included in the total Bid price submitted by Bidders.

16.4 The price to be quoted in the Bid Submission Form shall be the total price of bid after any discount offered.

The discount if any and the conditions of its application shall be indicated separately.

17. CURRENCIES OF BID AND PAYMENT

17.1 The bid price and rates shall be in Namibian Dollars and fixed for the duration of the contract unless otherwise **specified in the BDS**.

17.2 Unless otherwise **specified in BDS** interim payment for Plant and Material on site is applicable as per GCC 39.7.

18. DOCUMENTS COMPRISING THE TECHNICAL PROPOSAL

18.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in the Bidder Qualification Form (section IV), in sufficient details to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.

19. PERIOD OF VALIDITY OF BIDS

19.1 Bids shall remain valid for a period **specified in the BDS**. The Bid Validity period should not exceed 180 days.

19.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing.

20. BID SECURITY/BID SECURING DECLARATION

20.1 The Bidder shall furnish either a subscription to a Bid Securing Declaration or a Bid Security in its original form with its bid as part of its bid, if so **required in the BDS**.

20.2 Bid Security shall be in the form of a Bank Guarantee from a local commercial bank as per the format contained in section IV and shall be valid for a period of 30 days beyond the validity period of the bid or beyond any period of extension.

20.3 Any bid not accompanied by an enforceable and substantially compliant Bid Security or a subscription to a Bid Securing Declaration in the Bid Submission Form, if required in accordance with ITB 20.1, shall be rejected by the Employer as non-responsive.

20.4 Bid Security shall be forfeited or the Bid Securing declaration exercised for non-compliance on the part of the Bidder for reasons mentioned in the Bid Security format contained in Section III or the Bid Suring Declaration contained as Appendix to the Bid Submission Form.

21. FORMAT AND SIGNING OF BID

21.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 13.1 and clearly mark it "ORIGINAL". In addition, the Bidder shall submit the number of copies **as specified in the BDS**, clearly mark with the label "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

21.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder.

D. SUBMISSION AND OPENING OF BIDS

22. SEALING AND MARKING OF BIDS

22.1 Bidders may always submit their bids by mail or by hand. Procedures for submission, sealing and marking are as follows:

(a) Bidders submitting bids by mail or by hand shall enclose the original and each copy of the Bid, including alternative bids, if permitted in accordance with ITB 15, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL", "ALTERNATIVE" and "COPY." These envelopes containing the original and the copies shall then be enclosed in one single envelope. The rest of the procedure shall be in accordance with ITB sub-Clauses 22.2.

22.2 The inner and outer envelopes shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the Employer as indicated in ITB 22.1;

- (c) bear the specific identification of this bidding process indicated in accordance with ITB 1.1; and
- (d) bear a warning not to open before the time and date for bid opening.

23. DEADLINE FOR SUBMISSION OF BIDS

- 23.1 Bids shall be delivered to the Employer at the address and no later than the time and date **specified in the BDS**.

The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 10.

24. LATE BIDS

- 24.1 Late bids shall not be considered. They will be returned unopened.

25. WITHDRAWAL, SUBSTITUTION, AND MODIFICATION OF BIDS

- 25.1 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid submission Form or any extension thereof.

26. BID OPENING

- 26.1 The Employer shall open the bids at the time place and address **specified in the BDS** in the presence of Bidders` designated representatives who choose to attend.

- 26.2 The bidders' names, the Bid Prices, the total amount of each bid, any discounts, any alternative bid, bid modifications and withdrawals, the presence or absence of bid security, and such other details as the Employer may consider appropriate, will be announced and recorded by the Employer at the opening.

E. EVALUATION AND COMPARISON OF BIDS

27. CONFIDENTIALITY

- 27.1 Information relating to the examination, evaluation, comparison, and post-qualification of bids and recommendation of contract award, shall not be disclosed to Bidders or any other person not officially concerned with such process.

- 27.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.

28. CLARIFICATION OF BIDS

- 28.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid. No change in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetical errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 31.

29. DETERMINATION OF RESPONSIVENESS

- 29.1 The Employer's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB13.

29.2 A substantially responsive bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission.

29.3 The Employer shall examine the technical aspects of the bid submitted in accordance with ITB 18, Technical Proposal, in particular, to confirm that all requirements of Section V (Employer's Requirements) have been met without any material deviation, reservation or omission.

29.4 If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30. NONCONFORMITIES, ERRORS, AND OMISSIONS

30.1 Provided that a bid is substantially responsive, the Employer may waive any non-material non-conformity in the bid, request that the Bidder submit the necessary information or documentation, to rectify nonmaterial nonconformities in the bid related to documentation requirements but not related to any aspect of the price of the bid; and shall rectify quantifiable nonmaterial nonconformities related to the Bid Price.

31. CORRECTION OF ARITHMETICAL ERRORS

31.1 Provided that the bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis:

- (a) only for unit price contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

32. MARGIN OF PREFERENCE

32.1 **Unless otherwise specified in the BDS**, Margin of preference shall not apply.

33. EVALUATION OF BIDS

33.1 The Employer shall use the criteria and methodology defined in this clause and Section III-Evaluation Criteria and no other evaluation criteria or methodologies shall be permitted.

33.2 To evaluate a bid, the Employer shall consider the following:

- (a) the bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities for admeasurement contracts or Schedule of Prices for lump sum contracts, but including Daywork items, where priced competitively; and

- (b) price adjustment for correction of arithmetic errors, discounts, non-conformities, due to the supplementary criteria as defined in Section III, and Margin of Preference, if applicable.

33.3 If this Bidding Document allows Bidders to quote separate prices for different contracts, and to award multiple contracts to a single Bidder, the methodology to determine the lowest evaluated price of the contract combinations, including any discount offered in the Bid Submission Form, is specified in Section III (Evaluation and Qualification Criteria).

33.4 If the bid for an admeasurement contract, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front loaded or substantially below updated estimates or if any item in the Priced Activity Schedule is front loaded or contains an erroneous amount in the opinion of the Employer, the Employer may after clarification require the Bidder to produce detailed price analysis for any or all items that the amount of the performance security be increased at the expense of the Bidder.

34. COMPARISON OF BIDS

34.1 The Employer shall compare all substantially responsive bids in accordance with ITB 33 and Section III-Evaluation Criteria.

35. QUALIFICATION OF THE BIDDER

35.1 The Employer shall determine to its satisfaction whether the Bidder that is selected meets the qualifying criteria.

36. EMPLOYER’S RIGHT TO ACCEPT ANY BID, AND TO REJECT ANY OR ALL BIDS

36.1 The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

F. AWARD OF CONTRACT

37. AWARD CRITERIA

37.1 Subject to ITB 36.1, the Employer shall award the Contract to the Bidder whose offer has been determined to have the highest score according to Section III-Evaluation Criteria, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

38. NOTIFICATION OF AWARD

38.1 Prior to the expiration of the period of bid validity, the Employer shall, for contract amount above the prescribed threshold of N\$ 2 M, notify the selected bidder of the proposed award and accordingly notify unsuccessful bidders. Subject to Challenge, the Employer shall notify the selected Bidder, in writing, by a Notification of award for award of contract. The Notification of award shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”) and the requirement for the Contractor to remedy any defects therein as prescribed by the Contract. Within seven days from the issue of notification of award, the Employer shall publish on the Public Procurement Portal (www.mof.gov.na/procurement-policy-unit) and the Employer’s website, the results of

the Bidding Process identifying the bid and lot numbers and the following information:

- (i) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded; and
- (ii) an executive summary of the Bid Evaluation Report.

38.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.

39. SIGNING OF CONTRACT

39.1 Promptly upon issue of notification of award, the Employer shall send to the successful Bidder the Contract Agreement.

39.2 Within thirty (30) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.

40. PERFORMANCE SECURITY

40.1 Within thirty (30) days of the receipt of the notification of award from the Employer, the successful Bidder shall furnish the Performance Security in accordance with the conditions of contract, using for that purpose the Performance Security Form included in Section VIII (Contract Forms).

40.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement within the prescribed delay shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security.

41. ADVANCE PAYMENT AND SECURITY

41.1 The Public Entity shall provide an Advance Payment on the Contract Price as stipulated in the GCC, subject to a maximum amount, **as stated in the BDS**. The Advance Payment shall be guaranteed by a security as per the format contained in Section VIII.

42. PLANT AND MATERIALS ON SITE

42.1 Unless otherwise **specified in BDS** interim payment for Plant and Material on site is applicable as per GCC 39.7.

43. DEBRIEFING

43.1 The Employer shall promptly attend to all debriefing for the contract made in writing and within 30 days from the date of the publication of the award or date the unsuccessful bidders are informed about the award.

Section II – Bidding Data Sheet (BDS)

The following specific data for the works to be procured shall complete, supplement, or amend the provisions in the Instructions to Bidders. Whenever there is a conflict, the provisions herein shall prevail over those in the Instructions to Bidders.

A. General	
ITB 1.1	<p>The Public Entity is : Municipality of Henties Bay</p> <p>The Works are the construction of a low voltage electrical reticulation network and streetlights</p> <p>The name and identification of the Contract are</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>CONSTRUCTION OF ELECTRICAL SERVICES IN OMDL EXTENSION 7, HENTIES BAY – PHASE 2</p> </div> <p>, W/ONB/HBM-02/2024.</p>
ITB 1.2	The Intended Completion period is 365 days from start date.
ITB 2.1	The Funding Agency is: Municipality of Henties Bay .
ITB 5.3	<p>A list of firms debarred from participating in Public Procurement in Namibia is available at http://www.mof.gov.na/procurement-policy-unit .</p> <p>A list of firms debarred by World Bank is available at http://www.worldbank.org/debarr</p>
ITB 6.2	The information required from bidders in ITB Sub-Clause 6.2 is modified as follows: None.
ITB 6.2 (c)	Contractors should have at least five years of experience for works.
ITB 6.3 (a)	The Contractor must have a minimum average annual financial amount of construction of 75% of the bid price over the last 3 years.
ITB 6.3 (b)	<p>The number of works is: three (3).</p> <p>The period is: five (5) years.</p>
ITB 6.3 (c)	<p>The essential equipment to be made available for the Contract by the successful Bidder shall be:</p> <ul style="list-style-type: none"> (i) 1 TLB (ii) 1 4x4 pick-up truck (iii) Running out blocks (iv) Multi meters, Insulation Testers (v) Cable Cutters
ITB 6.3 (d)	In addition to qualifications specified in ITB 6.3: The Contract Manager should at least have a B.Tech/BSc. in Electrical Engineering or Diploma in Project Management and 3 projects completed as a project/contract manager; The Foreman should at least have a Diploma in Electrical Engineering and 3 projects completed as a foreman/electrician.
ITB 6.3 (e)	The minimum amount of liquid assets and/or credit facilities net of other contractual commitments of the successful Bidder shall be 15% of the bid price.
B. Bidding Documents	
ITB 8.1	<p>The Public Entity's address for clarification is:</p> <p>Municipality of Henties Bay, Erf 1513 Corner of Jakkalsputz Road and Nicky Iyambo Avenue, P.O. Box 61, Henties Bay;</p> <p>Se.Technical@hbaymun.com.na; fax +264 64 502 000.</p>

	Due date for Clarifications shall be 27 September 2024 .
ITB 9.2	A pre-bid meeting has been scheduled for none, N/A , at The Municipality of Henties Bay .
C. Preparation of Bids	
ITB 13.1 (e)	Any additional materials required to be completed and submitted by the Bidders are: Copy of Document Levy receipt .
ITB 17.1	The Contract is subject to price adjustment in accordance with GCC Clause 44.
ITB 17.2	Interim Payment for Plant and Material on site is applicable as follows: 80% payment for material on site for the full value of all material on presentation of the supplier's delivery note, proof of payment and by cession of rights from the Supplier to the Contractor and from the Contractor to the Employer
ITB 19.1	The Bid shall be valid for 90 days after the deadline set for the submission of bid, the deadline being counted as day one of the validity period.
ITB 20.1	Error! Reference source not found.
D. Submission and Opening of Bids	
ITB 21.1	In addition to the original of the bid, the number of copies is: 1 . Bid documents shall be initialled on each and every page.
ITB 23.1	The deadline for submission of bids shall be 15h00 on 08 October 2024 .
ITB 23.1	The Employer's address for the purpose of Bid submission is: Attention: The Procurement Management Unit Address: Bid Box Municipality of Henties Bay Erf 1513 Corner of Jakkalsputz Road and Nicky Iyambo Avenue P.O. Box 61 Henties Bay Namibia
ITB 26.1	The bid opening shall take place at: Henties Bay Municipality, 499 West Street, Henties Bay Municipality Council Chambers . Date: 08 October 2024 ; Time: 15h00
E. Evaluation and Comparison of Bids	
ITB 32.1	Margin of preference shall apply. If a margin of preference applies, the application methodology shall be defined in Section IV – Evaluation and Qualification Criteria.
F. Award of Contract	
ITB 40.1	The Standard Form of Performance Security acceptable to the Public Entity shall be "a Bank Guarantee". The Bank guarantee shall be 10% of the contract price inclusive of provisional and contingencies sum and VAT.
ITB 41.1	The Advance Payment shall be limited to 0 percent of the Contract Price less the provisional and contingencies sums.
ITB 42.1	Interim Payment for Plant and Material on site is applicable.

Section III – Evaluation Criteria

This section contains supplementary criteria that the Employer shall use to evaluate bids from qualifying bidders.

Technical Evaluation will only be done if all compulsory documents have been submitted and are valid.

Financial Evaluation will only be done after Technical Evaluation, only on bids that are compliant with requirements set out in the Bidding Document.

(a) Financial and Technical Proposal

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section V (Employer's Requirements).

(b) Multiple Contracts

The works consists of a single contract.

(c) Completion Time

An alternative Completion Time, if permitted under ITB 15.1, will be evaluated as follows: Only bids offering a completion time equal to or less than the completion time stated in the Special Conditions of Contract shall be considered.

(d) Technical Alternatives

Technical alternatives, if permitted under ITB 15.1, will be evaluated as follows: No technical alternatives are permitted during the bidding stage.

(e) Margin of Preference

The following margin of preference shall be applied. It will be applied to technical compliant bid whose corrected bid price lies within the +/- 5% of the trimmed average bid price.

The preference set out below shall apply in respect of bids, and a bid may qualify for ONLY one of the preferences, as the case may be:

Services rendered by persons domiciled or companies incorporated in Namibia:

i. Five percent to companies based and operating from Henties Bay in respect of services offered, when a comparison is made to companies based and operating from any other part of Namibia. (To be clearly stated in company registration documents and attach Henties Bay Fitness Certificate)

ii. Five percent to companies subcontracting works (15% or more of the Contract Value) works to a company based and operating from Henties Bay in respect of services offered, when a comparison is made to companies based and operating from any other part of Namibia. (Attach subcontractors' company registration document and Henties Bay Fitness Certificate)

iii. Five percent to companies in a JV agreement with a company based and operating from Henties Bay in respect of services offered, when a comparison is made to companies based and operating from any other part of Namibia. (To be clearly stated in company registration documents and attach Henties Bay Fitness Certificate) .

(f) Financial Proposal

- (i) All Financial proposals (of bids submitted on time) will be opened for the purposes obtaining the “trimmed” average bid price.
(a trimmed average excludes discordant and extremely low or high bids)
- (ii) Bids will be corrected for Arithmetic errors as per ITB 31.
- (iii) Only bids that are technically compliant will be considered for Financial Evaluation.
- (iv) Margin of Preference will be applied to Bids within +/- 15% of the “trimmed” average bid price.
- (v) Ranking to obtain the lowest price substantially responsive bid.

Refer to the Evaluation Sheets on the next page for a breakdown of the criteria, which will be used to assess the Bidders’ responsiveness and compliance.

STEP 1 – LEGAL AND ADMINISTRATIVE COMPLIANCE

The eligibility criteria will be assessed based on a **Yes or No**. All bidders that pass with **Yes** in all the required documents as stated in table 1, will proceed to the next phase (Step 2 - Technical valuation).

#	DESCRIPTION	YES/NO
1.	A valid certified copy by the Namibian Police of the Company Registration Certificate or Registration of defensive name if applicable issued by the Ministry of Industrialization, Trade and SME development or BIPA	
2.	Copies of identification documents (IDs) of the shareholders or members of the trustee as certified by the Namibian Police;	
3.	A valid original or certified copy by the Namibian Police of a Good Standing Tax Certificate from the Receiver of Revenue;	
4.	A valid original or certified copy by the Namibian Police of a Good Standing Certificate from Social Security Commission ;	
5.	A valid certified copy by the Namibian Police of an Affirmative Action Compliance Certificate or in its absence, proof from the Employment Equity Commissioner that the Bidder is not a relevant employer, or exemption issued in terms of Section 42 of the Affirmative Action Act, 1998;	
6.	An undertaking on the part of the Bidder that the salaries and wages payable to its personnel in respect of this proposal are compliant to the relevant laws, wage determinations, and Award, where applicable and that it will abide to sub-clause 6.2 of the General Conditions of Contract if it is awarded the Contract or part thereof.	

7.	A duly completed and signed Bid Securing Declaration form	
8.	Duly completed, initialled and signed Joint Venture Agreement (if applicable)	
9.	Bank rating letter to be issued by a commercial bank operating in Namibia Kindly read below the definitions of the different bank rating codes: A- Undoubted for Enquiry B- Good for amount quoted C- Good for amount quoted if strictly in way of business D- Fair trade risk E- Figures considered too high F- Financial position unknown G- Paper occasionally dishonoured H- Paper frequently dishonoured. 1. Only bidders who score the minimum bank rating of C - will be considered for award.	
10.	Valid registration with ErongoRED for MV and LV installations.	
OVERALL ADMINISTRATIVE COMPLIANCE		

NOTE: Failure to submit all requested compulsory documentation will exclude Bids from further evaluation and comparison.

STEP – 2 TECHNICAL EVALUATION

Bidders **must** score a minimum of 49 points to be considered substantially responsive.

TECHNICAL CRITERIA	QUALIFYING	POINTS	MAXIMUM POINTS
a. Qualification and relevant experience of key staff (Attach CV and certified copy of Qualification)			
Contract Manager	More than 5 years' experience as a Contract Manager on similar works	6	15
	4-5 years' experience as a Contract Manager on similar works	5	
	3 years' experience as a Contract Manager on similar works	4	
Foreman	More than 5 years' experience as a Foreman on similar works	3	
	3 years' experience as a Foreman on similar works	2	
Electrician 1	More than 5 years' experience as an Electrician on similar works	3	
	3 years' experience as an Electrician on similar works	2	
Electrician 2	More than 5 years' experience as an Electrician on similar works	3	
	3 years' experience as an Electrician on similar works	2	
b. Work Method and Schedule			
Work Method	Work Method provided relating to the project provided	2.5	5
Work Schedule	Work Schedule provided relating to the project provided	2.5	
c. Financial Capability and Resources			
evidence to be in the form of Reference letters of construction work showing project amount and date of project:			

Average Annual Financial Amount of Construction (N\$) for the years 2018-2022	If <u>evidence</u> provided for 5yr average is more than 100% of bid price	8	8
	If evidence provided for 5yr average is 86% to 99% of bid price	7	
	If evidence provided for 5yr average is at least 75%-85% of bid price	6	
Evidence of Access to Financial Resources	Evidence to be in the form of bank statement, letter from bank <u>showing amount of credit</u> , letters from suppliers showing <u>amounts of credit</u> and <u>specific for this project</u> :		12
	If <u>evidence</u> provided for liquid assets and/ or credit facilities net of other contractual commitments is at greater than 50%	12	
	If evidence provided for liquid assets and/ or credit facilities net of other contractual commitments is 26% - 45%	10	
	If evidence provided for liquid assets and/ or credit facilities net of other contractual commitments is 15%-25%	8	
d. Plant and Equipment Available for the Works			
TLB/ Front End Loader	Show proof of ownership	3	10
	Show proof of lease or proof of intention to hire	2	
4x4 Pick-up Truck	Show proof of ownership	3	
	Show proof of lease or proof intention to hire	2	
Cable pulling Equipment (Running out blocks, cable drum stand, cable cutters etc.)	Show proof of ownership, purchase or serial number	2	
	Show proof of lease or proof of intention to hire	1	
Testing Equipment (Multimeter, Earth sensitivity tester etc.)	Show proof of purchase or serial number	2	
e. Previous experience in similar Works			
(Appointment Letters, Certificates of Practical & Final Completion and references.) (Nature = MV and LV electrical reticulation & Size = value of works is greater than or equal to bid price)			
Number of projects similar in nature and size that are at least 70% complete.	More than 5 projects with proof	20	20
	For 4 to 5 projects with proof	16	
	For 3 projects with proof	12	
TOTAL TECHNICAL SCORE			70

STEP - 3. FINANCIAL EVALUATION

- a. Correction of Arithmetic errors.
- b. Retain bidders within +/- 15% bracket.
- c. Apply margin of Preference to Bids within +/- 5% of the average bid price.
- d. Allocate points will be given on a pro rata basis:

The formula to be used in calculating the scores is:

$$Financial\ Score = \frac{Lowest\ bid\ price \times 30}{bid\ price}$$

Section IV – Bidding Forms

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Bid Submission Form

The Bidder must prepare the Bid Submission Form on stationery with its letterhead clearly showing the Bidder's complete name and address.

Note: All italicized text is for use in preparing these forms and shall be deleted from the final document.

Date: _____

Bidder's Reference No.: _____

Procurement Reference No.:.....

To:

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) Clause 10;
- (b) We offer to execute in conformity with the Bidding Documents the following Works:
_____;
- (c) The total price of our Bid after discounts, if any, offered in item (d) below is:

_____;
- (d) The discounts offered and the methodology for their application are:

_____;
- (e) Our bid shall be valid for a period of _____ [*insert validity period as specified in ITB 19.1.*] days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) We hereby confirm that we have read and understood the content of the Bid Securing Declaration attached hereto and subscribe fully to the terms and conditions contained therein, if required. We understand that non-compliance to the conditions mentioned may lead to disqualification.
- (g) If our bid is accepted, we commit to obtain a Performance Security and a Preference Security (if applicable) in accordance with the Bidding Document;
- (h) We, including any subcontractors or suppliers for any part of the contract, do not have any conflict of interest in accordance with ITB 5.2;
- (i) We are not participating, as a Bidder in more than one bid in this bidding process other than alternative offers submitted in accordance with ITB 15;
- (j) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible under the laws of Namibia;

- (k) We are not a government owned entity / We are a government owned entity but meet the requirements of ITB 5.4;¹
- (l) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (m) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and
- (n) If awarded the contract, the person named below shall act as Contractor’s Representative:

Name:

In the capacity of:

Signed:

Duly authorized to
sign the Bid for and on
behalf of:

Date:

Seal of Company

¹ Use one of the two options as appropriate.

BID SECURING DECLARATION

(Section 45 of Act)

(Regulation 37(1)(b) an 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

**Written 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.*

Qualification Information

*[The information to be filled in by **bidders** in the following pages shall be used for purposes of post-qualification or for verification of prequalification as provided for in ITB Clause 6. This information shall not be incorporated in the Contract. Attach additional pages as necessary. Pertinent sections of attached documents should be translated into English. If used for prequalification verification, the Bidder should fill in updated information only.]*

1 INDIVIDUAL BIDDERS OR INDIVIDUAL MEMBERS OF JOINT VENTURES.

Note: In the event that the Bid is submitted as a joint venture, a comprehensive and signed Joint Venture Agreement between the parties should be submitted under **Annexure 6**. The joint venture agreement shall clearly indicate all parties to the agreement, shareholding in the agreement and all work elements to be completed by each party. **Note that in the case of a joint venture bid, all the forms to be completed by bidder in this section shall be submitted for each member of the joint venture!**

1.1a Bidder’s Company Profile General (to be filled in by both individual bidders as well as Joint Ventures)

Full Name of Company / Joint Venture

Principal place of business:

P.O BOX.....

STREET

TOWN

TEL.....

FAX

E-MAIL

1.1b Individual Bidder Information (only to be filled in by individual bidders)

Bidder’s Country of Registration:		
Year of Company Registration of Bidders:		
Number of Years in Operation:		
Name of Parent Company:		
Physical Address of Parent Company:		
Names of shareholders and their qualifications:	Name:	Educational Qualification:

1.1c JV Information (only to be filled in by JV members)

Partners:	Partner 1	Partner 2
Names of JV Partners		
Bidder's Country of Registration:		
Year of Company Registration of Bidders:		
Number of Years in Operation:		
Name of Parent Company:		
Physical Address of Parent Company:		
Names of shareholders and their qualifications:		

DATE: **SIGNATURE OF BIDDER:**.....

1.1b Evidence of signatory authorized to sign the bid (if applicable):

In the cases where the Bidder is a Company, Corporation, Firm or Joint Venture of many companies, the person whose signature appears below must be duly authorised to do so, whether by Articles of Association, Resolution, Power of Attorney or otherwise. A letter providing such authority must be submitted under **Annexure 7**.

I/We, the undersigned am/are authorised to enter into the Contract on behalf of:

.....
.....

by virtue of

dated a certified copy of which is attached to the bid.

BIDDER REPRESENTATIVE:

.....
Name Signature

AS WITNESSES:

1.
Name Signature

2.
Name Signature

DATE:

*Signature to correspond with that on the Bid Submission Form.

- 1.2 Annual amounts of construction works performed during the last **5** years *[insert amounts in the national currency equivalent]*. Please attach proof in the form of Appointment Letters, Certificates of Completion, References, and any other under **Annexure 17**.

Year	Amount (N\$)
<i>2020 & 2021</i>	
<i>2019</i>	
<i>2018</i>	
<i>2017</i>	
<i>2016</i>	

- 1.3 Provide information on three (3) projects of a nature and amount similar to the Works performed as prime Contractor over the last five (5) years. *[Also list details of work under way or committed, including expected completion date(s).]* Please attach proof in the form of Appointment Letters, Certificates of Completion, References, and any other under **Annexure 17**.

A. Similar Works completed satisfactorily.

Project/Contract name and country	Name of client and contact person	Client contact details	Type of work performed and year of completion	Start date	Completion Date	Value of contract in NAD
(a)						
(b)						
(c)						
(d)						
(e)						

B. Works under way and/or committed to.

Project/Contract name and country	Name of client and contact person	Client contact details	Type of work performed and year of completion	Start date	Scheduled Completion Date	Value of contract in NAD
(a)						
(b)						
(c)						
(d)						
(e)						

1.4 Major items of Contractor’s Equipment proposed for carrying out the Works. [List all information requested below. Refer also to ITB Sub-Clause 6.3 (c).]

Item of equipment	Description, make, and age (years)	Condition (new, good, poor) and number available	Owned, leased (from whom?), or to be purchased (from whom?)	Where plant can be inspected	Reg. No.	Date available on Site after award
(a)						
(b)						
(c)						
(d)						
(e)						
(f)						
(g)						
(h)						
(i)						
(j)						

Attach proof of ownership in form of registration certificates and when not owned by the Bidder, state the agreement and include valid lease and/or hire purchase agreement for the relevant plant, which provides the Bid No., the type of plant considered, the period of validity of the agreement, the period of availability of the plant and the shortest period of time within which the plant can be delivered to Site. Failure to do so may disqualify the Bid offer.

Attach proof under **Annexure 19.**

1.5 Qualifications and experience of key personnel proposed for administration and execution of the Contract. *[Attach CVs with Qualification Certificates under **Annexure 13**. Refer also to ITB Sub-Clause 6.3 (d).]*

A. Professional and Technical Staff

	Position	Name	Nationality (tick)		Age	Qualification	Years of experience (general)	Years of experience in proposed position
			Namibian	Non-Namibian				
(a)	Contract Manager							
(b)	Foreman							
(c)	Electrician 1							
(d)	Electrician 2							

B Other Staff

	Category	Number of
(a)	Clerical Staff	
(b)	Artisans	
(c)	Semi-skilled Labourers	
(d)	Unskilled Labourers	
TOTAL No. OF STAFF		

Note:

In the case that a member of the Contractor’s Professional and Technical staff changes from what is submitted on this form during the duration of the project, then the Contractor must first seek approval in writing from the Project Manager.

1.6 Proposed subcontracts and firms involved. Refer to General Conditions of Contract Clause 7.

Sections of the Works	Value of subcontract	Subcontractor (name and address)	Nature of work subcontractor specializes in	Experience in similar work
(a)				
(b)				
(c)				
(d)				

1.7 Bidder shall attach audited **Financial Reports** for the last three (3) years under **Annexure 23**, including:

1. Most recent audited balance sheet
2. Cash flow statements
3. Income statements
4. Any other

Provide a summary of assets and liabilities in the table below on the basis of audited financial statements of the three most recent financial years.

Financial data	Year 2018/2019	Year 2019/2020	Year 2020/2021
1. Total assets			
2. Current assets			
3. Total liabilities			
4. Current liabilities			
5. Net worth			
6. Working Capital			

1.8 Evidence of access to financial resources to meet the qualification requirements such as cash in hand and lines of credit to the value **specified in the BDS**. The bidder shall attach a binding letter(s) from a commercial bank / insurance company indicating that the bidder has/will have enough cash and/or credit 15% of the bid price. The said letter(s) should be on an official letterhead. Complete the table below and attach copies of supporting documents under **Annexure 18**.

Item	Value
1. Cash in hand	
2. Name and address of commercial Bank providing credit line	
3. Amount of credit line	
4. Letter of credit from materials supplier	
5. Other (state)	

1.9 Name, address, and telephone, telex, and facsimile numbers of banks that may provide references if contacted by the Public Entity.

Bank Name	Services Provided	Contact Person	Address	Telephone	Email
1.					
2.					

1.10 Provide information on current litigation(s) in which the Bidder is involved.

Other party(ies)	Cause of dispute	Amount involved
(a)		
(b)		

1.11 Proposed Programme (work method and schedule) to be attached under **Annexure 19** and **Annexure 20** respectively. Descriptions, drawings, and charts, as necessary, to comply with the requirements of the Bidding Documents. The Bidder shall set out, the programme that he intends to follow if he should be awarded the Bid. The programme shall show the dates of commencement and completion for each stage of the work and where the work can be divided into separate portions, for each portion of the work. The total time and dates for completion stated in BDS shall, however, not be violated. Separate programmes shall be submitted for alternative bids where allowed.

1.12 Safety Health and Environment Policy to be attached under **Annexure 26**.

2. ADDITIONAL REQUIREMENTS

2.1 Format of letter providing authority to seek references from the Bidder’s bankers

I/Wehereby authorise the Municipality of Henties Bay to approach the bank below for any further references. I allow the banks named below to provide a bank rating and credit line attached to the account given below and reference of the bidder disclosed in writing:

	Bidder’s Bank 1	Bidder’s Bank 2
Bank Name:		
Bank Account Number:		
Information Supplied by:		
(Business Entity Name)		
Contact Person/ Representative:		
Contact number:		
Email address:		
Bank branch name and address		

Signed at

ThisDay of.....

On Behalf Of

Bidder’s Signature

2.2 Bidders should provide any additional information requested in the Bidding Document.

DECLARATION OF AUTHENTICITY

I,(*full name*), on behalf of the bidder:....., declare that all material and information presented herein is true. I understand that if at any time within the Bid Validity Period it is shown that I have significantly misrepresented material presented to Municipality of Henties Bay , this will lead to the disqualification of this bid.

Signature: _____

Date: _____

Bill of Quantities

PREAMBLE TO BILL OF QUANTITIES

Preamble to Bill of Quantities

1. For the purpose of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:
 - 1.1 Unit: The unit of measurement for each item of work as defined in the standard specifications or the Project Specifications.
 - 1.2 Quantity: The number of units of work for each item.
 - 1.3 Rate: The payment per unit of work at which the Bidder bids to do work.
 - 1.4 Amount: The product of the quantity and the rate tendered for an item.
 - 1.5 Lump sum: An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications, or elsewhere, but of which the quantity of work is not measured in units.
2. The pages in the Bill of Quantities are numbered continuously. The Bidder must check the pages before he submits his Bid and if any pages are missing, duplicated, or unclear or contain obvious errors, the Project Manager must be notified to have these errors rectified.
3. The Project Specifications, Instruction to Bidders, the General Conditions of Contract, the Special Conditions of Contract, the Drawings and Notice(s) to the Bidders are to be read in conjunction with the Bill of Quantities.
4. Descriptions in the Bill of Quantities are abbreviated and the Bill has been drawn up generally in accordance with the Specifications and Performance Requirement. Should any requirement of the measurement and payment clause of the Applicable Standardised Specification, or the Project Specification, or the Particular Specification conflict with the terms of the Bill, or when relevant, the said SABS 1200, the requirement of the Standardised Project, or Particular Specification, as applicable, shall prevail. The measurement and payment clauses of each Specification, read together with the relevant clauses of the Project Specification, set out what ancillary or associated activities are included in the rate for the operations specified.
5. Unless otherwise stated, items are measured net, in accordance with the Drawings and Specifications, and no allowance has been made for waste. All quantities are provisional and payment will be made after the actual quantities are agreed to.
6. The prices and rates to be inserted in the Bill of Quantities are to be the full inclusive prices to the Employer for the work described under each item. Such prices shall cover all costs and expenses that may be required in and for the construction of the work described and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Bid is based. These prices and rates must be net and not include Value Added Tax. The Value Added Tax must be added as a separate item on the summary page.
7. **A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to have a price or rate of N\$ 0.00. It will be accepted that items against which no price has been inserted are covered by other prices or rates in the Bill.**
8. The Bidder is at liberty to insert a rate of his own choice for each item in the Bill, but his attention is drawn to the fact that the Contractor has the right, under various circumstances, to payment for additional works carried out and that the Project Manager will be obliged to base his assessment of the rates to be paid for such additional work on the rates inserted in the Bill by the Contractor.
9. All rates and sums of money quoted in the Bill of Quantities shall be in Namibia Dollars and whole cents. Fractions of a cent shall be discarded.
10. The Contractor must not order the quantities of materials stated in the Bill of Quantities until he has confirmed from the Construction Drawings or measurement on Site with the Project Manager that such quantities are in fact the correct quantities.'

11. Reference to clauses in this and other documents and drawings are generally abbreviated as follows:

Document	Abbreviation
General Conditions of Contract	GCC
Project Specifications	PS
Special Conditions of Contract	SCC
Specifications	SANS 1200 / SABS 1200
Drawings	DWG

12. The Bidder must price and extend each item and total of each Section in the Bill of Quantities in **BLACK INK**.

13. In the event on any arithmetical errors occurring in the totals in this Bill of Quantities, such totals will be corrected on the assumption that the rates quoted are correct.

14. Where special risks, liabilities and obligations cannot be dealt with as above, then the price thereof is to be separately stated in the Preliminary and General Bill.

15. The units of measurement indicated in the Bill of Quantities are metric units.

16. The following abbreviations may appear in the Bill of Quantities:

d	=	day
h	=	hour
mm	=	millimetre
m	=	metre
km	=	kilometre
N\$/km	=	Namibia Dollar/kilometre
m ²	=	square metre
ha	=	hectare
m ³	=	cubic metre
m ³ -km	=	cubic meter-kilometre
l	=	litre
kl	=	kilolitre
kW	=	kilowatt
kN	=	kiloNewton
kg	=	kilogram
t	=	ton (1 000 kg)
t/h	=	ton/hour
%	=	per cent
No	=	number
PC sum	=	prime cost sum
PS	=	provisional sum

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDEL EXTENSION 7, HENTIES BAY

PHASE 2

SECTION 1: PRELIMINARY AND GENERAL

ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
		SECTION 1: PRELIMINARY AND GENERAL				
1.1	8.3	FIXED-CHARGE AND VALUE-RELATED ITEMS				
1.1.1	8.3.1	Contractual Requirements	Sum	1.0		
	8.3.2	Establishment of facilities on the Site:				
1.1.2	8.3.2.2	Facilities for the Contractor	Sum	1.0		
1.1.3	8.3.3	Other Fixed charge obligations	Sum	1.0		
1.1.4	8.3.4	Removal of Site Establishment on Completion	Sum	1.0		
1.1.5	8.3.5	Contract Sign Boards	No.	2.0		
1.2	8.4	SCHEDULED TIME-RELATED CHARGES FOR THE DURATION OF THE PROJECT				
1.2.1	8.4.1	Contractual requirements	Sum	1.0		
	8.4.2	Operation and maintenance of Facilities on Site for the duration of Construction				
1.2.2	8.4.2.2	Facilities for Contractor	Sum	1.0		
1.2.3		Contractor's security on site, monthly reimbursement	Sum	12.0		
1.2.4	8.4.3	Supervision for duration of Construction	Sum	1.0		
1.2.5		Company and Head Office Overhead Cost for the duration of Construction	Sum	1.0		
1.2.6	8.4.5	Other Time-related Obligations	Sum	1.0		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1		Additional tests ordered by the Engineer	PS	1.0		
Total Carried Forward						

SECTION 1: PRELIMINARY AND GENERAL

ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
Brought Forward						
1.4	8.8	TEMPORARY WORKS				
1.4.1	8.8.1	Main access road to works (construct and maintain)	Sum	1.0		
1.4.2	8.8.2	Dealing and Accommodation of Traffic	Sum	1.0		
1.5		INSPECTION, TESTING AND COMMISSIONING IN COMPLIANCE WITH ALL RELEVANT STANDARDS DETAILED IN THE PROJECT SPECIFICATIONS AND STANDARD SPECIFICATIONS				
1.5.1		Supply all test equipment and labour required for carrying out tests to the satisfaction of the Electrical Engineer	Sum	1.0		
1.5.2		Supply Test Report for all electrical installations	Sum	1.0		
1.6		DRAWINGS				
1.6.1		Allow for making up a full set of drawings to show the exact positions of cables, cable joints, road crossings, cable sleeves, wiring sleeves, lighting, voice and data, and power installation	Sum	1.0		
1.7		GUARANTEE				
1.7.1		Allow for cost of a guarantee valid for a period of 12 months against latent and ordinary defects in equipment, material and workmanship, but wear and tear and normal maintenance excluded	Sum	1.0		
	8.8.4	Existing services				
1.7.2	8.8.4.1	Temporary protection of services	PS	1.0		
1.7.3		Provisional Sum for ErongoRED Network Connection Fee of N\$ 1,500,000.00	PS	1.0	N\$1,500,000.00	N\$1,500,000.00
Total Carried Forward To Summary						

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDL EXTENSION 7, HENTIES BAY**PHASE 2**

SECTION 2: 11kV DISTRIBUTION

ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
2.1		SECTION 2: 11 kV DISTRIBUTION				
		RMU ORMAZABAL 24kV 630 A BUS BAR RATED 20 kA (3 SEC) F&G 1KB-1TS-1KB INDOOR EXTENSIBLE CONSISTING OF 1x630A CB, SELF POWERED O/C & E/C (WIC1-2PE), 2x630A ISOLATOR, 2xBUS BAR SETS 2xEND COVERS VOLTAGE INDICATOR PRESENT		1		
2.2		TRANSFORMERS (Supply, delivery off-loading and Installation, including earthing and cable terminations)				
2.2.1		800kVA, 11/0.42kV 50Hz, 3-phase, 4%, Dyn 11 vector group, ONAN oil emersed ONAN and sealed type, step-down transformer c/w off load tap switching tap range: 95%, 97.5%, 100%, 102.5%, 105%; RYBR anti-clock phase rotation; Oil conservator tank with silica-gel breather and oil level indicator; rating plate; oil temperature indicator; pressure relieve valve; drain valve. Transformer to SANS 780, SABS IEC 60076, SANS 1029, SANS 1030.	No	1		
2.3		CABLES				
2.3.1		11 kV, 3 core, 150mm ² PILC copper cable laid in ducts between switchboard and transformers.	m	40.0		
2.3.2		Heat shrink cable joints type to SANS 10198 - 10 for the 150mm ² cable	No	2.0		
Total Carried to Summary page						

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDL EXTENSION 7, HENTIES BAY**PHASE 2**

SECTION 3: LOW VOLTAGE

ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
3		SECTION 3: LOW VOLTAGE				
3.1		DISTRIBUTION BOARDS				
3.1.1		Main LT Distribution Board MDB complete with all accessories as specified in the drawing fitted with the following equipment, all fitted in the workshop:	No	1		
		Sheet metal and all frames, sub-frames, busbars, fixtures and fittings. 1600 A (30 kA) tripple pole MCCB 16 x 150 A tripple MCCB				
		A (10kA) tripple pole mccb's. IDMDT relay A1700 METER 2 x DIGITAL AMMETER/VOLTMETER (1000:5, CI 0.5) SIEMEAS P50 Earth leakage units. (20 mA). Time switch. Install and connect up, including earthing and conduit terminations but excluding cable terminations. Compile a legend card as and place it in the holder on the board.				
3.2		DISTRIBUTION KIOSK/ PILLAR				
		Distribution kiosks typically fitted with the incoming Busbar assembly, incoming MCCB and or outgoing MCCB in one chamber and the distribution MCBs in the other. The kiosks shall be A.C. 3 phase, 4 wire, 400 V, 50Hz with effectively grounded neutral with rated MCBs as specified in the drawings. Double Door Enclosure, FibreGlass, corrosion protected gland plate, 800A busbars, 15kA fault level, wooden mounting plate, mounting rails, 300-500mm root (bottom of root at min. 150mm below natural ground level with concrete footing/ plinth to detail.				
3.2.1		9 way	No.			
3.2.2		12 way	No.	41.0		
3.2.3		Plinth for mounting of Distribution Kiosks	No.	41.0		
3.2.4		Earthing of Distribution Kiosks to 1500mm x 1500 copper earth mat through a 70mm ² CU/PVC exothermic welded connection as per ErongoRED Regulation	No.	41.0		
Total Carried Forward						

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDL EXTENSION 7, HENTIES BAY
PHASE 2

SECTION 3: LOW VOLTAGE

ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
Brought Forward						
3.2.5		Kiosks Lock-out Padlocks (Weather resistant)	No.	82.0		
		Feeder label in the substation 50 x 100mm aluminium plate with 29 characters	No.	23.0		
3.2.6		Kiosk labelling on 80mmx40mm aluminium plate with 29 characters 8mm in height	No.	82.0		
3.3		DISTRIBUTION KIOSK/ PILLAR SWITCH GEAR "Tenderer to specify specific brand(s) offered (SANS compliant). Minimum rupturing capacity to be 10kA (unless specified otherwise). Tenderer shall be liable to prove coordination / cascading capacity of switch gear provided."				
		Triple pole moulded case circuit breakers				
3.3.1		200A, min. 25kA	No.	2.0		
3.3.2		150A, min. 25kA	No.	3.0		
3.3.3		100, min. 25kA	No.	20.0		
		Triple pole isolators				
3.3.4		100A (min. 10kA)	No.	20.0		
3.3.5		150A (min. 10kA)	No.	20.0		
3.3.6		200A, (min. 10KA)	No.	3.0		
3.3.7		250A (min. 10kA)	No.			
		Customer meter labels in kiosk on 22mmx10mm aluminium plate with 29 characters	No.	295		
		Breaker Names: in the kiosk will label 10mm x 10mm with 29 characters		295		
		ELECTRICAL METERS				
3.3.8		Single phase prepaid meter conlog split - RF	No.	240.0		
3.3.9		Three phase prepaid/conventional meters approved by the engineer or Erongo RED	No.	25.0		
Total Carried Forward						

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDL EXTENSION 7, HENTIES BAY**PHASE 2**

SECTION 3: LOW VOLTAGE

ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
Brought Forward						
3.3.10		60A SP MCB SLOW CURVE	No.	295.0		
3.3.11		80A TP MCB SLOW CURVE	No	25.0		
3.4		400/1000V PVC-PVC-SWA-PVC cables				
3.4.1		35mm ² x 4c Cu	m	23.0		
3.4.2		70mm ² x 4c Cu	m	2,206.0		
3.4.3		95mm ² x 4c Cu	m	4,374.0		
3.4.4		120mm ² x 4c Cu	m	471.0		
3.4.5		150mm ² x 4c Cu	m	782.0		
		Terminations including mechanical clamps, lugs and corrosion proof bolts, washers, spring washers and nuts, glands etc. to terminate the following cable:				
3.4.6		35mm ² x 4c Cu	m			
3.4.7		70mm ² x 4c Cu	m	40.0		
3.4.8		95mm ² x 4c Cu	m	40.0		
3.4.9		120mm ² x 4c Cu	m	14.0		
3.4.10		150mm ² x 4c Cu	m	4.0		
		400/1000V PVC cables				
3.4.11		120mm ² x 1c Cu	m	471.0		
3.4.12		95mm ² x 1c Cu	m	4,374.0		
3.4.13		70mm ² x 1c Cu	m	2,206.0		
3.4.14		35mm ² x 1c Cu	m	23.0		
		400/1000V PVC-PVC-SWA-PVC Service Cables				
3.4.16		2C 16mm ² Cu/PVC.SWA.PVC	m	8,132.0		
3.4.17		1C 10mm ² Cu/PVC	m	8,132.0		
3.4.18		4C 25mm ² Cu/PVC.SWA.PVC	m	650.0		
3.4.19		1C 16mm ² Cu/PVC	m	650.0		
Total Carried Forward						

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDL EXTENSION 7, HENTIES BAY
PHASE 2

SECTION 3: LOW VOLTAGE

ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
Brought Forward						
3.5		STREET LIGHTING				
3.5.1		STREET LIGHTING POLE, made of fiberglass reinforced polyester 9.2m (8m mounting height), with street junction box fixed to the pole on the inside of the access opening and shall be mounted 1000mm above ground level against the pole suitable to take 4cx16mm ² cable to be looped into at each pole and luminaire supply cable. 60A terminal blocks for terminating the street lighting cables and a 5A circuit breaker for individual control of the light shall be provided on the mounting plate on the inside of the access compartment.	No.	125.0		
3.5.2		Excavate hole for street lighting pole, 300mm diameter and 1200mm deep or as appropriate	m ³	45.0		
3.5.3		Concrete base size 1 000mm x 1 000mm x 500mm deep to support pole not exceeding 9 metres high including Trenching pickable complete with backfill, compaction in 200mm layers to 98% ModAASHTO	m ³	75.0		
3.5.4		Earthing of street lighting poles	No.	125.0		
3.5.5		STREET LIGHTING LUMINAIRE complete with lamp or similar approved by client and or Engineer complete with switchgear, housing, termination cables and UV resistant polycarbonate diffuser	No.	125.0		
3.5.6		400/1000V PVC-PVC-SWA-PVC Street Lighting Cable				
a)		16mm ² x 4c CU	m	4,850.0		
b)		4mm ² Surfex Cable 2 Core + Earth (From the junction box to each individual light fitting)	m	1,177.0		
3.6		CABLE TRENCHING FOR 400/1000V PVC-PVC-SWA-PVC CABLES				
3.6.1		Cable Trenches (Excavation, Bedding, Laying, and Backfilling). Excavation in soft soil (Pickable Soil), 0.45 m wide x 0.6 m deep cable trench; backfilling (after bedding) of trench with a proper grading of the material to ensure settling without voids; compaction to 98% Mod AASHTO density in layers not exceeding 150mm thick.	m ³	1,309.5		
3.6.2		Black cable Sleeves for road crossing: 110mm ² DIA, PVC class 6 in 6m lengths	No.	800.0		
3.6.3		Bright yellow warning tape with red or black markings clearly indicating danger, 300mm above electrical cables/sleeves	m	5,330.0		
Total Carried Forward To Summary						

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDL EXTENSION 7, HENTIES BAY

PHASE 2

		SUMMARY OF SECTIONS
SECTION	DESCRIPTION	AMOUNT \$
1	PRELIMINARY AND GENERAL	
2	11KV DISTRIBUTION	
3	LOW VOLTAGE PHASE 2	
	SUBTOTAL	_____
	Add 10% Contingency	
	SUBTOTAL	_____
	Add 15% VAT	
	Total Carried Forward To Summary Of Schedules	_____

NAME OF BIDDER:

NAME OF BIDDER'S REPRESENTATIVE:

SIGNATURE OF BIDDERS REPRESENTATIVE:

DAYWORK SCHEDULE

All work required by the Project Manager to be carried out on a daywork basis, shall be paid for at the rates filled in below. Such rates shall be industry related.

MATERIALS

Percentage over and above the net cost of materials purchased by the Contractor, which percentage shall be held to cover in full the Contractor’s profit, administration costs, insurance, establishment, supervision and other overheads:

.....**Percentage add-on for materials**

WORKMEN

Hourly rates applicable to workmen of the classes listed below, which rates shall be held to cover in full the wages and benefits paid or contributed by the Bidder, the Bidder's profit, administration costs, insurance, establishment, supervision other than direct supervision time given and paid for hereunder, overheads and the use of hand and other tools and equipment not paid for under **Section Plant and Equipment** hereunder:

CLASS OF WORKMEN	HOURLY RATE (N\$)	ANTICIPATED (hrs)	AMOUNT (N\$)
Foreman		100	
Artisan		200	
Operator		200	
Labourer (semi-skilled)		500	
Labourer (unskilled)		1,000	
Total Daywork Labour Cost N\$			

Bidders shall be aware of the fact that the man-hours stated above may be varied, or not used, at the discretion of the Project Manager.

PLANT AND EQUIPMENT

Hourly rates for various categories of plant are listed below (rates per km in the case of trucks and vehicles), which rates shall be held to cover in full the cost of operators, fuel, servicing, maintenance, depreciation, overheads, Bidder's profit, administration costs, insurance, establishment and supervision other than direct supervision time given.

Bidders shall be aware of the fact that the hours (or km) stated may be varied or not used at the discretion of the Project Manager. Only items of major plant and equipment are listed but omission of an item of plant or equipment does not exclude its use in Dayworks ordered by the Project Manager.

Bidders shall price every item in the table below.

DESCRIPTION OF PLANT	UNIT	RATE (N\$)	QUANTITY	AMOUNT (N\$)
TLB	h		100	
Total Daywork Plant Cost N\$				

DAYWORK SCHEDULE (CONTINUED)

Additional plant and equipment that will be required by the bidder but is not listed in the table above, they shall be added to the table below, with unit rates (hours, kilometres or other) priced by the Bidder.

DESCRIPTION OF PLANT (SPECIFY FULLY)	UNIT	RATE (N\$)	QUANTITY	AMOUNT (N\$)

DATE: **SIGNATURE OF BIDDER:**

PART 2 – Employer’s Requirements

Engineer in this section has the same meaning as Project Manager elsewhere in the Bidding Documents

Section V – Employer’s Requirements

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PROJECT SPECIFICATIONS

1. INTRODUCTION

Omdel Extension 7 in Henties Bay will be serviced as part of the Mass Urban Land Servicing Project (MULSP) by the Ministry of Urban and Rural Development (MURD) under this one Contract.

This Bid includes the the construction of a low voltage electrical reticulation network and streetlights. The Project Area consists of **Error! Reference source not found.** erven, primarily zoned residential erven.

1.1. General Description of Works

The Contractor should take note that the General Description of the Works serves to outline the extent of the works, but does not limit the amount of work which may be required of the Contractor under this Contract. Reference must be made to the Project Specifications, the Schedule of Quantities, and the Construction Drawings for a more detailed description of the works.

1.1.1 General

The following activities will form part of the Contract:

1. Establishment of Plant, and Site Camp of the Contractor;
2. Setting out of the works;
3. Supply, deliver, install and commission one 800kVA transformer in an existing substation building;
4. Construct a low voltage electrical distribution network;
5. Construct street lighting;
6. Testing and commissioning;
7. Finishing and trimming of site.

2. THE SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF THE EQUIPMENT AND MATERIALS FOR THE ELECTRICAL INSTALLATION

2.1. Regulations

The installation shall be erected and tested in accordance with the Acts and Regulations as indicated in the scope of works.

2.2. Notices and Fees

The Contractor shall give all notices required by and pay all necessary fees, including any inspection fees, which may be due to the local Supply Authority.

On production of the official account, only the net amount of the fee charged by the Supply Authority for connection of the installation to the supply mains, will be refunded to the Contractor by the Municipality.

2.3. Scope

The scope of work covered by this contract is the supply, delivery, installation and commissioning of all the electrical equipment and substation buildings as specified on the relevant drawings and consist of the following:

- Arrange, supply and install one 800 kVA transformer.
- All required power supply cables from the two existing substations to the relevant kiosks.
- All required sleeves for services access into the erven and under roads.
- Street lighting for the site.
- All kiosks with required equipment.
- Earthing of the new substation transformers, street lighting poles and all the substation building

All work shall be done by a registered electrician with a minimum of five years’ experience. Proof of registration with ErongoRED has to be included with the quotation document. If the electrician is not registered with the electricity supply authority in the area, the contractor may be disqualified.

2.3.1 Main Low Voltage Distribution On Site

The electrical contractor shall apply for a new electrical connection to the site from the Municipality of Henties Bay. The new electrical connection shall be via two substation buildings, one with a capacity of 1.6MVA and the other with a capacity of 800kVA. The substations shall provide power to the kiosks as specified in the drawings. Sufficient spare space shall be allowed in the substation building to allow for all cable trenching and the required equipment to be installed. Adequate clearance between the walls and equipment and between equipment shall be provided to ensure safety of personnel. Adequate provision for ventilation must be ensured, so that there is free circulation of air on all sides of the transformer and within the building.

The street lighting monthly electrical billing metering shall be via conventional metering. All information regarding the address where the monthly electrical bill shall be supplied to the contractor by the Client after the contract has been awarded.

Before the application for the substations may commence, approval from the Engineer will be required, a Provisional Sum of N\$ 1, 500 000.00 has been allowed for the connection to the existing MV reticulation of the Henties Bay Municipality.

2.3.2 Sub Distribution

Distribution kiosks main housing shall be cloud grey and shall be constructed of fibre glass reinforced polyester or epoxy resin mouldings to SANS 141, similar in form to that which can be detached from its separate root, as produced by Golnix. The colour shall be incorporated into the gelcoat finish. The housing shall be fitted with double door one at the front and one at the back which shall be flush mounted into a channel at least 12 mm deep and be secured by at least two heavy duty hinges and one lock, all of non-corrosive material. The door shall be given extra reinforcement to ensure rigidity. All large surfaces must be suitably panelled to improve stiffness. The inside surface shall be coated with a suitable paint to cover all exposed fibres and the entire housing shall be free of voids, blisters or cracks, The kiosks shall have the following standard features:

- Grade 304 stainless steel butt hinges with stainless steel backing plates.
- Zink alloy epoxy coated type 24 lever locks
- Vent plugs in roof overhang

- Nylon door restraints
- Hot dipped galvanised mild steel frames
- Hot dipped galvanised mild steel gland plates
- DMC Colour coded insulators
- Tinned copper phase, neutral and earth bars rated to specification
- All bolts, nuts and washers grade 304 stainless steel

Sufficient space shall be allowed for all cables to be installed in kiosks. The fault level is indicated on the schematic diagram. Further to this, the kiosks shall be fitted with a white ivorine label with 15 mm high black engraved lettering riveted or screwed to the door or frame with its name, size of supply cable and from where it is supplied. Inside the kiosk, each piece of equipment shall be provided with a white ivorine label with 5 mm high black engraved lettering fixed with screws or rivets. The kiosk shall be installed on a concrete plinth.

All new kiosks shall be installed and wired as indicated on the relevant drawings. The electrical contractor shall submit wirings diagram and general layout drawings of each kiosk for approval by the engineer two weeks after the contract has been awarded before kiosks are constructed. All kiosks shall be inspected by the engineer at the workshop of the manufacturer before they are transported to site

2.3.3 Sleeves

Sleeves for power supply cables and signal cables installed in the ground shall be uPVC with single socket joints complying with SANS 791 (heavy duty), the sizes and position indicated on the relevant drawings. Galvanised mild steel sleeves shall be installed for power supply cables and signal cables installed above the ground, the sizes and positions are indicated on the relevant drawings.

Sleeves shall be provided with 1.6 mm² galvanised draw wire and shall be effectively sealed at the ends after the cables have been installed to ensure that no water will enter the wire ways.

All sleeves shall be laid in accordance with SANS 1200 (LC) and at a depth of approximately 600 mm under the ground unless otherwise indicated. The radius of the bends used in the sleeves shall not be less than six times the diameter of the sleeve, and the sleeve shall not be less than twice the cable diameter unless otherwise specified.

Sleeves shall be laid on a 100 mm compacted layer of selected bedding material or, if this is not available, on a 100 mm sand bedding. The cover layer shall be hand compacted completely around the sleeves and to a cover of 150 mm above the top of them. The sleeves shall be supported along their entire length by the bedding. A further 100 mm layer of selected bedding material shall be added and this shall be compacted using four to six passes of a vibration pan compactor. Thereafter, the trench shall be back-filled and compacted.

2.3.4 Trenching, Excavation And Compaction

2.3.5 General

The contractor shall allow for all excavation and backfilling of cable and sleeve trenches. He shall be responsible for ensuring that any trenches opened by him or for him do not constitute a hazard to the public. Where necessary he shall provide barriers and warning lights at night or any other protection of trenches or excavations as required by the engineer or any statutory or local authority requirements.

2.3.6 Routing

The routes for the underground cables and sleeves are shown on the drawings. Any proposed variation of these routes by the contractor, shall be approved by the engineer before trenching is done. It shall be the contractor's responsibility to ensure that the routes of the cables are correct.

2.3.7 Type Of Material

Unless otherwise specified the contractor shall allow for excavating cable trenches and holes in earth. In addition, unit rates shall be provided for excavating in soft rock and hard rock.

The following definitions shall apply to the three categories. Where the conditions experienced are a combination of two or more of the conditions listed below, the Contractor shall be paid on rates in proportion to the contents of earth, soft rock or hard rock experienced in the excavation.

"Earth" shall mean ground that can be removed by hand and includes loose gravel, clay, made-up ground, loose or soft shale, loose oukrip, and boulders less than 75 mm in diameter.

"Soft rock" shall mean all hard ground such as oukrip, hard shale, decomposed rock, loose boulders and large stones, etc., which require the use of pneumatic tools, mechanical rippers and/or excessive hard labour to excavate and remove economically.

"Hard rock" shall mean granite, quartzite, dolomite, or other rock of similar hardness, which can only be excavated and removed economically by blasting, wedging or breaking.

2.3.8 Precaution With Regard To Other Services

The contractor shall exercise extreme caution in his work to avoid damage to existing underground services. Certain services may be indicated on the drawings but it is not to be assumed that these are the only services nor that their indicated position is entirely accurate. Such information is given as a guide only and does not negate the above responsibility. All excavation in the vicinity of other services must be undertaken by hand.

2.3.9 Compacting

In trenches, the backfill shall be replaced in 150 mm layers and four to six passes with a vibrating pan compactor shall be made per layer. When clay is encountered, the engineer should be advised and he may instruct the contractor to remove all such excavated material and replace it with more suitable material, which shall then be compacted as above. Where material is too wet for proper compaction, it should be dried out and if too dry, shall be dampened. When rain is likely to occur, all excavated material shall be suitably protected to prevent the necessity for later drying out.

In all other areas, backfill shall be replaced in 150 mm layers and shall be hand tamped, the remaining material being heaped over the trench for later settlement.

2.3.10 Completion

The contractor shall be responsible for leaving all areas affected by sleeve trenches, holes in the ground and any other work done by him or on his behalf, in a clean and tidy state, and for making good all concrete surfaces.

It will be the contractor's responsibility to make good any subsidence that may occur within six months of back-filling trenches.

2.4. Manholes

All manholes complete with manhole covers shall be supplied and installed by the contractor. Manholes shall complete to the relevant SANS 558 and SANS 50124 standards.

All manhole positions and sizes indicated on the drawings shall be co-ordinated with the engineer on site before installation. The final position of the installed manholes shall be indicated on the as-built drawing by the contractor.

2.4.1 Measurement And Payment

All equipment, material and labour costs shall be given in the Bill of Quantities.

Equipment and materials of the installation shall be paid for after safely delivered and stored / installed on site less the appropriate retention. This payment shall be subject to proof of payment to the contractor’s supplier. No payment will be made for material and equipment on extended site.

Labour for installation of equipment and material shall be paid for after complete installation, commissioning and testing equipment with the engineer less the appropriate retention. No payment will be made if the engineer is not satisfied with the working operation of equipment. Faults and defects shall be rectified before any payment is made.

Retention shall be deducted and paid as per the Conditions of Contract.

3. PARTICULAR SPECIFICATION FOR THE SUPPLY, INSTALLATION AND COMMISSIONING OF THE ELECTRICAL INSTALLATION

3.1. Electrical Supply And Phase Rotation

The electrical power supply details relative to fault levels, voltage and phase rotation are indicated on the schematic diagram.

The phase rotation specified shall be maintained on all overhead lines, cables, transformers, switchgear and distribution equipment. Where existing connections shall be reconnected to a new system, the phase rotation shall be checked before disconnection and the reconnection made to maintain the same phase rotation.

3.2. Switching Of Power Supplies

Any switching of existing power supplies shall be pre-arranged with the appropriate authority. All possible preparation shall be made in advance, to minimise the time required for re-energising the system. All such switching shall be carried out by the "responsible person" unless such authority is given to the contractor by that person, in writing.

3.3. Earthing And Bonding

The entire steel structure of the substation building shall be earthed according to the relevant drawings.

3.3.1 Resistance Values

Whenever an earth electrode is called for every effort shall be made to obtain an earth resistance value of 1.0 ohm or less. Where ground conditions make this impossible without incurring unrealistic costs the following maximum values will be accepted subject to the approval of the Engineer:

Transformer neutral earthing	10 ohms
Indoor or outdoor switchboard earthing	15 ohms

3.3.2 General Earth Systems

Where the number of spikes called for does not achieve the required values, the engineer shall be advised and he will give further instructions for the improvement of the values obtained. Where more spikes are necessary to obtain the required value, these shall not be installed within 6.0 m of any other spike.

The common leg of the secondaries of CTs, other than the secondaries of summation transformers, shall be effectively earthed to the main earth system.

3.3.3 Earth Spikes

Earth spikes shall comprise 16 mm sectional steel core rods with a minimum of 0.25 mm pure copper coating molecularly bonded thereto, complying with SANS 1063, and of "Cadweld" or equivalent manufacture. The top of earth spikes and the interconnecting conductors shall be 1.0 m below finished ground level.

Under no circumstances are earth spikes to be located closer than 1.0 m to any structure or plinth nor are they to be installed in pole holes.

The connections to earth spikes shall be by means of at least two phosphor bronze mechanical clamps of an approved type for this duty, or a "Cadweld" joint. The clamps shall not be attached to the rod but must be installed so that the bolt face is in contact with the rod. Brazing will not be accepted. The connection must be wrapped with two layers of "Denzo" tape.

3.3.4 Earth Continuity Conductor

Earth conductors shall be hard drawn bare copper wire complying with SANS 182 or bi-coloured green/yellow PVC covered, the PVC being UV stabilised complying with SANS 1411 Part 2. The conductor sizes shall be such that they can carry the short circuit current likely to be imposed upon them but generally shall be half the area of the phase conductors with a maximum size of 70 mm² or in accordance with the appropriate Regulations, unless specific sizes are given.

Bare copper earth continuity conductors shall be run with all cables constituting a low voltage distribution system.

A single conductor may be used where two or more cables run together, provided that the conductor cross-sectional area is based on the largest size cable in the run, and that branch earth wires are solidly connected to the main earth conductor using only "Cadweld" connections. Earth continuity conductors shall be connected to main earth bars.

Uninsulated earth conductors shall not be less than 500 mm below ground level. Above this level all earth conductors shall be green insulated carried in a PVC conduit sleeve except where galvanised conduit is specified.

A terminal lug shall be crimped onto the end of the main earth conductor for bolting to the main earth bar of a substation or minisub or other outdoor equipment. Two mechanical clamps shall be used for connection onto cradles or other equipment, as appropriate.

Earth connections must not be carried through metal conduits or sleeves.

Earth connections shall be so made that in the event of any connections being removed the earth connection to the rest of the equipment will not be affected.

3.3.5 Bonding Generally

All metallic parts of the installation shall be bonded to the earth system as required by the appropriate Regulations.

All iron roofs, gutters, down pipes, water and waste pipes, as well as all steel structures, shall be bonded to earth. The maximum resistance of any such point to the earthed end of the earthing lead shall not exceed 0.2 ohm.

3.3.6 Bonding Of Equipment

Where equipment is bolted together, as in the case of an LV switchgear panel, there shall be a 32 mm x 4 mm copper earth strap extending the whole length of the equipment. All earth bars shall be run in one continuous length as far as possible, and shall not be bent or formed in any way that requires hammering or severe distortion. Any joints shall be lapped with at least two bolts with nuts and washers of suitable size. The lapped ends shall be pre-tinned. If multiple straps are used, they shall be bolted and fixed together at not more than 750 mm intervals. All connections shall be made using brass or stainless steel bolts, nuts and washers, together with a star lock washer, on all minisubs and outdoor equipment. Connections to indoor equipment may be made with cadmium plated steel bolts, nuts and washers, with a steel spring washer.

3.4. Cables

3.4.1 Description

PVC insulated cables for LV shall be to SANS 1507 and shall consist of PVC insulated conductors, PVC bedding, galvanised steel wire armouring and a PVC sheath.

The abbreviation for this type of cable is PVCAS.

The sizes indicated are for cables with copper conductors.

Supply cables to Kiosks from the substations and the street lights. All sizes and positions are indicated on the relevant drawings.

3.4.2 Cable Lengths

All scheduled cable lengths are for tendering purposes only and the contractor shall measure the actual lengths required before ordering.

The length of all cables will be re-measured after installation and the lengths indicated in the bill of quantities will be adjusted accordingly. The contractor will be paid for the actual lengths measured on site and any allowance for snaking, joints or ends must be incorporated in the unit price.

3.4.3 Handling Of Cables

Particular care shall be taken in handling drums of cable. Cable drums shall not be dropped or allowed to roll unchecked. The drums shall, under no circumstances, be rolled in any direction other than that indicated by arrows thereon.

When running cable off a drum, it shall be properly and securely mounted so as to rotate without difficulty and the spindle supporting it shall be straight, horizontal, supported at both ends and of adequate strength. Cable shall only be removed from the drum by rotating the drum. The inner end of the cable shall be released before running any cable off the drum.

Care shall be taken to ensure that each length of cable is run off the drum sequentially so that a crossed core situation does not arise at joints.

No cable shall be bent to a radius less than 12 times the overall diameter of the cable. Bending or straightening shall be done slowly.

Should a cable inadvertently become damaged or the lead sheath or end cap punctured, this fact shall be brought to the notice of the engineer immediately, who shall decide what further action is to be taken.

3.4.4 Cables Fixed To Surfaces

Wherever cable saddles or any other items shall be fixed to structural components, the use of dry plugs of wood will not be permitted. 'Rawlplugs' or other plugs to approval only shall be used. Surface mounted cable protection pipes shall be galvanised and shall be fixed with saddles of 32 mm x 3 mm galvanised strap bolted to the wall using bolts grouted in, 'Rawlbolts' or similar. All cables rising on the outside of buildings or on poles shall be protected by such pipes to a height of 2.0 m above ground level. Where a cable is installed fixed to a pole, it shall be attached to the pole using stainless steel "Bandit" strap or equal. Care shall be taken to ensure that the straps are tightened correctly and that they do not distort or indent the cable sheath.

3.4.5 Cables In Sleeves

Cables shall pass in and out of buildings and under roadways and pavements in sleeves. All sleeves shall be installed in accordance with the clause "Sleeves".

3.4.6 Cables Laid In Trenches

MV cables at 1000 mm below ground level, and LV cables at 600 mm below ground level. Where a number of LV cables are run in the same trench, they shall be laid with a minimum separation of 100 mm. This applies to feeder cables only and not service cables which shall be only 25 mm apart. Cables shall not cross each other.

The trench bottom shall be cleared of all sharp or protruding stones. The trench is then to be refilled with 150 mm of soft material and compacted. A further layer of soft material shall be installed after the cables are laid to provide 200 mm cover for the cable when compacted. PVC sheet cable marker strip 450 mm wide with indelibly printed warnings every 150 mm along its length shall be installed in the case of LV cables. Where only LV service cables are installed, a clean trench bottom and soft material backfill is required and no PVC sheet marker.

The soft material described above may be either sand or backfill material sifted through a 3.0 mm mesh grid. Where the bottom of the trench consists of only soft sandy material, the bedding underneath the cable shall be omitted and the cable shall be laid on the trench bottom at the correct depth. Permission must be obtained from the engineer for the cable bedding to be omitted in such instances. Where sand has to be brought to site, the quantity must be measured and confirmed by the engineer.

The balance of the trench shall be back-filled with excavated material from which all stones, etc., greater than 100 mm in size have been extracted. All such material shall be removed from site.

3.4.7 Labelling Of Cables

All cables shall be labelled with 3 mm high letters punched onto aluminium tape attached to the cable with aluminium wire. The label shall state the cable size and number of cores. All main feeder cables shall also be labelled to state from whence they are supplied. The labels shall be so installed that they are easily readable. CABLE TERMINATIONS

3.4.8 General

Cable termination shall be carried out by a qualified person using only approved standard methods for the particular type of cable. Proof of his training shall be required.

3.4.9 Connections

Cable connections shall be made by means of crimped or sweated lugs, firmly bolted, one plain and one lock washer being placed under the nut, so that the plain washer is against the lug and there shall be no washer between the lug and the terminal. A plain washer is also required under the bolt head. Alternatively, sweated stems fitting into clamp connections will be acceptable.

Crimped lugs shall be fitted using manual tools up to 70 mm² and hydraulic tools from this size upwards. Approved tools shall be used in both cases. Where a single point hydraulic crimping tool is used, the lug shall be crimped in three places. Where a hexagonal die is used, this shall extend the full length of the lug.

Cable connections shall be made using brass bolts, nuts and washers, together with a star lock washer, on all kiosks minisubs and with cadmium plated steel bolts and nuts on all indoor equipment. All bolted joints shall be taped with self-vulcanising (not adhesive) tape.

Where cable connections are required to the HV and LV terminals of transformers, these shall be made off as follows:-

Red Phase to Terminal A

White Phase to Terminal B

Blue Phase to Terminal C

All transformer connections shall be kept in strict phase rotation and where two or more units shall operate in parallel, the respective connections shall be checked for phase rotation and polarity. In the case of cable terminations to transformer bushings the cable itself shall be clamped substantially to a post adjacent to the transformer, connections to the bushings being puttied and taped.

All connections shall be colour coded.

3.4.10 Lv Cable Terminations

PVCAS cables shall be made off using adjustable mechanical glands. Care shall be taken to ensure that armour wires are correctly seated in the gland and that all parts are properly tightened. Outdoors, in damp situations and in all minisubs, neoprene waterproofing shrouds shall be fitted over all glands.

3.4.11 General Distribution

Sub-distribution generally shall be with PVC insulated wiring in uPVC conduits. Conduits cast or chased in floor slabs shall be PVC up to the nearest outlet box or SDB. All exposed conduit shall be galvanised mild steel, painted to match the surface it is installed against.

All conduit work in slabs shall be run clear of doorways and particular care shall be taken when installing conduits for dropping into walls, that no fanlights or windows occur below.

As far as possible colour coded wiring shall be used, e.g. red, white, blue and black for three (3) phase connections and red and black for single phase connections.

3.5. MCB Main And Sub-Distribution Boards And Control Panels

In general, such boards shall comply with SANS 10142-1, SANS 1765 and SANS 1473-1, and in particular, with the requirements of this clause.

KPS Control Panel shall be floor standing and WPS Control Panel 2 shall be surface mounted against the wall. Both KPS Control Panel and WPS Control Panel 2 shall have access from the front.

No board shall exceed 2.4 m in height nor shall any meter scale, operating handle, button or switch be mounted higher than 1.8 m or lower than 600 mm from the floor. No part of any equipment shall be mounted closer than 300 mm to the floor.

All structural elements of main and sub-distribution boards and the complete construction of motor control panels shall be of minimum 2.0 mm thick material. Non-structural elements shall be of 1.6 mm material.

The boards shall be of the minimum sizes to accommodate all the equipment specified plus 30 % future circuit breakers. Where single phase breakers are used in three phase boards, these must be arranged in three vertical rows, one for the breakers in each phase. Space for the nearest whole number above 30 % of each type of circuit breaker installed is to be provided for. Unless made specifically to clip in from the front, blanking plates shall be fixed with short cadmium plated bolts and nuts. All openings for future equipment shall be covered with blanking plates fixed on the inside of the opening. Sufficient outgoing terminals shall be provided for the future equipment. Cognisance must be taken of the heat dissipated by equipment and adequate ventilation be provided.

Copper busbars are to be provided for each phase and are to be mounted on suitable insulators or fixed to the terminals of the miniature circuit breakers, and be of sufficient length to accommodate future breakers. Busbar and other connections shall be made using cadmium plated steel, bolts, nuts, flat and spring washers.

Copper bars are to be used for KPS Control Panel and WPS Control Panel 2. The main neutral feed to the busbar shall be connected by a lug bolted to the bar, as described above. Busbars for each phase and the neutral busbar shall be installed at the top of the control panels and the ground bar shall be installed at the bottom of the control panels. The neutral busbar shall be of the same size as the phase busbars and shall not be half the size of the phase busbars.

The equipment on these boards shall be mounted on chassis behind sheet metal panels with operating handles, toggles and control buttons, etc., only protruding through slots cut in the panels. The isolating device for all motors situated remote from the control panel shall be lockable in the "OFF" position. The panels shall be either hinged or removable for ease of access to the wiring, etc. Securing of panels shall be by means of square key latches with vertical locating pins in the case of fixed panels.

The interior of the boards shall be arranged for easy access to all wiring and components. Transformers for low voltage supplies and all low voltage wiring shall be separated by metal barriers from the medium voltage circuits. Positions of transformers are to be indicated by labels attached to the face of the board.

All equipment on the boards shall be back-connected and no wire or cable shall be visible from the front. PVC insulated wiring shall be used throughout, the current rating being not less than the rating of the circuit breaker or aggregate rating of the bank of circuit breakers which it connects.

Wiring of the boards shall comply generally with the clause "Control Equipment and Wiring".

Unless otherwise specified, surface and flush boards shall be provided with doors. All control panel doors shall be fitted with dust and damp proof seals. All instruments, meters, pilot lights, etc., and the main isolator must be operable with the doors closed. Hinges shall be "Barker and Nelson" or "Perano".

All metal surfaces of the boards shall be epoxy powder coated to a thickness of 70 microns to SANS 1274 and of an approved quality and colour. No hammertone or similar finishes will be acceptable and the final colour must be readily matchable. Before painting, all boards shall be bonderised or given some similar rustproof treatment to approval. It is the contractor's responsibility to ensure that when handed over, the board finish is in first class condition. Under no circumstances will boards be accepted if not finished to a first class standard at hand-over.

KPS Control Panel and WPS Control Panel 2 cabling arrangements shall be such that outgoing feeder ends can be made off with the board live at all times. This shall be provided for by means of a 2.0 mm galvanised gland plate in close proximity to the outgoing terminals of the switchgear. All gland plates shall be bonded to the earth bar by means of a 70 mm² bare copper conductor fixed with minimum 10 mm cadmium plated bolts and nuts.

The underside of the board shall be rendered vermin proof by means of similar plates to the gland plates above.

Boards shall be labelled in accordance with the clause "Labels and Notices".

3.6. LV Circuit Breakers

3.6.1 General

All main circuit breakers shall be equipped with adjustable instantaneous magnetic and inverse time delay thermal overload releases on each phase and shall be arranged for flush mounting. They shall be connected to the busbars with solid copper connections of adequate section to resist short circuit stresses that may be imposed by faults up to the maximum rupturing capacity of the breaker.

Where circuit breakers are used to control supply taken directly from the Supply Authority, they shall be of a make approved by that Authority, and shall be set to trip within the specified limits laid down by that Authority.

Unless otherwise stated in the Project Specification, MCBs shall be provided with electronic protection units with the following features:

- Inverse-time overload protection
- Instantaneous short-circuit protection (adjustable)

Incomers shall incorporate the above plus selective short-circuit protection with adjustable time delay.

3.6.2 Moulded Circuit Breakers

Moulded case circuit breakers shall comply with SANS 156 with time delay tripping on low overloads and high speed tripping on short circuit. Rupturing capacity for MCBs shall be Class 5 kA 240 V or 415 V, as applicable, and where various current and breaking capacities are required, all MCBs are to be of one make throughout the installation. All MCBs are to carry the SANS Mark.

The Engineer will not accept a mixture of circuit breakers from various Manufacturers to meet the various duties required.

In the case of motor control, all MCBs shall be supplied with "slow" tripping curve (Curve D or curve 1) except that those MCBs controlling motor starters located in the same control panel shall not have overcurrent trip elements, this feature being provided by the adjacent starter overload device, magnetic high current protection only being required.

Where MCBs are required rated greater than 100 A, or are to be connected to cables larger than 70 mm², the terminals shall be of the stub busbar or rear connecting stud types. For all other cables, box type terminals shall be provided. Three phase MCBs shall be fitted with suitable phase barriers.

MCBs shall be fitted with purpose made terminal shrouds where no fascia plate is provided.

3.7. Supply Authority Meters

Supply Authority meters will be supplied by ErongoRED and shall be installed in accordance with their requirements for the type of tariff involved. All other meters not specifically detailed as Supply Authority's shall be supplied and installed by the contractor.

If the kWh meter of the City of Windhoek Electricity Department installed at Pump Station is still acceptable for them it shall be removed from the present control panel and shall be re-installed in a weatherproof distribution board outside the pump station building against the wall. The City of Windhoek Electrical Department has stated that they will inspect the existing meter before the contractor reposition it. If it is required a new kWh meter shall be installed and the existing kWh meter shall be handed over to the Client. The new kWh meter will be supplied by them to the cost of this contract.

A new kWh meter with maximum demand shall be installed in KPS Control Panel for the clients own use. The new kWh meter with maximum demand shall be of the same type the City of Windhoek Electrical Department specifies. The present make is Actaris. The meter should be able to provide a pulse output which will be sent to the WINCC Server.

No new kWh meters shall be installed at Pump Station.

3.7.1 Earth Leakage Protection Units

Earth leakage protection units shall be single or three phase, as indicated, with a sensitivity of 30 mA. The unit shall actuate a shunt trip isolator or MCB as specified. The earth leakage units shall comply with SANS 767 and shall carry the SANS Mark to ensure that they comply with Compulsory Specification VC 8035 promulgated in Government Gazette No 10987.

3.7.2 Hour Meters

Hour meters shall be of the digital type reading up to 99 999 hours. They shall be suitable for 230 V, 50 Hz. AC operation or 12 – 36 V DC operation

3.7.3 MCC/Off/Auto Switches

A MCC/OFF/AUTO switch shall be fitted to each starter subject to automatic control. The MCC control circuit, which shall comprise stop-start push button, shall be fed from a fuse other than that for the automatic control system.

3.7.4 Labelling

All control equipment both within the panel as well as all projecting items, shall be labelled in accordance with the Clause "Labels and Notices". Any device which can be unplugged shall be labelled at the base and on the device.

3.7.5 Motor Starters

GENERAL REQUIREMENTS FOR MOTOR STARTERS

Starters shall be of first class quality and shall be of Moeller Electric, Telemecanique or ABB manufacture. All starters shall be of the same make. Star-Delta starters shall be provided with both electrical and mechanical interlocks.

Starters shall comply with the relevant requirements of SANS 60947-4.

Starters shall be protected by moulded case circuit breakers designed to provide full short circuit protection to the contactors, overloads, the interconnecting cables and the motor. The circuit breaker shall be correctly co-ordinated with the motor overload protection.

It shall be of a type specifically designed for motor protection duty fitted with high speed tripping devices which are calibrated to avoid nuisance tripping during starting. Thermal overcurrent trip elements, if provided, shall be correctly co-ordinated with the starter overload protection under all normal starting and operating conditions.

Circuit breakers from the same supplier as the motor overload protection devices which have been specifically designed to co-ordinate with these devices shall be used wherever possible. The starters shall be so selected that they are not subjected to a higher fault current than that for which they are designed. HRC or gl/gG fuse protection shall be provided, if necessary, in which case the MCB shall be replaced by an on-load isolator. MCBs and isolators shall be lockable in the "OFF" position wherever motors are situated remote from the control panel.

Contactors used in starters shall be magnetically operated. They shall be of robust design, operate without undue noise and. Unless otherwise stated, they shall be of continuous rating, current making and breaking Category AC3. They shall be selected to provide an expected service life of not less than 1 million switching cycles or 10 years service under the anticipated operating conditions, whichever is the more arduous requirement.

Contactors shall of the hold-in type capable of operating satisfactorily without overheating for a period of 10 minutes if the supply voltage falls to two thirds nominal. Contactors shall not chatter when opened at two thirds voltage, or at a frequency 10 % below nominal. Low voltage release shall be inherent in the operating coil. All starters shall be equipped with a voltage free auxiliary change- over contact to provide a "RUN" signal during operating.

No motor control gear shall have a continuous rating of less than 10 A at Category of duty AC3. Contactors shall be capable of making and breaking the starting current of the motor and of carrying this current without damage for a period of one minute. They shall also be capable of withstanding, without damage, the passage of the maximum fault MVA of the circuit until such time as the fault can be cleared by the operation of the back-up protection.

Overloads of the thermal type shall be matched to the motor ratings and shall be manually reset. The overloads shall be so set that the motor will trip within 30 seconds of a single phase condition arising when the motor is hot and operating at 80 % of full load current. If the starter is not capable of this, then single phase protection devices shall be fitted for all motors of 10 kW and over.

All overload devices shall be fitted with a voltage free auxiliary changeover contact to provide a "tripped" signal. If this facility is not available on the overload offered, an interposing relay shall be provided to perform the same function. Such a relay shall be energised upon an overload trip occurring.

Where electronic motor protection is specified and unless another relay type is called for, the relay shall be a Moeller Electric, Telemecanique or ABB motor protection unit, or approved equal, equipped with appropriately rated current transformers.

The following shall be included as standard features:-

Overload protection, phase unbalance and single phase protection, locked rotor and excessive re-starts protection, thermal memory, auxiliary supply dip-proofing, fail-safe operation on main trip relay, analogue or LED indication of percentage motor load and thermal memory.

Optional features which may be specified in the Particular Specification are:-

Earth fault protection, short circuit protection, etc.

In the case of dual-speed motors, protection shall be provided by a dual-operation relay separately configured to provide full protection at each speed.

Each starter and its associated equipment shall be accommodated in a separate cubicle forming part of a motor control panel meeting the requirements specified elsewhere herein.

Equipment shall be so arranged that all routine operations can be carried out from the front panel and all status indications are clearly visible without opening any doors or covers. Alarm cancel, alarm resets and similar controls shall be operable from the front panel.

The door to each compartment shall be interlocked with the motor circuit breaker or isolator such that the circuit breaker or isolator shall be in the "off" position before the door can be opened.

3.7.6 Direct On Line Starters

Unless specifically otherwise stated in the particular specification or required due to the nature of the driven machine, all motor starters shall be of the fully automatic direct-on-line type.

Direct-on-line starters shall comply with the relevant requirements of SANS 60947-4.

Starters shall comprise the following major components:-

- A circuit breaker for short circuit protection and isolation. Alternatively, where necessary due to fault level considerations, a fuse switch unit or fuses and an on-load fault make, load break isolator may be used as detailed above.
- A suitably rated contactor.
- An overload relay to match the motor characteristics. For larger motors and motors operating under difficult starting conditions with long acceleration times, the overload relay shall incorporate matched current transformers designed to saturate and limit the peak current applied to the thermal elements.
- A thermistor winding temperature protection relay for all motors exceeding 15 kW rating or where called for in the particular specification.
- Where electronic motor protection is called for a temperature rise indicator is required.
- A current transformer operated motor ammeter with 100 % overscale. The motor full load current shall be clearly marked in red on the ammeter scale.
- Where specifically called for, a running hour meter shall be provided.
- Pilot lights for status indication which shall include, as a minimum, indication of motor running and motor tripped.
- All necessary terminals, timers, auxiliary contacts, etc. to suit the specified control and indication requirements detailed in the particular specification.

- Sheet steel or polycarbonate enclosure forming part of a motor control panel complying with the requirements set out elsewhere herein.

3.7.7 Star-Delta Starters

Star-delta starters shall be installed for pump 3 and pump 4 at Pump Station.

Star-delta starters shall comply with the relevant requirements of SANS 60947-4.

Starters shall be fully automatic in operation utilising electrically operated mechanically and electrically interlocked contactors. Control of the transition from star to delta shall be by means of an adjustable timer. The timer shall normally be set to allow the motor to accelerate to at least 80% of its rated speed before change over occurs.

The overload relay shall be connected in series with the windings so that it is in circuit during both star and delta configurations. Care shall be taken to ensure that the relay is correctly set, taking into account the fact that the current seen by the relay is 0.58 times the line current drawn by the motor.

Where an undercurrent relay is used to initiate the star to delta transition, the overload device shall be of a type which will adequately protect the motor should the undercurrent relay fail to operate due to mechanical faults or other similar problems which prevent the motor accelerating to the normal transition point. If this cannot be assured, then a separate safety circuit shall be incorporated into the starter to trip the motor if the transition does not occur within an acceptable time limit. This circuit shall have its own independent trip indication so that the cause of the motor tripping can be distinguished from overload trips.

Where arduous starting conditions exist, causing the overload relay to operate during acceleration in star, the employer may permit the overload relay to be connected in the line connections between the motor circuit breaker and the starter. The relay shall then be set to the rated current of the motor and adjusted during commissioning. This connection shall be approved before it is used.

Only in exceptional circumstances will the client permit connections where the overload is not in circuit while the motor is connected in star.

Great care shall be taken to ensure the correct connections on the motor terminals to minimise the differential voltage at transition. For clockwise rotation the correct connections are red phase to U1, white phase to V1 and blue phase to W1 with the delta connection made as follows, U1-V2, V1-W2 and W1-U2. (The motor will also run clockwise if connected U1-W2, V1-U2 and W1-V2 but the differential voltage at transition will be higher and will result in an increase in the current surge). For anti-clockwise rotation, the correct connections are red phase to V1, white phase to U1 and blue phase to W1 with the delta connections made as follows, U1-W2, V1-U2 and W1-V2. The above assumes normal phase rotation on the supply. If the phase rotation of the supply is reversed then use the anti-clockwise connection to achieve clockwise rotation and vice versa.

If called for in the particular specification or recommended by the manufacturer of the driven machine, closed transition star-delta starters may be required. In closed transition starters the star contactor shall be of the same size and rating as the main and delta contactors.

Sizing of the transition resistors shall take into account the anticipated operating frequency as well as the load characteristics and the consequent minimum motor speed during the transition. Transition resistors shall be of the wire wound ceramic type or of the cast iron grid resistor type, depending on the required resistance and rating. The resistance value shall be calculated to minimise the current surge during the star-delta transition.

The major components of star-delta starters shall be as listed for direct-on-line starters with the addition of the necessary extra contactors, interlocks, timers and, where closed transition starters are called for, transition resistors.

3.7.8 Electronic Soft Starters

Electronic soft starters shall be installed for pump 1 and pump 2 at Pump Station.

Only starters from the following manufacturers shall be offered unless the client approval is obtained for the supply of another make. Approved manufacturers are Moeller Electric, Telemecanique or ABB.

Soft starters shall be selected and rated to suit the load characteristics.

As a minimum, the following features shall be provided:-

- Ramp times and startup voltage should be adjustable via potentiometers. Start time should be adjustable between 1 and 30 s and between 0 and 30 s stop time. The starting voltage should be adjustable from 30 to 100 % main voltage.
- Built-in bypass contacts that close automatically at top-of-ramp and bypass the built-in thyristors.
- Starting current shall be limited to $3 \times I_N$ for 5 s if starter is used to start pump 10 times in one hour.

All soft starters shall be adequately protected against voltage spikes and surges. They shall be immune to and shall not produce excessive electromagnetic interference. They shall not produce high levels of harmonics which may affect other equipment or control circuits and shall comply with all legal requirements in this regard. In addition, the equipment shall not be damaged when tested in accordance with the CSIR recommendation: ENER-1 90025: 1990, A lightning surge disturbance environment for electronic systems: Guideline standards for surge withstand compliance and testing.

The starters shall be mounted in adequately ventilated cubicles and, if needed, forced ventilation shall be provided.

3.8. Power Supply

The power supply shall be from Engineering Services cc and shall have a potential free contact for charger failure to indicate failsafe health. It shall be a 20 A power supply with the following features:

- Input voltage: 230 V
- Input frequency: 47 – 63 Hz
- Output voltage: 27 V DC \pm 1 V DC
- Output current: 20 A

3.9. Painting

Any metal work which is not galvanised or painted at the Works, shall be degreased using a solvent and thoroughly cleaned with a wire brush. If rust is present, this shall be removed by grinding. A red oxide self-etching primer shall be applied, followed by a white undercoat and thereafter a coat comprising a mixture of 50 % undercoat and 50 % finishing coat. The final coat shall comprise oil based outdoor type enamel.

All equipment that is delivered to site painted shall, after installation, and as near as possible to handover, be lightly rubbed down, all damaged paintwork be touched up and thereafter the whole given one coat of oil based outdoor type enamel of the same colour as the original.

Where any galvanised or zinc coated surface has been damaged or cut, this shall be touched up using an organic zinc rich epoxy primer (containing minimum 90 % zinc) after thorough cleaning with a solvent and grinding away all rust. This shall be followed by a self-etching primer suitable for use on zinc coated surfaces and then an undercoat and two top coats as described above.

3.10. Labels And Notices

The contractor shall arrange for the labelling of all equipment, instruments, meters, relays, cables, etc., as indicated below.

All labels shall be in English.

Where identical items of equipment can be removed from their housings, e.g. circuit breaker carriages, plug-in relays etc., both the fixed and withdrawable portion shall be labelled identically.

All labels shall be ivory or other back-engraved white on black labels of the sizes indicated. They shall be located in purpose made holders or otherwise shall be screwed or riveted into position.

Prior to any equipment being labelled, the contractor shall request the engineer to provide a complete labelling schedule for all items of equipment. Under no circumstances is equipment to be labelled in accordance with the tender drawings since any description thereon is for identification purposes during construction only and is unlikely to apply to the completed Works.

The following list indicates the general labelling requirements but does not limit the extent of labelling required, which shall encompass the full extent of the equipment supplied, or in the case of existing equipment, any such which is affected by this contract.

50 mm High Lettering

Substation and minisub designation.

Outdoor switchgear designation.

Transformer designation.

Distribution kiosk and fused feeder panel designation.

20 mm High Lettering

Main or sub-main board designation.

Control panel designation.

Indoor switchgear designation.

10 mm High Lettering

Individual switches on switchgear.

Cubicles.

Sub-distribution board designation.

Poles for OH lines.

5 mm high lettering

Minisub feeder breakers and isolators.

Distribution kiosk feeder breakers and isolators.

General distribution switchgear.

Meters, instruments and relays.

Multiplying factors.

3 mm High Lettering

This size shall be used to designate the conductor size and number of cores of each cable installed under this contract. In addition, all feeder cables shall be labelled to state from whence they are fed.

All switchboards shall be provided with a label in English reading:

"IN CASE OF LEAKAGE OR ACCIDENTAL CONTACT, PUT OFF MAIN SWITCH IMMEDIATELY".

Where more than one similar item of equipment is fed from the same board or control panel, the item itself shall be labelled, this being fixed in a permanent position, i.e., not attached to motors, pumps, etc., but to bases or adjacent thereto, the lettering being 50 mm high.

3.11. Testing And Commissioning

The entire installation shall be tested and commissioned with the engineer.

As Built drawings and test certificates shall be submitted to the engineer.

3.11.1 Guarantee And Maintenance Period

During the twelve (12) months guarantee and maintenance period the following requirements shall be met:

- A normal maintenance service every three (3) months or as prescribed by the manufacturer.
- A comprehensive maintenance service after each period of six (6) months or as prescribed by the manufacturer.
- Submission of service reports in triplicate to the client and engineer within seven (7) days from the date of service.

3.11.2 Measurement And Payment

All equipment, material and labour costs shall be given in the Bill of Quantities.

Equipment and materials of the installation shall be paid for after safely delivered and stored / installed on site less the appropriate retention. This payment shall be subject to proof of payment to the Contractor’s supplier. No payment will be made for material and equipment on extended site.

Labour for installation of equipment and material shall be paid for after complete installation, commissioning and testing equipment with the engineer less the appropriate retention. No payment will be made if the engineer is not satisfied with the working operation of equipment. Faults and defects shall be rectified before any payment is made.

Retention shall be deducted and paid as per the Conditions of Contract.

3.11.3 ANNEX PH – Applicable Standards

Reference is made to the latest issue of the following standards:

BS 89	Direct acting indicating analogue electrical measuring instruments and their accessories
SANS 156	Moulded-case circuit breakers
SANS 182-1	Conductors for overhead electrical transmission lines Part 1: Copper wires and stranded copper conductors
SANS 767-1	Earth leakage protection units Part 1: Fixed earth leakage protection circuit-breakers
SANS 767-2	Earth leakage protection units Part 2: Single-phase, portable units
SANS 1063	Earth rods and couplers
SANS 1411-2	Material of insulated electric cables and flexible cords Part 2: Polyvinyl chloride (PVC)
SANS 1574	Electric cables – Flexible cords and flexible cables
SANS 1607	Electromechanical watt-hour meters
SANS 1663	Safety of manually operated switches for fixed installations
SANS 1765	Safety of distribution boards
SANS 10142-1	The wiring of premises Part 1: Low-voltage installations
SANS 60044-1	Instrument transformers Part 1: Current transformers
SANS 60186	Voltage transformers
SANS 60521	Alternating-current electromechanical watt-hour meters
SANS 60947-4-1	Low-voltage switchgear and controlgear Part 4-1: Contactors and motor-starters – Electromechanical contactors and motor-starters
SANS 60947-4-2	Low-voltage switchgear and controlgear Part 4-2: Contactors and motor-starters – AC semiconductor motor controllers and starters
SANS 61036	Alternating current static watt-hour meters for active energy (classes 1 and 2)

4. PARTICULAR SPECIFICATIONS FOR SUBSTATION EQUIPMENT

4.1. General

4.1.1 Constructional Requirements

Concrete Plinth

The packaged substation shall be mounted on a concrete plinth. Plinths shall be cast on site. The characteristics of nationalized Plinth (eg. The base fixing details, the opening sizes and hence matching fixings in the Mini substation) which will accommodate the range of Mini substations as given in the manufacturer’s manual. The packaged substation manufacturer shall provide a detailed plinth drawing suitable for each type of packaged substation supplied. The top of the plinth shall be at least 150mm above the final surrounding ground level. The concrete plinth shall protrude beyond the sides of the packaged substation by approximately 100mm to form an apron. The concrete apron and plinth shall be wood float-finished before the packaged substation is mounted and shall slope from the channel-iron foundation to permit the run-off of rain water. A 3mm thick gasket of approved malthoid shall be inserted between the packaged substation and the concrete surface. The gasket shall be as wide as the channel-iron base. Cable ducts shall be provided in the plinth to accommodate all the incoming and outgoing cables. The cable ducts shall be sealed to prevent ingress of rodents. The sealing shall be such that it can be readily removed in the event of future cable work and may consist of a filling of sand covered with approximately 10mm thick 10:1 sand and cement and finished flush with the top of the concrete plinth.

Underbase

Steel under bases of minimum height 75mm shall be supplied for the packaged substation. In addition to hot-dip galvanizing, the bases shall be coated with black epoxy tar paint.

Doors

Long pedestal type hinges with at least two fixing bolts per hinge or similar hinges shall be used to hang the doors. The pedestal hinges shall be arranged in opposed fashion so that doors cannot be lifted off. Piano hinges are not acceptable. The hinges shall be of brass or other corrosion resistant materials, nylon or aluminium hinges are not acceptable. At least three hinges shall be provided on doors higher than 1,2m. Doors restraints shall be provided. Cloth or canvas straps are not acceptable. The fixing points of the restrains at both the door and the door frame shall be reinforced. The locking mechanism shall have a catch on the rear which catches behind the frame or door entry surround. The locking mechanism as well as the catch support area shall be backed by brass or galvanised steel plates. The locking mechanism shall be pad lockable. Pad locks will be provided by the Employer unless otherwise required in the detailed specification. Brass bolts and nuts shall be used to fix the hinges.

Labeling

All equipment shall be fully labeled and accurate description shall be given. Engraved plastic or ivory sandwiched strips shall be used for labels. The labels shall bear black lettering on a white background. Printed or painted labels are not acceptable. The following labels shall be supplied as a minimum requirement: Designation of the substation employing lettering at least 40mm high. Labels to be provided on the outside in a prominent position on both the front and back of the substation. Designation of each circuit i.e. circuit breaker, isolator, meter, etc. employing lettering at least 5mm high. One label to be installed directly below each item of equipment pertaining to the particular circuit shall be provided. The function and circuits of all other equipment shall be clearly identified. Flush mounted equipment within the front panel shall be identified by labels fixed to the front panel. The labels for all equipment installed behind panels shall be fixed to the support panel close to the

equipment. The labels shall be secured by means of brass nuts and bolts, self-tapping screws, pop rivets or slotted label holders. Engraved labels shall be secured to facilitate a neat alteration of the designation of the labels. Labels shall not be glued to their mounting positions. Sufficient fixing points shall be provided to prevent labels from warping.

Notices

Statutory notices and labels as required on the outside of the packaged substation shall be riveted to the steel door or paneling so that they cannot be removed. Non corrosive rivets shall be used. A safety notice or notices with the regulations issued in terms of the Occupational Safety Act, to the design (SABS 1186) and mounted on a square sheet of minimum size 100mm x 100mm and made on non-plastic durable corrosion-resistant material, shall be securely mounted either on the outside of the door of each outer compartment or in the center of the front panel of the transformer compartment.

NOTE – As such notices are liable to be subject to vandalism, special attention should be paid to the security of their attachment.

The label should read:

DANGER
A danger sign in between
OSHIPONGA

4.1.2 Substations – Medium Voltage Compartment (11kv) Ring Main Unit (Rmu)

The medium voltage compartment shall be equipped with an extensible bulk oil filled Ring Main Unit (RMU), with a fused tee-off. And preferably to be similar or equal to the TRICON of ABB type ,units to be suitable for prevailing climatic conditions .The RMU shall comply with NRS 006 and shall have a basic insulation of 95kV.

The rated continuous currents and braking capacities are to be:

Oil switch busbars and contacts: 400A Fused oil switch contacts : 90 A

Each switch shall have three positions “ON”, “OFF” and “EARTH”.

The mechanism must be pad lockable in the off position. Pad locks shall be supplied for each switch. All switches and switch fuses have labels indicating the on/off and earth metal plates in characters of height at least 10mm or on a moving component of the switch that is visible.

1 = On Position 0 = Off Position

Faults shall be fully cleared by the fuses before the switches are tripped and opened. A blown fuse on any phase shall open all three phases of the switch and shall inhibit the closure of the switch until the fuse is replaced. The cable test facilities must only be accessible after the switch is in the earth position. Cable test facilities are required for all three switches of the RMU. It shall not be necessary to remove the mini-sub canopy or housing to fit the test unit. Fuse links shall be of the striker pin type, shall be hermetically sealed and shall be suitable for use under oil. Automatic shutters shall be provided to safeguard against inadvertent contact with live parts when the fuse carriage is removed. Three spare fuses in addition to the three fuses supplied with the fused oil switch shall be supplied with each unit. The rating of the fuses shall be able to withstand “in rush” currents and to discriminate under all conditions.

The switches must be supplied with terminals and cable end boxes suitable for the cable types specified. The minimum clearances between connecting cables and jumpers and any sharp earthed metal edges or protrusions shall be at least 75mm.

“DELARON” or “THIOLITE” resin bound synthetic wood or similar dielectric material shall be used to maintain the phase-to-phase and phase-to-earth spacing of the cable and jumpers. The surface of these spacers shall be treated to prevent surface tracking. Stranded annealed copper conductors only shall be used for jumper cables.

4.1.3 Ring Main Termination

All terminals shall be shrouded with heat-shrinkable shrouds approved by the Electrical Engineer. The following method is used to terminate Ring Main Unit Bushings.

Make of Kit: Any of the following three may be used - Raychem, 3-D and Repel Termination Kits.

Preparation:

1. Compact Cable
2. Ant Poison
3. One Cement / Four Sand (Screening)
4. 100mm Thick Termination of Cable to Bushing: 1. Shine and clean contact area 2. Grease and tighten cable 3. Use Scotch fill or B.I.C.C. Putty to give termination body 4. Use Scotch 23 to insulate termination and cover insulator (bushing) plus minus 25mm up above copper contact area
5. Use Scotch or Pratley 33 PVC tape (start at top, tape down wards and back again)
6. Apply 3-D Boot
7. No colour tape (red, white, blue) will be allowed.

The medium (11kV) voltage connections between the fused switch unit and the transformer shall be suitably blanked off so that they cannot be touched.

4.1.4 Transformer Compartment

The transformer shall comply with SABS 780 and shall be manufactured by a mark holder.

TRANSFORMER Vector Group – DYN 11

Primary connections: Delta (Copper windings)

Secondary connections: Star (Copper windings).

Type of cooling: ONAN (Oil Natural Air Natural)

M.V. tapping: 5% I_n and 2.5% Steps Off load switch (pad lockable)

Transformer oil: First filling to SABS 555

Additional requirements: Sealed, lifting lugs changing locking device, inspection cover, rating and diagram, oil level indicator, drain valve, earthing terminal.

Transformer Corrosive Application

(1) Transformer Tank: The outer surface of the transformer tank should be painted in accordance with SABS 780 for corrosive application.

(2) Radiators: Radiators should be protected against corrosion by painting in accordance with the requirements of SABS 780 for corrosive conditions or alternatively by hot-dip galvanizing in accordance with the relevant requirements of SABS 763.

4.1.5 Technical Information

System Voltage (Primary Voltage) – 11kV

System Voltage (Secondary Voltage) 420/242 Volt, at no load

Frequency 50Hz

Number of phases (Medium Voltage): 3

Number of phases (Low Voltage): 3 phase 4 Wire

KVA Rating 800 KVA at 11kV (800 KVA Transformer)

Average Altitude – 1050m

Average humidity – 9%

Lightning – Severe

Average power factor – Above 0.8

Neutral – Earthed

The neutrals of the 420/240 volt secondaries of the transformers will be earthed.

4.1.6 RATING OF THE LOW VOLTAGE NEUTRAL TERMINALS (S.A.B.S. 780)

The rating of the low voltage neutral terminal shall be at least 50% of the rated current of the line terminals in the case of a transformer that has a rating of 630 KVA or lower, the rating of the neutral bushing shall be the same as that of the line terminals. The rating of the neutral terminal shall be the same as that of the line terminals.

4.1.7 Low Voltage Compartment

The connection between the LV transformer bushings and the LV panel shall comprise single-core stranded, colour-coded PVC insulated cable.

4.1.8 Current Ratings

The current rating of conductors for the internal wiring shall be sufficient to carry the maximum continuous current that can occur in the circuit. This value shall be determined from the circuit breaker or fuse protection of the circuit. The smallest conductor size to be used for power wiring shall be 2.5mm² (Including the neutral conductor).

4.1.9 INTERNAL WIRING

(a) Standard 600/1000 Volt grade PVC insulated stranded annealed copper conductors to SABS 150 and SABS 780 shall be used for the internal wiring.

(b) Wiring shall be installed away from terminals, clamps or other current carrying parts. Wiring shall also be kept away from exposed metal edges or shall be protected where crossing metal edges.

(c) Joints in the wiring are not acceptable.

(d) Where conductors change direction, smooth bends shall be formed with a radius of at least five times the outside diameter of the conductor.

4.1.10 Conductor Terminations

All conductors terminating on equipment with screwed terminals shall be fitted with lugs. The lugs shall be soldered or crimped to the end of the conductor with the correct amount of insulation removed from the end to fit into the lug. Strands may not be cut from the end of the conductor. Where a crimping method is to be used for terminating the ends of these connections, it shall be with long barrel type lugs crimped by means of a correctly matched crimping tool that only releases after full compression has been employed.

Each lug shall be crimped in at least two adjacent points on the barrel.

Due allowance shall be made for short circuit effects (such as electrodynamic forces acting on the connections) as for the avoidance of hot spot creation due to any bracing arrangements. Connections to circuit breakers, isolators or contactors shall be installed by one of the following methods:

- (a) a ferrule of the correct size.
- (b) soldering the end of the conductor, or
- (c) winding a conductor strand tightly around the end to totally cover the end.

4.2. Identification

The colour of the conductor for all 420-240 Volt circuits shall correspond to the colour of the supply phase for that circuit (i.e. red, white and blue). Neutral conductors shall be black. All other conductors for control circuits etc. shall be coded in colours other than those specified above. Coloured PVC tape or other tape will not be acceptable for colour coding. The required colours are:

RED, WHITE, BLUE - Live phases; and

BLACK – Neutral

Phase Rotation (R – W – B anti clock wise and must always be performed and clearly marked at a visible position).

4.2.1 General

Customer metering, such as kWh meters and maximum demand meters is installed in a common compartment with power circuits, live connections shall be screened against inadvertent contact by persons (such as meter readers) requiring access.

4.2.2 Busbars (L.V. Panel)

Busbars shall be made of hard drawn copper and shall comply with the requirements of SABS 1195 where relevant. They shall extend the full length of the LV panel. The current density shall not exceed 1.8 A/mm². Busbars shall be untinned and bare, with neither heat shrink sleeving nor tape wrapping applied. The neutral busbar shall be dimensioned similarly to the other busbars. Busbars shall be colour coded according to the preferred colours of red, white, blue and black by means of a clearly visible painted-on spot of diameter at least 20mm. Clearance to earth and between phases shall be at least 20mm, unless otherwise specified by Engineer. The LV panel and busbars shall be able to withstand the effects of the rated short time current available at the terminals of the transformer.

Busbar supports, spacers and insulation systems shall be manufactured from materials whose characteristics for the purpose have been established by tests to an appropriate SABS or IEC standard.

4.2.3 Earth Busbar (L.V. Panel)

A rectangular section earth busbar of bare hard drawn copper shall be provided to facilitate earthing of cable sheaths and armour. It shall have a cross sectional area of at least 70mm² and a minimum width of 25mm. Centrally located holes to clear M12 bolts shall be provided at intervals of 75mm along the whole length of this earth busbar.

4.2.4 Gland Plates

The LV compartment shall be fitted with either a cable clamping rail or removable individual gland plates, the latter being undrilled except where holes are called for in the Engineers specifications. The distance from the gland plate to the top of the plinth shall be at least 75mm, and there shall be at least 350mm between the gland plate and the nearest terminals of the outgoing LV circuit. Gland plates shall be made of corrosion protected mild steel of thickness at least 3mm.

4.2.5 Feeder Circuits

Connections from the busbars to LV equipment shall be selected from:

- (a) solid insulated conductor,
- (b) stranded cable, and
- (c) laminated busbar.

The size of the busbar or cable shall be selected to suit the current rating of the circuit and the fault rating of the transformer. Where flexible cable is used, the connection to the busbar shall be by means of lugs. Where crimped lugs are employed, the same requirements shall be observed as for the transformer connections. The size of this connection shall be at least equivalent to that of an electrolytic copper conductor of cross-sectional area 35mm².

4.2.6 Testing Works Testing

Complete functional and operational tests shall be carried out on every completed switchboard at the manufacturer’s works including polarity checks of all CT’s and VT’s and metering and other indications. The Engineers representative will be present at these tests. Three copies of all works test records are to be submitted to the Engineer for approval.

4.2.7 Site Testing

Tests at site will be limited to operational, insulation resistance and over voltage tests. Three copies of all site test records are to be submitted to the Engineer for approval. After all safety operation procedures have been implemented to energise the Primary Side (11kV) of the 315KVA Mini substations the Technician responsible must obtain the following off-load and on-load voltage readings.

Between:

- (a) Red and White Phase
- (b) Red and Blue Phase
- (c) Red and Neutral Conductor (Black)
- (d) Red and Earth Conductor

Repeat (c) and (d) for the remaining White and Blue Phases.

4.2.8 Reclaimed Material

All materials reclaimed by the Electrical Contractor or Council's Electrical Department shall remain the property of the Client and shall be taken to a position which will be decided on site by the /engineer or his representative.

4.2.9 Metering

Complete as specified including Voltmeter fuses ,Voltmeter selector switch ,three Current transformers, three Ampere meters (ammeters) with indicated maximum demand and slave needle. Ammeters and Voltmeters

1. Shall be accuracy class 1,5% to IEC 51 moving iron for a.c. moving coil for d.c. and shall be 90o movement.
2. Meters shall all be of the flush-mounted type, 48mm x 48mm, with case dimensions and cutout sizes which comply with DIN 43718.
3. All ammeters and voltmeters shall be manufactured in accordance with BS 89, IEC 51, DIN 43780 or VDE 0410.
4. Instruments shall be calibrated at 20oC and shall be suitable for use in ambients -20oC to + 60oC.

4.2.10 Earthing

MV and LV Earthing System (not exceeding 3 Ohm) Three earth electrodes, spaced 10 meter apart will be hit into the soil at the bottom of the cable trench before the cables are laid. The nearest electrode to be 20 meter from the miniature substation. An appropriate length of 70 mm² bare copper conductor will connect these earth electrodes together and will be lugged / bolted securely in Medium and Low voltage compartments.

4.2.11 MV and LV Earthing System (exceeding 3 Ohm)

(MV side) - Three earth electrodes, spaced 10 meter apart will be hit into the soil at the bottom of the cable trench before the cables are laid. The nearest electrode to be 20 meter from the miniature substation. A 50 meter length 70 mm² bare copper conductor will connect these earth electrodes together and will be lugged / bolted securely in Medium voltage compartments

(LV side) - Three earth electrodes, spaced 10 meter apart will be hit into the soil at the bottom of the cable trench before the cables are laid. The nearest electrode to be 20 meter from the miniature substation. A 50 meter length 70 mm² bare copper conductor will connect these earth electrodes together and will be lugged / bolted securely in Low voltage compartments.

4.2.12 Earth Electrodes

Earth electrodes shall comprise one piece, 15,88mm (5/8”) nominal diameter copperweld rods made by the molten welding process with a steel core covered by a thick layer of copper thoroughly welded thereto so that an interlocking crystalline union bonds the two metals. The copper coating shall be continuous over the cylindrical portion of the rods except that the ends need not be covered with copper. The thickness of the copper on the cylindrical portion of the rod shall average not less than 0,5 mm. The rod when broken by successive bending shall show no seams, pits, slithers or separation of the copper from the steel. The length of the rod shall be extended by joining the rods together with a substantial non-zinc bronze external coupling and shall not cause corrosive action to take place between it and the copper covering of the rod. Conductor clamps shall be made of a strong cast bronze

body to provide a high pressure contact between the earth wire and electrode. The clamps shall be provided with a non-ferrous set screw. The electrodes shall be supplied complete with a driving bolt for protecting the ends of the coupling whilst the electrode is being driven into the ground.

4.3. Applicable Standards

The following Standards and Acts shall take precedence:

- National Electricity Act of Namibia
- Occupational Health and Safety Act of Namibia
- Labour Act of Namibia
- Quality of Service Standard
- Quality of Supply Standard
- NamPower Specifications for the Erection of Overhead Power Lines
- NamPower Specifications and General Conditions for Survey and Route Clearing for NewPower Lines

The following Standard shall be used as reference:

NRS 033 : Electricity Distribution – Guidelines for the application design, planning and construction of medium voltage overhead power lines up to and including 33kV, using wooden pole structures and bare conductors.

NRS 034 : Guidelines for the provision of electrical distribution networks in residential areas.

NRS 043 : Code of practice for the joint use of structures for power and telecommunication lines

NRS 059 : Recommendations to minimize problems associated with the theft of transformer neutral and neutral earthing copper conductors

NRS 060 : Code of practice for clearances for electrical systems with rated voltages up to and including 145kV, for the safety of persons

5. DISTRIBUTION INFRASTRUCTURE UP TO AND INCLUDING 33kV

5.1. POWER TRANSFORMERS

5.1.1 Regional Standards

NRS 054 : Power Transformers

SANS 60076-1 : Power Transformers Part 1: General

SANS 60076-2 : Power Transformers Part 2: Temperature Rise

SANS 60076-3 : Power Transformers Part 3: Insulation levels, dielectric tests and external clearances in air.

SANS 60076-5 : Power Transformers Part 5: Ability to withstand short circuit

5.1.2 International Standards

IEC 60076 : Power transformers

IEC 61558 : Safety of power transformers

5.2. Voltage Transformers

5.2.1 Regional Standards

SANS 60186 : Voltage transformers

5.2.2 International Standards

IEC 61558 : Safety of transformers, reactors, power supply units and similar products

IEC 60186 : Voltage transformers

5.2.3 Distribution Transformers

NRS 079 : Mineral Insulating Oils

SANS 780 : Distribution Transformers

SANS 555 : Unused and reclaimed mineral insulator oils for transformers & switchgear.

SANS 1037 : Standard Transformer bushings

SANS 1371 : Ceramic hollow insulators for standard transformer bushings

5.3. Bushings

5.3.1 Regional Standards

SANS 1037 : Standard Transformer bushings

5.3.2 International Standards

IEC 60137 : Insulated Bushings for Alternating Voltages Above 1kV.

5.4. Ring Main Units

5.4.1 Regional Standards

SANS 1874: Metal enclosed ring main units for rated a.c. voltages above 1kV up to and including 24 kV.

5.4.2 International Standards

IEC 60298 : A.C. Metal enclosed switchgear and control gear for rated voltages greater than 1kV up to and including 52kV.

5.4.3 Miniature Substations

- SANS 1029 : Miniature substations
- SANS 1030 : Standard longitudinal miniature substations

5.4.4 Earthing

- NamPower : Code of Practice for the Earthing of Low Voltage Distribution Systems
- SANS 10199 : The design and installation of an earth electrode
- SANS 1063 : Earth rods and couplers
- SANS 10200 : Neutral Earthing in medium voltage industrial power systems
- SANS 10292 : Earthing of low-voltage (LV) distribution systems
- ESKCAAB4 : Zinc coated earth conductor, guy and stay wire for transmission line
- SANS 10313 : The protection of structures against lightning

5.5. Circuit Breakers

5.5.1 Regional Standard

- SANS 767-1 : Earth leakage protection units Part 1: Fixed earth leakage protection circuit breaker
- SANS 767-2 : Earth leakage protection units Part 2: Single phase portable units
- SANS 60934 : Circuit breakers for equipment (CBE)

5.5.2 SANS 10142-1 : The Wiring of premises Part 1: Low-voltage installations

- SANS 152 : Low voltage air break switches, air break disconnections, air break switch disconnections and fuse combination units.
- SANS 156 : Moulded case circuit breakers
- SANS 60056 : High-voltage alternating current circuit breakers
- SANS 60265-1 : High voltage switches Part 1: Switches rated for voltages 1kV and less than 52kV
- SANS 6227 -100 : High voltage switchgear and control gear Part 100: High Voltage alternating current circuit breakers

5.5.3 International Standard

- IEC 60056 : High voltage alternating current circuit breakers.
- IEC 60376 : Specification and acceptance of new sulphur hexafluoride (SF₆).
- IEC 60898 : Electrical accessories – circuit breakers for over current protection for household and similar installations
- VC 8036 : Industry Standards for Circuit Breakers

5.6. Paint And Finishing

- NRS 002 : Graphical Symbols and Labelling for electrical diagrams
- SANS 1091 : National colour standards for paints
- SANS 935 : Hot dip galvanised zinc coatings on steel wire
- SANS 121 : Hot dip galvanised coatings on fabricated iron and steel articles. SANS 10064 : The preparation of steel surfaces for coating
- SANS 679 : Zinc chromate primers for steel.
- BS 183 : Specification for galvanized steel wire.
- BS 381 : Paint
- BS 2569 : Zinc Metal Spraying

6. PARTICULAR SPECIFICATIONS FOR STREETLIGHTING

The streetlighting portion of this project shall be constructed in accordance with the ERONGORED and the Client as it may be amended from time to time.

6.1. Submittal Data:

Prior to the purchase or fabrication of any equipment or material for use on this project, the Contractor shall submit, for review by the Engineer, appropriate catalogue sheets and specifications for all standard off-the-shelf items. The Contractor shall also submit a sealed set of shop drawings and other necessary data for all non-catalogue or custom-made items. Unless otherwise noted, three (3) copies of all submittal information shall be submitted. One copy of the documentation, with appropriate notations, will be returned to the Contractor after the review.

The purpose of the submittal data is to show specifically and in detail that the Contractor will satisfy the requirements of the contract documents in order to avoid non-conformance with those requirements which do not become apparent until it is too late to correct without serious consequences. If pre-printed literature, such as catalogue sheets, is used to satisfy some or all of the submittal data requirements, there shall be no statements on the literature which conflict with the requirements of the contract documents. Any such statements shall be crossed off and initialled by the Contractor. The Contractor shall clearly label each item of submittal data with the bid item number of the item to which it applies in order to facilitate review. Each submittal shall contain sufficient information and details to permit full evaluation of the item and its interrelationship with other items. Submittals that, in the judgment of the Engineer, are insufficient to permit proper evaluation will not be reviewed.

The Contractor shall take care to address all of the requirements of the contract documents in the submittal data. Nothing shall be left to assumption. The functional and technical interrelationship among the various items shall be carefully addressed. The Contractor shall allow a fourteen (14) calendar day review period for each package of submittal information. To aid in control of the submittal data process, the Contractor shall transmit each group of submittal data to the Engineer using a transmittal sheet. The Engineer shall date stamp these transmittal sheets with the date received and will return a copy of the stamped transmittal sheet when returning the submittal data. The Contractor shall list on the transmittal sheet specifically each item or element which is included in the transmittal. An element is one part of several parts of information related to the same bid item. Each drawing shall

have a unique drawing number that can be referenced. The same drawing number shall not be used on more than one sheet. Following review of the submittal data, the Engineer will mark the items in one of three ways: "Approved/no exception taken," "corrections required" or "rejected." The Contractor may proceed with any items marked "no exception taken." Items that are marked "corrections required" are judged to be basically acceptable, but will have notations made on them about additional information required or corrections which are necessary before the items can be accepted. In such case, the Contractor shall proceed immediately to correct said items and re-submit them for review. Items that are marked "rejected" are judged to be basically unacceptable and the Contractor shall proceed immediately to identify new items or redesign said items and resubmit them for review. Review and acceptance of the submittal data by the Engineer shall not relieve the Contractor of his obligation to furnish and install the work in accordance with the contract documents. No time extensions will be granted to the Contractor as a result of the need to re-submit various items for review.

6.1.1 Burn-In Period:

This contract involves the installation of luminaires and their connection to the lighting system, final acceptance of the work will not be made until the luminaires have been energized with electrical power for at least 30 calendar days without a failure occurring. The Contractor shall correct, at his own expense, all failures that occur prior to the final acceptance of the work. In the event that more than five percent (5%) of the luminaires or their components fail prior to final acceptance of the work, the Engineer may direct the Contractor to replace, at the Contractor's expense, all luminaires included in the work with a new lot of luminaires acceptable to the Engineer.

6.1.2 Response Time:

If the contract involves on-site installation work, whenever a failure of any kind is reported by the Employer in such work or in equipment or materials furnished or installed by the Contractor, the Contractor shall repair or otherwise remedy said failure within 48 hours after receipt of notification, including telephone notifications, from the Employer. If the Contractor fails to effect such remedy within the 48-hour period, the Employer may effect repair or remedy as it deems best. The Contractor or his surety shall be responsible for all related Employer incurred costs in such cases.

6.1.3 Temporary Lighting:

The Contractor shall maintain existing lighting levels throughout the construction process, unless otherwise approved by the engineer. Contractor shall provide for installation, maintenance, and removal of temporary lighting systems. Items are considered subsidiary to unit prices bid for roadway lighting. If the Contractor fails to provide roadway lighting, the Employer may install temporary lights as it deems best. The Contractor will be responsible for all related Employer costs in such cases.

6.1.4 Materials:

6.1.5 Poles:

The design of the completed assembly of poles and hardware shall equal or exceed ErongoRED Regulations. Each pole shall be straight galvanised steel davit type luminaire poles and include a single arm to support the luminaires. Each pole shall also include anchor bolts and base plate if required.

1. Pole Assemblies: When the term pole is used in the sense of a bid item, it shall include the entire pole assembly. A pole assembly shall include the pole, the side arm(s), the baseplate (if required), the anchor bolts, the bolt covers, and all other appurtenances required for a complete and in place installation.

2. Mounting Height: The pole assembly shall provide a luminaire mounting height of 7.5m above ground. A door opening with a removable door shall be provided in the side of the base.

6.1.6 Surface Preparation:

After fabrication, all welds shall be mechanically cleaned to remove detrimental weld flux slag deposits. All exposed surfaces of the pole assembly shall have a powder coat black over galvanized finish.

6.1.7 Luminaires:

These shall be 100WHPS

6.1.8 Lighting System Controllers:

A solid state photo control device (daylight switch) shall be furnished at the designated kiosks.

Earth wire shall be used to connect poles and other devices to earth electrodes. Earth wire shall be bare soft drawn copper wire having a size of 10mm² unless otherwise noted. Streetlight cable shall be used to connect streetlights to their power source or controller. Direct burial streetlight cable shall be 2C, 10mm² PVC/SWA/PVC copper conductor. Bare wire grounding conductors shall be annealed, uncoated copper.

6.1.9 Installation And Construction:

6.1.10 General:

This section of the Specifications sets forth the requirements for the on-site installation and construction work related to installing the street lighting equipment and system. Whenever the project requires such work, all such installation and construction work shall conform to the following requirements. Unless otherwise specifically noted in each instance, the work and materials required by this section shall be considered incidental to the system and no direct payment will be made for them. Contractor shall stake all new street light locations and the Engineer shall accept all locations prior to beginning work. The Contractor is solely responsible for verification of vertical and horizontal separation requirements of all utilities. The Contractor shall notify the Engineer of any perceived conflicts with existing utilities. The engineer may relocate the street light to a more desirable location or to avoid utility conflicts.

6.1.11 Electrical Equipment And Wiring Requirements:

6.1.12 Electrical Equipment:

All electrical equipment shall be fabricated and connected in accordance with the Nampower and the Client’s Regulations.

- (a) All equipment, housings, cabinets and pedestals shall be grounded and bonded. b. All housings, enclosures, cabinets and pedestals shall be grounded with a third wire (equipment) ground.
- (b) All metal conduit shall be grounded and bonded.
- (c) Metallic cable sheaths, metal conduit, metal bases, anchor bolts, and metal poles and pedestals shall be made mechanically and electrically secure to form a continuous system and shall be effectively grounded. Bonding and grounding jumpers shall be copper wire or copper strap of not less than the same cross-sectional area 10mm².
- (d) A ground electrode shall be furnished and installed at each new or revised service point unless otherwise noted on the plans. When so noted, an existing ground electrode may be used. Ground electrodes shall be of copper weld ground rod having a diameter of at least 10mm,

with at least 1000mm of the length being driven into undisturbed earth. The overall length of the ground electrode shall be sufficient to accommodate this requirement. Grounding conductors shall be at least 10mm² and shall be of copper. Exposed grounding conductors on poles shall be enclosed in 20mm (minimum) diameter conduit to a height of at least 1500mm above the ground.

6.1.13 Wiring Requirements:

- (a) The Contractor shall furnish and install all wire, cable, connectors and other incidental materials necessary to connect all new equipment and all existing equipment which is to be incorporated in or connected to the work to form a fully functional and properly operating installation and system, as applicable.
- (b) Splices in cables and wiring that are part of the work shall be made only in pole bases or weatherproof cabinets. No in-line splices shall be made at any point in the work other than at such locations. No splices in any cable or wiring shall be made in conduits, in manholes or in pull boxes unless otherwise noted.

6.1.14 Conduit:

The Contractor shall furnish and install all conduits necessary to complete the work in accordance with the typical drawings, the plans and the other contract documents. Conduit and its installation shall conform to the Client and IEE Regulations unless otherwise noted. To the extent practical, conduit runs shall be combined in the same trench to minimize the amount of trenching and backfilling. Underground conduit shall be placed at a minimum depth of 600mm below finish grade or 800mm inches below roadway subgrade, whichever is deeper. Where the conduit conflicts with other utilities at street crossings so that the depth must be reduced, a 50mm galvanized rigid metal conduit shall be installed over said utility. A minimum cover of 300mm shall be maintained over the top of the galvanized rigid metal conduit. All PVC conduit-to-metal conduit connections shall be made with threaded adapters. Conduits entering concrete foundations for poles, pedestals or control equipment cabinets shall extend approximately 100mm above the foundations. All metal conduits shall be equipped with bushings to protect the wires and cables from damage. The open ends of all outside vertical conduits that are exposed to rain shall be equipped with weather heads. The weather heads shall be considered incidental to the associated conduit. Power service shall not be located in the same conduit or pull box as other circuits. A nylon pull string shall be placed in all empty conduit prior to the placement of paving.

6.1.15 Foundations:

The Contractor shall install foundations for equipment and poles as required. Unless otherwise noted, Class "A" concrete shall be used for all foundations. The Contractor shall furnish and install all necessary reinforcing steel in accordance with the typical drawings, the plans and these special provisions. Foundations shall be monolithic with the exposed surfaces formed and finished to present a neat, smooth appearance. The Contractor shall ensure that the tops of all foundations for poles and pedestals are level and not more than 50mm above finish grade for proper mounting of the poles. The bottom of each foundation shall rest on undisturbed earth. The concrete edges of the pier shall be chamfered. The Contractor shall furnish and install in the foundation a copper clad steel ground rod with a diameter of at least 10mm. The ground rod shall be installed so that it extends into the surrounding undisturbed earth at an angle from the side of the foundation for a minimum of 1200mm. The ground rod shall be driven into place. Unless otherwise noted, the ground rod shall extend approximately 150mm inches above the foundation. The location of the ground rod shall not interfere with the entry, dressing or connection cables. Forms for the concrete shall be rigid and securely braced in place. Templates shall be used to properly position and hold in place the necessary conduit, anchor bolts. Immediately prior to pouring the concrete, both the forms and the earth which will be in contact with the concrete, shall be thoroughly moistened. After concrete is placed and the top smoothed off,

the concrete shall be covered with wet cotton or burlap mats for at least 96 hours. All bracing for anchor bolts shall not be subjected to any applied strain during this curing process.

6.1.16 Cable And Wire Installation:

Wherever cable or wire must be installed as part of the work, the Contractor shall furnish and install the appropriate type of cable or wire, including all necessary mounting, attachment and connection hardware, cable guys, anchors, guy guards, wire wrap, wire ties, terminal blocks, spade lugs, solderless connectors, in-line Circuit Breakers, tape, waterproofing, ground rods and all other material necessary for proper installation in accordance with the requirements of the plans and typical drawings. If a separate bid item is included for streetlight cable, it shall be the actual number of linear length of each type of streetlight cable which has been furnished and installed under this section. For the purposes of payment, the measurement shall be the actual horizontal distance measured along the line of each span or conduit run. No allowance will be given for cable risers on or within poles and no allowance will be given for any vertical runs below grade or within foundations.

- 1) No Splices: Except as otherwise specifically noted in each instance, no splices shall be permitted in any wire or cable except in pole bases or equipment cabinets.
- 2) Protection of Wire and Cable Ends: The Contractor shall water and moisture proof the raw ends of the wires and cables until they are properly terminated.
- 3) Cable Lubrication: The Contractor shall lubricate cables and wires entering a conduit with talc, powdered soapstone, or other approved lubricant to prevent damage to the insulation during the installation process.

Installation with existing circuits shall not be allowed.

- 4) Directly Buried Cable: Where cable is to be directly buried, the trench shall be at least 600mm deep and shall not exceed 450mm in width.

6.1.17 Excavating And Backfilling:

Excavations required for the installation of conduit, cable, foundations and other equipment shall be performed to cause the least possible damage to the streets, sidewalks and other improvements. However, such excavations shall be sufficiently wide to permit effective repair of the pavement, sidewalks and improvements in a manner that will not require excessive maintenance. All such excavations shall be made in accordance with the typical drawings. Trenches shall not be wider than necessary for the proper installation of equipment, materials or foundations to be installed. The Contractor shall furnish all materials necessary for backfilling and finishing the excavations. Excavations shall not begin until immediately before the installation of the equipment or materials to be installed. The Contractor shall maintain all backfilled excavations in a well filled and well maintained state to provide a smooth and well drained surface until final paving and grading is accomplished. Direct bury poles shall be backfilled with poleset backfill

6.1.18 Site Restoration:

Improvements such as pavement surfaces, sidewalks, curbs, gutters, curbs and gutters, base material and other improvements which are disturbed, to the extent practical, shall be restored to the same texture and finish. The Contractor shall accomplish such restoration of all surfaces that are damaged by the Contractor in any way, whether such damage was necessary or unnecessary. All such restoration shall conform to the requirements of the typical drawings and to the plans and Specifications

- 1) Roadway Surfaces: Damaged roadway surfaces shall be restored by the Contractor. As part of the excavation work, the outline of all areas to be excavated in the roadway shall be cut to a depth of at least 50mm with a pavement saw prior to removing the pavement material. No

zig zag edges shall be permitted. Such saw cuts shall be neat and true with no shatter outside the excavation area. During the excavation work, the Contractor shall take care not to damage the saw cut edges. If such edges become damaged, the Contractor shall re-saw the edges of the excavation in a manner acceptable to the Engineer. Following excavation, the Contractor shall backfill the area and restore the pavement surface as indicated in the typical drawings. The Contractor shall accomplish the repair of the street surface within seven (7) calendar days after the surface was excavated.

- 2) Curbs and Gutters: The Contractor shall completely remove and replace damaged sections of curbs and gutters. A section of curb and gutter shall be considered to be the entire portion between expansion joints. The Contractor shall take care to match the style and shape of the curb and gutter to the style and shape of the existing curb and gutter and the material and texture shall be the same, insofar as practical. The Contractor shall accomplish the restoration within seven (7) calendar days after the curb and gutter is damaged.
- 3) Driveway Aprons: The Contractor shall completely remove and replace damaged sections of driveway aprons. A section of driveway apron shall be considered to be the entire area of the driveway apron between expansion joints and/or scored or sawed construction joints. Insofar as practical, the material and texture of the restored driveway apron shall match the existing driveway apron. The Contractor shall accomplish the restoration of driveway aprons within seven (7) calendar days after the damage occurred.
- 4) Sidewalks: The Contractor shall completely remove and replace damaged sections of sidewalk and/or accessible ramps. A section of sidewalk shall be considered to be the entire area of sidewalk between expansion joints and/or scored or sawed construction joints. The Contractor shall take care to match the material and texture of the restored sidewalk to that of the existing adjacent sidewalk. The contractor must remove and replace the entire accessible ramp in accordance with current Namibian with Disabilities criteria. The Contractor shall accomplish the restoration of damaged sidewalk and ramps within seven (7) calendar days after the damage occurred.
- 5) Walls: The Contractor shall restore walls that are damaged by the Contractor’s operations in a manner approved by the Engineer in each instance. The Contractor shall take care to match the material and construction of the restoration with that of the original wall so that the face where the damage occurred will be unnoticeable to the extent practical. The Contractor shall accomplish restoration of damaged walls within 30 calendar days after the damage occurred.
- 6) Grassed Areas: The Contractor shall restore to their original levels and contours all grassed areas disturbed by the Contractor’s operations. In restoring such areas, the Contractor shall rake the top 30mm of soil to render it free of large stones and debris and make it suitable for seeding or sodding. The Contractor shall then seed or sod the area with the same type of grass as exists, surrounding the area. The Contractor shall accomplish restoration of grassed areas within 30 calendar days after the damage occurred.

6.1.19 Public Safety And Convenience:

The Contractor, in performing work under this contract, shall conform to the requirements and to all similar requirements of the Regulations the Client. All equipment and materials used to fulfil the requirements of this section shall be kept clean and in good repair by the Contractor. Unless otherwise noted, all devices furnished by the Contractor solely to fulfill the requirements of this section shall remain the property of the Contractor and shall be removed from the site when no longer required.

- (a) General Safety: The Contractor shall furnish, install and maintain such barricades, fences, railings, signs, warning lights, safety helmets and other devices as are necessary for the general safety of both the public and workmen on and around the work sites.
- (b) Cleanliness: The Contractor shall immediately remove any trash and/or spillage caused by the Contractor’s operations on any street, sidewalk or pedestrian way.
- (c) General Convenience: The Contractor shall conduct operations so as to minimize inconvenience to the public. The Contractor shall not have under construction more work than

can be reasonably and effectively managed at any one time, in the judgment of the Engineer. The Contractor shall minimize the adverse effects of the Contractor’s work on abutting property owners. Unless otherwise noted or approved by the Engineer in each instance, the Contractor shall maintain intersection roadways and driveways open to traffic.

7. NATURE OF GROUND AND SUBSOIL CONDITIONS

The information in this section is a general guideline and will not relieve the Contractor of his responsibilities to satisfy himself with the conditions on site. Bidders are to fully acquaint themselves with the subsoil conditions in this area and consider it in Bid rates.

Loose or running soil material is expected on this site. Shoring to provide support for excavated trench faces to prevent the movement of soil is suitable with deeper excavations to be over excavated to avoid collapsing trench walls. The Tenderer shall allow for this in his tender rates.

8. CONSTRUCTION PROGRAMME

The completion time for this Contract is as specified in the Bidding Data Sheet, which time should include all periods during which the Contractor closes down (public holidays). The bidder may propose an alternative completion period, and provide further information on how the period will be shortened or reasons why a longer period is required.

The construction programme required in terms of the General Conditions of Contract shall include all the important features of the work and the various operations to be carried out and must be submitted for approval by the Engineer within the period specified in the Special Conditions of Contract.

9. SITE FACILITIES AVAILABLE

The Contractor shall make his own arrangements for the supply of water, sanitation, telecommunications and power required by him for the execution of the works. The Bidder shall allow for the cost of all such arrangements. Water, telecommunications and electricity required for the works may be taken from suitably situated supply points. Cost incurred in installing water, telecommunications or electrical supply line from the supply points to the construction camp and/or works shall be for the Contractor’s account. The Contractor will be held responsible for any damages to the supply lines and fittings for the duration of the contract.

10. SITE FACILITIES REQUIRED

10.1. Laboratory Facilities

The Contractor will not be required to have a testing laboratory on site. A recognised testing laboratory will be appointed by the Contractor to carry out all acceptance control as required by the Project Specifications. No additional payments will be made towards the testing of work and the Contractor should allow for the required testing in his Bidding.

The Engineer will not require any laboratory facilities. Acceptance control testing required by the Engineer will be carried out in special cases by an approved independent laboratory. A provisional sum has been provided in the Schedule of Quantities for any tests ordered by the Engineer.

10.2. Contractor’s Site Sanitary Facilities

The Contractor shall provide and maintain adequate and proper ablution facilities for his site personnel. As the nature of the project will affect remote site areas, adequate toilet facilities within 200 m of the work area must be affected at all times.

Latrines shall be effectively screened from view and maintained in a clean and sanitary condition. The Contractor shall make all the necessary arrangements for the regular removal and emptying of the sanitary pails at his own cost.

If at any time the Contractor fails to observe the previously mentioned conditions and after being notified by the Engineer, fails to rectify conditions, the Engineer shall have the right to order such materials and appoint any workers as may be seen necessary to maintain the sanitary facilities as set out above. All related costs will be for the Contractor's account.

10.3. Engineer’s Site Office and Associated Facilities

The Engineer will not require a site office for this contract.

11. SURVEY BEACONS, BENCH MARKS AND REFERENCE PEGS

At bidding stage, the Contractor shall inspect the project area to determine the extent and condition of the erf pegs on site. Should erf pegs be missing or damaged he will allow for the replacement of such pegs in his tender submission at the start of construction. The Contractor will also allow for the replacing of erf pegs in all areas where bulk filling of erven are to be done. The Contractor is responsible for the setting out of the works and no separate payment will be made therefore as the cost involved for the setting out of the works is deemed to be included in the bid.

The works shall be set out by a qualified surveyor and the Contractor should provide qualification details of the said surveyor before setting out. The Contractor shall also ensure that no survey beacons, erf pegs, and bench marks are covered up or disturbed. Benchmarks will be indicated on the Construction drawings.

After the completion of the Construction and prior to the issue of the completion certificate, the Contractor will supply a Land Surveyor's Certificate, certifying that all pegs have been checked and re-established where necessary. The cost of such a survey will also be for the account of the Contractor.

The Contractor must take into account that the erf pegs along the road servitudes and along sewer and water lines could and most probably will be damaged, disturbed or removed during normal construction processes and it will be for the Contractor’s account to replace and certify such erf pegs as set out above.

12. LOCATION OF SITE CAMP AND MATERIALS STORAGE AREA

The Contractor will establish his site camp and material storage area at a location on site which is approved by the Engineer and the Employer.

Before occupying the site for the execution of this Contract, the Contractor shall submit for the Engineer's approval a proposal for the layout of all his camp and storage areas. The Contractor will allow for a suitable site camp in his bid submission.

13. ACCOMMODATION OF EMPLOYEES

With the exception of a night watchman, employees may not be housed or accommodated on the site of the works unless otherwise indicated by the Employer during the Compulsory Site Meeting.

14. CONTRACT SIGNBOARDS

Two Contract Sign Boards are required to be erected for this contract. The sign board shall be erected to the drawing that will be made available to the Contractor.

15. PROVISION OF SURVEY INSTRUMENTS FOR ENGINEER’S REPRESENTATIVE

The Contractor shall provide the Engineer's representative with a good quality Engineer’s level and levelling staff and other survey equipment as may be necessary. The survey equipment shall be maintained in good order and adjustment at all times.

The Contractor shall provide at his expense two men to assist the Engineer’s representative when checking any section of the works.

16. SAFETY AND SECURITY ON SITE

16.1. Security

It shall be the responsibility of the Contractor to control access to the site during the execution of the Contract to prevent any unauthorised persons from entering the site.

The Contractor shall provide security guards for this Contract and allow for this in his bid rate.

16.2. Safety

The Contractor shall appoint a Responsible Person as well as an assistant for him and their names shall be forwarded to the Engineer in writing before any work may commence. The Responsible Person shall legally be responsible for all safety on site. No work may be executed on site if neither of these two persons is on site.

The Contractor will be responsible for the safety of his personnel and the site in general at all times. All laws, rules, and regulations including the Machinery and Occupational Safety Act shall be strictly followed In this regard and all the necessary precautions and measures shall be taken to ensure the safety of personnel, the public, and equipment.

16.3. Safeguarding Of Excavations

The responsibility of safeguarding of excavations lies entirely with the Contractor.

17. OVERHAUL

All rates Bid for material or excavation shall allow for all hauling to or from the site. For this Contract "free haul" shall therefore continue indefinitely and no overhaul shall be paid, unless otherwise specified.

18. SOURCES OF MATERIALS

18.1. Selected G5 and G6 Material

Selected G5 and G6 material will be sourced from borrow pits Identified by the Contractor. The quality of the selected material will remain the responsibility of the Contractor. Acceptance test will be done of the material in-situ after construction and compaction of the subbase layer have been completed. Should the material fail the acceptance tests, it will be removed on the Contractor's account and no additional payment will be made in this regard.

18.2. Subbase Material

G5 Subbase and Wearing Course material shall be obtained from borrow pits identified by the Contractor. Acceptance test will be done of the material in-situ after construction and compaction of

the subbase layer have been completed. Should the material fail the acceptance tests, it will be removed on the Contractor's account and no additional payment will be made in this regard.

18.3. Gravel Base

G3 crushed base material shall be obtained from a commercial source identified by the Contractor. Acceptance test will be done of the material in-situ after construction and compaction of the base layer have been completed. Should the material fail the acceptance tests, it will be removed on the Contractor's account and no additional payment will be made in this regard.

18.4. 19 mm Surfacing Stone and Crusher Dust

The 19 mm chips and Crusher Dust shall be obtained from commercial sources to be identified by the contractor. Test results of the proposed surfacing chips and Crusher Dust must be presented to the Engineer.

18.5. Selected Granular Bedding Material (Bedding For Pipes)

The Contractor will have to identify his own sources (possibly from trench excavations themselves) for selected granular material to be used for bedding flexible pipes. These materials will have to be tested and the results submitted to the Engineer for approval prior to the construction activities involving these materials. Because no overhaul is paid, it is of utmost importance that each Bidder identifies suitable sources of materials at Bid stage, so as to establish the transport cost thereof to be included in the Bid.

18.6. Selected Fill Material (Bedding For Pipes)

Selected fill may be obtained from the specified trench excavations on the site.

19. FEATURES REQUIRING SPECIAL ATTENTION

19.1. Existing Services

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced.

The Contractor will be held responsible for any damage to "known" existing services caused by or arising out of his operations. Existing services will be considered "known" if it is either shown on the construction drawings or shown to the Contractor on site. The penalty for damage to a "known" existing service will be N\$ 2,000.00 plus the cost of repairing and reinstating such service.

19.2. Site Supervision and Testing

The Contractor shall ensure that sufficient supervisory staff, the required transport, instruments, equipment, and tools are available to control works on site. The Engineer or his representative will not act as supervisor, foreman or surveyor.

All construction activities shall be executed and supervised by suitably qualified and experienced personnel. The responsibility of proving quality of work lies with the Contractor. With the assistance of the Engineer, an acceptable quality assurance system shall be implemented. The Contractor will be required to follow the procedures set by this QA system. Failure to do so will result in the rejection of work constructed in non-compliance with the approved QA system.

19.3. Disposal of Spoil or Surplus Material

All costs related to the disposal of unwanted rubble and waste shall be deemed to be included in the tendered rates and no additional claims in this regard will be considered. Good quality surplus material obtained from on-site excavations and not used as selected fill upon instruction to do so can be spread on site upon approval of the Engineer.

Building rubble and domestic waste shall be removed from site and be dumped at approved municipal waste disposal sites. Burning of any kind of waste on site will not be allowed.

19.4. Traffic Control and Access to Property

The successful Contractor must allow for provision and erection of all necessary barricading and road traffic sign-boarding. Access to and from the site will be from Local Authority / Roads Authority roads and the Contractor will be required to comply with any and all regulations posed by the relevant Authority.

19.5. Restoring Surfaces

All rubbish, tools, tackle, plant, and material must be removed immediately from each section of the work as soon as it is completed. Each completed section of the work is to be left in a neat, tidy, and orderly state.

The Contractor will be held responsible for all damage to existing surfaces, kerbs and channels outside the specified excavation dimensions, and the work has to be restored at his own expense to the satisfaction of the Engineer.

All other surfaces such as ramps and pavements shall be restored by the Contractor at his own expense to the satisfaction of the Engineer.

19.6. Quality Control

It will be the full responsibility of the Contractor to undertake appropriate quality control and quality assurance measures on site. The Engineer shall audit the Contractor's QA system on a regular basis to ensure that adequate independent checks and tests are being carried out and to ensure that the Contractor's own controls are sufficient to identify any possible quality problems which could cause a delay on the programme.

Quality control tests on materials and work executed will be very important on this Contract. Materials not tested and approved will not be allowed on site.

The frequency and type of tests required shall be in strict accordance with the SANS 1200 suite of standard specifications.

20. COPYRIGHT

All records connected with or referring to the contract in any way shall become the property of the Employer in whom the copyright shall rest.

DRAWING LIST

1. GENERAL DRAWINGS

ORDER NO.	DRAWING NO.	DESCRIPTION
1	2018-20-101C	SITE LAYOUT

2. ELECTRICAL DRAWINGS

ORDER NO.	DRAWING NO.	DESCRIPTION
1	2018-20-P2-101E	MS1 SINGLE LINE DIAGRAM
2	2018-20-P2-102E	MS2 SINGLE LINE DIAGRAM
3	2018-20-P2-103E	LOW VOLTAGE RETICULATION LAYOUT
4	2018-20-P2-104E	DISTRIBUTION TO ERVEN
5	2018-20-P2-105E	STREET LIGHTING LAYOUT
6	2018-20-P2-106E	MS1 KIOSKS SLD – EXISTING LV BOARD
7	2018-20-P2-107E	MS2 KIOSKS SLD – EXISTING LV BOARD
8	2018-20-P2-108E	MS2 KIOSKS SLD – NEW LV BOARD

SUPPLEMENTARY INFORMATION

1. No technical alternatives are allowed for during the bidding stage.

2. No alternatives for completion time will be allowed.

PART 3 – Conditions of Contract and Contract Forms

Section VI – General Conditions of Contract

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A. GENERAL

1. Definitions

1.1 Boldface type is used to identify defined terms.

- (a) The Accepted Contract Amount means the amount accepted in the Notification of award for the execution and completion of the Works and the remedying of any defects.
- (b) The Activity Schedule is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity.
- (c) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.
- (d) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.
- (e) Compensation Events are those defined in GCC Clause 41 hereunder.
- (f) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.
- (g) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below.
- (h) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer.
- (i) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer.
- (j) The Contract Price is the Accepted Contract Amount stated in the Notification of award and thereafter as adjusted in accordance with the Contract.
- (k) Days are calendar days; months are calendar months unless otherwise stated.
- (l) Dayworks are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- (m) A Defect is any part of the Works not completed in accordance with the Contract.
- (n) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor.
- (o) The Defects Liability Period is the period **named in the SCC pursuant** to Sub-Clause 33.1 and calculated from the Completion Date.
- (p) Adjudicator means the single person appointed under Clause 23.
- (q) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in

accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

- (r) The Employer is the party who employs the Contractor to carry out the Works, **as specified in the SCC**.
- (s) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- (t) "In writing" or "written" means hand-written, type-written, printed or electronically made, and resulting in a permanent record;
- (u) The Initial Contract Price is the Contract Price listed in the Employer's Notification of award.
- (v) The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the SCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.
- (w) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (x) Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- (y) The Project Manager is the person **named in the SCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
- (z) SCC means Special Conditions of Contract
- (aa) The Site is the area **defined as such in the SCC**.
- (bb) Site Investigation Reports are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (cc) Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (dd) The Start Date is **given in the SCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- (ee) A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- (ff) Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (gg) A Variation is an instruction given by the Project Manager which varies the Works.

(hh) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, **as defined in the SCC**.

2. Interpretation

- 2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
- 2.2 If sectional completion **is specified in the SCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
- (a) Agreement,
 - (b) Notification of award,
 - (c) Contractor's Bid,
 - (d) Special Conditions of Contract,
 - (e) General Conditions of Contract,
 - (f) Specifications,
 - (g) Drawings,
 - (h) Bill of Quantities, and
 - (i) any other document listed in the SCC as forming part of the Contract.

3. Language and Law

- 3.1 The language of the Contract must be English and the law governing the Contract is the Law of Namibia.

4. Project Manager's Decisions

- 4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

- 5.1 Otherwise **specified in the SCC**, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

6. Communication

- 6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing to the addresses **specified in the SCC**. A notice shall be effective only when it is delivered.

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as **referred to in the SCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel and Equipment

9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:

- (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or
 - (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
- (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to

- (a) a Defect which existed on the Completion Date,

- (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
- (c) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks are Contractor's risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the SCC** for the following events which are due to the Contractor's risks:

- (a) loss of or damage to the Works, Plant, and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- (d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval within 21 days after issue of notification of award. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

13.6 The policies which are in the joint names of the Contractor and the Employer shall contain a clause to include a waiver of subrogation of the Contractor's rights to the insurance carrier against the Employer.

14. Site Data

14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the SCC**, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works

15.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

16. The Works to Be Completed by the Intended Completion Date

16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

17. Approval by the Project Manager

17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

17.2 The Contractor shall be responsible for design of Temporary Works.

17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

18. Safety

18.1 The Contractor shall be responsible for the safety of all activities on the Site.

19. Discoveries

19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.

20. Possession of the Site

20.1 The Employer shall, after receiving the Performance security, the insurance covers and the Program for the Works all as per requirements, give possession of all parts of the Site to the Contractor within thirty days for execution of works in accordance to the Program for the Works. If possession of a part is not given by the date **stated in the SCC**, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

21. Access to the Site

21.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions

22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

22.2 The Contractor shall permit persons appointed by the Employer to inspect the Site and/or the accounts and records of the Contractor and its sub-contractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by the Employer if required by the Employer. The Contractor's attention is drawn to Sub-Clause 57.1 which provides, inter alia, that acts intended to materially

impede the exercise of the inspection and audit rights provided for under Sub-Clause 22.2 constitute a prohibited practice subject to contract termination.

23. Appointment of the Adjudicator

- 23.1 The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Notification of award. If, in the notification of award, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority **designated in the SCC**, to appoint the Adjudicator within 15 days of receipt of such request.
- 23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the SCC** at the request of either party, within 30 days of receipt of such request.

24. Procedure for Disputes

- 24.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 15 days of the notification of the Project Manager's decision.
- 24.2 The Adjudicator shall give a decision in writing within 30 days of receipt of a notification of a dispute.
- 24.3 The Adjudicator shall be paid by the hour at the rate **specified in the SCC**, together with reimbursable expenses of the types **specified in the SCC**, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within thirty (30) days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above thirty (30) days, the Adjudicator's decision shall be final and binding.
- 24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place **specified in the SCC**.

B. TIME CONTROL

25. Program

- 25.1 Within the time **stated in the SCC**, after the date of the Notification of award, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.
- 25.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 25.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period **stated in the SCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount

stated in the SCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 15 days of being instructed to by the Project Manager.

25.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

26. Extension of the Intended Completion Date

26.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event(as defined in GCC 41) occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

26.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

27. Acceleration

27.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.

27.2 If the Contractor's priced proposals for acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.

28. Delays Ordered by the Project Manager

28.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

29. Management Meetings

29.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

29.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

30. Early Warning

30.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase

the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

- 30.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. QUALITY CONTROL

31. Identifying Defects

- 31.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

32. Tests

- 32.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

33. Correction of Defects

- 33.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the SCC. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

- 33.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

34. Uncorrected Defects

- 34.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. COST CONTROL

35. Contract Price

- 35.1 In the case of an admeasurement contract, the Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

- 35.2 In the case of a lump sum contract, the Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to prepare interim valuations of works done.

Any errors or inconsistencies including front loading detected in the Activity Schedule at any time during the execution of the project shall be resolved as directed as by the Project Manager.

36. Changes in the Contract Price

36.1 In the case of an admeasurement contract:

- (a) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change.
- (b) The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.
- (c) If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

36.2 In the case of a lump sum contract, the Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

37. Variations

37.1 All Variations shall be included in updated Programs, and, in the case of a lump sum contract, also in the Activity Schedule, produced by the Contractor.

37.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

37.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.

37.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

37.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

37.6 In the case of an admeasurement contract, if the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 38.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.

38. Cash Flow Forecasts

38.1 When the Program, or, in the case of a lump sum contract, the Activity Schedule, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

39. Payment Certificates

- 39.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 39.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 39.3 The value of work executed shall be determined by the Project Manager.
- 39.4 The value of work executed shall comprise:
 - (a) In the case of an admeasurement contract, the value of the quantities of work in the Bill of Quantities that have been completed; or
 - (b) In the case of a lump sum contract, the value of work executed shall comprise the value of completed activities in the Activity Schedule.
- 39.5 The value of work executed shall include the valuation of Variations and Compensation Events.
- 39.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
- 39.7 Unless otherwise **specified in the SCC** Interim Payment may be made for Plant and Material delivered on site ready for incorporation within reasonable period of time in the permanent works, subject to the Contractor transferring ownership to the Employer and providing, where applicable, the right of the transfer of ownership vested upon the Contractor by its supplier.

Notwithstanding the transfer of ownership the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor until taking over of the works or part thereof in which such Plant and Materials are incorporated and shall make good at its own cost any loss or damage that may occur to the works or part thereof from any cause whatsoever during such period prior to the taking over.

40. Payments

- 40.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest at the legal rate.
- 40.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.
- 40.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions to the Contract Price.
- 40.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

41. Compensation Events

41.1 The following shall be Compensation Events:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.
- (b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
- (c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
- (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
- (e) The Project Manager unreasonably does not approve a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Notification of award from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (i) The advance payment is delayed.
- (j) The effects on the Contractor of any of the Employer's Risks.
- (k) The Project Manager unreasonably delays issuing a Certificate of Completion.
- (l) In situations of Force Majeure which makes the contractor's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances. Such events shall be limited to:
 - (a) reason of any exceptionally adverse weather conditions (as specified in the BDS) and
 - (b) reason of civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the Works.

41.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

41.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the

Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

- 41.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

42. Tax

- 42.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 30 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 44.

43. Currencies

- 43.1 Where payments are made in currencies other than the currency of the Employer's country **specified in the SCC**, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor's Bid.

44. Price Adjustment

- 44.1 Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the SCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$P_c = A_c + B_c \text{ Imc/loc}$$

where:

P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency "c."

A_c and B_c are coefficients² **specified in the SCC**, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency "c," and

Imc is the index prevailing at the end of the month being invoiced and loc is the index prevailing 28 days before Bid opening for inputs payable; both in the specific currency "c."

- 44.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

² The sum of the two coefficients A_c and B_c should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulae for all currencies, since coefficient A, for the nonadjustable portion of the payments, is a very approximate figure (usually 0.15) to take account of fixed cost elements or other nonadjustable components. The sums of the adjustments for each currency are added to the Contract Price. [To be transferred to the User Guide]

45. Retention

- 45.1 The Employer shall retain from each payment due to the Contractor the proportion **stated in the SCC** until Completion of the whole of the Works.
- 45.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an “on demand” Bank guarantee.

46. Liquidated Damages

- 46.1 The Contractor shall pay liquidated damages to the Employer at the rate per day **stated in the SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount **defined in the SCC**. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor’s liabilities.
- 46.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 40.1.

47. Bonus

- 47.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day **stated in the SCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

48. Advance Payment

- 48.1 The Employer shall make advance payment to the Contractor of the amounts **stated in the SCC** by the date **stated in the SCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.
- 48.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.
- 48.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

49. Securities

49.1 The Performance Security shall be provided to the Employer no later than the date specified in the Notification of award and shall be issued in an amount **specified in the SCC**, by a bank and denominated in the Namibian Dollars. The Performance Security shall be valid until a date 30 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee.

49.2

- (a) Where the contractor has benefitted from the application of the Margin of Preference for employment of local manpower, it shall:
 - (i) in the execution of the contract, fulfil its obligation of maintaining local manpower force for 80 % or more of the man-days deployed in the execution of the Works with which it satisfied the criteria of eligibility for being awarded the contract in application of the Margin of Preference; and
 - (ii) concurrently with the above performance security, provide a preference security to guarantee it will fulfil its obligation in that respect.
- (b) For contracts above N\$ 5 M, the preference security shall be in the form of an “on demand” bank guarantee for an amount in a convertible currency equivalent to the difference between its bid price and the bid price of the lowest bid if the Margin of Preference was not applicable. It shall be issued by a commercial bank located in Namibia.
- (c) For contracts up to N\$ 5 M, an amount equal to the value of the preference security shall be retained from progressive payments to the contractor, to constitute the guarantee for the preference security.
- (d) The preference security shall be valid until the Contractor has completed the Works and a Completion Certificate has been issued by the Employer’s Representative as per GCC 53.
- (e) The cost of providing the security shall be borne by the Contractor.

49.3 Where a Preference Security is applicable:

- (i) the Employer’s Representative shall monitor the employment of local manpower throughout the execution of the contract and shall from time to time request a report from the contractor on the percentage of total men-days deployed using local manpower.
- (ii) the Contractor shall submit the local manpower employment reports as often as it is reasonably requested by the Employer’s Representative.
- (iii) the Employer’s and Contractor’s representatives shall consult each other to ensure that the Contractor’s obligation towards local manpower employment is met during the Works execution.
- (iv) At the time of works completion, the Contractor shall submit a certified audited report to the Employer to substantiate the actual percentage of local manpower employed throughout the execution of the works.
- (v) The preference security shall be forfeited by the employer in case of failure on the part of the contractor to employ at least 80% of the local manpower in the execution of the Works.

50. Dayworks

- 50.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.
- 50.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.
- 50.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

51. Cost of Repairs

- 51.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

52. Labour Clause

52.1

- (a) The rates of remuneration and other conditions of work of the employees of the Contractor shall not be less favourable than those established for work of the same character in the trade concerned-
 - (i) by collective agreement applying to a substantial proportion of the workers and employers in the trade concerned;
 - (ii) by arbitration awards; or
 - (iii) by Remuneration Regulations made under the Labour Act, 2007.
- (b) Where remuneration and conditions of work are not regulated in a manner referred to at (a) above, the rates of the remuneration and other conditions of work shall be not less favourable than the general level observed in the trade in which the contractor is engaged by employers whose general circumstances are similar.

52.2 No Contractor shall be entitled to any payment in respect of work performed in the execution of the contract unless he has, together with his claim for payment, filed a certificate:

- (a) stating the rates of remuneration and hours of work of the various categories of employees employed in the execution of the contracts;
- (b) stating whether any remuneration payable in respect of work done is due;
- (c) containing such other information as the Chief Executive Officer of the Public Body administering the contract may require to satisfy himself that the provisions under this clause have been complied with.

52.3 Where the Chief Executive Officer of the Public Entity administering the contract is satisfied that remuneration is still due to an employee employed under this contract at the time the claim for payment is filed, he may, unless the remuneration is sooner paid by the Contractor, arrange for the payment of the remuneration out of the money payable under this contract.

52.4 Every Contractor shall display a copy of this clause of the contract at the place at which the work required by the contract is performed.

E. FINISHING THE CONTRACT

53. Completion

53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

54. Taking Over

54.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

55. Final Account

55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 60 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 60 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

56. Operating and Maintenance Manuals

56.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates **stated in the SCC**.

56.2 If the Contractor does not supply the Drawings and/or manuals by the dates **stated in the SCC** pursuant to GCC Sub-Clause 55.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the SCC** from payments due to the Contractor.

57. Termination

57.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- (a) the Contractor stops work for 30 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
- (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 60 days of the date of the Project Manager's certificate;

- (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
- (f) the Contractor does not maintain a Security, which is required;
- (g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as **defined in the SCC**; or
- (h) if the Contractor, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, pursuant to GCC Clause 57.1.

57.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 57.2 above, the Project Manager shall decide whether the breach is fundamental or not.

57.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

57.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

58. Fraud and Corruption

58.1 If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 15 days' notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 57 shall apply as if such expulsion had been made under Sub-Clause 57.5 [Termination by Employer].

58.2 Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.

58.3 For the purposes of this Sub-Clause:

- (i) "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- (ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- (iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- (iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- (v) "obstructive practice" is
 - (a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any

- party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
- (b) acts intended to materially impede the exercise of an inspection and audit rights provided for under Sub-Clause 22.2.

59. Payment upon Termination

- 59.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as **indicated in the SCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.
- 59.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

60. Property

- 60.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.

61. Release from Performance

- 61.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

Section VII – Special Conditions of Contract

These clauses should be read in conjunction with the General Conditions of Contract

A. General	
GCC 1.1 (r)	The Employer is Municipality of Henties Bay, Erf 1513 Corner of Jakkalsputz Road and Nicky Iyambo Avenue, P.O. Box 61, Henties Bay , and the employer representative is the The Chief Executive Officer, Elizabeth Coetzee .
GCC 1.1 (v)	The Intended Completion Date for the whole of the Works shall be 210 days (7 months) from Site Handover.
GCC 1.1 (y)	The Project Manager is Mr Emmanuel Zimba, CEPM & Partners Engineers , P.O. Box 5891, Windhoek ,
GCC 1.1 (aa)	The Site is located at Omdel Extension 7 in Henties Bay, and is defined in drawing 2018-20-101C .
GCC 1.1 (dd)	“The Start Date shall be TBA ”
GCC 1.1 (hh)	The Works consist of the construction of a low voltage electrical reticulation network and streetlights
GCC 2.2	Sectional Completions are: Not applicable
GCC 2.3(i)	The following documents also form part of the Contract: None
GCC 4.1	The Project Manager shall obtain specific approval from the Employer before carrying out any of his duties under the contract which is in the Project Managers 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 the safety of personnel or the Works or adjacent property.
GCC 5.1	The Project Manager may delegate any of his duties and responsibilities.
GCC 6.1	Delivery address for notices is: Employer: Municipality of Henties Bay Erf 1513 Corner of Jakkalsputz Road and Nicky Iyambo Avenue P.O. Box 61 Henties Bay Namibia Contractor: The address to be provided by successful Bidder.
GCC 8.1	Schedule of other contractors:

	<p>Not applicable</p>
<p>GCC 13.1</p>	<p>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:</p> <ul style="list-style-type: none"> (a) for the Works, Plant and Materials: For the full amount of the Works. (b) for loss or damage to Equipment: For the full replacement value of the equipment that the contractor intends to use on site until taking over by the Employer (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract: N\$500,000.00 (d) for personal injury or death: <ul style="list-style-type: none"> (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: Not applicable <p>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.</p> <p>When each premium is paid, the Contractor shall submit evidence of payment to the Employer. Whenever evidence or policies are submitted, the Contractor shall also give notice to the Project Manager.</p>
<p>GCC 14.1</p>	<p>Site Data are: Locality Map, Technical Drawings and Project Description in the Employer’s Requirements.</p>
<p>GCC 20.1</p>	<p>The Site Possession Date(s) shall be: Within 14 days after submission of performance security, insurance cover and program of works.</p>
<p>GCC 23.1 & GCC 23.2</p>	<p>Appointing Authority for the Adjudicator: The Adjudicator will be appointed on an Ad hoc basis if any of the parties declare a dispute. Refer to SCC24.</p> <p>Appointing Authority for the Adjudicator:</p> <p>The President of the Engineering Professions Association (EPA) shall propose the Adjudicator, accredited on the National Adjudicators’ List (NAL) of the EPA, for joint appointment by the Parties.</p>

<p>GCC 24.</p>	<p>In case a dispute of any kind arises between the Employer and the Contractor in connection with, or arising out of, the contract or the execution of works or after completion of works and whether before or after repudiation or other termination of Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Employer's Representative, the matter in dispute shall, in the first place, be referred in writing to the employer's representative, with a copy to the other party.</p> <p>The Employer and the Contractor shall make every effort to resolve the dispute amicably by direct informal negotiation. If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Public Entity or the Contractor may give notice to the other party of its intention to refer the matter to adjudication.</p>
<p>GCC 24.3</p>	<p>Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: The hourly rates and types of reimbursable expenses to be paid to the Adjudicator shall be as indicated in the Dispute Adjudication Agreement provided by the EPA and cost shall be borne by the parties in equal parts (50/50) and paid in full by the Contractor and the Employer..</p>
<p>GCC 24.4</p>	<p>Any dispute or difference in respect of which a notice of intention to commence arbitration has been given shall be finally settled by arbitration in accordance with Namibian Laws by an Arbitrator to be appointed by both parties to the dispute or in any case of disagreement, by an Arbitrator to be appointed by a judge in Chambers of Namibia. The Arbitrator fees will be borne by the losing party. Any decision of the Arbitrator shall be final and binding to both parties"</p>
<p>B. Time Control</p>	
<p>GCC 25.1</p>	<p>The Contractor shall submit for approval a Program for the Works within 7 days from the date of the Notification of award.</p>
<p>GCC 25.3</p>	<p>The period between Program updates is 30 days.</p> <p>The amount to be withheld for late submission of an updated Program is N\$ 5,000.00.</p>
<p>C. Quality Control</p>	
<p>GCC 33.1</p>	<p>The Defects Liability Period is: 365 days (one year).</p>
<p>GCC 39.7</p>	<p>Interim Payment for Plant and Material on site is applicable as follows: 80% payment for material on site for the full value of all material on presentation of the supplier's delivery note, proof of payment and by cession of rights from the Supplier to the Contractor and from the Contractor to the Employer</p>
<p>D. Cost Control</p>	

<p>GCC 41.1 (l)</p>	<p>Adverse weather conditions shall include but will not be limited to abnormal rainfall.</p> <p>The term "adverse" in terms of rain shall be satisfied when the actual number of rain days on which 20 mm or more rain fell in one day during a specific calendar month, exceeds the value X, where X is the number of rain days which occurred at a frequency of once in 3 years over the past 20 year period. The rain days to derive X shall be days on which 20 mm or more rain fell on one day during a specific month of the year as obtained from historical rain data over the past 20 years.</p> <p>For the purposes of this contract, the Contractor must allow for 18 working days per 12 contract months that will be lost due to adverse climatic conditions. The Contractor may only apply for extension of time should the number of days lost due to adverse weather conditions exceed 18 working days as set out above.</p>
<p>GCC 43.1</p>	<p>The currency of the Employer's country is: Namibian Dollars.</p>
<p>GCC 44.1</p>	<p>The Contract is subject to price adjustment in accordance with GCC Clause 44, and the following information regarding coefficients Does apply apply.</p> <p>The coefficients for adjustment of prices are:</p> <p>(a) For currency Namibian Dollar :</p> <p>(i) 0.15 percent nonadjustable element (coefficient A).</p> <p>(ii) 0.85 percent adjustable element (coefficient B).</p> <p>The Index I for local currency shall be determined.</p> <p>The Index I for the specified international currency shall be determined.</p> <p><i>[These proxy indices shall be proposed by the Contractor, subject to acceptance by the Employer]</i></p> <p>The Index I for currencies other than the local currency and the specified international currency shall be determined.</p> <p><i>[These proxy indices shall be proposed by the Contractor, subject to acceptance by the Employer.]</i></p>
<p>GCC 45.1</p>	<p>The proportion of payments retained is: 10% of Interim Payment Certificate.</p>
<p>GCC 46.1</p>	<p>The liquidated damages for the whole of the Works are 0.15% of the contract price per day.</p> <p>The maximum amount of liquidated damages for the whole of the Works is 5% of contract price.</p>
<p>GCC 47.1</p>	<p>The Bonus for the whole of the Works is Not Applicable .</p>
<p>GCC 48.1</p>	<p>The Advance Payments shall be: 0% of the Contract price and shall be paid to the Contractor no later than Not Applicable .</p>

GCC 49.1	<p>The Performance Security amount is 10% of contract price</p> <p>(f) Bank Guarantee: 10% of contract price .</p> <p><i>[A Bank Guarantee shall be unconditional (on demand) (see Section VIII. Security Forms)].</i></p>
E. Finishing the Contract	
GCC 56.1	<p>The date by which operating and maintenance manuals are required is the completion date.</p> <p>The date by which “as built” drawings are required is the completion date .</p>
GCC 56.2	<p>The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required in GCC 58.1 is 5% of the retention amount</p>
GCC 57.2 (g)	<p>The maximum number of days is: 34 days ; <i>consistent with clause 46.1 on liquidated damages.</i></p>
GCC 59.1	<p>The percentage to apply to the value of the work not completed, representing the Employer’s additional cost for completing the Works, is 0.5%.</p>

Section VIII – Contract Forms

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Contract Agreement

THIS AGREEMENT made on the day of, between Municipality of Henties Bay (hereinafter “the Employer”), of the one part, and (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer desires that the Works known as

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDEL EXTENSION 7, HENTIES BAY – PHASE 2

should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - (a) the Notification of award
 - (b) the Bid
 - (c) the Addenda Nos*Insert addenda numbers if any*....
 - (d) the Appendix to the General Conditions of Contract
 - (e) the General Conditions of Contract;
 - (f) the Specification
 - (g) the Drawings; and
 - (h) the completed Schedules,
3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Namibia on the day, month and year indicated above.

Signed by:
for and on behalf of the Employer

Signed by:
for and on behalf the Contractor

in the presence of:
Witness, Name, Signature, Address, Date

in the presence of:
Witness, Name, Signature, Address, Date

Performance Security (Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

Date: *[insert date (as day, month, and year) of Bid Submission]*

Procurement Reference No. and title: *[insert no. and title of bidding process]*

Bank’s Branch or Office: *[insert complete name of Guarantor]*

Beneficiary: *[insert complete name of Purchaser]*

PERFORMANCE GUARANTEE No.: *[insert Performance Guarantee number]*

We have been informed that *[insert complete name of Contractor]* (hereinafter called “the Contractor”) has entered into Contract No. *[insert number]* dated *[insert day and month]*, *[insert year]* with you, for the construction of *[description of works]* (hereinafter called “the Contract”).

Furthermore, we understand that, according to the conditions of the Contract, a Performance Guarantee is required.

At the request of the Contractor, we hereby irrevocably undertake to pay you any sum(s) not exceeding *[insert amount(s)³ in figures and words]* upon receipt by us of your first demand in writing declaring the Contractor to be in default under the Contract, without cavil or argument, or your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This Guarantee shall expire no later than the *[insert number]* day of *[insert month]* *[insert year]*,⁴ and any demand for payment under it must be received by us at this office on or before that date.

.....**Bank’s seal and authorized signature(s)**

³ The Bank shall insert the amount(s) specified in the SCC and denominated, as specified in the SCC, in the currency of the Contract.

⁴ Dates established in accordance with Clause 18.4 of the General Conditions of Contract (“GCC”), taking into account any warranty obligations of the Contractor under Clause 16.2 of the GCC intended to be secured by a partial Performance Guarantee. The Employer should note that in the event of an extension of the time to perform the Contract, the Employer would need to request an extension of this Guarantee from the Bank. Such request must be in writing and must be made prior to the expiration date established in the Guarantee. In preparing this Guarantee, the Employer might consider adding the following text to the Form, at the end of the penultimate paragraph: “We agree to a one-time extension of this Guarantee for a period not to exceed *[six months]* *[one year]*, in response to the Employer written request for such extension, such request to be presented to us before the expiry of the Guarantee.”

ANNEXURES

1. INVITATION FOR BID
2. DOCUMENT CHECKLIST
3. DRAWINGS
4. RECEIPT OF DOCUMENT LEVY
5. BID SUBMISSION FORM ON COMPANY LETTERHEAD
6. JOINT VENTURE AGREEMENT
7. POWER OF ATTORNEY OR BOARD RESOLUTION FOR BIDDER'S REPRESENTATIVE
8. VALID COMPANY REGISTRATION CERTIFICATE
9. ORIGINAL VALID GOOD STANDING TAX CERTIFICATE
10. ORIGINAL VALID GOOD STANDING SOCIAL SECURITY CERTIFICATE
11. A VALID CERTIFIED COPY 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;
12. A CERTIFICATE INDICATING SME STATUS (FOR BIDS RESERVED FOR SMES)
13. CVs AND QUALIFICATIONS OF ALL PROFESSIONAL AND TECHNICAL STAFF
14. ELECTRICIAN N3 TRADE TEST CERTIFICATE
15. WORK METHOD
16. WORK SCHEDULE
17. PROOF OF ANNUAL AMOUNTS OF CONSTRUCTION WORKS PERFORMED DURING THE LAST 5 (FIVE) YEARS
18. PROOF OF LIQUID ASSEST AND/ OR CREDIT FACILITIES OF 15% OF BID PRICE
19. ATTACH PROOF OF OWNERSHIP IN FORM OF REGISTRATION CERTIFICATES AND WHEN NOT OWNED BY THE BIDDER, STATE THE AGREEMENT AND INCLUDE VALID LEASE AND/OR HIRE PURCHASE AGREEMENT FOR THE RELEVANT PLANT
20. PROOF OF SIMILAR WORKS
21. REGISTRATION WITH ERONGORED FOR MV LEVEL INSTALLATIONS
22. PROPOSED ORGANOGRAM FOR THIS PROJECT
23. FINANCIAL REPORTS
24. EVIDENCE OF ACCESS TO FINANCIAL RESOURCES TO MEET THE QUALIFICATION REQUIREMENTS
25. RECORD OF COMMUNICATION WITH THE PROCUREMENT MANAGEMENT UNIT DURING BIDDING STAGE
26. SAFETY HEALTH AND ENVIRONMENT POLICY
27. COMMENTS ON THE BIDDING DOCUMENT

ANNEXURE 1: INVITATION FOR BID

ANNEXURE 2: DOCUMENT CHECKLIST

ANNEXURE 3: DRAWINGS

ANNEXURE 4: RECEIPT OF DOCUMENT LEVY

ANNEXURE 5: BID SUBMISSION FORM ON COMPANY LETTERHEAD

ANNEXURE 6: JOINT VENTURE AGREEMENT

**ANNEXURE 7: POWER OF ATTORNEY OR
BOARD RESOLUTION FOR BIDDER'S
REPRESENTATIVE**

ANNEXURE 8: VALID COMPANY REGISTRATION CERTIFICATE

ANNEXURE 9: VALID GOOD STANDING TAX CERTIFICATE

ANNEXURE 10: VALID GOOD STANDING SOCIAL SECURITY CERTIFICATE

**ANNEXURE 11: VALID CERTIFIED COPY 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;**

ANNEXURE 12: CERTIFICATE INDICATING SME STATUS (FOR BIDS RESERVED FOR SMES)

ANNEXURE 13: CVS AND QUALIFICATIONS OF ALL PROFESSIONAL AND TECHNICAL STAFF

ANNEXURE 14: ELECTRICIAN N3 TRADE TEST CERTIFICATE

ANNEXURE 15: WORK METHOD

ANNEXURE 16: WORK SCHEDULE

**ANNEXURE 17: PROOF OF ANNUAL AMOUNTS
OF CONSTRUCTION WORKS PERFORMED
DURING THE LAST 5 (FIVE) YEARS**

**ANNEXURE 18: PROOF OF LIQUID ASSEST
AND/ OR CREDIT FACILITIES OF 15% OF BID
PRICE**

**ANNEXURE 19: PROOF OF OWNERSHIP IN
FORM OF REGISTRATION CERTIFICATES AND
WHEN NOT OWNED BY THE BIDDER, STATE
THE AGREEMENT AND INCLUDE VALID LEASE
AND/OR HIRE PURCHASE AGREEMENT FOR
THE RELEVANT PLANT**

ANNEXURE 20: PROOF OF SIMILAR WORKS

ANNEXURE 21: REGISTRATION WITH ERONGOED FOR MV LEVEL INSTALLATIONS

ANNEXURE 22: PROPOSED ORGANOGRAM FOR THIS PROJECT

ANNEXURE 23: FINANCIAL REPORTS

ANNEXURE 24: EVIDENCE OF ACCESS TO FINANCIAL RESOURCES TO MEET THE QUALIFICATION REQUIREMENTS

**ANNEXURE 25: RECORD OF COMMUNICATION
WITH THE PROCUREMENT MANAGEMENT UNIT
DURING BIDDING STAGE**

ANNEXURE 26: SAFETY HEALTH AND ENVIRONMENT POLICY

ANNEXURE 27: COMMENTS ON THE BIDDING DOCUMENT



MUNICIPALITY OF HENTIES BAY

PROCUREMENT MANAGEMENT UNIT

OPEN NATIONAL BIDDING NOTICE (ONB)

Bid reference no.	W/ONB/HBM-02/2024
Title	CONSTRUCTION OF ELECTRICAL SERVICES IN OMDEL EXTENSION 7, HENTIES BAY – PHASE 2
Description	Bidders are hereby invited from experienced Electrical Contractors for the supply, delivery, installation, testing and commissioning of MV and LV Reticulation.
Closing date & time	08 October 2024 @ 15H00 pm Henties Bay Municipal Chambers
Clarification meeting & site inspection (non-compulsory but attendance is highly encouraged)	N/A
Deadline for request for Clarifications	27 September 2024
Tender documents	Available as from 29 August 2024 at Henties Bay Municipality
Levy (non-refundable)	N\$300.00
Delivery address	Bid Box Municipality of Henties Bay Erf 1513 Corner of Jakkalsputz Road and Nicky Iyambo Avenue P.O. Box 61 Henties Bay Namibia

Faxed tenders and tenders received by Courier after the closing time shall not be accepted. Sealed bids in envelopes clearly marked with the above procurement reference number, title and Bidder's details shall be delivered **before 15:00 PM, 08 October 2024**

ENQUIRIES

Technical

CEPM & Partners Engineers
Mr. Emmanuel Zimba
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Email: cepm06@gmail.com

Head of Procurement Management Unit

Municipality of Henties Bay
Mr. Dismon Kambatuamasa
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Fax: +264 64 502001
Email: Se.Technical@hbaymun.com.na

DOCUMENT CHECKLIST

The Bidder should complete the following checklist for documentation to be attached to bid submission. The list below may not be exhaustive, and it is the Bidder's responsibility to check that all documentation required in the Bidding Document are attached.

No.	Document attached	Check
1	The original document plus one copy thereof, submitted together in one sealed envelope (compulsory) .	
2	Bid documents initialled on each and every page (compulsory) .	
3	Bid Submission Form (compulsory) .	
4	Bid Securing Declaration (compulsory) .	
5	Written undertaking in terms of Section 138 of the Labour Act, 2015 (compulsory) .	
6	A completed Bill of Quantities (compulsory) .	
7	A valid company Registration Certificate (compulsory) .	
8	An original valid good Standing Tax Certificate (compulsory) .	
9	An original valid good Standing Social Security Certificate (compulsory) .	
10	A valid certified copy 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 (compulsory) .	
11	A certificate indicating SME Status (compulsory for Bids reserved for SMEs) .	
12	Receipt of Document Levy (compulsory) .	
13	Registration with ErongoRED (compulsory) .	
14	Information on the constitution or legal status, place of registration, principal place of business of the Bidder, and joint venture agreement(s). <i>(see Section IV, Item 1.1a)</i>	
15	Evidence of signatory authorized to sign the bid. <i>(see Section IV, Item 1.1b)</i>	
16	Annual amounts of construction works performed during the last 5 years. <i>(see Section IV, Item 1.2)</i>	
17	Information on similar works completed and clients who may be contacted for further information on those contracts. <i>(see Section IV, Item 1.3)</i>	
18	Works under way and/or committed to. <i>(see Section IV, Item 1.3)</i>	
19	Proof of ownership, lease and hire purchase agreements for major items of construction equipment proposed to carry out the Contract. <i>(see Section IV, Item 1.4)</i>	

No.	Document attached	Check
20	CVs and Certified Qualifications of Professional and Technical Staff proposed for administration and execution of the Contract. <i>(see Section IV, Item 1.5)</i>	
21	List of proposed subcontractors. <i>(see Section IV, Item 1.6)</i>	
22	Certified copies of Audited Financial Reports / Financial Statements and a summary of assets, liabilities and working capital for the last 3 years. <i>(see Section IV, Item 1.7)</i>	
23	Evidence of adequacy of working capital for this Contract, such as cash in hand and lines of credit. Submit a binding letter(s) from a commercial bank / insurance company indicating that the bidder has/will have enough cash and/or credit totalling 15% of the bid price <i>(see Section IV, Item 1.8; and ITB6.3e)</i>	
24	Contact details of banks that can provide references. <i>(see Section IV, Item 1.9)</i>	
25	Information on current litigation(s) in which the Bidder is involved. <i>(see Section IV, Item 1.10)</i>	
26	Proposed Programme including work method and schedule. <i>(see Section IV, Item 1.11)</i>	
27	Authority to seek references from Bidder's bankers. <i>(see Section IV, Item 2.1)</i>	